UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ ANNUAL REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended September 27, 2019

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _________ to _________

Commission File Number: 1-7598

VARIAN MEDICAL SYSTEMS, INC.
(Exact name of Registrant as specified in its charter)

Delaware 94-2359345
(State or other jurisdiction of incorporation or organization) (I.R.S. Employer Identification Number)

3100 Hansen Way Palo Alto California 94304-1038
(Address of principal executive offices) (Zip Code)

(650) 493-4000
(Registrant’s telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class Trading Symbol Name of each exchange on which registered
Common Stock, $1 par value VAR New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the Registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐

Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of March 29, 2019, the last business day of Registrant’s most recently completed second fiscal quarter, the aggregate market value of shares of Registrant’s common stock held by non-affiliates of Registrant (based upon the closing sale price of such shares on the New York Stock Exchange on March 29, 2019) was $11,483,697,873. At November 15, 2019, the number of shares of the Registrant’s common stock outstanding was 90,897,556.

DOCUMENTS INCORPORATED BY REFERENCE

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (this “Annual Report”), including the Management’s Discussion and Analysis of Financial Condition and Results of Operations (”MD&A”), contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, which provides a “safe harbor” for statements about future events, products and future financial performance that are based on the beliefs of, estimates made by and information currently available to the management of Varian Medical Systems, Inc. (“VMS”) and its subsidiaries (collectively “we,” “our,” “Varian” or the “Company”). The outcome of the events described in these forward-looking statements is subject to risks and uncertainties. Actual results and the outcome or timing of certain events may differ significantly from those projected in these forward-looking statements due to the factors listed under Item 1A, “Risk Factors,” MD&A and disclosed from time to time in our other filings with the Securities and Exchange Commission (“SEC”). For this purpose, statements concerning: growth strategies; industry or market segment outlook; market acceptance of or transition to new products or technologies such as fixed field intensity-modulated radiation therapy, image-guided radiation therapy, stereotactic radiosurgery, volumetric modulated arc therapy, brachytherapy, software, treatment techniques, healthcare services, interventional treatment planning as a service, quality assurance as a service, interventional solutions, and proton therapy; growth drivers; future orders, revenues, operating expenses, tax rate, cash flows, backlog, earnings growth or other financial results; new and potential future tariffs or cross-border trade restrictions; and any statements using the terms “believe,” “expect,” “anticipate,” “can,” “should,” “would,” “could,” “estimate,” “may,” “intended,” “potential,” and “possible” or similar statements are forward-looking statements that involve risks and uncertainties that could cause our actual results and the outcome and timing of certain events to differ materially from those projected or management’s current expectations. By making forward-looking statements, we have not assumed any obligation to, and you should not expect us to, update or revise those statements because of new information, future events or otherwise.

PART I

Item 1. Business

Overview

We, Varian Medical Systems, Inc., are a Delaware corporation originally incorporated in 1948 as Varian Associates, Inc. We are the world’s leading manufacturer of medical devices and software for treating cancer and other medical conditions with radiotherapy, stereotactic radiosurgery, stereotactic body radiotherapy, brachytherapy and proton therapy. Through recent acquisitions, we now operate a hospital and a network of cancer centers in India and Sri Lanka; provide cancer care professional services to healthcare providers worldwide; and are a supplier of a broad portfolio of interventional solutions.

Our vision is a world without fear of cancer. Our mission is to combine the ingenuity of people with the power of data and technology to achieve new victories against cancer. Our long-term growth and value creation strategy is to transform our company from the global leader in radiation therapy (also referred to as radiotherapy) to the global leader in multi-disciplinary, integrated cancer care solutions that leverage our strengths, technology, innovation and clinical experience. To achieve these long-term objectives, we are focused on driving growth through strengthening our leadership in radiation therapy, extending our global footprint and expanding into new markets and therapies.

We have two reportable operating segments: Oncology Systems and Proton Solutions. Our Interventional Solutions business is reflected in the "Other" category because it does not meet the criteria of a reportable operating segment. The operating segments were determined based on how our Chief Executive Officer, who is our Chief Operating Decision Maker (“CODM”), views and evaluates our operations. The CODM allocates resources to and evaluates the financial performance of each operating segment primarily based on operating earnings. We report revenues in three regions. The Americas region includes North America (primarily the United States and Canada) and Latin America. The EMEA region includes Europe, Russia, the Middle East, India and Africa. The APAC region primarily includes East and Southeast Asia and Australia.

Our business is subject to various risks and uncertainties. You should carefully consider the factors described in Item 1A, “Risk Factors” in conjunction with the description of our business set forth below and the other information included in this Annual Report on Form 10-K.

Oncology Systems

Our Oncology Systems business designs, manufactures, sells and services hardware and software products for treating cancer with conventional radiotherapy, and advanced treatments such as fixed field intensity-modulated radiation therapy (“IMRT”), image-guided radiation therapy (“IGRT”), volumetric modulated arc therapy (“VMAT”), stereotactic radiosurgery (“SRS”), stereotactic body radiotherapy (“SBRT”) and brachytherapy, as well as associated quality assurance equipment.
Our hardware products include linear accelerators, brachytherapy afterloaders, treatment accessories, artificial intelligence ("AI")-powered adaptive delivery systems and quality assurance software. Our software solutions include treatment planning, informatics, clinical knowledge exchange, patient care management, practice management and decision support for comprehensive cancer clinics, radiotherapy centers and medical oncology practices. Our products enable radiation oncology departments in hospitals and clinics to perform conventional radiotherapy treatments and advanced treatments such as IMRT, IGRT, VMAT, SRS and SBRT, as well as the treatment of patients using brachytherapy techniques, which involve the introduction or temporary insertion of radioactive sources. Our products are also used by surgeons and radiation oncologists to perform stereotactic radiosurgery.

Our software products span the cancer care continuum, starting with pre-treatment multi-disciplinary tumor boards and cancer treatment planning, then onto the patient treatment and associated workflows, and ending with the collection of patient-reported outcomes in a post-treatment setting. Our clinical solutions software products are used primarily in radiation and medical oncology departments to manage patient treatments. Our software products help improve physician engagement and clinical knowledge-sharing, patient care management, clinical practice management and decision support. Our worldwide customers include university research and community hospitals, private and government institutions, healthcare agencies, physicians' offices, medical oncology practices, radiotherapy centers and cancer care clinics.

We offer services ranging from hardware phone support, break/fix repair of linear accelerators, obsolescence protection of hardware, software support, software upgrades, hosting as a service, as well as clinical consulting services.

As a result of our acquisition of Cancer Treatment Services International ("CTSI") in June 2019, we have expanded our services offerings to include clinical practice services that assist within the clinical workflow. These services focus on decision support and/or cancer care knowledge augmentation aimed to facilitate improved accessibility and affordability to care while maintaining a fundamental level of clinical quality. Examples of these services include radiation treatment planning and quality assurance as a service. In developing markets, our offering allows us to provide a range of clinical support services that improve the use of medical technology and standardized care delivery on a per patient basis, providing increased quality and reduced costs in understaffed geographies. Our services in these markets are expected to accelerate our hardware and software businesses through broader adoption of radiation therapy and drive the provision of advanced comprehensive cancer care. In developed markets, these services can augment the existing workforce of a clinic to support staffing fluctuations and clinical quality initiatives, and can provide a bridge to new technology implementation. Further, we operate nine multi-disciplinary cancer centers and one specialty hospital in India and one multi-disciplinary cancer center in Sri Lanka. In addition to expanding our services portfolio, we expect that the CTSI acquisition will enable us to innovate and incubate new solutions, such as technology-enabled services, and to develop additional technologies that incorporate artificial intelligence and machine learning capabilities, in an environment of data security and patient privacy integrity.

**Proton Solutions**

Our Proton Solutions business develops, designs, manufactures, sells and services products and systems for delivering proton therapy, another form of external beam radiotherapy using proton beams for the treatment of cancer. Proton therapy is a preferred option for treating certain cancers, particularly tumors near critical structures such as the base of skull, spine, optic nerve, and most pediatric cancers. Our current focus is reducing the total cost of ownership for proton therapy and bringing our expertise in traditional radiation therapy to this treatment modality, thereby improving its clinical utility and reducing its cost of treatment per patient, in order for it to be more widely accepted and deployed.

**Interventional Solutions**

In fiscal year 2019, we entered the interventional oncology market with our acquisitions of Endocare, Inc ("Endocare") and Alicon Pharmaceutical Technology Company, Ltd ("Alicon") in June 2019 and the acquisition of a drug-loadable embolics microspheres business from Boston Scientific in August 2019. Our Interventional Solutions business offers products for interventional oncology procedures and treatments, including cryoablation, microwave ablation and embolization. We also provide software and remote services for post treatment dose calculation for Yttrium-90 microspheres used in selective internal radiation therapy. Our goal is to offer a wide range of innovative products to the oncology market globally through a direct salesforce and a network of distributors.

**Radiation Therapy and the Cancer Care Market**

**Radiation Therapy**

Radiation therapy is the use of certain types of focused radiation to kill cancer cells, shrink tumors, and provide palliative treatment for symptoms such as pain. Occasionally, radiation can also be used to treat non-cancerous conditions such as
arteriovenous malformations, keloids and trigeminal neuralgia. The use of radiation for treating cardiac disease is gaining interest in the medical community and is currently being investigated in a clinical trial setting. Radiation therapy is commonly used either alone or in combination with surgery, chemotherapy, immunotherapy or targeted drugs. One important advantage of radiation is that it tends to disproportionately kill cancer cells. The clinical goal in radiation oncology is to deliver a therapeutic dose directly to the tumor to kill cancerous cells while minimizing radiation exposure to surrounding healthy tissue in order to limit or avoid complications, side effects and secondary effects caused by the treatment. This goal has been the driving force in clinical care advancements in radiation oncology over the past two decades, from conventional radiotherapy to advanced forms of treatment such as IMRT, IGRT, VMAT, SRS, SBRT, AI-powered adaptive radiation therapy ("ART"), brachytherapy and proton therapy.

The most common form of radiation oncology involves delivering X-ray beams from outside of the patient’s body, a process sometimes referred to as external beam radiotherapy. A device called a medical linear accelerator generates the high-energy X-ray beams and delivers the radiation to the patient lying on a treatment couch. The linear accelerator rotates around a patient by delivering a radiation beam that is conformed to the tumor shape from different angles. This concentrates radiation at the tumor while at the same time minimizing the dose delivered to the surrounding healthy tissue. Conventional radiotherapy typically involves multiple, or fractionated, treatments of a tumor in up to 50 treatment sessions. The linear accelerator may also deliver electron beams for the treatment of diseases closer to the body surface.

IMRT is an advanced form of external beam radiotherapy in which the shape and intensity of the radiation beams are varied optimally (modulated) across the target region. IMRT allows the radiation dose to be more precisely conformal to the volume of the tumor, allowing physicians to deliver higher doses of radiation to the tumor than conventional radiation treatments, while limiting the radiation dose to nearby healthy tissue. In this way, clinicians can design and administer an individualized treatment plan for each patient, targeting the tumor within millimeters. IMRT can be used to treat head and neck, breast, prostate, pancreatic, lung, liver, gynecological and central nervous system cancers. IMRT has become a well-accepted standard of treatment for cancer, and every year additional treatment centers, from university hospitals to local community clinics, adopt IMRT for their treatments. We are a leading global provider of products that enable IMRT for the treatment of cancer.

VMAT is a significant further advancement in IMRT that allows physicians to control three parameters simultaneously: (i) the rate at which the linear accelerator gantry rotates around the patient, (ii) the beam-shaping aperture and (iii) the rate at which the radiation dose is delivered to the patient. This creates a finely-shaped IMRT dose distribution that more closely matches the size and shape of the tumor, with faster treatment times. Our RapidArc® radiotherapy products plan and deliver VMAT treatments.

Physicians, hospitals and clinics place additional value on radiotherapy equipment and treatments, such as VMAT, that enable shorter treatment times, increased quality of dose distributions and greater patient throughput. From the patient’s standpoint, reduced treatment times means that the patient is immobilized on the treatment couch for a shorter time period. Shorter treatment sessions decrease waiting times and, since treatments are delivered in fractions over the course of many days, can mean fewer disruptions to a patient’s daily routine. From the physicians’ and hospitals’ standpoint, shorter treatment times can lessen the chance of tumors moving during treatment and can increase patient throughput. Shorter treatment times and increased patient throughput can increase the number of treatments per day (which is a particular concern in countries with lower numbers of treatment machines per capita) and, as a result, can decrease the cost per treatment and allow greater access to advanced care for more patients.

IGRT is another advanced form of external beam radiotherapy complementing IMRT, VMAT, SRS, and SBRT to enhance treatments. While IMRT helps physicians more precisely conform the beam to the tumor, IGRT allows physicians to see how a tumor and normal tissue move or change during a course of treatment, thereby improving treatment accuracy. This allows clinicians to tighten the margin of certainty around the tumor and spare more of the surrounding healthy tissue, potentially improving outcomes. We believe IGRT has become an accepted standard for treatment in the radiation oncology community. Varian’s latest state-of-the-art linear accelerator mandates that all fractions of radiation delivered have IGRT before the treatment is delivered.

SRS and SBRT, often collectively referred to as radiosurgery, are advanced ablative radiation treatment procedures performed in a small number of treatment sessions with high doses of radiation. Radiosurgery typically incorporates advanced image-guidance to focus many small beams of radiation from many orientations precisely on the target and to minimize the dose to surrounding normal tissues. Radiation oncologists, surgeons and other oncology specialists increasingly recognize radiosurgery as a useful tool to treat cancerous and non-cancerous lesions anywhere in the body.

Adaptive radiation therapy is a clinical treatment approach that takes a patient’s treatment plan and adapts it to a patient’s
changing tumor volume and anatomy during the course of therapy. IMRT, VMAT, SRS, and SBRT all shape the radiation dose with increased levels of fidelity, and IGRT allows an image to be taken to verify how the patient should be re-positioned for the original treatment plan to be applied for therapy delivery. Adaptive radiation therapy re-creates the treatment plan based on changes in location of a tumor or surrounding anatomy during the course of therapy. These changes can manifest from tumor response, weight loss or anatomical deformation of internal structures. There are two types of adaptive radiation therapy - offline and online. In offline adaptive radiation therapy, adaptation of the treatment plan takes place between treatment visits and in online adaptive radiation therapy, adaptation takes place while the patient is on the treatment couch for each treatment.

An alternative to external beam radiotherapy, brachytherapy involves the insertion of radioactive seeds, wires or ribbons directly into a tumor or body cavity near the tumor. These techniques tend to irradiate much less surrounding healthy tissue so that physicians can prescribe a higher total dose of radiation, typically over a shorter period of time. Brachytherapy is often used for cancers of the head and neck, breast, uterus, cervix, soft tissue, skin and prostate.

Proton therapy is another form of external beam radiotherapy that uses proton particles generated with a cyclotron rather than X-ray beams from a linear accelerator. A proton beam's signature energy distribution curve, known as the “Bragg peak,” allows for greater precision in targeting tumor cells with an even lower dose to nearby healthy tissue than may be delivered with X-ray beams from a linear accelerator. This makes proton therapy a preferred option for treating certain cancers, particularly cancers in children and tumors near critical structures such as the spine. Pencil-beam scanning capability, which is an advanced way of delivering the proton beam, allows for greater sparing of healthy tissue compared to scattering and collimation of the proton beam. Pencil beam scanning treatments are often referred to as Intensity Modulated Proton Therapy (“IMPT”).

With the advent of radiosurgery and stereotactic body radiotherapy, other mechanisms of killing cancer cells are also being explored, including immunotherapy technologies, which involve using radiation to stimulate the immune response to fight cancer growth.

Radiation Oncology Market

The radiation oncology market is growing globally due to a number of factors. According to the World Health Organization Global Cancer Observatory, there were approximately 18 million cancer cases diagnosed worldwide in 2018, and the number of new cancer cases diagnosed annually is projected to increase to almost 25 million by 2030. According to the September 2015 Lancet Oncology report compiled by the Global Task Force on Radiotherapy for Cancer Control, most of the increase is coming from low- and middle-income countries such as China and India. In addition, technological advancements have helped to improve the precision and applicability of radiotherapy and radiosurgery, potentially expanding the use of radiotherapy and radiosurgery equipment to treat a broader range of cases. Technological advances in hardware and software are also creating a market for replacing an aging installed base of machines that are unable to deliver new, higher standards of care.

The rise in cancer cases, together with the increase in sophistication of new treatment protocols, have created a demand for more automated products and services that can be integrated into clinically practical systems to make treatments more rapid and cost effective. Technology advances leading to improvements in patient care, the availability of more advanced, automated and efficient clinical tools in radiation therapy, the advent of more precise forms of radiotherapy treatment (such as IMRT, IGRT, VMAT, SRS, SBRT, brachytherapy and proton therapy), and innovative new technology and equipment (such as the Halcyon™, Ethos™, EDGE® and TrueBeam® systems) that enable treatments that reduce treatment times and increase patient throughput should drive the demand for our radiation therapy products and services.

International markets, in particular, are under-equipped to address the growing cancer incidence. Patients in many foreign countries must frequently endure long waits for radiotherapy. According to a peer-reviewed publication in the International Journal of Radiation Oncology Biology and Physics in 2014, radiotherapy is required in more than half of new cancer patients, particularly in low- and middle-income countries, and according to an article published in Seminars in Radiation Oncology in 2017, it is estimated that more than 12,000 additional treatment machines will be required by 2035 in these countries alone. For example, China, India and Brazil are estimated to require over 3,800, 1,200 and 400 additional machines, respectively, by 2035. The 12,000 linear accelerators necessary to meet the global demand for cancer care will require an estimated 150,000 trained clinicians to operate the machines. It is unlikely that existing clinical training programs will be able to train 150,000 new clinicians by 2035; therefore, we anticipate an increase in demand for Varian’s technology enabled services offered by CTSI.

The ever-increasing incidences of cancer and the demand for additional treatment machines in these regions represent additional drivers for our continued growth in international markets.
Interventional Oncology Market

Interventional oncology is a field of interventional radiology that deals with the diagnosis and treatment of cancer using targeted minimally invasive procedures performed under image guidance. The interventional oncology market includes several categories of treatment modalities: ablation devices (cryoablation, microwave ablation and radiofrequency ablation), embolization devices (bland microspheres or particles, drug-loadable microspheres and radioembolic agents), and other support devices such as catheters and guidewires. In terms of cancer types, the interventional oncology market primarily includes treatment of liver, lung, kidney, breast, bone, and prostate.

We operate in some of the fastest-growing geographies with an accelerating burden of cancer. These markets generally are economically challenged to provide broad access to care for cancer patients. Given the low cost of ownership for our Interventional Solutions portfolio, these markets are significant opportunities to expand our global footprint with cost effective cancer fighting solutions. Our Interventional Solutions business intends to increase its market share through commercial expansion, additional regulatory clearances in new markets, and continued innovation in its product offerings. We believe that interventional oncology is quickly growing into the fourth pillar of cancer care worldwide, along with radiation oncology, surgical oncology and medical oncology.

According to a market analysis conducted by an independent market analyst, the global interventional oncology market is expected to be approximately $1.1 billion by 2022, within the overall interventional radiology market. The primary users of ablation and embolization products are interventional radiologists and oncologists for the treatment of various cancer lesions. An increase in the elderly population, a rising cancer risk due to unhealthy habits and pollution, increased early detection, awareness and knowledge of cancer treatments, and rise in disposable income are factors fueling the growth of these products at an annual growth rate of 7%.

Products

Oncology Systems

Our Oncology Systems business is the leading provider of advanced hardware and software products for the treatment of cancer with conventional radiation therapy, and advanced treatments such as IMRT, IGRT, VMAT, SRS, SBRT and brachytherapy. Oncology Systems products address each major aspect of the radiotherapy process, including linear accelerators and accessory products for positioning the patient and delivering the X-ray beam; brachytherapy afterloaders for delivering radioactive implantable seeds; treatment planning software for planning treatment sessions and dose delivery; treatment accessories and quality assurance software for simulating and verifying treatment plans before treatment as well as verification of correct treatment delivery; and information management software for recording the history and results of treatments and other patient treatment information and data, including patient images.

The focus of our Oncology Systems business is addressing the key concerns of the market for advanced cancer care systems; improving efficiency, precision, cost-effectiveness and ease of delivery of these treatments; and providing greater access to advanced treatments. A core element of our business strategy is to provide our customers with highly versatile, proven products that are interoperable and can be configured and integrated into automated systems that combine greater precision, shorter treatment times and greater cost effectiveness to improve the entire process of treating a patient. Our products and accessories for IMRT and IGRT allow clinicians to track and treat tumors using very precisely shaped beams, targeting the tumor as closely as currently possible and allowing the delivery of higher doses of radiation to the tumor while limiting exposure of nearby healthy tissue. Additionally, the precision and versatility of our products and technology make it possible to use radiotherapy to treat metastatic cancers. With our treatment planning, verification and information management software products, a patient’s treatment plans, treatment data and images are recorded and stored in a single database shared by each of our products, which enables better communication among products. Our products also allow multiple medical specialties such as, radiation oncology, neurosurgery, diagnostic radiology and medical oncology, as well as allowing clinicians in multiple locations to share equipment, resources and information in a more efficient, cost-effective manner. Furthermore, the ability of our products and technology to interoperate with each other and to interconnect into automated systems allows physicians to schedule and treat more patients within a set time period, which adds to the cost-effectiveness of our equipment.

Hardware Products

Medical linear accelerators are the core device for delivering conventional external beam radiotherapy and advanced treatments such as IMRT, IGRT, VMAT, SRS, SBRT, and ART, and we produce versions of these devices to suit various clinical requirements. The TrueBeam and EDGE systems for image-guided radiotherapy and radiosurgery are fully-integrated high-energy linear accelerator systems designed from the ground up to treat a moving target with higher speed and accuracy. The Clinac® iX linear accelerators deliver high-energy X-ray beams and are designed for more streamlined and advanced treatment
processes, including IMRT and IGRT. We also produce the Trilogy® linear accelerator, designed to be a versatile, cost-effective, precise high-energy device with a faster dose delivery rate and more precise isocenter compared to the Clinac iX. Our UNIQUE™ medical linear accelerator is a low-energy linear accelerator for the more price sensitive emerging markets, designed to meet the evolving needs of our IMRT and IGRT customers in these markets.

In September 2019, we introduced our Ethos™ therapy, an AI-Powered Adaptive Radiotherapy Treatment system. We received a CE Mark for Europe in August 2019 and are currently awaiting FDA 510(k) clearance in the United States. The first patient was treated on this system at Herlev Hospital, University of Copenhagen in September 2019. Ethos therapy is an AI-driven holistic solution that includes a linear accelerator and is designed to increase the capability, flexibility and efficiency of radiotherapy. This new solution is designed to deliver an entire online adaptive treatment in a typical 15-minute time slot, from patient setup through treatment delivery. Adaptive therapy provides the ability to alter the treatment plan based on tumor and anatomical changes. The goal is to better target the tumor, reduce the dose to healthy tissue and potentially improve overall outcomes.

In May 2017, we introduced our Halcyon™ treatment system. We received a CE mark for the Halcyon system in May 2017 and FDA 510(k) clearance in June 2017. The Halcyon system has been designed on a platform of next generation technology including a full field ring gantry design that rotates at four times per minute, an innovative stacked and staggered multi-leaf collimator design, virtually silent magnetic drive motors and solid-state modulators. This new platform is the smallest footprint linear accelerator in our portfolio, uses less energy than our other radiation therapy treatment systems, and has been designed with a human centered user experience concept that benefits the patient and the health care practitioner for simplicity of treatment and use.

Our Ethos™ therapy is an AI-driven holistic solution that includes a linear accelerator and is designed to increase the capability, flexibility and efficiency of radiotherapy. This new solution is designed to deliver an entire online adaptive treatment in a typical 15-minute time slot, from patient setup through treatment delivery. Adaptive therapy provides the ability to alter the treatment plan based on tumor and anatomical changes. The goal is to better target the tumor, reduce the dose to healthy tissue and potentially improve overall outcomes.

Our Millennium™ series of multi-leaf collimators and High Definition 120 (“HD 120”) multi-leaf collimators are used with a linear accelerator to define the size, shape and intensity of the generated beams. PortalVision™, our electronic portal-imager, is used to verify a patient’s position while on the treatment couch, which is critical for accurate treatments and simplifies quality assurance of individual treatment plans. We also offer an innovative real-time patient position monitoring product, the Real-Time Patient Management™ (“RPM”) respiratory gating system, which allows the linear accelerator to be synchronized with patient breathing to help compensate for tumor motion during treatment. In addition, we manufacture the Calypso® system (some features not approved for use in all markets), which can continuously track and monitor the position of implanted or surface-attached Beacon® transponders. This technology allows the clinician to easily locate the position of the tumor and aim the treatment beam precisely to deliver the full, prescribed dose to the tumor, and minimize exposure of surrounding healthy tissues.

Our EDGE radiosurgery suite is comprised of a combination of products for performing advanced radiosurgery using new real-time tumor tracking technology and motion management capabilities. The EDGE radiosurgery suite includes the EDGE radiosurgery accelerator, the Calypso system with Dynamic Edge™ Gating, and the PerfectPitch™ couch with six degrees of freedom to accurately and precisely align the patient position. Our IGRT accessories include the On-Board Imager® (“OBI”) hardware accessory affixed to the linear accelerator that allows dynamic, real-time imaging of tumors while the patient is on the treatment couch and offers cone-beam computerized tomography (“CBCT”) imaging software capability to allow patient positioning based on soft-tissue anatomy. Using sophisticated image analysis tools, the CBCT scan can be compared with a reference computerized tomography scan to determine how the treatment couch should be adjusted to fine-tune and verify the patient’s treatment setup and positioning prior to delivery of the radiation. To deliver the most advanced forms of IGRT, our accelerators would typically have an OBI, CBCT, PortalVision and other IGRT-related hardware and software as accessories.

Our RapidArc radiotherapy products are a proprietary implementation of VMAT that coordinate beam shaping, dose rate and gantry speed to deliver a highly conformal dose distribution to the target tumor. RapidArc products enable the planning and delivery of image-guided IMRT in a single continuous rotation of up to 360 degrees rather than as a series of fixed fields. Our RapidArc products enable faster delivery of radiation treatment with the possibility of reduced opportunity for tumor movement during treatment, as well as greater patient throughput and lower cost per patient for the hospital or clinic. We believe RapidArc represents a significant advancement in IMRT cancer treatment.

Our HyperArc™ high-definition radiotherapy product is designed to simplify, automate and improve the quality of intracranial SRS, making SRS accessible to more clinics and patients around the world. HyperArc received a CE mark in August 2017 and FDA 510(k) clearance in September 2017 and is currently available for sale in the United States and other global markets where a CE mark is applicable. We expect that HyperArc will significantly improve the quality and efficiency of sophisticated SRS procedures. HyperArc is available only on our TrueBeam and Edge platforms.

We purchased Mobius Medical Systems (“Mobius”) in February 2018. Mobius markets and sells quality assurance products to radiation oncology departments around the globe. We will continue to sell those products while expanding and integrating the
technology for current and future applications. In July 2018, we acquired humediQ GmbH, which markets and sells the IDENTIFY™ products that enable patient and accessory verification, patient setup position, and motion monitoring for radiation oncology treatments. We will continue to market and sell these products as we expand the regulatory clearance footprint around the globe and enhance and integrate the technology for current and future applications.

Brachytherapy products

Our brachytherapy operations design, manufacture, sell and service advanced brachytherapy products, including VarianSource™ HDR and GammaMedplus™ iX HDR/PDR afterloaders, BrachyVision™ brachytherapy treatment planning system, applicators and accessories. We also develop and market the VariSeed™ LDR prostate treatment planning system and the Vitesse™ software for real-time treatment planning for HDR prostate brachytherapy.

Our Bravos™, brachytherapy treatment delivery system, is now available in over 100 countries where CE Mark and 510(k) clearance are applicable. Bravos is an integrated system designed to improve the patient and clinic experience by simplifying brachytherapy treatment and providing greater workflow efficiency. It is compatible with our full range of applicators and integrates with BrachyVision for treatment planning. BrachyVision fully integrates with the ARIA oncology information system that coordinates care from end to end, scheduling appointments, orchestrating the clinical workflow, delivering the plan to the afterloader, updating the patient's electronic record, and capturing clinical data for analytics.

Software Products

Our software products enhance and enable the delivery of advanced radiotherapy treatments, from the initial treatment planning and plan quality assurance verification to the post-treatment recording of data and storing of patient information, as well as help improve physician engagement and clinical knowledge-sharing, patient care management and clinical practice management of cancer clinics, radiotherapy centers and oncology practices for better performance. Prior to any treatment, physicians must prescribe, or plan, the course of radiation delivery for the patient. We offer a range of treatment planning products that assist physicians in designing this treatment plan. Our Eclipse™ treatment planning system provides physicians with 3D image viewing, treatment simulation, radiation dosage calculation and verification and other tools for generating treatment delivery plans for the patient. The Eclipse software utilizes a sophisticated technique known as inverse planning to enable physicians to rapidly develop optimal treatment plans based on a desired radiation dose outcome to the tumor and surrounding tissue. Our RapidPlan® knowledge-based planning tool creates a new category for artificial intelligence applied to treatment planning systems in which machine learned statistical models can be used to predict the achievable quality of an IMRT treatment from a patient’s anatomy. RapidPlan is designed to streamline the planning process by using shared clinical knowledge embedded in its statistical plan models. Clinics may use plan models included with Eclipse or can create models based on their own treatment methods and protocols.

We continue to enhance our treatment planning software products and have integrated multi-criteria optimization radiotherapy treatment planning algorithms licensed from the Fraunhofer Institute that enable clinicians to quickly navigate solution space to find the ideal treatment plan for each patient. We have incorporated this technology along with other treatment planning software tools to enhance both treatment planning efficiency and quality.

Our ARIA® information system is a comprehensive oncology information system spanning radiation therapy and chemotherapy treatments and departmental workflow management. ARIA offers a real-time information management system and database that records and verifies radiotherapy treatments carried out on the linear accelerator, records and stores patient data relating to radiation therapy, provides oncology flowsheets, performs patient charting and manages patient information and patient image data. This gives clinics and hospitals the ability to manage treatment and patient information across radiation oncology and medical oncology procedures. Also, because ARIA is an electronic medical record, it can enable users to operate filmless and paperless oncology departments and cancer clinics. ARIA is a (ONC-Health IT) 2015 Edition Health IT Module and supports the ICD-10 billing codes. Our FullScale™ oncology-specific information technology solutions take advantage of virtualization or cloud technologies to deploy our ARIA oncology information and Eclipse treatment planning systems in a way that enables treatment centers to take advantage of economies of scale. We have from time to time entered into agreements with a variety of companies to increase the capabilities of our ARIA information systems software. Our software product offerings also include Varian Treatment™, which connects ARIA® oncology information management system (“ARIA”) to third-party linear accelerators and expands our software support of third-party manufacturers.

Our Insightive™ analytics software solution aggregates clinical and operational data and allows for improved decision making and practice management. Insightive enables oncology administrators and clinicians to use real-time information to discover patterns and trends through interactive dashboards and visualizations. We also created an interactive online group on the
OncoPeer™ platform for clinicians to share knowledge-based cancer treatment models that can improve the efficiency and quality of cancer care across multiple institutions. The OncoPeer cloud community is a platform where oncologists, clinicians and other oncology professionals can publish knowledge, share data, exchange treatment techniques and discuss best practices within a professional oncology network.

Our Velocity™ software provides solutions at the clinical process level to aggregate unstructured treatment and imaging data from diverse systems. It allows for a more comprehensive view of a patient’s diagnostic imaging and treatment history and helps clinicians make more informed treatment decisions.

360 Oncology® is a care management platform designed to integrate and coordinate key elements of cancer care, so patients and their cancer teams can collaborate on achieving the best outcomes. In a single platform, 360 Oncology brings together radiation, medical and surgical oncology, social services, primary care physicians, as well as the patient, to facilitate true collaborative and coordinated care. It enables tumor boards to more effectively coordinate patient care among the numerous specialists involved in cancer treatment. With Varian 360 Oncology care management, a clinic’s data, records and patient information are connected through a single platform, enabling the entire cancer-fighting team to coordinate care.

Qumulate™ is our cloud-based software technology that collects and analyzes machine performance data in a radiation therapy department and allows users to compare their machine performance data and trends against a community of users’ data.

Our Noona® software application is a smart, cloud-based patient-reported outcomes solution. Through the capture and analysis of structured, real-time symptom information, Noona helps clinicians better manage patient symptoms and improve treatment outcomes. Noona is designed to support the everyday work of nurses and physicians in cancer care, helping to increase clinical efficiency and reduce workloads through comprehensive communications tools.

Partnerships

In addition to offering our own suite of equipment and software products for planning and delivering radiotherapy treatments, we have partnered with selected leaders in certain segments of the radiation therapy and radiosurgery market. We have a strategic agreement with McKesson Corp. ("McKesson") to supply its US Oncology Network and Vantage Oncology affiliated sites of care with treatment delivery systems and planning, service and radiotherapy information system solutions. Under the agreement, we are collaborating with McKesson to establish interoperability between our ARIA product and McKesson IT solutions which we anticipate will facilitate access to our ARIA, Eclipse and Velocity products at its sites that do not currently utilize these solutions. We have a partnership agreement with Siemens AG ("Siemens") through which, among other things, we represent Siemens diagnostic imaging products to radiation oncology clinics in the United States and agreed upon countries, and Siemens, represents our equipment and software products for radiotherapy and radiosurgery to its healthcare customers in agreed upon countries. Furthermore, we and Siemens have developed interfaces to enable ARIA and Eclipse to connect with Siemens linear accelerators and imaging systems, and are exploring opportunities to co-develop new imaging and treatment solutions. We have equity investments which include Grail, Inc., a life sciences company developing blood tests for early-stage cancer detection and Fusion Pharmaceuticals Inc., a clinical stage company focused on developing targeted alpha-particle radiotherapeutics for the treatment of cancer.

CTSI

CTSI oncology solutions facilitates the use of clinical processes and technology solutions that ensure the delivery of precise, consistent and safe care to cancer patients worldwide. CTSI offers services ranging from treatment planning as a service, quality assurance as a service, linear accelerator commissioning, practice workflow optimization, oncology nursing training, clinical decision support, international tumor board and other multi-disciplinary services to improve care delivery. The range of services focus on participating in the clinical workflow to support the decisions of clinicians rather than the direct provision of care. CTSI services also include a full-service laboratory and pathology provider, and under our American Oncology Institute ("AOI") brand, we operate nine multi-disciplinary cancer centers and one specialty hospital in India and one multi-disciplinary cancer center in Sri Lanka.

Proton Solutions

Our ProBeam® system is capable of delivering precise intensity modulated proton therapy ("IMPT") using pencil-beam scanning technology. The ProBeam® Compact product is our lower cost, single room proton therapy product launched in fiscal year 2014. During fiscal year 2016, we booked our first ProBeam Compact order. In October 2018, we introduced our new ProBeam® 360° proton therapy product, in a single-room configuration, with a 30 percent smaller footprint and 25 percent
lower vault construction costs as compared to the ProBeam Compact. The new system has a 360-degree rotating gantry, iterative cone-beam CT imaging and high-definition pencil-beam scanning technology. The system can also provide a viable path to potential next generation treatments. In September 2019, we introduced the multi-room version of ProBeam 360°, which provides comparable space and cost savings as the single room version.

Due to the intrinsic physical properties of proton therapy, it is a preferred option for treating certain cancers, particularly tumors near critical structures such as the base of the skull, spine, optic nerve and most pediatric cancers. Although proton therapy has been in clinical use for more than four decades, it has not been widely deployed due to high capital cost. Proton therapy facilities are large-scale construction projects that are time consuming, involve significant customer investment and often complex project financing. Consequently, this business is vulnerable to general economic and market conditions, as well as country specific coverage and reimbursement rates. Customer decision-making cycles tend to be very long, and orders generally involve many contingencies. Credit markets for proton therapy projects have improved in recent years but the funding environment for large capital projects, such as proton therapy projects, is still challenging.

At the end of fiscal year 2019, our proton therapy systems are in operation at eleven centers, which have a total of 41 operational rooms. During fiscal years 2019, 2018 and 2017, we recorded four, two and six proton therapy system orders, respectively.

In limited cases, we participate, along with other investors and at market terms, in the financing of proton therapy centers. See Note 15, "Proton Solutions Loans and Investment," of the Notes to the Consolidated Financial Statements for further discussion on our Proton Solutions financing arrangements.

Interventional Solutions

Our Interventional Solutions business offers products for interventional oncology procedures and treatments, including cryoablation, microwave ablation and embolic particles. We also provide software and remote services for post treatment dose calculation for Yttrium-90 microspheres, radioactive beads used in selective internal radiation therapy.

Ablation Products

Our CRYOCARE® ablation systems, acquired as part of the Endocare acquisition, are fully integrated planning, placement and treatment systems designed to simplify cryotherapy and to meet physician needs. Our ablation systems are used by customers primarily to treat liver, lung, kidney and prostate cancer. Our CRYOCARE CS ablation systems use argon and helium, which eliminates some of the issues associated with liquid nitrogen systems.

Our microwave ablation device, also acquired through the Endocare acquisition, features the MICROTHERMX® ("MTX") generator and the specifically designed Synchronous Wave Alignment® technology antennas. The generator is a low-profile device with a small footprint which can be set up in less than two minutes. The generator uses a 915 MHz operating frequency and can power up to 180W (60W per channel/antenna) for optimized power delivery. The SynchroWave® antennas are designed to work in synchrony with one another to create large active heating and ablation volumes.

Embolization Therapy Products

Our Gelatin Sponge Particle and Polyvinyl Alcohol ("PVA") Particle products, acquired as part of the Alicon acquisition, comprise a range of calibrated particles used primarily for the treatment of liver cancers. Currently, these products are only offered outside of the United States. The Gelatin Sponge particles are degradable (resorbable), while the PVA particles are for permanent occlusion within a blood vessel.

Included in the drug-loadable embolics microspheres business acquired from Boston Scientific were Embozene®, Oncozene® and Tandem® microsphere products. The Tandem microsphere product is only offered outside of the United States. Embozene and Oncozene microspheres are intended for embolization of arteriovenous malformations and hypervascular tumors, including uterine fibroids and hepatoma, and for embolization of prostatic arteries for symptomatic benign prostatic hyperplasia. These products are available in a broad range of tightly calibrated sizes for greater embolization control.

Marketing and Sales

We employ a combination of a direct sales force and independent distributors or resellers for the marketing and sales of our products worldwide. Our gross orders and revenues reflect a growing percentage from international regions and particularly
emerging markets. As a U.S.-based company, the competitiveness of our product pricing is influenced by the fluctuation of the U.S. Dollar against other currencies. A stronger U.S. Dollar against foreign currencies would make our product pricing more expensive and less competitive compared to products sold in non-U.S. Dollar currencies. A stronger U.S. Dollar against foreign currencies would also lower our international revenues and gross orders when measured in U.S. Dollars. In fiscal years 2019, 2018 and 2017, we did not have a single customer that represented 10% or more of our total revenues.

**Oncology Systems**

Our Oncology Systems business sells direct in the United States and Canada and uses a combination of direct sales and independent distributors in international regions.

We sell our Oncology Systems products primarily to university research and community hospitals, private and governmental institutions, healthcare agencies, physicians’ offices and cancer care clinics worldwide. These hospitals, institutes, agencies, physicians’ offices and clinics replace equipment and upgrade treatment capability as technology evolves. Sales cycles for many of our external beam radiotherapy products are typically quite lengthy because they are affected by capital equipment budgeting cycles. Our customers frequently fix capital budgets one or more years in advance. Through our strategic global partnership with Siemens, we represent Siemens diagnostic imaging products to radiation oncology clinics in the United States and some other small, select markets. Siemens represents our equipment and software products for radiotherapy and radiosurgery to its healthcare customers in agreed upon countries.

Approximately half of Oncology Systems gross orders and revenues come from international markets, within which certain emerging markets typically have lower gross margins and longer installation cycles since many of these purchases are for new sites where treatment vaults need to be constructed. We have been investing a higher portion of our Oncology Systems research and development budget in software and software-related products, which have a higher gross margin than our hardware products.

The radiation oncology market in North America is largely characterized by replacements of older machines, with periodic increases in demand driven by the introduction of new technologies. Reimbursement rates in the United States have generally supported a favorable return on investment for the purchase of new radiotherapy equipment and technologies. While we believe that improved product functionality, greater cost-effectiveness and prospects for better clinical outcomes with new capabilities such as IMRT, IGRT and VMAT tend to drive demand for radiotherapy products, large changes in reimbursement rates or reimbursement structure can affect customer demand and cause market shifts. We believe that growth of the radiation oncology market in the United States could be impacted as customers’ decision-making processes are complicated by the uncertainties surrounding reimbursement rates and models for radiotherapy and radiosurgery, such as the alternative payment model (“APM”) pilot program for radiation oncology that was proposed by the Centers for Medicare and Medicaid Services (“CMS”) in July 2019. This pilot program is intended to test whether an episode-based payment structure would reduce Medicare expenditures. We believe that this uncertainty will likely continue in future fiscal years, and could impact transaction size, timing and purchasing processes, and also contribute to increased quarterly business variability.

**Proton Solutions**

Our Proton Solutions business primarily uses direct sales specialists who collaborate with our Oncology Systems sales group globally on customer projects. Potential customers are government-sponsored hospitals, research institutions and research universities, which typically purchase products through public tenders, as well as private hospitals, clinics and private developers. While this market is still developing and has been highly variable over the last several years, we believe that this market has the potential to grow over the longer term mostly driven by institutions that wish to expand their clinical offerings and increase their profile in their respective communities. We will continue to invest resources to grow this business. Proton therapy facilities are large-scale construction projects that are time consuming and involve significant customer investment and often complex project financing. Consequently, this business is vulnerable to general economic and market conditions, as well as reimbursement rates. Customer decision-making cycles tend to be very long, and orders generally involve many contingencies. Credit markets for proton therapy projects have improved in recent years but the funding environment for large capital projects, such as proton therapy projects, is still challenging.

**Interventional Solutions**

We sell our Interventional Solutions line of products in the United States primarily through a direct sales force and internationally through a combination of direct sales and distributors. We support our customers with customer service representatives, sales representatives, clinical specialists and market development managers. We focus our sales and marketing efforts on interventional radiologists, interventional oncologists and urologists.
Backlog

Backlog is the accumulation of all gross orders for which revenues have not been recognized but are still considered valid. Backlog is stated at historical foreign currency exchange rates and revenue is recognized from backlog at current exchange rates, with any difference recorded as a backlog adjustment. Orders may be revised as customers’ needs change and as our new products become available; consequently, it is difficult to predict with certainty the amount and timing of when backlog will result in revenues. Our backlog at the end of fiscal year 2019 was $3.4 billion, of which we expect to recognize approximately 40% to 46% as revenues in fiscal year 2020. Our backlog at the end of fiscal year 2018, was $3.2 billion, of which approximately $1.2 billion was recognized as revenues in fiscal year 2019. Our Oncology Systems backlog represented 93% of the total backlog at the end of both fiscal year 2019 and 2018.

Gross orders are defined as new orders recorded during the period and revisions to previously recorded orders. New orders are recorded for the total contractual amount, excluding certain pass-through items and service items which are recognized as the revenues are recognized, once a written agreement for the delivery of goods or provision of services is in place and, other than Proton Solutions, when shipment of the product is expected to occur within two years, so long as any contingencies are deemed perfunctory. For our Proton Solutions business, we record orders when construction of the related proton therapy treatment center is reasonably expected to start within two years, but only if any contingencies are deemed perfunctory. We will not record Proton Solutions orders if there are financing contingencies, if a substantial portion of the financing for the project is not reasonably assured or if customer board approval contingencies are pending. We perform a quarterly review to verify that outstanding orders remain valid. If an order is no longer expected to be converted to revenue, we record a backlog adjustment which reduces backlog but does not impact gross orders for the period.

Backlog adjustments are comprised of dormancies, cancellations, foreign currency exchange rate adjustments, backlog acquired from our acquisitions, and other adjustments. Gross orders do not include backlog adjustments. In fiscal years 2019, 2018 and 2017, our backlog adjustments were a net reduction of $136.6 million, $152.8 million and $154.5 million, respectively.

Competition

The markets for cancer treatment and services are characterized by rapidly evolving technology, intense competition and pricing pressure. We compete with companies worldwide, some of whom may have greater financial, marketing and other resources. Large amounts of resources are being invested in the research and development of new therapies for cancer. The successful development of alternative therapies for cancer, for example, immunotherapy, increased efficacy of new therapies or existing products, pricing decisions by competitors and the rate of market penetration by competitive products may render our products obsolete or noncompetitive.

Our smaller competitors could be acquired by companies with greater financial strength, which could enable them to compete more aggressively. Some of our suppliers or distributors could also be acquired by competitors, which could disrupt these supply or distribution arrangements and result in less predictable and reduced revenues. New competitors and new technologies, such as radiosurgery, VMAT, MR-Linac and proton therapy, will compete directly with our products or will compete for customer budget allocation. We have directed substantial product development efforts into (i) increasing the interconnectivity of our products for more seamless operation within a system, (ii) enhancing the ease of use of our software products and (iii) reducing setup and treatment times and increasing patient throughput. We have also maintained an “open systems” approach that allows customers to “mix and match” our various individual products, incorporate products from other manufacturers, share information with other systems or products and use the equipment for offering various methods of radiation therapy treatment. We have done this based on our belief that such interconnectivity will increase the acceptance and adoption of IMRT, IGRT and VMAT and will stimulate demand for our products. There are competitive “closed-ended” dedicated-use systems, however, that place simplicity of use ahead of flexibility. If we have misjudged the importance to our customers of maintaining an “open systems” approach, or if we are unsuccessful in our efforts to sustain interconnectivity, enhance ease-of-use and reduce setup and treatment times, our revenues could suffer.

Our Oncology Systems customers’ equipment purchase considerations typically include: reliability, servicing, patient throughput, precision, price, payment terms, connectivity, clinical features, the ability to track patient referral patterns, long-term relationship and capabilities of customers’ existing equipment. We believe we compete favorably with our competitors based upon our strategy of providing a complete package solution of products and services in the field of radiation oncology and our continued commitment to global distribution and customer services, value-added manufacturing, technological leadership and new product innovation. To compete successfully, we must provide technically superior, clinically proven products that deliver more precise, cost effective, high quality clinical outcomes, together in a complete package of products and services, and do so ahead of our competitors. Since our Oncology Systems products are generally sold on a basis of total
value to the customer, our business may suffer when purchase decisions are based solely upon price, which can happen if hospitals and clinics give purchasing decision authority to group purchasing organizations. Further, competitors may delay customer purchasing decisions as customers evaluate competitive product offerings, potentially extending our sales cycle and adversely affecting our gross orders.

We are the leading provider of medical linear accelerators and related accessories. In the radiotherapy and radiosurgery markets, we compete primarily with Elekta AB and Accuray Incorporated. Additionally, Elekta AB and ViewRay Incorporated have introduced MR-Linac devices that also compete with us for hospital budget allocations. Sun Nuclear Corporation and Standard Imaging have QA products that compete with our Mobius and Qumulate offerings. Vision RT, Brainlab and C-RAD have products that compete with our humediQ product line in the areas of patient monitoring and tracking during therapy. With our information and image management, simulation, treatment planning and radiosurgery products, we also compete with a number of other companies, such as Philips Medical Systems, RaySearch Laboratories AB, Brainlab AG and Best Theratronics, Ltd. We also encounter some competition from providers of enterprise hospital information systems. With respect to our brachytherapy solutions, our competitors are Elekta AB, MIM Software Inc. and Eckert & Ziegler BEBIG GmbH. In our Oncology Systems service and maintenance business, we compete with independent service organizations and our customers’ internal service organizations.

In addition, as a radiotherapy and radiosurgery equipment provider, we also face competition from other cancer treatment alternatives, such as traditional surgery, chemotherapy, robotic surgery and drug therapies, among others. To compete successfully, we need to demonstrate and convince our customers and cancer patients of the advantages of radiation therapy over or in addition to other cancer treatment alternatives. This may involve funding and, in some instances, sponsoring clinical research and studies relating to the efficacy, comparative effectiveness and safety of radiation therapy as compared to such other alternative treatments.

Our ARIA and 360 Oncology software competes with Elekta AB and large electronic medical record companies such as EPIC and CERNER, as well as multiple new competing products from established companies such as Roche (Navify and Flatiron), Philips etc., and emerging competitors such as Carevive Systems Inc, and Syapse, Inc.

The proton therapy market is still developing and is characterized by rapidly evolving technology, high competition and pricing pressure. Our ability to compete successfully depends, in part, on our ability to lower our product costs, and develop and provide technically superior, clinically proven products that deliver more precise, cost-effective, high quality clinical outcomes, including integration of IGRT technologies such as integrated volumetric imaging. In the proton therapy market, we compete principally with Hitachi Heavy Industries, Ion Beam Applications S.A., and Mevion Medical Systems, Inc. There are a number of smaller competitors that are also developing proton therapy products. We are the only established company in the field of radiation therapy to enter the proton therapy market directly.

The interventional oncology market is highly competitive. We face significant competition from large to small competitors across our product lines and in each geographic region where our products are sold. Our primary competitors include: Boston Scientific Corporation; Cook Medical LLC; Medtronic plc; Merit Medical Systems, Inc.; Terumo Medical Corporation; AngioDynamics, Inc.; MedWaves, Inc.; and Johnson & Johnson. Our main competitive strengths are product innovation, having a broad line of quality products and expertise in the field of radiation oncology.

Customer Services and Support

We warrant most of our Oncology Systems products for parts and labor for 12 months, and we offer a variety of post-warranty equipment service contracts and software support contracts to suit customers’ requirements. We have 28 service centers located in North America, EMEA and APAC.

We also have field service personnel throughout the world for Oncology Systems customer support services. Key Oncology Systems education operations are located in Beijing, China; Cham, Switzerland; Las Vegas, Nevada; Mumbai, India; Tokyo, Japan; and Montreal, Canada. Our network of service engineers and customer support specialists provide installation, warranty, repair, training and support services, project management, site planning, and professional services. We also have a distributed service parts network of regional hubs and forward-stocking locations across all major geographic areas. We generate service revenues by providing our customers with time-and-materials services, replacement part sales, post-warranty equipment service contracts and software support contracts. Most of the field service engineers are our employees, but our products are serviced by employees of distributors and/or agents in a few foreign countries. Customers can access our extensive service network by calling any of our service centers.
We believe customer service and support are an integral part of our Oncology Systems competitive strategy. Growth in our service revenues has resulted from the increasing customer adoption of service contracts as the sophistication and installed base of our products increase. We also believe superior service plays an important role in marketing and selling medical products and systems, particularly as the products become more complex. Nevertheless, some of our customers use their own internal biomedical engineering organizations and/or independent service organizations to service equipment after the warranty period expires and therefore do not enter into agreements with us for extended service.

Our Proton Solutions business sells our proton therapy equipment generally with a 12-month warranty. Upon transfer of a treatment room to a customer, we generally begin generating service revenues by providing on-site proton therapy system technical operation and maintenance support services, which typically are for relatively long-term periods (e.g., a five-year term or longer). We believe customer service and support are an integral part of our Proton Solutions competitive strategy.

Our Interventional Solutions business sells cryoablation and microwave ablation systems with a 12-month warranty. Our cryoablation systems require annual preventive maintenance and our equipment servicing is handled by factory trained service personnel across the globe. Our product support department offers technical assistance and replacement parts to our authorized distributors and to those customers who choose to perform their own service.

Manufacturing and Supplies

We manufacture our medical linear accelerators in Palo Alto, California; Beijing, China; and Crawley, United Kingdom. We manufacture some of our accessory products in Crawley, United Kingdom; Baden, Switzerland; Helsinki, Finland; Toulouse, France; and Winnipeg, Canada. We manufacture our high dose rate brachytherapy systems in Haan, Germany and our brachytherapy treatment planning products in Baden, Switzerland; and Charlottesville, Virginia. We manufacture IDENTIFY in Germany. We manufacture Calypso components in Seattle, Washington. We manufacture components and sub-systems for our proton therapy products and systems in Troisdorf, Germany. These facilities employ state-of-the-art manufacturing techniques, and several have been honored by the press, governments and trade organizations for their commitment to quality improvement. These manufacturing facilities are certified under International Standards Organization (“ISO”) 13485 (for medical devices) and have other regulatory clearances in all markets served.

Manufacturing processes at our various facilities include machining, fabrication, subassembly, system assembly and final testing. Our quality assurance program includes various quality control measures from inspection of raw materials, purchased parts and assemblies through online inspection. We outsource the manufacturing of many major subassemblies and perform system design, assembly and testing in house. We believe outsourcing enables us to reduce or maintain fixed costs and capital expenditures, while also providing us with the flexibility to increase production capacity.

We purchase material and components from various suppliers that are either standard products or customized to our specifications. We obtain some of the components included in our products from a limited group of suppliers or from a single source supplier, such as: the radioactive sources for high dose afterloaders; klystrons for linear accelerators; and radiofrequency components, magnets, patient positioning systems and gantry hardware for proton therapy systems. We require certain raw materials such as tungsten, lead and copper for Oncology Systems; and high-grade steel, high-grade copper and iron for the Proton Solutions business. Worldwide demand, availability and pricing of these raw materials have been volatile, and we expect that availability and pricing will continue to fluctuate in the future.

We design and manufacture our cryoablation and microwave ablation products in our Austin, Texas facility. Our Austin manufacturing facility is certified under ISO 13485 (for medical devices). Our quality assurance program includes various quality control measures from inspection of raw materials, purchased parts and assemblies through online inspection. We purchase material and components from qualified suppliers that are either standard products or customized to our specifications. We outsource the manufacturing of some of our accessory microwave products to a third party in Colorado.

We design and manufacture our embolic particles (Gelatin and PVA particles) in China. The embolic microspheres (Embozene, Oncozene and Tandem) that we acquired from Boston Scientific in August 2019 are currently manufactured by Boston Scientific in their United States and Ireland facilities under a manufacturing agreement.

Research and Development

Developing products, systems and services based on advanced technology is essential to our ability to compete effectively in the marketplace. We maintain a research and development and engineering staff responsible for product design and engineering.
Within Oncology Systems, our development efforts focus on enhancing the reliability and performance of existing products and developing new products. This development is conducted primarily in the United States, Switzerland, Canada, England, Finland, Germany, India and China. In addition, we support research and development programs at selected hospitals and clinics. Current areas for development within Oncology Systems include linear accelerator systems and accessories for medical applications, information systems, radiation treatment planning software, image processing software, imaging devices, patient positioning and equipment diagnosis and maintenance tools. Development for our high-energy linear accelerators is focused on improvements in accelerator technology, size, and mobility to address the needs of our customers in the market. Within Oncology Systems, we also have an Applied Research group, which focuses on disruptive technologies and new capability incubation.

Within Proton Solutions, our development efforts focus on accelerating treatment delivery, machine-learning based treatment planning, integrating patient set-up, motion management and remote service capabilities, as well as reducing the size and cost of our proton therapy system. We expect that, in order to realize the full potential of the Proton Solutions business, we will need to continue to invest substantial resources to continue to develop proton therapy technology.

Within Interventional Solutions, our development efforts focus on introducing new and innovative products and enhancing existing offerings. We achieve this through internal product development, acquisition, technology licensing and strategic alliances. We recognize the importance of continued investment in research and development efforts, guided by our strategic intent, key opinion leaders and global oncology community feedback.

**Product and Other Liabilities**

Our business exposes us to potential product liability claims that are inherent in the manufacture, sale, installation, servicing and support of medical devices and other devices that deliver radiation. Because our products are involved in the intentional delivery of radiation to the human body and other situations where people may come in contact with radiation, the collection and storage of patient treatment data for medical analysis and treatment delivery, the planning of radiation treatment and diagnostic imaging of the human body, and the diagnosis of medical problems, the possibility for significant injury and/or death exists.

Our medical products operate within our customers’ facilities and network systems, and under quality assurance procedures established by the facilities that ultimately deliver treatments to patients. Human and other errors or accidents may arise from the operation of our products in complex environments, particularly with products from other vendors, where interoperability or data sharing protocol may not be optimized even though the equipment or system operates according to specifications. As a result, we may face substantial liability to patients, our customers and others for damages resulting from faulty, or allegedly faulty, design, manufacture, installation, servicing, support, testing or interoperability of our products with other products, or their misuse or failure, as well as liability related to the loss or misuse of private patient data, including resulting from unauthorized intrusion into our products. We may also be subject to claims for property damages or economic loss related to or resulting from any errors or defects in our products, or the installation, servicing and support of our products. Any accident or mistreatment could subject us to legal costs, litigation, adverse publicity and damage to our reputation, whether or not our products or services were a factor. In addition, if a product we design or manufacture were defective (whether due to design, labeling or manufacturing defects, improper use of the product or other reasons), or found to be so by a competent regulatory authority, we may be required to correct or recall the product and notify other regulatory authorities. We maintain limited product liability and healthcare professional liability insurance coverage and currently do not maintain any errors and omissions insurance.

**Government Regulation**

**U.S. Regulations**

Laws governing marketing a medical device. In the United States, our products and operations are subject to extensive regulation by federal governmental authorities, such as the FDA, Nuclear Regulatory Commission (“NRC”), and state and local regulatory agencies, such as the state of California and other U.S. states, to ensure the devices are safe and effective and comply with laws governing products which emit, produce or control radiation. Similar international regulations apply overseas. These regulations, which include the U.S. Food, Drug and Cosmetic Act (the “FDC Act”) and regulations promulgated by the FDA, govern, among other things, the design, development, testing, manufacturing, packaging, labeling, distribution, import/export, sale and marketing and disposal of medical devices, post market surveillance and reporting of serious injuries and death, repairs, replacements, recalls and other matters relating to medical devices, radiation emitting devices and devices utilizing radioactive by-product material. State regulations are extensive and vary from state to state. Our Oncology Systems and Interventional Solutions equipment and software, as well as proton therapy systems offered by our
Proton Solutions business, constitute medical devices subject to these regulations. Under the FDC Act, each medical device manufacturer must comply with quality system regulations that are strictly enforced by the FDA.

Unless an exemption applies, the FDA requires that the manufacturer of a new medical device or a new indication for use of, or other significant change in, existing currently marketed medical device obtain either 510(k) premarket notification clearance or premarket approval (“PMA”) before it can market or sell those products in the United States. We do not manufacture any Class III medical devices, which require PMA. Certain of our products, like our radiation delivery systems manufactured by our Oncology Systems business and proton therapy systems manufactured by our Proton Solutions business, are Class II medical devices that require 510(k) clearance, while our other products are exempt from 510(k) clearance. Modifications or enhancements to a product that could significantly affect its safety or effectiveness, or that would constitute a major change in the intended use of the device, technology, materials, labeling, packaging, or manufacturing process may also require a new 510(k) clearance. Manufacturers make the initial determination whether a change to a cleared device requires a new 510(k) clearance, but the FDA can review any such decision. If the FDA disagrees with the manufacturer’s decision not to seek a new 510(k) clearance or PMA approval, as applicable, for a change, it may retroactively require the manufacturer to seek 510(k) clearance or PMA approval. The FDA can also require the manufacturer to cease marketing and selling the product in the United States and/or recall the product until 510(k) clearance or PMA approval is obtained.

In 2011, the FDA issued a draft guidance that, if finalized and implemented, would have resulted in manufacturers needing to seek a significant number of new clearances for changes made to legally marketed devices. Since then, the FDA has withdrawn that guidance leading to a final guidance on changes issued in October 2017 that gives industry more flexibility than under the 2011 draft. Under the current guidance and applicable regulations, if we make a change to a current product, we must be able to show that the modified product is substantially equivalent to a legally marketed device. If we cannot do so, we must seek premarket approval for the changed product through a PMA application unless the FDA grants a request, under the “de novo” process, to reclassify the proposed product so that it does not require PMA. In that event, a premarket notification submission - or “510(k)” - or even no submission at all may be possible, depending on how the FDA views the risk associated with the proposed changed product. Under the PMA process, the applicant submits extensive supporting data, including, in most cases, data from clinical studies, in the PMA application to establish reasonable assurance of the safety and effectiveness of the product. This process typically takes at least one to two years from the date the PMA is accepted for filing, but can take significantly longer for the FDA to review. In addition, to secure PMA approval, an applicant must demonstrate, usually via an FDA inspection, that the medical device subject to the PMA conforms to FDA’s Quality Systems Regulations which implement Good Manufacturing Practice (“GMP”) requirements.

**Quality systems.** Our manufacturing operations for medical devices, and those of our third-party suppliers, are required to comply with the FDA’s Quality System Regulation (“QSR”), as well as other federal and state regulations for medical devices and radiation emitting products. The QSR requires that each manufacturer establish a quality systems program by which the manufacturer monitors the manufacturing process and maintains records that show compliance with FDA regulations and the manufacturer’s written specifications and procedures relating to the devices. QSR compliance is necessary to receive and maintain FDA clearance or approval to market new and existing products. The FDA makes announced and unannounced periodic and on-going inspections of medical device manufacturers to determine compliance with the QSR. If in connection with these inspections, the FDA believes the manufacturer has failed to comply with applicable regulations and/or procedures, it may issue observations that would necessitate prompt corrective action. If FDA inspection observations are not addressed and/or corrective action taken in a timely manner and to the FDA’s satisfaction, the FDA may issue a Warning Letter (which would similarly necessitate prompt corrective action) and/or proceed directly to other forms of administrative and judicial enforcement actions. Failure to respond timely to FDA inspection observations, a Warning Letter or other notice of noncompliance and to promptly come into compliance could result in fines, injunctions, civil penalties, delays, suspension or withdrawal of clearances, seizures or recalls of products, operating restrictions, injunctions involving partial or total shutdown of production facilities, prohibition on export or import and criminal prosecution. Such actions may have further indirect consequences for the manufacturer both inside and outside of the United States and may adversely affect the reputation of the manufacturer and the product.

**Radiation Control Regulations.** Our products that use radioactive material, such as brachytherapy sources, are subject to the NRC clearance and approval requirements, and the manufacture and sale of these products are subject to federal and state regulations that vary from state to state and among regions. The manufacture, distribution, installation and service (and decommissioning and removal) of medical devices using radioactive material or emitting radiation also requires a number of licenses and certifications. Service of these products must also be done in accordance with a specific radioactive materials license. In addition, the handling and disposal of radioactive materials resulting from the manufacture, use or disposal of our products may impose significant requirements. Sites for the lawful disposal of materials generated by the manufacture, use or decommissioning of our products may no longer accept these materials in the future, or may accept them on unfavorable terms.
Regulations on Advertising and Promotions; Interactions with Healthcare Providers. The FDA and the Federal Trade Commission also regulate advertising and promotion of our products to ensure that the claims we make are consistent with our regulatory clearances, that there is competent and reliable scientific evidence to substantiate the claims, that our advertising fairly balances benefit and risk information, and that our promotional labeling and advertising is neither false nor misleading. We may not promote or advertise our products for uses not within the scope of our intended use statement in our clearances or approvals or make unsupported safety and effectiveness claims.

Additionally, we are members of AdvaMed, a global trade association of companies that develop, produce, manufacture and market Medical Technologies. Varian subscribes to the AdvaMed Code of Ethics on Interactions with U.S. Health Care Professionals. The AdvaMed Code provides companies with guidance on ethical interactions and relationships with Health Care Professionals. Also, we are subject to the Physician Payments Sunshine Act which requires medical product manufacturers to disclose annually any payments or other transfers of value made to U.S. physicians or teaching hospitals.

Electrical Safety and Environmental Regulations. It is also important that our products comply with electrical safety and environmental standards, such as those of Underwriters Laboratories, the Canadian Standards Association, and the International Electrotechnical Commission. In addition, the manufacture and distribution of medical devices utilizing radioactive material requires a specific radioactive material license. For the United States, manufacture and distribution of these radioactive sources and devices also must be in accordance with a model specific certificate issued by either the NRC or by a state regulatory authority. In essentially every country and state, installation and service of these products must be in accordance with a specific radioactive materials license issued by the applicable radiation control agency. We are also subject to a variety of additional environmental laws regulating our manufacturing operations and the handling, storage, transport and disposal of hazardous materials, and which impose liability for the cleanup of any contamination from these materials. For a further discussion of these laws and regulations, see “Critical Accounting Estimates” in MD&A, and Note 9, "Commitments and Contingencies," of the Notes to the Consolidated Financial Statements."

Data Privacy Laws. Data protection legislation is becoming increasingly common in the United States at both the federal and state level. For example, in June 2018, the State of California enacted the California Consumer Privacy Act of 2018 ("CCPA"), which will come into effect on January 1, 2020. Unless an exemption applies, the CCPA requires companies that process information on California residents to make new disclosures to consumers about their data collection, use and sharing practices, allows consumers to opt out of certain data sharing with third parties and provides a new cause of action for data breaches. Additionally, the Federal Trade Commission and many state attorney generals are interpreting federal and state consumer protection laws to impose standards for the online collection, use, dissemination and security of data. The compliance and other burdens imposed by the European Union ("EU") General Data Protection Regulation ("GDPR"), CCPA and similar privacy laws and regulations may be substantial since they are subject to differing interpretations and implementation among jurisdictions. The restrictions imposed by such laws and regulations may limit the use and adoption of our services, reduce overall demand for our services, require us to modify our data handling practices, slow the pace at which we close sales transactions and impose additional costs and burdens.

Other United States Healthcare Laws. As a participant in the healthcare industry, we are also subject to federal and state laws and regulations pertaining to patient privacy and data security, fraud and abuse and physician payment transparency. The laws and regulations and their enforcement are constantly undergoing change, and we cannot predict what effect, if any, changes to these laws and regulations may have on our business. Government regulation also may cause considerable delay or even prevent the marketing and full commercialization of future products or services that we may develop. These healthcare laws include:

• The Medicare and Medicaid “anti-kickback” laws, and similar state laws, that prohibit payments or other remuneration intended to induce hospitals, physicians or others either to refer patients, or to purchase, lease or order, or arrange for or recommend the purchase, lease or order of healthcare products or services for which payment may be made under federal and state healthcare programs, such as Medicare and Medicaid. These laws affect our sales, marketing and other promotional activities by limiting the kinds of financial arrangements we may have with hospitals, physicians or other potential purchasers of our products. They particularly impact how we structure our sales offerings, including discount practices, customer support, education and training programs, physician consulting, research grants and other service arrangements. These laws are broadly written, and it is often difficult to determine precisely how these laws will be applied to specific circumstances.

• Federal and state “false claims” laws generally prohibit knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid or other government payors that are false or fraudulent, or for items or services that were not provided as claimed. Although we do not submit claims directly to payors,
manufacturers can be, and have been, held liable under these laws if they are deemed to “cause” the submission of false or fraudulent claims by providing inaccurate billing or coding information to customers, or through certain other activities, including promoting products for uses not approved or cleared by the FDA.

- State and federal transparency laws, including laws in Massachusetts and Vermont, and the federal Physician Payment Sunshine Act, which require, among other things, the disclosure of equity ownership and payments to physicians, healthcare providers and hospitals.

From time to time, these laws and regulations may be revised or interpreted in ways that could make it more difficult for our customers to conduct their businesses, such as recent proposed revisions to the laws prohibiting physician self-referrals, and such revisions could have an adverse effect on the demand for our products, and therefore our business and results of operations.

**Medicare and Medicaid Reimbursement**

The federal and state governments of the United States establish guidelines and pay reimbursements to hospitals and free-standing clinics for diagnostic examinations and therapeutic procedures under Medicare at the federal level and Medicaid at the state level. Private insurers often establish payment levels and policies based on reimbursement rates and guidelines established by the government.

The federal government and the Congress review and adjust rates annually, and from time to time consider various Medicare and other healthcare reform proposals that could significantly affect both private and public reimbursement for healthcare services, including radiotherapy and radiosurgery, in hospitals and free-standing clinics. State government reimbursement for services is determined pursuant to each state’s Medicaid plan, which is established by state law and regulations, subject to requirements of federal law and regulations. In the past, we have seen our customers’ decision-making process complicated by the uncertainties surrounding reimbursement rates for radiotherapy and radiosurgery in the United States. In July 2019, the CMS proposed the APM pilot program for radiation oncology, intended to test whether an episode-based payment structure across a cohort of U.S. hospitals and freestanding cancer centers would reduce Medicare expenditures, while preserving or enhancing the quality of care. We expect that CMS will announce the APM rules in late 2019, although the exact timing and details of the APM are uncertain.

The provisions of the Affordable Care Act went into effect in 2012. Specifically, one of the components of the law is a 2.3% excise tax on sales of most medical devices, which include our Oncology Systems products, which started on January 1, 2013. In January 2018, President Trump signed into law a spending package that included a two-year moratorium on the medical device excise tax starting January 1, 2018 and ending December 31, 2019. This tax has had, and may continue to have, a negative impact on our gross margin when the moratorium expires.

The Medicare Access and CHIP Reauthorization Act ("MACRA") became effective beginning January 1, 2017. MACRA made numerous changes to Medicare, Medicaid, and other healthcare related programs. These changes include new systems for establishing the annual updates to payment rates for physicians’ services in Medicare as well as certain electronic health record reporting requirements for providers. Any changes in reimbursement policies and other legislative initiatives aimed at or having the effect of reducing healthcare costs associated with Medicare and other government healthcare programs could impact our business.

Various healthcare reform proposals have also emerged at the state level, and we are unable to predict which, if any of these proposals will be enacted. We believe that the uncertainty created by healthcare reform in the United States has complicated our customers’ decision-making process and impacted our Oncology Systems and Proton Solutions businesses, and may continue to do so.

The sale of medical devices including radiotherapy products, the referral of patients for diagnostic examinations and treatments utilizing such devices, and the submission of claims to third-party payors (including Medicare and Medicaid) seeking reimbursement for such services, are subject to various federal and state laws pertaining to healthcare “fraud and abuse.” These laws include physician self-referral prohibitions, anti-kickback laws and false claims laws. Subject to enumerated exceptions, the federal physician self-referral law, also known as Stark II, prohibits a physician from referring Medicare or Medicaid patients to an entity with which the physician (or a family member) has a financial relationship, if the referral is for a “designated health service,” which is defined explicitly to include radiology and radiation therapy services. Anti-kickback laws make it illegal to solicit, induce, offer, receive or pay any remuneration in exchange for the referral of business, including the purchase of medical devices from a particular manufacturer or the referral of patients to a particular supplier of diagnostic
services utilizing such devices. False claims laws prohibit anyone from knowingly and willfully presenting, or causing to be presented, claims for payment to third-party payors (including Medicare and Medicaid) that are false or fraudulent, for services not provided as claimed, or for medically unnecessary services. The Office of the Inspector General prosecutes violations of fraud and abuse laws and any violation may result in criminal and/or civil sanctions including, in some instances, imprisonment and exclusion from participation in federal healthcare programs such as Medicare and Medicaid. Varian needs to comply with all applicable laws related to federal healthcare programs in transactions with health care professionals.

Foreign Regulations

Our operations, sales and service of our products outside the United States are subject to regulatory requirements that vary from country to country and may differ significantly from those in the United States. In general, our products are regulated outside the United States as medical devices by foreign governmental agencies similar to the FDA.

Marketing a medical device internationally. In order for us to market our products internationally, we must obtain clearances or approvals, or registrations, for products and product modifications. We are required to affix the CE mark to our products in order to sell them in member countries of the European Economic Area (“EEA”). The CE mark is an international symbol of adherence to certain essential principles of safety and effectiveness, which once affixed enables a product to be sold in member countries of the EEA. The CE mark is also recognized in many countries outside the EEA, such as Switzerland and Australia, and can assist in the clearance process. In order to receive permission to affix the CE mark to our products, we must obtain Quality System certification, e.g., ISO 13485, and must otherwise have a quality management system that complies with the EU Medical Device Directive. The ISO promulgates standards for certification of quality assurance operations. We are certified as complying with ISO 13485 for our medical devices. The European Union ("EU") Commission published a new Medical Device Regulation in 2017, providing a three-year transition period until May 2020, at which time, the existing Directives will be repealed. The Medical Device Regulation will change multiple aspects of the existing regulatory framework, such as higher clinical evidence requirements and introduce several new requirements, such as Unique Device Identification and many other post-market obligations. Thus, the new Medical Device Regulation significantly modifies and intensifies the compliance requirements for the industry.

Several Asian countries, including China and Japan, have adopted their own regulatory schemes. To import medical devices into Japan, the requirements of Japan’s Pharmaceutical New Medical Act Device Regulation must be met and a “shomin,” the approval to sell medical products in Japan, must be obtained. Similarly, in China a product registration license issued by the National Medical Product Administration are required to sell medical devices in that country. Obtaining such license approvals for our products can be time-consuming and burdensome and can cause us to delay marketing or sales of our products in such countries. Similarly, prior to selling a device in Canada, manufacturers of Class II, III and IV devices must obtain a medical device license. We sell Class II and Class III devices in Canada. Additionally, many countries have laws and regulations relating to radiation and radiation safety that also apply to our products. In most countries, radiological regulatory agencies require some form of licensing or registration by the facility prior to acquisition and operation of an X-ray generating device or a radiation source. The handling, transportation and the recycling of radioactive metals and source materials are also highly regulated.

A number of countries, including the members of the EU, have implemented or are implementing regulations that would require manufacturers to dispose, or bear certain disposal costs, of products at the end of a product’s useful life and restrict the use of some hazardous substances in certain products sold in those countries.

CTSI operations. We are subject to laws and regulations in India and Sri Lanka in relation to the operation of a healthcare establishment. The laws apply to the governing, commissioning and operating of the centers; the practice and conduct of medical professionals; management of patients; sale and storage of drugs and safe medication; employment and management of manpower; the safety of patients, staff and the public; and environmental protection. In order to service our patients, we must obtain the relevant licenses and/or registrations, adhere to set standards and are subject to inspections required for the operations of our centers.

Data Privacy Laws. Laws and regulations related to the collection, processing, storage, transfer and use of personal data are evolving globally. The GDPR took effect in May 2018, and other foreign jurisdictions are also going through privacy reform. Particularly within Europe, data protection legislation is comprehensive and complex and there has been a recent trend toward more stringent enforcement of requirements regarding protection and confidentiality of personal data. The compliance and other burdens imposed by the GDPR and similar privacy laws and regulations may be substantial since they are subject to differing interpretations and implementation among jurisdictions. The restrictions imposed by such laws and regulations may limit the use and adoption of our services, reduce overall demand for our services, require us to modify our data handling practices, slow the pace at which we close sales transactions and impose additional costs and burdens. In addition, non-
compliance could result in proceedings against us by governmental entities or others, significant fines, could negatively impact our reputation and may otherwise adversely impact our business, financial condition and operating results. Particularly within Europe, data protection legislation is comprehensive and complex and there has been a recent trend toward more stringent enforcement of requirements regarding protection and confidentiality of personal data.

Other applicable international regulations. We are also subject to foreign laws and regulations that apply to manufacturers of radiation emitting devices and products utilizing radioactive materials, as well as laws and regulations of general applicability relating to matters such as environmental protection, safe working conditions, manufacturing practices and other matters. In addition, our sales of products in foreign countries are also subject to regulation of matters such as product standards, packaging requirements, labeling requirements, import restrictions, environmental and product recycling requirements, trade regulations, duties and tax requirements. In some countries, we rely on our foreign distributors and agents to assist us in complying with foreign regulatory requirements. These laws and regulations are often comparable to, if not more stringent than, the equivalent laws and regulations in the United States. In addition, sales overseas are also affected by regulation of matters such as product standards, packaging, labeling, environmental and product recycling requirements, import and export restrictions, tariffs, duties and taxes. In some countries, we rely on our foreign distributors and agents to assist us in complying with foreign regulatory requirements, and we cannot be sure that they will always do so.

We are also subject to international “fraud and abuse” laws and regulations, as well as false claims and misleading advertisement laws. From time to time, these laws and regulations may be revised or interpreted in ways that could make it more difficult for our customers to conduct their businesses, which could have an adverse effect on the demand for our products, and therefore our business and results of operations. The laws and regulations and their enforcement are constantly undergoing change, and we cannot predict what effect, if any, changes to these laws and regulations may have on our business.

Anti-Corruption Laws and Regulations

We are subject to the U.S. Foreign Corrupt Practices Act and anti-corruption laws, and similar laws in foreign countries, such as the U.K. Bribery Act of 2010 and the Law “On the Fundamentals of Health Protection in the Russian Federation.” In general, there is a worldwide trend to strengthen anti-corruption laws and their enforcement, and the healthcare industry and medical equipment manufacturers have been particular targets of these investigation and enforcement efforts. Any violation of these laws by us or our agents or distributors could create a substantial liability for us, subject our officers and directors to personal liability and cause a loss of reputation in the market.

Transparency International’s 2016 Corruption Perceptions Index measured the degree to which public sector corruption is perceived to exist in 176 countries/territories around the world, and found that approximately sixty-nine percent of the countries in the index, including many that we consider to be high growth areas for our products, such as China, India, Russia and Brazil, scored below 50, on a scale from 100 (very clean) to 0 (highly corrupt). We currently operate in many countries where the public sector is perceived as being more or highly corrupt and our strategic business plans include expanding our business in regions and countries that are rated as higher risk for corruption activity by Transparency International.

Increased business in higher risk countries could subject us and our officers and directors to increased scrutiny and increased liability. In addition, becoming familiar with and implementing the infrastructure necessary to comply with laws, rules and regulations applicable to new business activities and mitigating and protecting against corruption risks could be quite costly. Failure by us or our agents or distributors to comply with these laws, rules and regulations could delay our expansion into high-growth markets and could adversely affect our business.

Patent and Other Proprietary Rights

We place considerable importance on obtaining and maintaining patent, copyright and trade secret protection for significant new technologies, products and processes, because of the length of time and expense associated with bringing new products through the development process and to the marketplace.

We generally rely upon a combination of patents, copyrights, trademarks, trade secret and other laws, and contractual restrictions on disclosure, copying and transferring title, including confidentiality agreements with vendors, strategic partners, co-developers, employees, consultants and other third parties, to protect our proprietary rights in the developments, improvements and inventions that we have originated and which are incorporated in our products or that fall within our fields of interest. As of September 27, 2019, we owned 577 patents issued in the United States and 447 patents issued throughout the rest of the world and had 478 patent applications on file with various patent agencies worldwide. We intend to file additional patent applications as appropriate. We have trademarks, both registered and unregistered, that are maintained and enforced to
provide customer recognition for our products in the marketplace. We also have agreements with third parties that provide for licensing of patented or proprietary technology, including royalty bearing licenses and technology cross licenses.

Environmental Matters

For a discussion of environmental matters, see “Critical Accounting Estimates” in MD&A and Note 9, "Commitments and Contingencies," of the Notes to the Consolidated Financial Statements, which discussions are incorporated herein by reference.

Tariff Measures

Between July 2018 and May 2019, the Trump Administration imposed a series of tariffs, ranging from 5% to 25%, on numerous products imported into the United States from China, including Varian’s radiotherapy systems manufactured in China and certain components used in our manufacturing and service activities. In July and August of 2018, China retaliated against the U.S. tariffs by imposing its own series of tariffs, ranging from 10% to 25%, on certain products imported into China from the United States, including Varian’s radiotherapy systems and certain manufacturing and service components.

We participated in the Office of the U.S. Trade Representative (“USTR”) process to seek product-specific exclusions from the U.S. tariffs on Chinese imports. To date, USTR has granted tariff exclusions for four products: certain radiotherapy systems manufactured in China, as well as three key components of the radiation therapy systems that we manufacture in the United States: multi-leaf collimators, certain printed circuit board assemblies and tungsten shielding. We submitted an additional U.S. exclusion request in September 2019, in relation to a manufacturing component, which request is pending.

In June and July 2019, Varian submitted formal requests to the Chinese government for exclusions from the Chinese retaliatory tariffs for manufacturing inputs, service parts and radiotherapy systems imported into China from the United States. In September 2019, the Chinese government granted a tariff exclusion for medical linear accelerators, including our radiotherapy systems, with retroactive effect. The other exclusion requests are still pending.

The U.S. and Chinese government tariff exclusions are for one-year periods, with anticipated renewal processes.

Employees

As of September 27, 2019, we had 10,062 full-time and part-time employees worldwide, including 3,438 in the United States and 6,624 in international locations. None of our employees based in the United States are unionized or subject to collective bargaining agreements. Employees based in some other countries may, from time to time, be represented by works councils or unions or subject to collective bargaining agreements. We consider our relations with our employees to be good.

Information About Our Executive Officers

The biographical summaries of our executive officers, as of November 1, 2019, are as follows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Position</th>
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<tbody>
<tr>
<td>Dow R. Wilson</td>
<td>60</td>
<td>President and Chief Executive Officer</td>
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<tr>
<td>Kolleen T. Kennedy</td>
<td>60</td>
<td>President, Proton Solutions and Chief Growth Officer</td>
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<tr>
<td>Christopher A. Toth</td>
<td>40</td>
<td>President, Oncology Systems</td>
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<tr>
<td>Gary E. Bischoping, Jr.</td>
<td>51</td>
<td>Senior Vice President, Finance and Chief Financial Officer*</td>
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<tr>
<td>John W. Kuo</td>
<td>56</td>
<td>Senior Vice President, General Counsel and Corporate Secretary</td>
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<tr>
<td>J. Michael Bruff</td>
<td>50</td>
<td>Senior Vice President, Finance and Investor Relations *</td>
</tr>
</tbody>
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* Effective December 1, 2019, Gary E. Bischoping, Jr. will become President, Interventional Solutions, and J. Michael Bruff will succeed Mr. Bischoping as Senior Vice President, Finance and Chief Financial Officer. Effective December 1, 2019, Mr. Bischoping will no longer be an executive officer and J. Michael Bruff will become one.

*Dow R. Wilson* was appointed President and Chief Executive Officer effective September 29, 2012. Mr. Wilson served as Corporate Executive Vice President and Chief Operating Officer from October 2011 through September 2012 and as Corporate Executive Vice President and President, Oncology Systems from August 2005 through September 2011. Mr. Wilson served as Corporate Vice President and President, Oncology Systems from January 2005 to August 2005. Prior to joining the Company in January 2005, Mr. Wilson was Chief Executive Officer of the Healthcare-Information Technologies business in General Electric (a diversified technology and services company), from 2003 to 2005. During the previous 18 years, Mr. Wilson held
various management positions within General Electric. Mr. Wilson holds a B.A. degree in English from Brigham Young University and an M.B.A. degree from Dartmouth’s Amos Tuck School of Business. Mr. Wilson serves on the board of directors at Agilent, Inc. Mr. Wilson also serves on the board of directors of industry associations AdvaMed and the US-India Strategic Partner Forum. In 2015, Mr. Wilson was appointed by President Obama to serve on a Presidential Advisory Council (“Council”) for doing business in Africa; he recently completed a second term on the Council. Mr. Wilson served on the board of directors of Varex Imaging Corporation, our former Imaging Components business segment, from January 2017 to January 2018. He also served on the board of directors of Saba Software, Inc. (an e-learning software provider) from August 2006 to March 2015 and as the lead independent director of that board from August 2011 to March 2013. Mr. Wilson was appointed to our Board of Directors in September 2012.

Kolleen T. Kennedy was appointed President of Proton Solutions and Chief Growth Officer effective October 2018. Ms. Kennedy served as Executive Vice President and President, Oncology Systems from September 2014 to September 2018, and was Senior Vice President and President, Oncology Systems from October 2011 to September 2014. From January 2006 through September 2011, Ms. Kennedy served as Vice President, Oncology Systems Customer Service and Support. Prior to that, Ms. Kennedy was the Company’s Vice President, Oncology Systems Marketing, Product Management and Engineering from September 2004 to January 2006. Prior to becoming Vice President, Ms. Kennedy served in various marketing management positions since she joined the Company in 1997. Ms. Kennedy holds a B.S. degree in Radiation Oncology and a B.S. degree in Psychology, both from Wayne State University, as well as an M.S. degree in Medical Physics from the University of Colorado.

Christopher A. Toth was appointed President of Oncology Systems effective October 2018. Mr. Toth joined Varian in 2001 and has held multiple cross-functional roles and executive positions during his tenure with the company. Prior to his appointment as President of Oncology Systems, Mr. Toth served as President of Global Commercial and Field Operations from January 2017 to September 2018, where he was responsible for global sales strategy and execution for Oncology Systems and Proton Solutions. Additionally, in this role, Mr. Toth was responsible for global field service, applications training, market access and regional marketing for the Oncology Systems business. From September 2014 to January 2017, Mr. Toth was President, Oncology Systems Americas and from April 2011 to September 2014, Vice President, Global Marketing. Mr. Toth holds a B.A. degree in Business Administration with a concentration in Marketing from the Lundquist College of Business at the University of Oregon.

Gary E. Bischoping, Jr. was appointed Senior Vice President, Finance and Chief Financial Officer (“CFO”) in May 2017. Effective December 1, 2019, Mr. Bischoping, Jr. will become President, Interventional Solutions and no longer serve as CFO. Prior to joining the Company, Mr. Bischoping was with Dell Technologies for 17 years where he held several management roles including CFO of its Client Solutions Group from 2016 to 2017, CFO of Enterprise Solutions Group and Commercial Sales from 2013 to 2016, CFO of its Commercial Business from 2012 to 2013, and VP and Treasurer from 2008 to 2012. Before joining Dell, Mr. Bischoping worked in financial management consulting for Stern Stewart & Company, Xerox and the SK Group. Mr. Bischoping earned his M.B.A. degree from the Simon School of Business at the University of Rochester and a B.S. degree in Accounting from the State University of New York at Oswego. He passed the Certified Public Accountants examination in 1991.

John W. Kuo was appointed Senior Vice President, in addition to being General Counsel and Corporate Secretary, in February 2012. Prior to that, he served as Corporate Vice President and General Counsel from July 2005 through January 2012 and as Corporate Secretary since February 2005. Mr. Kuo joined the Company as Senior Corporate Counsel in March 2003 and became Associate General Counsel in March 2004. Prior to joining the Company, Mr. Kuo was General Counsel and Secretary at BroadVision, Inc. (an e-commerce software provider) and held senior legal positions at 3Com Corporation (a networking equipment provider). Mr. Kuo has previously been with the law firms of Gray Cary Ware & Freidenrich (now DLA Piper) and Fulbright & Jaworski. Mr. Kuo holds a B.A. degree from Cornell University and a J.D. degree from Berkeley Law at the University of California at Berkeley.

J. Michael Bruff, who currently serves as Senior Vice President, Finance and Investor Relations will succeed Mr. Bischoping as CFO effective December 1, 2019. Since joining the Company, Mr. Bruff served as Vice President of Investor Relations between August 2017 and February 2018 and has served as Senior Vice President, Finance and Investor Relations from February 2018 to the present. Prior to joining the Company, Mr. Bruff worked for Dell Technologies for 19 years in both domestic and international roles, most recently as Senior Vice President of North America Sales Strategy & Planning. Previously, he served as Senior Vice President and CFO of Dell's Asia Pacific and Japan Commercial Business and Vice President and CFO of the Greater China Commercial Business. He also held several other finance leadership roles in commercial finance, financial planning and analysis, internal audit and Enterprise Solutions Group finance. In addition, Mr. Bruff was Vice President, Global Services Accounting and Finance at CA, Inc. and held a variety of finance and reporting roles at MCI Telecommunications. Mr.
Bruff started his career in auditing and accounting at Deloitte & Touche. Mr. Bruff holds a B.S. degree in Accounting and a B.A degree in Economics from the University of Maryland.

Distribution

On January 28, 2017 (the "Distribution Date"), we completed the separation and distribution (the "Distribution") of Varex Imaging Corporation ("Varex"), our former Imaging Components business segment. On the Distribution Date, each of our stockholders of record as of the close of business on January 20, 2017 (the "Record Date") received 0.4 of a share of Varex common stock for every one share of our common stock owned as of the Record Date. Varex is now an independent publicly traded company and is listed on The NASDAQ Global Select Market under the ticker symbol "VREX."

Information Available to Investors

As soon as reasonably practicable after our filing or furnishing the information to the SEC, we make the following available on the Investors page of our website http://www.varian.com: our annual reports on Form 10-K; quarterly reports on Form 10-Q; current reports on Form 8-K (including any amendments to those reports); and proxy statements. Our Code of Conduct, Corporate Governance Guidelines and the charters of the Audit Committee, Compensation and Management Development Committee, Ethics and Compliance Committee, Nominating and Corporate Governance Committee and Executive Committee are also available on the Investors page of our website. Investors and others should note that we announce material financial and operational information to our investors using our investor relations website (http://investors.varian.com/), press releases, SEC filings and public conference calls and webcasts. Please note that information on, or that can be accessed through, our website is not deemed “filed” with the SEC and is not to be incorporated by reference into any of our filings under the Securities Act of 1933, as amended (the “Securities Act”), or the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

Item 1A. Risk Factors

The following risk factors and other information included in this Annual Report on Form 10-K should be carefully considered. The occurrence of any of the following risks or of unknown risks and uncertainties may adversely affect our business, operating results and financial condition.

RISKS RELATING TO OUR BUSINESSES

Our performance depends on successful improvements to our existing products and services, commercialization of new products and services and increasingly on our ability to anticipate emerging trends in oncology diagnosis, treatment and management.

The markets in which we operate are characterized by rapid change and technological innovation. Our performance depends on the successful commercialization of new products and services that reflect and respond to changes in the marketplace, technology and customer demands and increasingly on our ability to anticipate emerging trends in oncology diagnosis, treatment and management.

- Our Oncology Systems hardware and software products often have long development and government approval cycles, are technologically complex and must demonstrate high levels of performance and functionality to remain competitive.

- Our software products compete in markets characterized by rapid technological advances, changing delivery models, evolving standards and frequent new product introductions and enhancements. We are expanding our software product lines and investing in the development of cloud and software-as-a-service (“SaaS”) solutions. The development and introduction of new software platforms and delivery models, as well as different business models, is complex and involves many technological, regulatory and legal hurdles. We cannot assure you that we can successfully develop and implement such platforms or models or that our customers will accept them.
Our Proton Solutions products require intensive planning, design, development, testing and capital commitment. Because of the large footprint and high price of many proton therapy systems, there is increasing demand for the development of smaller, more compact proton therapy systems. Although we have introduced our ProBeam® Compact single-room proton therapy solution and our ProBeam 360 single room and multi-room systems, other companies have more experience offering smaller, less expensive proton therapy systems. Our competitiveness will depend on our ability to continue to timely develop new technologies to reduce the size and price of our system or provide additional features and functionality that our competitors do not.

Our Intervventional Solutions business offers products for interventional oncology procedures and treatments, including cryoablation, microwave ablation and embolization. The success of our Intervventional Oncology business will depend on general market penetration and acceptance of interventional solutions among physicians, the medical community, healthcare payors and patients, and our ability to develop and successfully market technologically competitive products and win market share from other companies in spaces where they have greater resources than we do.

In addition to hardware and software products for oncology care, we offer treatment planning and quality assurance as a service, which allows remote delivery and support of care in understaffed locations to utilize technology on a per-patient basis. Our ability to realize the full potential of these services will depend heavily on our ability to deploy them using AI-based software solutions and developing such software solutions.

We may need to spend more time and money than anticipated to develop and introduce new products, product enhancements or services. We may not be able to recover all or a meaningful part of our investments. New products may adversely impact orders and sales of our existing products or make them less desirable or even obsolete. In addition, certain costs, including installation and warranty costs, associated with new products may be disproportionately greater than the costs associated with existing products, and if we are unable to lower these costs over time, our operating results could be adversely affected.

Our ability to successfully develop and introduce new products, product enhancements and services depends, among other things, on our ability to:

- properly identify and respond to customer needs;
- demonstrate the value proposition of new products and services;
- limit the time required from proof of feasibility to routine production;
- timely and efficiently comply with internal quality assurance systems and processes;
- limit the timing and cost of regulatory approvals;
- accurately predict and control costs associated with inventory overruns or shortages caused by phase-in of new products and services and phase-out of old products and services;
- price our products and services competitively and profitably;
- manufacture, deliver and install our products in sufficient volumes on time, and accurately predict and control costs associated with manufacturing, installation, warranty and maintenance of the products; and
- manage customer demands for new and old products and services, and optimize complementary product lines and services.

We cannot be sure that we will be able to successfully commercialize new products because commercialization involves compliance with complex quality assurance processes, including the Quality System Regulation ("QSR") of the FDA. Failure to complete these processes on a timely and efficient basis could result in delays that could affect our ability to attract or retain customers, or could cause customers to delay or cancel orders.

In addition, a portion of our Oncology Systems’ product revenue is generally tied to installation and acceptance of the product, and our recognition of revenue associated with new products may be deferred where it takes longer to manufacture or install the new products. Customers may also decide not to upgrade their equipment, or customers may delay delivery of some of our more sophisticated products because of the longer preparation and renovation of treatment rooms required.
We compete in highly competitive markets, and we may lose market share to companies with greater resources or more effective technologies, or be forced to reduce our prices.

The markets for cancer treatment are characterized by rapidly evolving technology, intense competition and pricing pressure. In radiotherapy and radiosurgery markets, we compete primarily with Elekta AB and Accuray Incorporated. In addition, our software products compete with the product offerings of a variety of companies, such as Philips Medical Systems, RaySearch Laboratories AB and Brainlab AG.

New competitors may enter our markets and have already entered some of our newer markets such as radiosurgery, VMAT and proton therapy. Established enterprise software developers with greater software development capability may enter the markets for cancer treatment software. Some of these competitors may have greater financial, marketing and other resources. To compete successfully, we must provide technically superior, proven products that deliver more precise, cost-effective, high quality clinical capabilities, in a complete package of products and services, and do so ahead of our competitors.

As our Oncology Systems products are generally sold on a basis of total value to the customer, our business may suffer when purchase decisions are based solely upon price, which can happen if hospitals and clinics give purchasing decision authority to group purchasing organizations. New competitors may also delay the purchasing decisions of customers if customers decide to evaluate the products of such competitors along with ours, potentially extending our sales cycle and adversely affecting our gross orders and revenues.

The shift in the proportion of sales outside the United States towards emerging market countries, which typically purchase less complex, lower-priced products compared to more developed countries, and which usually have stiffer price competition and longer periods from placement of orders to revenue recognition, could also adversely impact our results of operations.

The market for proton therapy products is still developing and is characterized by rapidly evolving technology and pricing pressure. Our primary competitors in the proton therapy market are Hitachi Heavy Industries, Ion Beam Applications S.A. and Mevion Medical Systems. Our ability to compete successfully depends, in part, on our ability to lower our product costs, and develop and provide technically superior, proven products that deliver precise, cost-effective, high quality capabilities.

The market for interventional solutions products is relatively new, still developing and is marked by a wide variety of products, many of which have had varying degrees of market acceptance. Our primary competitors in the interventional solutions market include Boston Scientific Corp., Terumo Medical Corp., Merit Medical Systems, AngioDynamics, Medtronic and Johnson & Johnson, many of which have greater experience in the interventional oncology market and more financial and other resources than we do.

The successful development of alternative therapies for cancer (e.g. pharmaceutical treatments such as immunotherapy), increased efficacy information about new therapies or existing products, pricing decisions by competitors and the rate of market penetration by competitive products may render our products obsolete, result in lost market share for us, reduce utilization of our products, lower prices, and reduce product sales and operating margins.

The timing of our competitors’ introduction of products into the market could affect the market acceptance and market share of our products. Some competitors offer specialized products that provide, or may be perceived by customers to provide, a marketing advantage over our mainstream cancer treatment products. Also, some of our competitors may not be subject to the same standards, regulatory and/or other legal requirements that we are subject to, and therefore, they could have a competitive advantage in developing, manufacturing and marketing products and services. Any inability to develop, gain regulatory approval for and supply commercial quantities of competitive products to the market as quickly and effectively as our competitors could limit market acceptance of our products and reduce our sales. In addition, some of our smaller competitors could be acquired by larger companies that have greater financial strength and resources, which could enable them to compete more aggressively and effectively. Our competitors could also acquire some of our suppliers or distributors, which could disrupt supply or distribution arrangements and result in less predictable and reduced revenues in our businesses.

The interoperability of radiation oncology treatment products is becoming increasingly important, and sales of our products could fall if we fail to establish interoperability.

As radiation oncology treatment becomes more complex, our customers are increasingly focused on ease-of-use and interconnectivity. We have directed substantial product development efforts into (1) increasing the interconnectivity of our products for more seamless operation within a system, (2) making our software products easier to use and (3) reducing setup and treatment times to increase patient throughput. Our equipment and software are highly sophisticated, and a high level of training and education is required to use them safely and effectively.
We have emphasized an “open systems” approach that allows customers to “mix and match” our individual products, incorporate products from other manufacturers, share information with other systems or products and offer various methods of radiation and chemotherapy treatment. We have done this based on our belief that such interconnectivity will increase the acceptance and adoption of IMRT, IGRT and VMAT and will stimulate demand for our products. There are competitive “closed-ended” dedicated-use systems that place simplicity of use ahead of flexibility. If we have misjudged the importance to our customers of maintaining an “open systems” approach, or if we are unsuccessful in our efforts to increase interconnectivity, enhance ease-of-use and reduce setup and treatment times, our revenues could suffer. Obtaining and maintaining interoperability and compatibility can be costly and time-consuming. While we try to use standard published protocols for communication with widely-used oncology products manufactured by other companies, if we cannot do this, we may need to develop individual interfaces so that our products communicate correctly with other products.

When other companies modify the design or functionality of their products, this may affect their compatibility with our products. In addition, when we improve our products, customers may be reluctant to adopt our new technology due to potential interoperability issues. For example, a clinic may be unwilling to implement one of our new technologies because its third-party software does not yet communicate correctly with our new product. Our ability to obtain compatibility with products of other companies may depend on our ability to obtain adequate information from them regarding their products. In many cases, these third parties are our competitors and may schedule their product changes or delay their release of relevant information to place us at a competitive disadvantage.

When we modify our products to make them interoperable or compatible with third-party products, we may be required to obtain additional regulatory clearances. This process is costly and could delay our ability to release our products for commercial use. It is also possible that, despite our efforts, we may not be able to make our products interoperable or compatible with widely used third-party products or may only be able to do so at a prohibitive expense, making our products less attractive to our customers.

**Disruption of our critical information systems or material cyberattacks or security breaches of our products may adversely affect our business and customer relations.**

Information technology helps us operate efficiently, interface with and support our customers, maintain financial accuracy and efficiency, and produce our financial statements. There is an increasing threat of information security attacks for companies such as Varian. Because the techniques used to obtain unauthorized access, or to sabotage systems, change frequently and generally are not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. If we do not allocate and effectively manage the resources necessary to build and sustain the proper technology infrastructure, we could be subject to, among other things, transaction errors, processing inefficiencies, the loss of customers, business disruptions, or the loss of or damage to intellectual property through a security breach. Such security breaches could expose us to a risk of loss of information, litigation and possible liability to employees, customers and regulatory authorities. If our data management systems fail to effectively collect, secure, store, process and report relevant data for the operation of our business, whether due to equipment malfunction or constraints, software deficiencies, or human error, our ability to effectively plan, forecast and execute our business plan and comply with applicable laws and regulations will be impaired. Any such impairment could materially and adversely affect our financial condition and results of operations, and the timeliness with which we report our operating results internally and externally.

We manufacture and sell (i) hardware products that rely upon software systems to operate properly and (ii) software products that deliver treatment instructions and store confidential patient information. Both types of products often are connected to and reside within our customers' information technology infrastructures. While we have implemented security measures to protect our hardware and software products from unauthorized access, these measures may not be effective in securing these products, particularly since techniques used to obtain unauthorized access, or to sabotage systems, change frequently and generally are not recognized until launched against a target. Additionally, we are developing and offering cloud and SaaS software products which reside with and are hosted by third-party providers. A security breach, whether of our products, of our customers’ network security and systems or of third-party hosting services, could disrupt treatments occurring on our products, disrupt access to our customers' stored information, such as patient treatment delivery instructions, and could lead to the loss of, damage to or public disclosure of our customers’ stored information, including patient health information. Such an event could have serious negative consequences, including possible patient injury, regulatory action, fines, penalties and damages, reduced demand for our solutions, an unwillingness of our customers to use our solutions, harm to our reputation and brand, and time-consuming and expensive litigation, any of which could have an adverse effect on our financial results.

If we were to experience a significant cyberattack or security breach of our information systems or data, the costs associated with the investigation, remediation and potential notification of the breach to customers and counter-parties could be material.
We carry a limited amount of insurance for cybersecurity liability, and our insurance coverage may be inadequate. In the future, our insurance coverage may be expensive and/or not be available on acceptable terms or in sufficient amounts, if at all.

**We may offer extended payment terms to certain customers, which could adversely affect our financial results.**

We offer extended payment terms for certain qualified customers. As of September 27, 2019, customer contracts with remaining terms of more than one year amounted to approximately 4% of our net trade and unbilled receivables.

While we qualify customers to whom we offer extended payment terms, their financial positions may change adversely over the longer payment term. Many of the customers to which we offer such extended payment terms are located in underdeveloped legal systems for securing debt and enforcing collection of debt. Concerns over economic instability could also make it more difficult for us to collect outstanding receivables. This may result in an increase in payment defaults and uncollectible accounts, or could cause us to increase our bad debt expense, which would adversely affect our net earnings. In addition, extended payment terms decrease our cash flow from operations.

In addition to extended payment terms, in some cases the purchase price for our hardware products is also variable based on the number of patients treated with the product, which may make it more difficult for us to accurately forecast revenue.

**Economic, political and other risks associated with international sales and operations could adversely affect our sales or make them less predictable.**

Revenues outside of the United States accounted for approximately 57%, 55%, and 53% of our total revenues during fiscal years 2019, 2018 and 2017, respectively. Correspondingly, we must provide significant service and support globally. We intend to continue to expand our presence in international markets and expect to expend significant resources in doing so. We cannot assure you that we will be able to recover these investments in international markets.

Our results of operation could be adversely affected by a variety of factors, including, among other things:

- lower sales prices and gross margins usually associated with sales of our products and services in international regions, and in emerging markets in particular;
- the longer payment cycles associated with many foreign customers;
- the typically longer periods from placement of orders to revenue recognition in certain international and emerging markets;
- currency fluctuations;
- difficulties in interpreting or enforcing agreements and collecting receivables through the legal systems of many foreign countries;
- unstable regional political and economic conditions or changes in restrictions on trade between the United States and other countries;
- changes in the political, regulatory, safety or economic conditions in a country or region, including as a result of the pending United Kingdom (the “U.K.”) exit from the European Union (“E.U.”) (“Brexit”);
- the imposition by governments, including the United States, of additional taxes, tariffs, global economic sanctions programs or other restrictions on foreign trade;
- any inability to obtain required export or import licenses or approvals;
- any inability to comply with export or import laws and requirements or any violation of sanctions regulations, which may result in enforcement actions, civil or criminal penalties and restrictions on exportation;
- any increase in the cost of trade compliance functions to comply with changes to regulatory requirements;
- failure to obtain proper business licenses or other documentation, or to otherwise comply with local laws and requirements to conduct business in a foreign jurisdiction; and
• the possibility that it may be more difficult to protect our intellectual property in foreign countries.

**Tariffs or cross-border trade restrictions could increase the cost of our products.**

Between July 2018 and May 2019, the Trump Administration imposed a series of tariffs, ranging from 5% to 25%, on numerous products imported into the United States from China, including Varian’s radiotherapy systems manufactured in China and certain components used in our manufacturing and service activities. In July and August of 2018, China retaliated against the U.S. tariffs by imposing its own series of tariffs, ranging from 10% to 25%, on certain products imported into China from the United States, including Varian’s radiotherapy systems and certain manufacturing and service components.

We participated in the Office of the U.S. Trade Representative (“USTR”) process to seek product-specific exclusions from the U.S. tariffs on Chinese imports. To date, USTR has granted tariff exclusions for four products: certain radiotherapy systems manufactured in China, as well as three key components of the radiation therapy systems that we manufacture in the United States: multi-leaf collimators, certain printed circuit board assemblies and tungsten shielding. We submitted an additional U.S. exclusion request in September 2019, in relation to a manufacturing component, which request is pending.

In June and July 2019, Varian submitted formal requests to the Chinese government for exclusions from the Chinese retaliatory tariffs for manufacturing inputs, service parts and radiotherapy systems imported into China from the United States. In September 2019, the Chinese government granted a tariff exclusion for medical linear accelerators, including our radiotherapy systems. The other exclusion requests are still pending.

The U.S. and Chinese government tariff exclusions have retroactive effect and are valid for one-year periods, with anticipated renewal processes.

These tariffs and any additional tariffs or tariff increases imposed by the United States or China that apply to our systems or component parts could increase the costs of our products and adversely impact the competitiveness of our products and/or our operational results in the future. In addition, while to date several of our exclusion requests to USTR and China have been successful, there can be no assurance that we will be successful in obtaining additional tariff exclusion requests or that any existing tariff exclusions that have been granted will be renewed. In addition, while we believe we are eligible for refunds for tariffs that have been levied following the grant of the tariff exclusions, there can be no assurance that we will ultimately receive such refunds, which could have an adverse impact on our operating results.

**Changes in foreign currency exchange rates may impact our results.**

Because our business is global, and payments are generally made in local currency, fluctuations in foreign currency exchange rates can impact our results by affecting product demand, or our revenues and expenses, and/or the profitability in U.S. Dollars of products and services that we sell in foreign markets.

While we use hedging strategies to help offset the effect of fluctuations in foreign currency exchange rates, the protection these strategies provide is affected by the timing of transactions, the effectiveness of the hedges, the number of transactions that are hedged and forecast accuracy. If our hedging strategies do not offset these fluctuations, our revenues, margins and other operating results may be adversely impacted. Furthermore, movements in foreign currency exchange rates could impact our financial results positively or negatively in one period and not in another, making it more difficult to compare our financial results from period to period.

In addition, our hedging program is designed to hedge currency movements on a relatively short-term basis, typically up to the next twelve-month period. Therefore, we are exposed to currency fluctuations over a longer term. Long-term movements in foreign currency exchange rates can also affect the competitiveness of our products in the local currencies of our international customers. A substantial portion of our international sales are priced in local currencies, although our cost structure is weighted towards the U.S. Dollar. Therefore, the strengthening of the U.S. Dollar may adversely affect our competitiveness and financial results, as our foreign competitors may have cost structures based in other currencies and they may be more competitive when the U.S. Dollar strengthens against those currencies.

Changes in monetary or other policies here and abroad, including as a result of economic and or political instability, or in reaction thereto, would also likely affect foreign currency exchange rates. Furthermore, if one or more European countries were to replace the Euro with another currency, our sales into these countries, or into Europe generally, would likely be adversely affected until stable exchange rates are established.
Unfavorable results of legal proceedings could adversely affect our financial results.

From time to time, we are a party to or otherwise involved in legal proceedings, claims and government inspections or investigations and other legal matters, both inside and outside the United States, including product liability claims and intellectual property claims. For example, in October 2018, Best Medical International, Inc. ("Best Medical") filed a complaint for patent infringement against us in the United States District Court for the District of Delaware alleging that several of our products infringe several of Best Medical's patents. Based on currently available information, we are unable to make a reasonable estimate of loss or range of losses, if any, arising from this matter. Legal proceedings are often lengthy, taking place over a period of years before the outcome is final. Litigation is subject to significant uncertainty and may be expensive, time-consuming, and disruptive to our operations.

If a legal proceeding were finally resolved against us, it could result in significant compensatory damages, and in certain circumstances punitive or trebled damages, disgorgement of revenue or profits, remedial corporate measures or injunctive relief imposed on us. If our existing insurance does not cover the amount or types of damages awarded, or if other resolution or actions taken as a result of the legal proceeding were to restrain our ability to market one or more of our material products or services, our consolidated financial position, results of operations or cash flows could be materially adversely affected. In addition, legal proceedings, and any adverse resolution thereof, can result in adverse publicity and damage to our reputation, which could adversely impact our business.

Consolidation among our oncology systems customers could adversely affect our sales of oncology products.

We have seen and may continue to see some consolidation among our customers in our Oncology Systems business, as hospitals and clinics combine through mergers and acquisitions, and as they join group purchasing organizations or affiliated enterprises. In addition, we have seen and may continue to see integration of equipment and information systems among hospitals as they consolidate their networks. As customers consolidate and/or integrate, the volume of product sales to these customers might decrease. Alternatively, order size may increase, as customers combine orders as one entity, or as groups of organizations combine their purchases. If orders increase in size and require more customer approvals, the purchasing cycle for our Oncology Systems products could lengthen. Both increased order size and extended purchasing cycles could cause our gross orders to be more volatile and less predictable and could result in longer overall order to revenue cycles. In addition, some customers appear to be developing new partnerships across clinical specialties to prepare for the possibility of operating in an accountable care organization (“ACO”) environment and the possibility of bundled reimbursement payments. Group purchasing organizations often focus on pricing as the determinant in making purchase decisions. A reduction in pricing could negatively impact gross orders, future revenues and gross margins.

Our business will suffer if we are unable to provide the significant education and training required for the healthcare market to accept our products.

In order to achieve market acceptance for our radiation therapy products, we often need to (i) educate physicians about the use of treatment procedures such as IMRT, IGRT, VMAT, SRS, SBRT, proton therapy or procedures using our interventional oncology products, (ii) overcome physician objections to some of the effects of the product or its related treatment regimen, (iii) convince healthcare payors that the benefits of the product and its related treatment process outweigh its costs, and (iv) help train qualified physicists in the skilled use of the product. For example, the complex and dynamic nature of IMRT and IGRT requires significant education of hospital personnel and physicians regarding the benefits of and practices associated with IMRT and IGRT. Further, the complexity and high cost of proton therapy requires similar significant education, as well as education regarding construction and facility requirements. We have devoted and will continue to devote significant resources to marketing and educational efforts to (a) create awareness of IMRT, IGRT, VMAT radiotherapy, SRS, SBRT, proton therapy or procedures using our interventional oncology products, (b) encourage the acceptance and adoption of our products for these technologies and (c) promote the safe and effective use of our products in compliance with their operating procedures. Future products may not gain adequate market acceptance among physicians, patients and healthcare payors, even if we spend significant time and expense educating them about these products.

Our business may suffer if we are not able to hire and retain qualified personnel.

Our future success depends, to a great degree, on our ability to retain, attract, expand, integrate and train our management team and other key personnel, such as qualified engineering, service, sales, marketing and other staff. We compete for key personnel with other medical equipment and software manufacturers, as well as universities and research institutions. As we continue to grow our software revenues, we face intense competition for personnel from software and technology companies. Because this competition is intense, compensation-related costs could increase significantly if the supply of qualified personnel decreases or demand increases. If we are unable to hire and train qualified personnel, we may not be able to maintain or expand our
In addition, some of our executive officers have had long careers at our company. If these executives retire or leave, and we are unable to locate qualified or suitable replacements in a timely manner, our business could be adversely affected.

**We may not realize expected benefits from acquisitions of or investments in businesses, products or technologies, which could harm our business.**

We need to grow and evolve our businesses in response to changing technologies, customer demands and competitive pressures. From time to time we may decide to execute on our strategy of becoming the global leader in multi-disciplinary, integrated cancer care solutions through the acquisition of, or investments in, businesses, products or technologies, rather than through organic development. For example, we completed five acquisitions in fiscal year 2019. Identifying suitable acquisition candidates can be difficult, time-consuming and costly, and we may not be able to identify suitable candidates or successfully complete identified acquisitions. In addition, negotiating and completing an acquisition can divert our management and key personnel from our current business operations, which could harm our business and adversely affect our financial results.

There can be no assurance that the businesses, products or technologies we acquire, or the businesses we invest in, will become profitable or remain so. It may cost us more than anticipated to commercialize acquired business product lines, as we experienced with our proton therapy systems, or require us to increase our research and development, sales and marketing or general and administrative expenses, any of which could adversely impact our results of operations. Moreover, our failure to successfully manage the growth of an acquired businesses could have an adverse impact on the overall financial performance of our business.

Factors that will affect the success of our acquisitions include:

- our ability to retain key employees of the acquired businesses;
- the performance of the acquired businesses and their technologies, products or services;
- our ability to integrate the operations, financial and other systems of the acquired businesses;
- the ability of the combined company to achieve synergies such as increasing sales of the combined company’s products and services, achieving expected cost savings and effectively combining technologies to develop new products and services;
- any disruption in order fulfillment or loss of sales due to integration processes;
- increases in our risk of litigation, as a third-party may be more likely to assert a legal claim following an acquisition because of perceived deeper pockets or perceived greater value of a claim;
- the absence of adequate internal controls and/or the presence of fraud in the acquired businesses;
- our ability to retain or grow the acquired company’s customers, suppliers, distributors or other partners;
- any decrease in customer and distributor loyalty and product orders caused by dissatisfaction with the product lines and sales and marketing practices of the acquired businesses, including price increases; and
- our assumption of known contingent liabilities, known liabilities that prove greater than anticipated, or unknown liabilities that come to light, in each case to the extent that the realization of such liabilities increases our expenses or adversely affects our business or financial position.

When we acquire a business, we allocate the total purchase price to the acquired businesses’ tangible assets and liabilities, identifiable intangible assets and liabilities based on their fair values as of the date of the acquisition, and we record the excess of the purchase price over those fair values as goodwill. If we fail to achieve the anticipated growth or cash flows from an acquisition, or if we decide to sell assets or a business, we may be required to recognize an impairment loss on the write down of our assets and goodwill, which could adversely affect our financial results. In addition, from time to time we structure our acquisitions to include earnout provisions that require us to pay the sellers of the businesses we acquire additional cash payments upon the accomplishment of financial performance or developmental milestones in the periods following the acquisition closing date. Any changes to our estimate of the expected earnout payments after the close of the acquisition up to and including the final payment, would generally be reflected on our statement of earnings. Moreover, acquisitions can result in
potentially dilutive issuances of equity securities or the incurrence of debt, contingent liabilities or expenses, or other charges, any of which could harm our business and affect our financial results.

Additionally, we have investments in privately held companies. These investments are inherently risky, in some instances because the markets for the technologies or products these companies have under development may never materialize or achieve expectations. If these companies do not succeed, we may be forced to record impairment charges and could lose some or all of our investment in these companies.

*Our efforts to integrate acquired businesses may not be successful, and this may adversely affect our financial results.*

The success of business acquisitions may depend on our ability to successfully integrate the operations of the acquired business. Integrating the operations of acquired businesses requires significant efforts, including the coordination of operations, manufacturing, personnel, information technologies, research and development, sales and marketing and finance. These efforts can be compounded when the acquisitions are in new geographies or business lines. If these integration efforts are not successful, the anticipated benefits and synergies of the acquisition may not be realized fully, may take longer to realize than expected, or may not be realized at all. Our efforts to successfully integrate acquisitions may also result in additional expenses and divert significant amounts of management’s time from other projects.

*Acquiring or implementing new business lines or offering new products and services may subject us to additional risks.*

From time to time, we may acquire or implement new business lines or offer new products and services within existing lines of business. For example, with our June 2019 acquisition of Cancer Treatment International (“CTSI”), we entered the healthcare provider space and plan to expand into treatment planning and service, and with our July and August 2019 acquisitions of Endocare and Alicon we entered the Interventional Oncology market. There are substantial risks and uncertainties associated with these efforts. We may invest significant time and resources in developing, marketing, or acquiring new lines of business and/or offering new products and services. Initial timetables for the introduction and development or acquisition of new lines of business and/or the offering of new products or services may not be achieved, and price and profitability targets may prove to be unachievable. Our lack of experience or knowledge, as well as external factors, such as compliance with regulations, competitive alternatives and shifting market preferences, may also impact the success of an acquisition or the implementation or of a new line of business or a new product or service. Entry into a new line of business and/or offering a new product or service may also subject us to new laws and regulations with which we are not familiar and may lead to increased litigation or regulatory risk. Furthermore, any new business line and/or new product or service could have an adverse impact on the effectiveness of our system of internal controls. New business lines or new products and services within existing lines of business could affect the sales and profitability of existing lines of business or products and services, including as a result of sales channel conflicts. Other risks include: (i) potential diversion of management’s attention, available cash, and other resources from our existing businesses; (ii) unanticipated liabilities or contingencies; (iii) the need for additional capital and other resources to expand into or acquire the new line of business; (iv) potential damage to existing customer relationships, lack of customer acceptance or inability to attract new customers; and (v) the inability to compete effectively. These risks would be magnified to the extent that any new business line would result in a significant increase in operations in developing markets. Failure to successfully manage these risks in the implementation or acquisition of new lines of business or the offering of new products or services could have a material adverse effect on our reputation, business, results of operations, and financial condition.

*Losing distributors may harm our revenues in some territories.*

We have strategic relationships with a number of key distributors for sales and service of our products. If these strategic relationships end and are not replaced, our revenues from product sales or the ability to service our products in the territories serviced by these distributors could be adversely affected.

*The results of studies and clinical trials are highly uncertain.*

We have in the past conducted, and, in the future may continue to conduct, clinical trials related to prospective new therapies and technologies, including most recently pre-clinical studies in relation to ultra-high dose rate cancer treatments using our ProBeam platform. The results of preclinical studies and early clinical trials of product candidates or new therapies and technologies may not be predictive of the results of later-stage clinical trials, and favorable data from interim analyses do not ensure that the final results of a trial will be favorable. Product candidates or new therapies and technologies may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials, or despite having produced favorable data in connection with an interim analysis. A number of companies in our industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising
results in earlier trials. In addition, even if such clinical trials are successfully completed, we cannot guarantee that the FDA or comparable foreign regulatory authorities will interpret the results as we do, and more trials could be required before we submit our product candidates, new therapies or technologies for approval. To the extent that the results of trials are not satisfactory to the FDA or comparable foreign regulatory authorities for support of a marketing application or desired reimbursement classification product codes, we may be required to expend significant resources, which may not be available to us, to conduct additional trials in support of potential approval of our product candidates, new therapies or technologies.

Our credit facility restricts certain activities, and failure to comply with this agreement may adversely affect our business, liquidity and financial position.

We maintain a credit facility that contains affirmative and negative covenants that could restrict our operating and financing activities. These provisions limit our ability to, among other things, incur future indebtedness, contingent obligations or liens, guarantee indebtedness, make certain investments and capital expenditures, sell stock or assets and pay dividends, and consummate certain mergers or acquisitions. Because of the restrictions on our ability to create or assume liens, we may find it difficult to secure additional indebtedness if required.

We have in the past used borrowings under our credit facility to fund the repurchase of our shares, and we may continue to do so in the future. Furthermore, if we fail to comply with the credit facility requirements, we may be in default. Upon an event of default, if the credit agreement is not amended or the event of default is not waived, the lender could declare all amounts outstanding, together with accrued interest, to be immediately due and payable. If this happens, we may not be able to make those payments or borrow sufficient funds from alternative sources to make those payments. Even if we were to obtain additional financing, that financing may be on unfavorable terms.

Changes in the interpretation or application of generally accepted accounting principles may adversely affect our operating results.

We prepare our financial statements to conform to GAAP. These principles are subject to interpretation by the Financial Accounting Standards Board ("FASB"), the American Institute of Certified Public Accountants, the SEC and various other regulatory or accounting bodies. A change in interpretations of, or our application of, these principles can have a significant effect on our reported results and may even affect our reporting of transactions completed before a change is announced. In addition, when we are required to adopt new accounting standards, our methods of accounting for certain items may change, which could cause our results of operations to fluctuate each period. We may introduce new products or new technologies that require us to apply different accounting principles than we have applied in past periods, including accounting principles regarding revenue recognition. The application of different types of accounting principles and related potential changes may also make it more difficult to compare our financial results to prior periods, and the trading price of VMS common stock could suffer or become more volatile.

Our operations are vulnerable to interruption or loss due to natural or other disasters, power loss, strikes and other events beyond our control.

We conduct a significant portion of our activities, including manufacturing, administration and data processing at facilities located in the State of California and other seismically active areas that have experienced major earthquakes and other natural disasters. We carry limited earthquake insurance that may not be adequate or continue to be available at commercially reasonable rates and terms. In addition, we have operations in parts of the world, including cancer centers in parts of India, which have experienced natural disasters such as tsunamis, floods and drought. A major earthquake or other disaster (such as a major fire, hurricane, flood, drought, tsunami, volcanic eruption or terrorist attack) affecting our facilities, or those of our suppliers, could significantly disrupt our operations, and delay or prevent product manufacture and shipment during the time required to repair, rebuild or replace the damaged facilities. These delays could be lengthy and costly. If any of our customers’ facilities are adversely affected by a disaster, shipments of our products could be delayed. Additionally, customers may delay purchases of our products until operations return to normal or may move to a competitor that can meet their desired delivery time frame. In addition, our facilities may be subject to a shortage of available electrical power and other energy supplies. Any shortages may increase our costs for power and energy supplies or could result in blackouts, which could disrupt the operations of our affected facilities and harm our business. Further, our products are typically shipped from a limited number of ports, and any disaster, strike or other event blocking shipment from these ports could delay or prevent shipments and harm our business. In addition, concerns about terrorism, the effects of a terrorist attack, political turmoil or an outbreak of epidemic diseases could have a negative effect on our business operations, those of our suppliers and customers, and the ability to travel, resulting in adverse consequences on our revenues and financial performance.
The decision by British voters to exit the E.U. may negatively impact our operations.

In June 2016, a majority of voters in the U.K. elected to withdraw from the E.U. (often referred to as Brexit) in a national referendum. On October 17, 2019, U.K. Prime Minister Boris Johnson and the E.U. agreed to new terms for the country’s exit from the E.U., which must be approved by the British Parliament. As of the date of this filing, the British Parliament has not agreed upon the terms of the withdrawal, which was extended until January 31, 2020. The referendum and ongoing negotiations have created significant uncertainty about the future relationship between the U.K. and the E.U.

If the U.K. leaves the E.U. with no agreement, it will likely have an adverse impact on labor and trade and will create further short-term currency volatility. In the absence of a future trade deal, the U.K.’s trade with the European Union and the rest of the world would be subject to tariffs and duties set by the World Trade Organization, which could result in higher importation costs for our products. In addition, the movement of goods between the U.K. and the remaining member states of the E.U. will be subject to additional inspections and documentation checks, leading to possible delays at ports of entry and departure. Moreover, currency volatility could drive a weaker British pound, which could result in a decrease in the profitability of our U.K. operations. Any adjustments we make to our business and operations as a result of Brexit could result in significant expense and take significant time to complete.

While we have not experienced any material financial impact from Brexit on our U.K. business to date, sales into the U.K. represented approximately 3% of our total revenues in fiscal year 2019, and we cannot predict its future implications. Any impact from Brexit on our business and operations over the long term will depend, in part, on the outcome of tariff, tax treaties, trade, regulatory, and other negotiations the U.K. conducts.

We work in international locations with high security risks, which could result in harm to our employees or contractors or cause us to incur substantial costs.

We work in some international locations where there are high security risks, which could result in harm to our employees and contractors or substantial costs to maintain the safety of our personnel. Some of our services are performed in high-risk locations or adjacent locations where the country or surrounding area is suffering from political, social, or economic issues, war or civil unrest, or is experiencing a high level of criminal or terrorist activity. Despite the precautions that we take, the safety of our personnel in these locations may continue to be at risk, and we may in the future suffer the loss of employees and contractors, which could harm our business and operating results.

Product defects or misuse may result in material product liability or professional errors and omissions claims, litigation, investigation by regulatory authorities or product recalls that could harm our future financial results.

Our business exposes us to potential product liability claims that are inherent in the manufacture, sale, installation, servicing and support of medical devices and other devices that deliver radiation. Because our products are involved in the intentional delivery of radiation to the human body and other situations where people may come into contact with radiation, the possibility for significant injury and/or death exists. Our products operate within our customers’ facilities and network systems, and under quality assurance procedures established by the facility that ultimately delivers radiation to patients. Human and other errors or accidents may arise from the operation of our products in complex environments, particularly with products from other vendors, where interoperability or data sharing protocol may not be optimized even though the equipment or system operates according to specifications. In addition, if the integrity of a catheter used as part of our cryoablation system is compromised, serious injury or death may occur. As a result, we may face substantial liability to patients, our customers and others for damages resulting from the faulty, or allegedly faulty, design, manufacture, installation, servicing, support, testing or interoperability of our products with other products, or their misuse or failure. In addition, third-party service providers could fail to adequately perform their obligations, which could subject us to further liability. We may also be subject to claims for property damages or economic loss related to or resulting from any errors or defects in our products, or the installation, servicing and support of our products. Any accident or mistreatment could subject us to legal costs, litigation, adverse publicity and damage to our reputation, whether or not our products or services were a factor. In connection with our products that collect and store patient treatment data, we may be liable for the loss or misuse of such private data or personal information, if those products fail or are otherwise defective.

Product liability actions are subject to significant uncertainty and may be expensive, time-consuming, and disruptive to our operations. If a product liability action were determined against us, it could result in significant damages, including punitive damages, and our consolidated financial position, results of operations or cash flows could be materially adversely affected.

Adverse publicity regarding any accidents or mistreatments could cause patients to be less receptive to radiotherapy or radiosurgery treatments, to question the efficacy of radiation therapy and radiosurgery and to seek other methods of treatment.
Adverse publicity could also result in additional regulation that could adversely affect our ability to promote, manufacture and sell our products.

In addition, if a product we design or manufacture was defective or found to be so by a competent regulatory authority, we may be required to correct or recall the product and notify other regulatory authorities. The adverse publicity resulting from a correction or recall, however imposed, could damage our reputation and cause customers to review and potentially terminate their relationships with us. A product correction or recall could consume management time, cause us to lose new orders, cause customers to cancel or delay installation of existing orders, or cause us to incur significant costs, any of which could have an adverse effect on our results of operation.

We maintain limited product liability and healthcare professional liability insurance coverage and do not maintain errors and omissions insurance. Our product liability and healthcare professional liability insurance policies are expensive and have high deductible amounts and self-insured retentions. Our insurance coverage may be inadequate, and future policies may not be available on acceptable terms or in sufficient amounts, if at all. If a material claim is successfully brought against us, we may have to pay substantial damages if they are not covered by insurance.

We are subject to certain risks related to the separation of our former imaging components business into Varex Imaging Corporation.

On January 28, 2017, we completed the separation of our former Imaging Components business through the distribution of 100% of the outstanding common stock of Varex Imaging Corporation (“Varex”) to our stockholders. We obtained an opinion of outside counsel to the effect that the separation will qualify as a transaction that is generally tax-free to both Varian and its stockholders for United States federal income tax purposes under Sections 355 and 368(a)(1)(D) of the United States Internal Revenue Code of 1986, as amended. An opinion of outside counsel represents their legal judgment but is not binding on the Internal Revenue Service (the “IRS”) or any court. Accordingly, there can be no assurance that the IRS will not challenge the conclusions reflected in the opinion or that a court would not sustain such a challenge.

ADDITIONAL RISKS RELATING TO OUR SOFTWARE PRODUCTS

We may face delays in the installation of our software products, which could have a material adverse effect on our operating results.

We may face delays in the installation and acceptance of our software products, which may take more time from order to completion of installation and acceptance than our hardware products. Though several of our software products are cloud-enabled, many of our current software product offerings are designed as on-premise products which must be installed on customer systems on-site. Delays in installation of our software products may arise as a result of a variety of factors, including (i) longer installation timetables resulting from challenges in coordinating on-site visits with the customer personnel, (ii) customer IT systems not being ready to host the installation, or (iii) the planning and customization required to deploy our software products in order to be compatible with a customer’s unique, complex and/or dated health IT systems. Delays in installation of our software products could result in delays in our ability to recognize revenues from the sale of these products, which could have a material adverse effect on our operating results and financial performance.

The need to maintain and service multiple versions of the same software product across our installed base of customers could adversely affect our ability to release upgraded or new products.

Because there is no uniform practice among our customer base of updating to more recent versions of our software products and, for a variety of reasons, many of our customers do not regularly update to the newest version of our software products, at any point in time our installed base of customers may be running several different versions of our software products. The need to maintain and service multiple versions of the same software product across our installed base of customers can be cumbersome, time consuming and may require more personnel and other resources than would be the case if all of our customers utilized the same versions of our software products. Moreover, the fact that not all of our customers run the same version of our software products can complicate our ability to efficiently release upgrades to, or new versions of, our software products across our installed base. Similar complications to the release and installation of upgrades may be experienced with certain of our cloud-enabled products that have been developed using single tenant architecture, such as our 360 Oncology product. In addition, in many instances, unless a customer has a certain version of our software products installed, their system will not be compatible with certain of our other software or hardware products. Our inability to release new versions of software to customers or to sell customers other products because of incompatibility issues hurts our revenues and may make revenue projection less predictable.
Coding errors in our software and cloud offerings could adversely affect our results of operations.

Despite extensive testing prior to the release and throughout the lifecycle of a product or service, our software and cloud offerings sometimes contain coding or manufacturing errors that can impact their function, performance and security, and result in other negative consequences. The detection and correction of any errors in released software or cloud offerings can be time consuming and costly. Errors in our software or cloud offerings could affect their ability to properly function or operate with other software, hardware or cloud offerings, delay the development or release of new products or services or new versions of products or services, create security vulnerabilities in our products or services, and adversely affect market acceptance of our products or services. If we experience errors or delays in releasing our software or cloud offerings or new versions thereof, our sales could be affected, and revenues could decline.

We may not be successful in transitioning our customer base to software solutions deployed via cloud and SaaS solutions.

We are expanding our software product lines and investing in the development of cloud and SaaS solutions. Cloud and SaaS solutions for use in the health care industry must comply with stringent regulations in many of the countries in which our customers are located, particularly in relation to the use and storage of patient health data and privacy, and the regulations vary on a country-by-country basis. Our software products must be compliant with applicable regulation in the country in question before we can operationalize our offerings for customers located in those countries. Ensuring the compliance of our cloud and SaaS solutions with applicable regulation may take longer than expected, occur more slowly in certain countries than in others, require that design changes be developed into our products, or require more financial resources than anticipated.

In addition, even where our cloud and SaaS solutions are compliant with applicable regulation, customers may nevertheless refuse to adopt our products for numerous reasons, particularly in regards to the security of patient health data. Moreover, unless and until our cloud and SaaS solutions find general acceptance among our customer base, we would likely need to maintain and continue to develop both our on-premise software product offerings and our cloud and SaaS solution platforms, which could prevent us from realizing the full benefits and efficiencies from transitioning to a cloud platform, result in higher costs and have a material adverse effect on our operating results and financial performance.

An increase in the prevalence of cloud and SaaS delivery models offered by us and our competitors could also unfavorably impact the pricing of our on-premise software offerings and have a dampening impact on overall demand for our on-premise software product and related service offerings, which could reduce our revenues and profitability. In addition, to the extent that demand for our cloud offerings increases in the future, we may experience volatility in our reported revenues and operating results due to the differences in timing of revenue recognition between our software licenses and our cloud offering arrangements.

Furthermore, our cloud and SaaS software products may reside upon and be hosted by third party providers. A security breach, whether of our products, of our customers’ network security and systems or of third-party hosting services, could disrupt treatments utilizing our products, disrupt access to our customers’ stored information, such as patient treatment delivery instructions, and could lead to the loss of, damage to or public disclosure of our customers’ stored information, including patient health information.

Because we recognize revenue from subscriptions for our SaaS solutions over the term of the subscription, downturns or upturns in our SaaS business may not be immediately reflected in our operating results.

We recognize SaaS related revenue from customers ratably over the terms of their subscription agreements. As a result, most of the revenue we report in each quarter relating to our SaaS products is the result of subscription agreements entered into during previous quarters. Consequently, a decline in new or renewed subscriptions in any one quarter may not be reflected in our revenue results for that quarter. Any such decline, however, could negatively impact our revenue in future quarters. Accordingly, the effect of significant downturns in sales and market acceptance of our SaaS solutions, and potential changes in our attrition rate, may not be fully reflected in our results of operations until future periods.

Certain software that we use in our products is licensed from third parties and, for that reason, may not be available to us in the future, which has the potential to delay product development and production or cause us to incur additional expenses.

Some of our software products contain software licensed from third parties. Some of these licenses may not be available to us in the future on terms that are acceptable to us or allow our products to remain competitive. The loss of these third-party licenses or the inability to maintain any of them on commercially acceptable terms could delay development of future products or the enhancement of existing products. We may also choose to pay a premium price for such a license in certain circumstances, thereby reducing the gross margin of our software sales.
ADDITIONAL RISKS RELATING TO OUR PROTON SOLUTIONS BUSINESS

We participate in project financing for our Proton Solutions business, which has resulted in impairment charges and could result in payment defaults that adversely affect our financial results.

We have participated along with others in providing financing for the construction and start-up operations of several proton therapy centers and may provide financing to other proton therapy customers in the future. As of September 27, 2019, we had $165.2 million of loans outstanding, including accrued interest, available-for-sale securities, notes receivable and short-term senior secured debt related to Proton Solutions customers. See “Management Discussion and Analysis - Overview - Proton Solutions” and Note 15, "Proton Solutions Loans and Investment," of the Notes to the Consolidated Financial Statements for the carrying value of our outstanding loans relating to the establishment of proton therapy centers. Providing such financing has adversely affected and could in the future adversely affect our financial results, since a center may not be completed on time or within budget, or may not generate sufficient patient volumes and revenues to support scheduled loan payments or facilitate a refinancing. If a borrower does not have the financial means to pay off loan amounts owing to us, and if we cannot recover loan amounts owing to us from the sale of any collateral or through other means, or in the event of a bankruptcy of the borrower, we may be required to write-off all, or a portion, of the loans, which would adversely affect our financial results. For example, in fiscal year 2017, the California Proton Therapy Center, LLC ("CPTC"), to which we had project financing outstanding, filed for bankruptcy and we recorded $51.4 million in impairment charges related to that financing. We also recorded an allowance for doubtful accounts of $37.8 million related to CPTC and one other proton center in fiscal year 2017. Similarly, in fiscal year 2018, we recorded impairment charges of $22.1 million on our subordinated loans to the Maryland Proton Therapy Center ("MPTC"). Please refer to “Management Discussion and Analysis - Overview - Varian Proton Solutions” and Note 15, "Proton Solutions Loans and Investment," of the Notes to the Consolidated Financial Statements for a more detailed discussion of the impairment of the loan we extended. Any impairment charges relating to our Proton Solutions business could have a material adverse impact on our operating results and financial position.

The financial results of our Proton Solutions business may be unpredictable and if our proton customers are unsuccessful, our financial results will be adversely affected.

The success of our Proton Solutions business will depend upon the widespread awareness, acceptance and adoption by the oncology market of proton therapy systems for the treatment of cancer. This technology is expensive and has not been widely adopted. Future developments may not be adopted as quickly as technological developments in more traditional areas of radiation therapy.

Since proton therapy projects are generally large, highly customized and more complex than projects in our Oncology Systems radiotherapy business, planning for these projects takes more resources. Many of the components used in proton therapy equipment require long lead times, which may require an increase in our inventory levels. This may cause fluctuations in the operating results of Proton Solutions that may make it difficult to predict our results and compare our results from period to period.

The construction of a proton therapy facility requires significant capital investment and may involve complex project financing. Consequently, this business is vulnerable to deterioration in general economic and market conditions. Economic downturns that result in a contraction in credit markets, have made and may continue to make it more difficult for potential customers of this business to find appropriate financing for large proton therapy projects, which could cause them to delay or cancel their projects, or request payment concessions in their agreements with us, which could adversely impact our operating results.

Proton therapy is expensive and changes in reimbursement rates for proton therapy treatments or uncertainty regarding these reimbursement rates can affect growth or demand for our Proton Solutions products and services.

After a proton therapy facility is established, there can be no assurance that it will have sufficient patient volume to be successful or profitable. If a proton treatment center cannot generate sufficient patient volume, it may lead to a need to refinance or renegotiate debt, seek concession on payments, or ultimately insolvency and bankruptcy, as in the case of CPTC and the Rinecker Proton Therapy Center in Germany, which has and may in the future require us to impair loans if we have extended loans to the proton treatment center, or to record an allowance for doubtful accounts against accounts receivables due from the proton treatment center.

Our estimates as to future operating results include certain assumptions about the future results of Proton Solutions’ business. If we are incorrect in our assumptions, our financial results could be materially and adversely affected. It is possible that Proton Solutions could perform significantly below our expectations due to a number of factors that cannot be predicted with certainty,
including future market conditions, market acceptance of proton therapy and reimbursement rates. These factors could adversely impact Proton Solutions' ability to meet its projected results. For example, during the third quarter of fiscal year 2019, we recorded a goodwill charge of $50.5 million for the full value of the Proton Solutions reporting unit goodwill, which resulted from a downward revision of forecasted future cash flows attributable to continued weakness in proton therapy markets and lower than expected results as compared to prior forecasts.

We compete for many proton therapy system sales through tenders, where parties compete on price and other factors. Many companies sell their products at a lower price than we do. If we are unable to lower our prices or our customers are not willing to pay for additional features and functionality that we may provide, we may lose sales, and if we lower our prices to gain business, our margins and other financial results may suffer. Further, the award of certain proton therapy system orders may be subject to challenge by third parties, which can make these orders more unpredictable than orders for other products. Because an order for a proton therapy system can be large and complex, and the sales cycle for proton therapy projects may take several years, an order in one fiscal period may cause our gross orders and revenues to vary significantly, making it difficult to predict and compare our results of operations from period to period.

We expect that a limited number of customers will account for a substantial portion of Proton Solutions' business for the foreseeable future. In instances where one customer undertakes multiple proton center projects, an adverse event with respect to one project could cause an adverse event with respect to the other projects, which in turn could adversely impact our operating results and financial position.

Our Proton Solutions business may subject us to increased liability.

Our Proton Solutions' business may subject us to increased liability. For example, because proton therapy projects are large in scale and require detailed project planning, failure to deliver on time delays in delivering on our commitments could result in greater than expected liabilities, as we could be required to indemnify business partners and customers for losses suffered or incurred if we are unable to deliver our products in accordance with the terms of customer contracts. Additionally, customers have in the past requested and may in the future request that the systems vendor, as the primary technology provider, provide guarantees for and suffer penalties in relation to the overall construction project. Since the cost of a proton therapy center project can often exceed $100 million, the amount of potential liability and potential for financial loss would likely be higher than the levels historically assumed by us for our traditional radiation therapy business and may also exceed the project’s value. Insurance covering these contingencies may be unobtainable or expensive. If we cannot reasonably mitigate or eliminate these contingencies or risks, our ability to competitively bid upon proton center projects will be negatively impacted or we may be required to assume material amounts of potential liability, all of which may have adverse consequences to us.

ADDITIONAL RISKS RELATED TO OUR CANCER TREATMENT SERVICES INTERNATIONAL BUSINESS

In June 2019, we acquired CTSI, which through its America Oncology Institute (“AOI”) business operates nine multi-disciplinary cancer centers and one specialty hospital in India, and one multi-disciplinary cancer center in Sri Lanka, as of September 27, 2019 (collectively, “cancer centers”). CTSI also operates AmPath, a full-service reference laboratory and pathology provider in India. Our AOI and AmPath businesses subject us to a number of risks, including those set forth below.

Our cancer center operations may not be profitable, and the operation or development of existing and future cancer centers could cause us to incur unexpected costs.

The operation and development of cancer centers is subject to a number of risks, including the inability to obtain regulatory permits or approval, delays in the construction of facilities and environmental liabilities related to the disposal of radioactive, chemical and medical waste. Our strategy includes the development of additional multidisciplinary cancer centers, and we have several cancer centers under construction and several others in various planning stages. Any failure or delay in successfully building new cancer centers, as well as liabilities from ongoing operations, could seriously harm our operating results. New cancer centers may incur significant operating losses during their initial operations, which could materially and adversely affect our operating results, cash flows and financial condition. In addition, in some cases our cancer centers may not be profitable enough for us to recover our investment. We may decide to close or sell cancer centers, either because of underperformance or other market developments.

Our performance depends on our ability to recruit and retain quality physicians, qualified nurses and medical support staff and we face competition for staffing that may increase our labor costs and harm our results of operations.

Typically, physicians are responsible for making admissions decisions and for directing the course of patient treatment at the cancer centers that we operate. As a result, the success and competitive advantage of our cancer centers may depend, in part, on
the number and quality of the physicians and the medical staffs of our cancer centers, the admitting practices of those physicians and our maintenance of good relations with those physicians. In many cases, physicians are not employees of our cancer centers, and, in a number of the regions in which we operate, physicians have admitting privileges at other cancer centers or hospitals in addition to our cancer centers. They may terminate their affiliation with us at any time. If we are unable to provide adequate support personnel and technologically advanced equipment and facilities that meet the needs of those physicians, they may be discouraged from treating patients at our facilities and our results of operations may decline.

In addition, we depend on the efforts, abilities, and experience of our medical support personnel, including our nurses, pharmacists and lab technicians and other healthcare professionals. We compete with other healthcare providers in recruiting and retaining qualified management, nurses and other medical personnel. There is a nationwide shortage of nurses and other medical support personnel in India which from time to time may require us to enhance wages and benefits in order to recruit and retain nurses and other medical support personnel or require us to hire expensive temporary personnel. To the extent we cannot hire adequate numbers of medical support personnel, we may be required to limit the healthcare services provided in these markets, which would have a corresponding adverse effect on our results of operation.

We cannot predict the degree to which we will be affected by the future availability or cost of attracting and retaining talented medical support staff. If our general labor and related expenses increase, we may not be able to raise our rates correspondingly. Our failure to recruit and retain qualified management, nurses and other medical support personnel, or control our labor costs could harm our results of operations.

Our cancer centers face competition for patients from other cancer centers, hospitals and health care providers. The healthcare industry in India is highly competitive and competition among cancer centers, hospitals and other healthcare providers for patients and physicians has intensified in recent years. In all the geographical areas in which we operate, there are other cancer centers or hospitals that provide services comparable to those offered by our facilities. We also face competition from specialty hospitals (some of which are physician-owned) and unaffiliated freestanding outpatient centers for market share in high margin services and for quality physicians and personnel. In recent years, the number of freestanding specialty hospitals, surgery centers, emergency departments, urgent care centers and diagnostic imaging centers in the geographic areas in which we operate has increased significantly. Furthermore, some of the hospitals that compete with our hospitals are owned by government agencies or not-for-profit organizations supported by endowments and charitable contributions and can finance capital expenditures and operations on a tax-exempt basis. If our competitors are better able to attract patients, recruit physicians, expand services or obtain favorable managed care contracts at their facilities than we are, we may experience an overall decline in patient volumes.

We are subject to occupational health, safety and other similar regulations and failure to comply with such regulations could harm our business and results of operations.

Our CTSI operations in India are subject to a wide variety of Indian national and local occupational health and safety laws and regulations. Regulatory requirements affecting us include, but are not limited to, those covering: (i) air and water quality control; (ii) occupational health and safety (e.g., standards regarding blood-borne pathogens and ergonomics, etc.); (iii) waste management; (iv) the handling of asbestos, polychlorinated biphenyls and radioactive substances; and (v) other hazardous materials. If we fail to comply with those standards, we may be subject to sanctions and penalties that could harm our business and results of operations.

We may be subject to liabilities from claims brought against our cancer centers and third-party customers of our AmPath business.

We are subject to medical malpractice lawsuits, class action lawsuits and other legal actions against our cancer centers and third-party customers of our AmPath business in the ordinary course of business. Some of these actions may involve large claims, as well as significant defense costs. We cannot predict the outcome of these lawsuits or the effect that such lawsuits may have on us. In an effort to resolve one or more of these matters, we may choose to negotiate a settlement. Amounts we pay to settle any of these matters may be material. We maintain limited healthcare professional liability insurance coverage and do not maintain errors and omissions insurance. Our insurance coverage may be inadequate, and future policies may not be available on acceptable terms or in sufficient amounts, if at all. If a material claim is successfully brought against us, we may have to pay substantial damages if they are not covered by insurance, which could have a material adverse effect on our operations.

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RISKS RELATING TO THE MANUFACTURE OF OUR PRODUCTS

Any inability to obtain supplies of important components could restrict the manufacture of products, cause delays in delivery, or significantly increase our costs.

We obtain some of the components included in our products from a limited group of suppliers or from a single source supplier, such as the radioactive sources for high dose rate brachytherapy, klystrons for linear accelerators and specialized integrated circuits and various other components; radiofrequency components, magnets, patient positioning systems and gantry hardware for proton therapy systems, and vacuum sleeves for our cryoablation products.

If we lose any of these suppliers, if their operations were substantially interrupted, or if any of them failed to meet performance or quality specifications, we may be required to obtain and qualify one or more replacement suppliers. Such an event may then also require us to redesign or modify our products to incorporate new parts and/or further require us to obtain clearance, qualification or certification of these products by the FDA or obtain other applicable regulatory approvals in other countries. Events like these could significantly increase costs for the affected product and likely cause material delays in delivery of our products, which could have an adverse effect on our revenue and results of operations.

Some of our single-source suppliers provide components for some of our growing product lines. Manufacturing capacity limitations of any of our suppliers or other inability of these suppliers to meet increasing demand could adversely affect us, resulting in curtailed growth opportunities for our affected product lines. Shortage of, and greater demand for, components and subassemblies could also increase manufacturing costs if the supply/demand imbalance increases the price of the components and subassemblies. Disruptions or loss of any of our limited-sourced or sole-sourced components or subassemblies or the capacity limitations of the suppliers for these components or subassemblies could adversely affect our business and financial results and could damage our customer relationships.

In addition, following the separation of our former Imaging Components business into Varex in January 2017, Varex is the sole source supplier of tubes, panels and detector components used in certain of our products, such as our On-Board Imager. Any disruption or reduction in the supply of these components could result in delays or reductions in our product deliveries, which could adversely affect our business and financial results and could damage our customer relationships. Also, any unforecasted increases in the price of these components could adversely impact our profitability.

A shortage or change in source of raw materials could restrict our ability to manufacture products, cause delays, or significantly increase our cost of goods.

We rely upon the supplies of certain raw materials such as tungsten, lead, iridium and copper for Oncology Systems and high-grade steel, high-grade copper and iron for Proton Solutions. Worldwide demand, availability and pricing of these raw materials have been volatile, and we expect that availability and pricing will continue to fluctuate in the future. If supplies are restricted or become unavailable or if prices increase, this could constrain our manufacturing of affected products, reduce our profit margins or otherwise adversely affect our business.

Pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act, the SEC has promulgated rules regarding disclosure of the presence in a company’s products of certain metals, known as “conflict minerals,” which are metals mined from the Democratic Republic of the Congo and adjoining countries, as well as procedures regarding a manufacturer’s efforts to identify the sourcing of those minerals from this region. Complying with these rules requires investigative efforts, which has and will continue to cause us to incur associated costs, and could adversely affect the sourcing, supply, and pricing of materials used in our products, or result in process or manufacturing modifications, all of which could adversely affect our results of operations.

Our financial results may suffer if we are not able to match our manufacturing capacity with demand for our products.

Many of our products have a long production cycle, and we need to anticipate demand for our products in order to ensure adequate manufacturing or testing capacity. If we are unable to anticipate demand and our manufacturing or testing capacity does not keep pace with product demand, we will not be able to fulfill orders in a timely manner, which may negatively impact our financial results and overall business. Conversely, if demand for our products decreases, the fixed costs associated with excess manufacturing capacity may harm our financial results.

We rely on third parties to perform spare parts shipping and other logistics functions on our behalf. Disruptions at our logistics providers may adversely impact our business.
Third-party logistics providers store a significant portion of our spare parts inventory in depots around the world and perform a significant portion of our spare parts logistics and shipping activities. If any of our logistics providers terminates its relationship with us, suffers an interruption in its business, or experiences delays, disruptions or quality control problems in its operations, or if we have to change and qualify alternative logistics providers for our spare parts, shipments of spare parts to our customers may be delayed and our reputation, business, financial condition and results of operations may be adversely affected.

**RISKS RELATING TO OUR REGULATORY ENVIRONMENT**

We operate in a highly regulated industry, and we face significant costs in complying with laws and regulations. Failure or delays in obtaining regulatory approvals or complying with laws and regulations could delay or prevent product distribution, the introduction of new products or services and result in significant fines and penalties.

We operate in a highly regulated industry and our products and services are subject to numerous U.S. and foreign laws and regulations, as discussed in “Part 1, Item 1. Business - Government Regulation.” Our products, services and operations are subject to regulation by the FDA, the state of California and other U.S. states, the Nuclear Regulatory Commission (“NRC”) and regulatory bodies in the countries and regions in which we market our products and services. For example, we must comply with FDA medical device clearance and reporting regulations, and similar laws in numerous foreign countries, including the European Union (“EU”), the European Economic Area (“EEA”), Switzerland, China, Japan and Canada; and we must comply with NRC clearance, approval and licensing requirements and other federal, state and foreign laws that regulate the use of radioactive materials. We are also subject to laws and regulations in India and Sri Lanka in relation to the operation of healthcare establishments. Compliance with these regulations can be costly, time consuming and burdensome, may negatively impact our ability to market our products and services or result in significant delays or even prevent the marketing and full commercialization of future products or services. Moreover, failure to obtain regulatory approvals or renewals in a timely manner could subject us to fines and penalties.

As a participant in the healthcare industry, we are also subject to federal, state and foreign laws and regulations pertaining to fraud and abuse, physician payment transparency, false claims and misleading advertisements. These laws and regulations and their enforcement are constantly undergoing change, and we cannot predict what effect, if any, changes to these laws and regulations may have on our business or the businesses of our customers. Non-compliance with “anti-kickback”, “false claims” and transparency laws and regulations can result in substantial civil and criminal penalties and potential mandatory or discretionary exclusion from healthcare programs.

We are also subject to laws and regulations related to the collection, processing, storage, transfer and use of personal data, including under the EU General Data Protection Regulation (“GDPR”) and data protection legislation in other foreign jurisdictions and the California Consumer Privacy Act of 2018 (“CCPA”) and similar laws in the United States, at both the federal and state level. The compliance and other burdens imposed by the GDPR, CCPA and similar privacy laws and regulations may limit the use and adoption of our services, reduce overall demand for our services, require us to modify our data handling practices, slow the pace at which we close sales transactions and impose additional costs and burdens. In particular, the collection, storage, transfer and use of patient information and data obtained through our AOI business operations is highly regulated by applicable law. In addition, non-compliance could result in proceedings against us by governmental entities or others and/or significant fines, could negatively impact our reputation, and may otherwise adversely impact our business, financial condition and operating results.

As we enter new businesses or pursue new business opportunities that require clinical trials, we may seek to conduct clinical studies or trials in the United States or other countries on products that have not yet been cleared or approved for a particular indication. Additional regulations govern the approval, initiation, conduct, monitoring, documentation and reporting of clinical studies to regulatory agencies in the countries or regions in which they are conducted. Failure to comply with all regulations governing such studies could subject us to significant enforcement actions and sanctions, including halting of the study, seizure of investigational devices or data, sanctions against investigators, civil or criminal penalties, and other actions. In addition, without the data from one or more clinical studies, it may not be possible for us to secure the data necessary to support certain regulatory submissions, to secure reimbursement or demonstrate other requirements. We cannot assure you that access to clinical investigators, sites and subjects, documentation and data will be available on the terms and timeframes necessary.

Any failure or delay in complying with one or more of the regulatory requirements we face could result in reduced sales, increased costs, delays to new product introductions, enhancements or our strategic plans, or harm to our reputation or competitiveness, all of which could have a material adverse effect on our business and financial results.

The Affordable Care Act includes provisions that may adversely affect our business, including an excise tax on the sales of most medical devices.
The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the “ACA”) became effective in 2010. The ACA could adversely impact the demand for our products and services, and therefore our financial position and results of operations, possibly materially. Specifically, one of the components of the ACA is a 2.3% excise tax on sales of most medical devices, which include our Oncology Systems and Proton Solutions products, which took effect on January 1, 2013. In January 2018, President Trump signed into law a spending package that included a two-year moratorium on the medical device excise tax starting January 1, 2018 and ending December 31, 2019. This tax has had, and may continue to have, a negative impact on our gross margin when the moratorium expires.

In addition, discussions relating to the ACA have included the possibility for bundled reimbursement payments and ACOs. ACOs and bundled payment programs were established by the ACA to reward integrated, efficient care and allow providers to share in any savings they achieve through the coordination of care and meeting certain mandated quality standards. ACOs and the bundled payment programs have primarily focused on primary care. However, some customers appear to be developing new partnerships across clinical specialties to prepare for the possibility of operating in an ACO environment and bundled reimbursement payments. These and other elements of the ACA, including comparative effectiveness research, an independent payment advisory board, payment system reforms (including shared savings pilots) and the reporting of certain payments by us to healthcare professionals and hospitals, could meaningfully change the way healthcare is developed and delivered, and may materially impact numerous aspects of our business, including the demand and availability of our products, the reimbursement available for our products from governmental and third-party payors, and medical procedure volumes. We believe that growth of the radiation oncology market, which includes both traditional radiation therapy as well as proton therapy in the United States could be adversely impacted as customers’ decision-making processes are complicated by the uncertainties surrounding the implementation of the ACA and reimbursement rates for radiotherapy and radiosurgery, and that this uncertainty will likely continue into the next fiscal year and could result in a high degree of variability of gross orders and revenues from quarter-to-quarter.

Various healthcare reform proposals have also emerged at the state level, and we are unable to predict which, if any of these proposals will be enacted. We are also unable to predict what effect ongoing uncertainty surrounding federal and state health reform proposals, uncertainty related to implementation of ACA provisions, and instability within insurance markets created under the ACA, will have on our customer’s purchasing decisions. However, an expansion in government’s role in the United States healthcare industry may adversely affect our business, possibly materially. In addition, it is possible that changes in administration and policy, including the potential repeal of all or parts of the ACA could result in additional proposals and/or changes to health care system legislation which could have a material adverse effect on our business. The full effect that a full or partial repeal of the ACA would have on our business remains unclear at this time.

More recently, President Trump has signed an executive order and made statements that suggest he plans to seek repeal of all or portions of the ACA, and has asked Congress to replace the current legislation with new legislation. There is uncertainty with respect to the impact President Trump’s administration may have, if any, and any changes likely will take time to unfold, and could have an impact on coverage and reimbursement for healthcare items and services covered by plans that were authorized by the ACA. However, we cannot predict the ultimate content, timing or effect of any healthcare reform legislation or the impact of potential legislation on us.

Changes to radiation oncology, reimbursements, and insurance deductibles and administration may affect demand for our products and could have a material adverse effect on our results of operations, financial position and stock price.

Sales of our healthcare products indirectly depend on whether adequate reimbursement is available to our customers from a variety of sources, such as government healthcare insurance programs, including the Medicare and Medicaid programs; private insurance plans; health maintenance organizations; and preferred provider organizations. In general, employers and third-party payors in the United States have become increasingly cost-conscious, with higher deductibles imposed or encouraged in many medical plans. The imposition of higher deductibles tends to inhibit individuals from seeking the same level of medical treatments as they might seek if the costs were lower. Third-party payors have also increased utilization controls related to the use of our products by healthcare providers.

There is no uniform policy on reimbursement among third-party payors, and we cannot be sure that third-party payors will reimburse our customers at a level that will enable us to achieve or maintain adequate sales and price levels for our products. Without adequate support from third-party payors, the market for our products may be limited.

Once Medicare makes a decision to provide reimbursement for a given treatment, these reimbursement rates are generally reviewed and adjusted by Medicare annually. Private third-party payors, although independent from Medicare, sometimes use portions of Medicare reimbursement policies and payment amounts in making their own reimbursement decisions. As a result, decisions by the Centers for Medicare and Medicaid Services ("CMS") to reimburse for a treatment, or changes to Medicare’s reimbursement policies or reductions in payment amounts may extend to third-party payor reimbursement policies and amounts

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for that treatment. We have seen our customers’ decision-making process complicated by the uncertainty surrounding Medicare reimbursement rates and coverage for modalities and indications for radiotherapy and radiosurgery in the United States.

From time to time, CMS and third-party payors may review and modify the factors upon which they rely to determine appropriate levels of reimbursement and coverage of procedures for cancer treatments. For example, CMS and third-party payors have begun to focus on the comparative effectiveness of radiation therapy versus other methods of cancer treatment, including surgery, and could modify reimbursement rates based on the results of comparative effectiveness studies. In addition, in July 2019, CMS announced a proposed alternative payment model (or “APM”) pilot program for radiation oncology intended to test whether an episode-based payment structure across a cohort of U.S. hospitals and freestanding cancer centers would reduce Medicare expenditures, while preserving or enhancing the quality of care. We expect that CMS will announce the APM rules in late 2019, although the exact timing and details of the APM are uncertain. Any significant cuts in reimbursement rates or changes in reimbursement methodology or administration for radiotherapy, radiosurgery, proton therapy or brachytherapy, as a result of APM or otherwise, or concerns or proposals regarding further cuts or changes in methodology or administration, could further increase uncertainty, influence our customers’ decisions, reduce demand for our products, cause customers to cancel orders, make it more difficult for us to collect payments on outstanding accounts receivable or indebtedness from our proton therapy center customers or debtors, all of which could have a material adverse effect on our results of operations, financial position and stock price.

Foreign governments also have their own healthcare reimbursement systems and there can be no assurance that adequate reimbursement will be made available with respect to our products under any foreign reimbursement system.

Any violation of federal, state or foreign laws governing our business practices may result in substantial penalties. Investigation into our business practices could cause adverse publicity and harm our business.

Anti-corruption laws and regulations. We are subject to the United States Foreign Corrupt Practices Act and anti-corruption laws, and similar laws in foreign countries, such as the U.K. Bribery Act of 2010, and the Law “On the Fundamentals of Health Protection in the Russian Federation.” Any violation of these laws by us or our agents or distributors could create a substantial liability for us, subject our officers and directors to personal liability and also cause a loss of reputation in the market. Transparency International’s 2016 Corruption Perceptions Index found that approximately sixty-nine percent of the countries in the index, including many that we consider to be high growth areas for our products, such as China, India, Russia and Brazil, scored below 50, on a scale from 100 (very clean) to 0 (highly corrupt). We currently operate in many countries where the public sector is perceived as being more or highly corrupt. Our strategic business plans include expanding our business in regions and countries that are rated as higher risk for corruption activity by Transparency International. Moreover, our recent acquisitions of CTSI and Alicon have significantly increased our operations in India and China, respectively. Increased business in higher risk countries could subject us and our officers and directors to increased scrutiny and increased liability.

In addition, we have conducted, and in the future expect to conduct internal investigations or face audits or investigations by one or more domestic or foreign government agencies. Any such investigation or proceeding results in costs and management distraction, which could adversely affect our business and financial results. An adverse outcome under any such proceeding, investigation or audit could subject us to fines, or criminal or other penalties, which could adversely affect our business and financial results.

Competition laws. We are subject to competition laws in the regions where we do business. Regulatory authorities under whose laws we operate may have enforcement powers that can subject us to sanctions and can impose changes or conditions in the way we conduct our business. In addition, an increasing number of jurisdictions provide private rights of action for competitors or consumers to seek damages asserting claims of anti-competitive conduct. Increased government scrutiny of our actions or enforcement or private rights of action could adversely affect our business or damage our reputation. In addition, we have conducted, and in the future expect to conduct, internal investigations or face audits or investigations by one or more domestic or foreign government agencies, which could be costly and time-consuming, and could divert our management and key personnel from our business operations. An adverse outcome under any such investigation or audit could subject us to fines or criminal or other penalties, which could adversely affect our business and financial results.

Environmental laws impose compliance costs on our business and can result in liability.

We are subject to environmental laws around the world. These laws regulate many aspects of our operations, including our handling, storage, transport and disposal of hazardous materials. They can also impose cleanup liabilities, including with respect to discontinued operations. As a consequence, we can incur significant environmental costs and liabilities, some recurring and others not recurring. Although we follow procedures intended to comply with existing environmental laws, we,
like other businesses, can never completely eliminate the risk of contamination or injury from certain materials that we use in our business and, therefore, the prospect of resulting claims and damage payments. We may also be assessed fines or penalties for failure to comply with environmental laws and regulations. Although insurance has provided coverage for portions of cleanup costs resulting from historical occurrences, we maintain only limited insurance coverage for costs or claims that might result from any future contamination.

Future changes in environmental laws could also increase our costs of doing business, perhaps significantly. Several countries, including some in the EU, now require medical equipment manufacturers to bear certain disposal costs of products at the end of the product’s useful life, increasing our costs. The EU has also adopted directives that may lead to restrictions on the use of certain hazardous substances or other regulated substances in some of our products sold there. These directives, along with another that requires substance information to be provided upon request, could increase our operating costs in order to maintain access to certain markets. All of these costs, and any future violations or liabilities under environmental laws or regulations, could have a material adverse effect on our business.

RISKS RELATING TO OUR INTELLECTUAL PROPERTY

Protecting our intellectual property can be costly and we may not be able to maintain licensed rights, which would harm our business.

We file applications for patents covering new products and manufacturing processes. We cannot assure you that our current patents, the claims allowed under our current patents, or the patents for technologies licensed to us will be sufficiently broad to protect our technology position against competitors. Issued patents owned by, or licensed to, us may be challenged, invalidated or circumvented, or the rights granted under the patents may not provide us with competitive advantages. We also cannot be sure that patents will be issued from any of our pending or future patent applications. Asserting our patent rights against others in litigation or other legal proceedings is costly and diverts resources. An unfavorable outcome in such litigation or proceedings could harm us. In addition, we may not be able to detect patent infringement by others or may lose our competitive position in the market before we are able to do so. Our efforts to protect our intellectual property do not prevent competitors from independently developing similar or alternative technologies or products that are equal or superior to our technology and products without infringing any of our intellectual property rights, or from designing around our proprietary technologies, which could harm us. In addition, the regulations of certain foreign countries may not protect our intellectual property rights to the same extent as the laws of the United States.

In addition to patents, we also rely on a combination of copyright, trade secret, trademark and other laws, and contractual restrictions on disclosure, copying and transferring title (including confidentiality agreements with vendors, strategic partners, co-developers, employees, consultants and other third parties), to protect our proprietary and other confidential rights. These protections may prove inadequate, since agreements may still be breached, and we may not have adequate remedies for a breach, and our trade secrets may otherwise become known to or be independently developed by others. In the event that our proprietary or confidential information is misappropriated, our business and financial results could be adversely impacted. We have trademarks, both registered and unregistered, that are maintained and enforced to provide customer recognition for our products in the marketplace, but unauthorized third parties may still use them. We also have agreements with third parties that license to us certain patented or proprietary technologies. In some cases, products with substantial revenues may depend on these license rights. If we were to lose the rights to license these technologies, or our costs to license these technologies were to materially increase, our business would suffer.

Third parties may claim we are infringing their intellectual property, and we could suffer significant litigation or licensing expenses or be prevented from selling our products.

There is a substantial amount of litigation over patent and other intellectual property rights in the industries in which we compete. Our competitors, like companies in many high technology businesses, continually review other companies’ activities for possible conflicts with their own intellectual property rights. In addition, non-practicing entities may review our activities for conflicts with their patent rights. Determining whether a product infringes a third party’s intellectual property rights involves complex legal and factual issues, and the outcome of this type of litigation is uncertain. Third parties may claim that we are infringing their intellectual property rights. We may not be aware of the intellectual property rights of others that relate to our products, services or technologies. From time to time, we receive notices from third parties asserting infringement and we are subject to lawsuits alleging infringement of third-party patent or other intellectual property rights. Any dispute regarding patents or other intellectual property could be costly and time-consuming and could divert our management and key personnel from our business operations. We may not prevail in a dispute. We do not maintain insurance for intellectual property infringement, so costs of defense, whether or not we are successful in defending an infringement claim, will be borne by us and could be significant. If we are unsuccessful in defending or appealing an infringement claim, we may be subject to significant
damages and our consolidated financial position, results of operations or cash flows could be materially adversely affected. We may also be subject to injunctions against development and sale of our products, the effect of which could be to materially reduce our revenues.

**RISKS RELATING TO OUR COMMON STOCK**

*Fluctuations in our operating results, including quarterly gross orders, revenues, margins, and cash flows may cause our stock price to be volatile, resulting in losses for our stockholders.*

We have experienced and expect to experience periodic fluctuations in our operating results, including gross orders, revenues, margins and cash flows. Drivers of orders include the introduction and timing of announcement of new products or product enhancements by us and our competitors, as well as changes or anticipated changes in third-party reimbursement amounts or policies applicable to treatments using our products. The availability of economic stimulus packages or other government funding, or reductions thereof, may also affect timing of customer purchases. Many of our products require significant capital expenditures by our customers. Accordingly, individual product orders can be quite large in dollar amounts, which can extend the customer purchasing cycle. We have experienced this with our IGRT products, and it is especially true with our proton therapy products because of the high cost of the proton therapy equipment and the complexity of project financing. In addition, the budgeting cycles of hospitals and clinics for capital equipment purchases are frequently fixed well in advance. Economic uncertainty also tends to extend the purchasing cycle as potential customers more closely scrutinize and prioritize their capital spending budgets and analyze appropriate financing alternatives. In addition, some of our more sophisticated equipment, such as IGRT and proton therapy products, requires greater site preparation and longer construction cycles, which can delay customer decision cycles and the placement of orders even further. The timing of order placement, equipment installation and revenue recognition affect our quarterly results.

Once orders are received and booked into backlog, factors that may affect whether these orders become revenue (or are cancelled or deemed dormant and reflected as a reduction in the backlog amounts) and the timing of revenue include:

- delay in shipment due (e.g. an unanticipated construction delay at a customer location where our products are to be installed), cancellations or rescheduling by customers, extreme weather conditions, natural disasters, port strikes or other labor actions;
- a challenge to a bid award for one or more of our products;
- delay in the installation and/or acceptance of a product;
- failure to satisfy contingencies associated with an order;
- the method of accounting used to recognize revenue;
- a change in a customer’s financial condition or ability to obtain financing; or
- timing of necessary regulatory approvals or authorizations.

Our operating results, including our margins, may also be affected by a number of other factors, many of which are out of our control, including, among other things:

- changes in our or our competitors’ pricing or discount levels;
- imposition of tariffs on our products or components and services used in our products;
- negative publicity about our products and services;
- impairment of loans, notes receivables, accounts receivable;
- changes in foreign currency exchange rates;
- changes in the relative mix between higher margin and lower margin products;
• changes in the relative portion of our revenues represented by different geographic regions;
• fluctuation in our effective tax rate, which may or may not be known to us in advance;
• changes to our organizational structure, which may result in restructuring or other charges;
• disruptions in the supply or changes in the costs of raw materials, labor, product components or transportation services;
• disruptions in our operations, including our ability to manufacture products, caused by events such as earthquakes, fires, floods, terrorist attacks or the outbreak of epidemic diseases;
• the unfavorable outcome of any litigation or administrative proceeding or inquiry, as well as ongoing costs associated with legal proceedings; and
• accounting changes and adoption of new accounting pronouncements.

Because many of our operating expenses are based on anticipated capacity levels and a high percentage of these expenses are fixed for the short term, a small variation in the timing of revenue recognition can cause significant variations in operating results from quarter to quarter. Our overall gross margin may also be impacted by the gross margin of our proton therapy products, which presently carry lower gross margins than do our traditional radiotherapy products. If our gross margins fall below the expectation of securities analysts and investors, the trading price of VMS common stock would likely decline.

We report our gross orders and backlog on a quarterly and annual basis. It is important to understand that, unlike revenues, gross orders and backlog are not governed by GAAP, and are not within the scope of the quarterly review or annual audit conducted by our independent registered public accounting firm; therefore, investors should not interpret our gross orders or backlog in such a manner. Also, for the reasons set forth above, our gross orders and backlog cannot necessarily be relied upon as accurate predictors of future revenues. Order cancellation or delays in delivery dates will reduce our backlog and future revenues, and we cannot predict if or when orders will mature into revenues. Particularly high levels of cancellations in one period will make it difficult to compare our operating results for other periods.

In addition, our gross orders, backlog, revenues and net earnings in one or more future periods may fall below the expectations of securities analysts and investors. In that event, the trading price of VMS common stock would almost certainly decline.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

As of September 27, 2019, we owned and leased a total of approximately 2.4 million square feet of floor space for office space, manufacturing, research and development and other services worldwide. Substantially all of this space is fully utilized for its intended purpose. We believe that our facilities and equipment are generally well maintained, in good operating condition and adequate for our present operations.

Item 3. Legal Proceedings

In 1999, we transferred our instruments business to Varian, Inc. (“VI”) and our semiconductor equipment business to Varian Semiconductor Equipment Associates, Inc. (“VSEA”) and subsequently spun off VI and VSEA, which resulted in a non-cash dividend to our stockholders (the “Spin-offs”). Under the Amended and Restated Distribution Agreement dated as of January 14, 1999 and other associated agreements that govern the Spin-offs, we retained the liabilities related to the medical systems business and agreed to manage and defend claims related to legal proceedings and environmental matters arising from corporate and discontinued operations. Generally, each of the spun-off subsidiaries is obligated to indemnify us for one third of these liabilities (after adjusting for any insurance proceeds we realize or tax benefits we receive), including certain environmental liabilities, and to indemnify us fully for liabilities arising from the operations of the business transferred to it as part of the Spin-offs. For a more detailed discussion of environmental costs and liabilities, see Note 9, "Commitments and Contingencies," to the Notes to the Consolidated Financial Statements, which is by this reference incorporated herein.
From time to time, we are involved in other legal proceedings arising in the ordinary course of our business or otherwise and, from time to time, acquired as part of business acquisitions that we make. For a detailed discussion of current material legal proceedings, see Note 9, "Commitments and Contingencies," of the Notes to the Consolidated Financial Statements, which is by this reference incorporated herein.

**Item 4. Mine Safety Disclosures**

Not applicable.
VMS common stock is traded on the New York Stock Exchange (“NYSE”) under the symbol “VAR.” As of November 15, 2019, there were 1,680 holders of record of VMS common stock.

PERFORMANCE GRAPH
This graph shows the total return on VMS common stock and certain indices from September 26, 2014 until the last day of fiscal year 2019.

COMPARISON OF FIVE YEAR CUMULATIVE TOTAL RETURN*
AMONG VARIAN MEDICAL SYSTEMS, INC., THE S&P 500 INDEX AND
THE S&P HEALTHCARE EQUIPMENT INDEX

* $100 invested on September 26, 2014 in stock or index, including reinvestment of dividends. Indexes are calculated based on our fiscal year-end.

The performance graph and related information shall not be deemed to be soliciting material or to be “filed” with the SEC or to be deemed to be incorporated by reference to any filing under the Securities Act or the Exchange Act.
Share Repurchase Program

The following table provides information with respect to the shares of VMS common stock repurchased by VMS during the fourth quarter of fiscal year 2019 (in millions, except per share price).

<table>
<thead>
<tr>
<th>Period</th>
<th>Total Number of Shares Purchased</th>
<th>Average Price Paid Per Share</th>
<th>Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs</th>
<th>Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 29, 2019 – July 26, 2019</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>2.5</td>
</tr>
<tr>
<td>July 27, 2019 – August 23, 2019</td>
<td>0.1</td>
<td>$115.85</td>
<td>0.1</td>
<td>2.4</td>
</tr>
<tr>
<td>August 24, 2019 – September 27, 2019</td>
<td>0.2</td>
<td>$116.47</td>
<td>0.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Total</td>
<td>0.3</td>
<td>$116.29</td>
<td>0.3</td>
<td>2.2</td>
</tr>
</tbody>
</table>

(1) In November 2016, the VMS Board of Directors authorized the repurchase of an additional 8.0 million shares of VMS common stock commencing on January 1, 2017. Share repurchases may be made in the open market, in privately negotiated transactions (including accelerated share repurchase programs), or under Rule 10b5-1 share repurchase plans, and also may be made from time to time or in one or more larger blocks. All shares that were repurchased under the share repurchase programs have been retired.

The preceding table excludes an immaterial number of shares of VMS common stock that were tendered to VMS in satisfaction of tax withholding obligations upon the vesting of equity awards granted under our employee stock plans.
Item 6. Selected Financial Data

The following financial data should be read in conjunction with our consolidated financial statements and the accompanying notes and the MD&A included elsewhere herein.

### Summary of Operations:

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</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>$3,225.1</td>
<td>$2,919.1</td>
<td>$2,619.3</td>
<td>$2,593.7</td>
<td>$2,490.7</td>
</tr>
<tr>
<td>Earnings from continuing operations before taxes (2)</td>
<td>420.8</td>
<td>452.1</td>
<td>303.1</td>
<td>432.4</td>
<td>401.3</td>
</tr>
<tr>
<td>Taxes on earnings (3)</td>
<td>128.6</td>
<td>301.8</td>
<td>77.1</td>
<td>110.1</td>
<td>89.9</td>
</tr>
<tr>
<td>Net earnings from continuing operations</td>
<td>292.2</td>
<td>150.3</td>
<td>226.0</td>
<td>322.3</td>
<td>311.4</td>
</tr>
<tr>
<td>Net (loss) earnings from discontinued operations</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Net earnings</td>
<td>292.2</td>
<td>150.3</td>
<td>219.2</td>
<td>399.7</td>
<td>412.0</td>
</tr>
<tr>
<td>Less: Net earnings attributable to noncontrolling interests</td>
<td>0.3</td>
<td>0.4</td>
<td>0.7</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Net earnings attributable to Varian</td>
<td>$291.9</td>
<td>$149.9</td>
<td>$218.5</td>
<td>$399.3</td>
<td>$411.5</td>
</tr>
</tbody>
</table>

### Financial Position at Fiscal Year End:

<table>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital (5)</td>
<td>$511.4</td>
<td>$848.7</td>
<td>$651.7</td>
<td>$1,053.0</td>
<td>$1,016.4</td>
</tr>
<tr>
<td>Total assets (5)</td>
<td>$4,101.7</td>
<td>$3,252.7</td>
<td>$3,294.4</td>
<td>$3,948.1</td>
<td>$3,576.9</td>
</tr>
<tr>
<td>Short-term borrowings</td>
<td>$410.0</td>
<td>—</td>
<td>$350.0</td>
<td>$329.6</td>
<td>$108.4</td>
</tr>
<tr>
<td>Long-term debt (including current maturities)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>$363.3</td>
<td>$385.7</td>
</tr>
<tr>
<td>Total equity (5)</td>
<td>$1,777.6</td>
<td>$1,588.7</td>
<td>$1,521.9</td>
<td>$1,797.9</td>
<td>$1,726.3</td>
</tr>
</tbody>
</table>

(1) Our fiscal years as reported are the 52- or 53-weeks periods ending on the Friday nearest September 30. Fiscal years 2019, 2018, 2017 and 2016 each included 52 weeks. Fiscal year 2015 included 53 weeks.

(2) In fiscal year 2019, earnings from continuing operations before taxes includes a $22.0 million gain on the sale of our investment in Augmenix, a $50.5 million goodwill impairment charge related to our Proton Solutions business, a $20.8 million charge associated with the write-off of in-process research and development expenses related to an acquisition, and an $18.6 million charge to acquisition-related expenses due to an increase to the fair value of contingent consideration related to an acquisition. In fiscal year 2018, earnings from continuing operations before taxes includes a $29.7 million hedging loss related to the Australian dollar purchase price for Sirtex Medical Limited (“Sirtex”), $22.4 million in impairment charges mostly related to our Maryland Proton Therapy Center subordinated loan and $15.7 million of acquisition-related expenses, partially offset by $9.0 million for the Sirtex breakup fee. In fiscal year 2017, earnings from continuing operations before taxes includes $51.4 million in impairment charges related to our loans to the Scripps Proton Therapy Center and a $37.8 million allowance for doubtful accounts from the California Proton Therapy Center and another proton center.

(3) In fiscal year 2018, taxes on earnings includes a $207.8 million tax expense related to the Tax Cuts and Jobs Act, partially offset by an $8.0 million benefit to income tax expense due to the partial release of a valuation allowance as a result of an acquisition.

(4) For fiscal years 2015 through 2018, the financial position at year end includes Varex, which is presented as discontinued operations for all periods presented.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

Overview

We, Varian Medical Systems, Inc., are a Delaware corporation originally incorporated in 1948 as Varian Associates, Inc. We are the world’s leading manufacturer of medical devices and software for treating cancer and other medical conditions with radiotherapy, stereotactic radiosurgery, stereotactic body radiotherapy, brachytherapy and proton therapy. Through recent acquisitions, we now operate a hospital and a network of cancer centers in India and Sri Lanka; provide cancer care professional services to healthcare providers worldwide; and are a supplier of a broad portfolio of interventional solutions.

Our vision is a world without fear of cancer. Our mission is to combine the ingenuity of people with the power of data and technology to achieve new victories against cancer. Our long-term growth and value creation strategy is to transform our company from the global leader in radiation therapy (also referred to as radiotherapy) to the global leader in multi-disciplinary, integrated cancer care solutions, that leverage our strengths, technology, innovation and clinical experience. To achieve these long-term objectives, we are focused on driving growth through strengthening our leadership in radiation therapy, extending our global footprint and expanding into new markets and therapies.

We have two reportable operating segments: Oncology Systems and Proton Solutions. Our Interventional Solutions business is reflected in the "Other" category because it does not meet the criteria for a reportable operating segment. The operating segments were determined based on how our Chief Executive Officer, who is our Chief Operating Decision Maker (“CODM”), views and evaluates our operations. The CODM allocates resources to and evaluates the financial performance of each operating segment primarily based on operating earnings. We report revenues in three regions. The Americas region includes North America (primarily the United States and Canada) and Latin America. The EMEA region includes Europe, Russia, the Middle East, India, and Africa. The APAC region primarily includes East and Southeast Asia, and Australia.

Highlights from fiscal year 2019

Financial Summary

| (Dollars in millions, except per share amounts) | Fiscal Years | | |
|---|---|---|
| | 2019 | 2018 | Change |
| Gross Orders | $3,568.8 | $3,171.6 | 13% |
| Oncology Systems | 3,397.6 | 3,113.9 | 9% |
| Proton Solutions | 151.8 | 57.7 | 163% |
| Other | 19.4 | — | n/m |
| Backlog | $3,390.1 | $3,183.0 | 7% |
| Revenues | $3,225.1 | $2,919.1 | 10% |
| Oncology Systems | 3,061.8 | 2,770.2 | 11% |
| Proton Solutions | 143.9 | 148.9 | (3)% |
| Other | 19.4 | — | n/m |
| Gross margin as a percentage of revenues | 42.5% | 43.6% | (110) bps |
| Effective tax rate | 30.6% | 66.8% | |
| Net earnings attributable to Varian | $291.9 | $149.9 | 95% |
| Diluted net earnings per share | $3.18 | $1.62 | 96% |
| Net cash provided by operating activities | $371.8 | $454.9 | (18)% |
| Number of shares repurchased | 1.4 | 1.6 | (15)% |
| Total cost of shares repurchased | $166.7 | $181.9 | (8)% |

n/m = not meaningful

Assets acquired from Boston Scientific. In August 2019, we acquired Boston Scientific's embolics microspheres business, to treat arteriovenous malformations and hypervascular tumors. The assets from this purchase are included in our Interventional Solutions business, which is included in the Other category. We acquired the business for a purchase price of $90.0 million in cash consideration.
Cancer Treatment Services International. In June 2019, we acquired Cancer Treatment Services International ("CTSI"), a privately-held company that provides cancer care professional services to health care providers worldwide and, through its oncology care brand, American Oncology Institute, focuses on the operation of comprehensive cancer treatment facilities in India and Sri Lanka. CTSI operates AmPath, a full-service reference laboratory and pathology provider, and CTSI Oncology Solutions, an oncology services company that provides solutions such as remote treatment planning services and multi-disciplinary oncology consulting. This acquisition will increase our expertise in cancer center operations, allowing for new partnerships globally, which will allow us to deliver world-class, value-based care in developed and emerging markets. In addition, we expect that the transaction will enable us to innovate and be a leader in cancer focused technology-enabled services. CTSI operations are included in our Oncology Systems business.

We acquired CTSI for a purchase price of $277.0 million, consisting of $262.8 million of cash consideration, $8.2 million of contingent consideration, and $6.0 million of other consideration. The undiscounted range of the contingent consideration payments is zero to $58 million and is based on actual revenues over the 18 months following the acquisition date.

Endocare and Alicon. In June 2019, we acquired Austin, Texas-based Endocare and Hangzhou, China-based, Alicon, to expand our portfolio of multidisciplinary integrated cancer solutions. Endocare is a leading provider of hardware and software solutions for cryoablation, and has a microwave ablation product line; and Alicon is a leader in embolic therapy for treating liver cancer in China. These acquisitions are expected to enable us to develop innovations in interventional oncology and provide patients and customers with a wider range of cancer care solutions. The Endocare and Alicon operations are included in our Interventional Solutions business, which is included in the Other category. In the fourth quarter of fiscal year 2019, due to better than expected projected financial performance for Endocare and Alicon as well as a change in the expected mix of products, we recorded an increase of $18.6 million in the fair value of the contingent consideration.

We acquired Endocare and Alicon for a combined purchase price of $210.0 million consisting of $197.4 million of cash consideration and $12.6 million of contingent consideration. The undiscounted range of the contingent consideration payments is zero to $40 million and is based on actual revenues through March 2020.

Acquisition-related expenses and in-process research and development. We incurred acquisition-related expenses and in-process research and development expenses ("in-process R&D") of $62.8 million during the year ended September 27, 2019. Fiscal year 2019, included a $20.8 million charge associated with a write-off of in-process R&D related to an acquisition and an $18.6 million charge associated with the increase in the contingent consideration for the Endocare and Alicon acquisitions.

Impairment of Proton Solutions Goodwill. During the third quarter of fiscal year 2019, we recorded a goodwill impairment charge of $50.5 million on the full value of the Proton Solutions reporting unit goodwill. The impairment resulted from a downward revision of forecasted future cash flows. Factors in the third quarter that contributed to the revised forecast include observed continued weakness in proton therapy markets and lower than expected results as compared to prior forecasts. These events decreased the forecasted cash flows and the fair value of the Proton Solutions reporting unit below its carrying value as of the third quarter of fiscal year 2019.

To determine the fair value of the Proton Solutions reporting unit, we used the income and market approaches. Under the income approach, the fair value of the Proton Solutions reporting unit was based on the present value of the estimated future cash flows that the reporting unit is expected to generate over its remaining life. Cash flow projections were based on management's estimates of revenue growth rates and operating margins, taking into consideration industry and market conditions and system order backlog. The discount rate used was based on the weighted-average cost of capital appropriate for the Proton Solutions reporting unit. The market approaches considered revenue multiples based on comparable transactions and public companies.

Tariff Measures. Between July 2018 and May 2019, the Trump Administration imposed a series of tariffs, ranging from 5% to 25%, on numerous products imported into the United States from China, including Varian’s radiotherapy systems manufactured in China and certain components used in our manufacturing and service activities. In July and August of 2018, China retaliated against the U.S. tariffs by imposing its own series of tariffs, ranging from 10% to 25%, on certain products imported into China from the United States, including Varian’s radiotherapy systems and certain manufacturing and service components.

We participated in the Office of the U.S. Trade Representative (“USTR”) process to seek product-specific exclusions from the U.S. tariffs on Chinese imports. To date, USTR has granted tariff exclusions for four products: certain radiotherapy systems manufactured in China, as well as three key components of the radiation therapy systems that we manufacture in the United States -multi-leaf collimators, certain printed circuit board assemblies and tungsten shielding. We submitted an additional U.S. exclusion request in September 2019, in relation to a manufacturing component, which request is pending.

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In June and July 2019, we submitted formal requests to the Chinese government for exclusions from the Chinese retaliatory tariffs for manufacturing inputs, service parts and radiotherapy systems imported into China from the United States. In September 2019, the Chinese government granted a tariff exclusion for medical linear accelerators, including our radiotherapy systems, with retroactive effect. The other exclusion requests are still pending. The U.S. and Chinese government tariff exclusions are for one-year periods, with anticipated renewal processes. In the aggregate, these tariffs are referred to as “U.S./China tariffs.”

**Currency Fluctuations.** In order to assist with the assessment of how our underlying businesses performed, we compare the percentage change in revenues and Oncology Systems gross orders from one period to another, excluding the effect of foreign currency fluctuations (i.e., using constant currency exchange rates). To present this information on a constant currency basis, we convert current period revenues and gross orders in currencies other than U.S. Dollars into U.S. Dollars using the comparable prior period’s average exchange rate. Percentage changes in revenues and gross orders are not adjusted for constant currency unless indicated.

Currency fluctuations had a $57.5 million and a $52.5 million unfavorable impact on total revenues and Oncology Systems gross orders, respectively, in fiscal year 2019 compared to fiscal year 2018. We expect that fluctuations of non-U.S. Dollar currencies against the U.S. Dollar may continue to cause variability in our financial performance.

**Subsequent events.** On November 1, 2019, we entered into Amendment No. 2 (the “Amendment”) to our Credit Agreement dated as of April 3, 2018 (the “Credit Agreement”), by and among us, certain lenders party thereto, and Bank of America, N.A., as administrative agent, swing line lender and letter of credit issuer. The Amendment, among other things, reduces the aggregate principal amount available under the revolving credit facility provided under the Credit Agreement from $1.8 billion to $1.2 billion, reduces the commitment fee, adds a $500 million sublimit for multi-currency borrowings, increases the letter of credit sublimit to $225 million, and extends the maturity date from April 2023 to November 2024.

**Our Businesses**

**Oncology Systems.** Our Oncology Systems business designs, manufactures, sells and services hardware and software products for treating cancer with conventional radiotherapy, and advanced treatments such as fixed field intensity-modulated radiation therapy (“IMRT”), image-guided radiation therapy (“IGRT”), volumetric modulated arc therapy (“VMAT”), stereotactic radiosurgery, stereotactic body radiotherapy and brachytherapy as well as associated quality assurance equipment. Our software solutions include treatment planning, informatics, clinical knowledge exchange, patient care management, practice management and decision support for comprehensive cancer clinics, radiotherapy centers and medical oncology practices. We offer services ranging from hardware phone support, break/fix repair of linear accelerators, obsolescence protection of hardware, software support, software upgrades, hosting as a service, as well as clinical consulting services.

As a result of our acquisition of CTSI in June 2019, we have expanded our services offerings to include clinical practice services that assist within the clinical workflow. These services focus on decision support and/or cancer care knowledge augmentation aimed to facilitate improved accessibility and affordability to care while maintaining a fundamental level of clinical quality. Further, we operate nine multi-disciplinary cancer centers and one specialty hospital in India and one multi-disciplinary cancer center in Sri Lanka. In addition to expanding our services portfolio, we expect that the CTSI acquisition will enable us to innovate and incubate new solutions such as technology-enabled services, and to develop additional technologies that incorporate artificial intelligence and machine learning capabilities, in an environment of data security and patient privacy integrity.

Our primary goal in the Oncology Systems business is to promote the adoption of more advanced and effective cancer treatments. In our view, the fundamental market forces that drive long-term growth in our Oncology Systems business are the rise in cancer cases; technology advances and product developments that are leading to improvements in patient care and outcomes; customer demand for the more advanced and effective cancer treatments that we enable; competitive conditions among hospitals and clinics to offer such advanced treatments; continued improvement in safety and cost efficiency in delivering radiation therapy; and underserved medical needs outside of the United States. Approximately half of Oncology Systems gross orders and revenues come from international markets, within which certain emerging markets typically can have lower gross margins and longer installation cycles since many of these purchases are for new sites where treatment vaults need to be constructed. We have also seen an increased portion of total gross orders and total revenues coming from hardware and software. We have also been investing a higher portion of our Oncology Systems research and development budget in software and software-related products, which have a higher gross margin than our hardware products.

We believe international markets will be our fastest growing markets. The radiation oncology market in North America is largely characterized by replacements of older machines, with periodic increases in demand driven by the introduction of new
technologies. Reimbursement rates in the United States have generally supported a favorable return on investment for the purchase of new radiotherapy equipment and technologies. While we believe that improved product functionality, greater cost-effectiveness and prospects for better clinical outcomes with new capabilities, such as IMRT, IGRT and VMAT, tend to drive demand for radiotherapy products, large changes in reimbursement rates or reimbursement structure can affect customer demand and cause market shifts. We believe that growth of the radiation oncology market in the United States could be impacted as customers’ decision-making processes are complicated by the uncertainties surrounding reimbursement rates and new models for radiotherapy and radiosurgery, such as the alternative payment model pilot program for radiation oncology that was proposed by the Centers for Medicare and Medicaid Services in July 2019. This pilot program is intended to test whether an episode-based payment structure would reduce Medicare expenditures. We believe that this uncertainty will likely continue in future fiscal years and could impact transaction size, timing and purchasing processes, and also contribute to increased quarterly business variability.

In the radiation oncology markets outside of North America, we expect the EMEA market to grow over the long term with varying growth rates across the region. In APAC, we expect China to lead longer-term regional growth. Latin America is currently experiencing currency fluctuations and the impact of political instability in some countries. However, we are cautiously optimistic about the long-term outlook in the region and expect continued growth over the next few years. Overall, we believe the global radiation oncology market can grow over the long term, in constant currencies, in the mid-single-digit range.

**Proton Solutions.** Our Proton Solutions business develops, designs, manufactures, sells and services products and systems for delivering proton therapy, another form of external beam therapy using proton beams, for the treatment of cancer. Proton therapy is a preferred option for treating certain cancers, particularly tumors near critical structures such as the base of the skull, spine, optic nerve and most pediatric cancers. Although proton therapy has been in clinical use for more than four decades, it has not been widely deployed due to the high capital cost.

We are investing resources to drive growth and innovation in this business. Proton therapy facilities are large-scale construction projects that have long lead times and involve significant customer investment and often complex project financing. Consequently, this business is vulnerable to general economic and market conditions, as well as reimbursement rates. Customer decision-making cycles tend to be very long, and orders generally involve many contingencies. Credit markets for proton therapy projects have improved in recent years but the funding environment for large capital projects, such as proton therapy projects, is still challenging. Our current focus is bringing our expertise in traditional radiation therapy to proton therapy to improve its clinical utility, reduce its cost of treatment per patient and drive innovation, so that it is more widely accepted and deployed.

As of September 27, 2019, we had a total of $165.2 million of notes receivable including accrued interest, senior secured debt, available-for-sale securities, and loans outstanding to Proton Solutions customers. See Note 15, “Proton Solutions Loans and Investments,” of the Notes to the Consolidated Financial Statements for further information.

**Other.** The Other category includes our Interventional Solutions business that offers products for interventional oncology procedures and treatments, including cryoablation, microwave ablation and embolization. We also provide software and remote services for post treatment dose calculation for Yttrium-90 microspheres used in selective internal radiation therapy. The Other category also includes assets related to the use of radiation in the heart and other forms of radiosurgery for cardiovascular disease, which were acquired in fiscal year 2019.

This discussion and analysis of our financial condition and results of operations is based upon and should be read in conjunction with the Consolidated Financial Statements and the Notes included elsewhere in this Annual Report on Form 10-K, as well as the information contained under Part I, Item 1A, “Risk Factors.” We discuss our results of operations below.

**Critical Accounting Estimates**

The preparation of our financial statements and related disclosures in conformity with accounting principles generally accepted in the United States (“GAAP”) requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. These estimates and assumptions are based on historical experience and on various other factors that we believe are reasonable under the circumstances. We periodically review our accounting policies, estimates and assumptions and make adjustments when facts and circumstances dictate. In addition to the accounting policies that are more fully described in the Notes to the Consolidated Financial Statements included in this Annual Report on Form 10-K, we consider the critical accounting policies described below to be affected by critical accounting estimates. Our critical accounting policies that are affected by accounting estimates are included below. Such accounting policies require us to use judgments, often as a result of the need to make estimates and assumptions regarding matters that are inherently uncertain, and actual
results could differ materially from these estimates. For a discussion of how these estimates and other factors may affect our business, see Part I, Item 1A, “Risk Factors.”

Revenue Recognition

Our revenues are derived primarily from the sale of hardware and software products, and services from our Oncology Systems, Proton Solutions and Interventional Solutions businesses. We recognize revenues net of any value added or sales tax and net of sales discounts.

We frequently enter into revenue arrangements with customers that contain multiple performance obligations including hardware, software, and services. Judgments as to the stand-alone selling price and allocation of consideration from an arrangement to the individual performance obligations, and the appropriate timing of revenue recognition are critical with respect to these arrangements.

Changes to the performance obligations, contact terms, credit worthiness, or right of return of the customer can impact the arrangement and the amounts allocated to each element could affect the timing and amount of revenue recognition. Revenue recognition also depends on the timing of shipment, readiness of customers’ facilities for installation, installation requirements, and availability of products. If shipments or installations are not made on scheduled timelines or if the products are not accepted by the customer in a timely manner, our reported revenues may differ materially from expectations.

Service revenues include revenues from hardware service contracts, software service agreements, bundled support arrangements, paid services and trainings, and parts that are sold by our service department. Revenues allocated to service contracts are generally recognized ratably over the period of the related contracts.

We recognize revenues on proton therapy contracts over the life of the project as costs are incurred. We recognize revenue related to our proton therapy systems over time because the customer controls the work in process, the Company’s performance does not create an asset with alternative use to the Company, and the Company has an enforceable right to payment for performance completed to date. Changes in estimates of total contract revenue, total contract cost or the extent of progress towards completion are recognized in the period in which the changes in estimates are identified. Estimated losses on contracts are recognized in the period in which the loss is identified. In circumstances in which the final outcome of a contract cannot be reliably estimated but a loss on the contract is not expected, we recognize revenues to the extent of costs incurred until reliable estimates can be made. If and when we can make more reliable estimates, revenues and costs of revenues are adjusted in the same period. Recognizing revenue over time based on costs incurred requires the use of estimates in determining revenues, costs and profits and in assigning the dollar amounts to relevant accounting periods. Because the estimates must be periodically reviewed and appropriately adjusted, if our estimates prove to be inaccurate or circumstances change over time, we may be required to adjust revenues or even record a contract loss in later periods, and our financial results could suffer.

Share-based Compensation Expense

We value our time-based stock options, purchase rights under the employee stock purchase plan, and cash-settled stock appreciation rights using the Black-Scholes option-pricing model. We value our restricted stock units and deferred stock units using the fair market value of the Company’s common stock on the date of grant. We value performance units granted in fiscal years 2018 and 2019 at fair market value and adjust the value according to the contingent market condition specified in the terms of those awards. We value performance-based options granted in fiscal years 2018 and 2019, using the Black-Scholes option-pricing model and adjust the value according to the contingent market condition specified in the terms of those awards. We value performance units granted prior to fiscal year 2018, using the Monte Carlo simulation model. In accordance with the guidance on share-based compensation, the fair value of cash-settled stock appreciation rights is recalculated at the end of each reporting period.

The determination of the grant date fair value of share-based payment awards on the date of grant under both the Black-Scholes option-pricing model and the Monte Carlo simulation model is affected by the Company’s stock price, as well as the input of other subjective assumptions, including, as applicable, the expected terms of share-based awards, the expected price volatilities of shares of the Company’s common stock and peer companies that are used to assess certain performance targets over the expected term of the awards, and the expected dividend yield of shares of the Company’s common stock. The expected term of our stock options and cash-settled stock appreciation rights is based on the observed and expected time for such awards to be exercised or cancelled. We use a blended volatility in deriving the expected volatility assumption for our stock options, performance-based options and cash-settled stock appreciation rights, which represents the weighted average of implied volatility and historical volatility. In determining the grant date fair value of our performance units and performance options, historical volatilities of shares of VMS common stock, as well as the shares of common stock of peer companies, were used to
assess certain performance targets. The risk-free interest rate assumption is based upon observed interest rates appropriate for the term of our stock awards. The dividend yield assumption is based on our history and expectation of no dividend payouts. If factors change and we employ different assumptions in future periods, the compensation expense that we record may differ significantly from what we have recorded in the current period.

We record forfeitures as they occur. We estimate the probability that certain performance conditions that affect the vesting of performance units and performance-based options will be achieved, and recognize expense only for those awards expected to vest. If the actual number of performance units and performance-based options that vest based on achievement of performance conditions are materially different from our estimates, the share-based compensation expense could be significantly different from what we have recorded in the current period.

We record forfeitures as they occur. We estimate the probability that certain performance conditions that affect the vesting of performance units and performance-based options will be achieved, and recognize expense only for those awards expected to vest. If the actual number of performance units and performance-based options that vest based on achievement of performance conditions are materially different from our estimates, the share-based compensation expense could be significantly different from what we have recorded in the current period.

Allowance for Doubtful Accounts

We evaluate the creditworthiness of our customers prior to authorizing shipment for all major sale transactions. Except for government tenders, group purchases and orders with letters of credit in Oncology Systems, our payment terms often require payment of a small portion of the total amount due when the customer signs the purchase order, a significant amount upon transfer of risk of loss to the customer and the remaining amount due upon completion of the installation. On a quarterly basis, we evaluate aged items in the accounts receivable aging report and provide an allowance in an amount we deem adequate for doubtful accounts. If our evaluation of our customers’ financial conditions does not reflect our future ability to collect outstanding receivables, additional provisions may be needed, and our operating results could be negatively affected.

Impairment of Investments and Notes Receivable

We recognize an impairment charge when the declines in the fair values of our available-for-sale securities and notes receivable below their cost basis are determined to be other than temporary impairments (“OTTI”). We monitor our available-for-sale and notes receivable securities for possible OTTI on an ongoing basis. When there has been a decline in fair value of a debt security below the amortized cost basis, we recognize OTTI if: (i) we have the intention to sell the security; (ii) it is more likely than not that we will be required to sell the security before recovery of the entire amortized cost basis; or (iii) we do not expect to recover the entire amortized cost basis of the security.

We also have equity investments in privately-held companies, some of which are in the startup or development stages. Our equity investments are measured at cost, and are adjusted through net earnings when they are deemed to be impaired or when there is an adjustment from observable price changes. We monitor these investments for events or circumstances indicative of potential impairment, and we make appropriate reductions in carrying values if we determine that an impairment charge is required, based primarily on the financial condition, near-term prospects and recent financing activities of the investee. These investments are inherently risky because the markets for the technologies or products these companies are developing are typically in the early stages and may never materialize.

At times, we advance notes to third parties, including our customers. We regularly assess these notes for collectability by considering internal factors such as historical experience, credit quality, age of the note balances as well as external factors such as economic conditions that may affect the note holder's ability to pay.

Our ongoing consideration of all the factors described above could result in impairment charges in the future, which could adversely affect our operating results.

Inventories

Our inventories include technology parts and components that are highly specialized in nature and subject to rapid technological obsolescence. We have programs to minimize the required inventories on hand, and we regularly review inventory quantities on hand and on order and adjust for excess and obsolete inventory based primarily on historical usage rates and our estimates of product demand and production. Actual demand may differ from our estimates, in which case we may have understated or overstated the provision required for obsolete and excess inventory, which would have an impact on our operating results.

Business Combinations

We allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed, and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these...
identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows primarily from acquired technologies, patents, trade names, customer contracts, partner relationships and supplier relationships, useful lives and discount rates. Management’s estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. During the measurement period, which is not to exceed one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill.

We generally measure the fair value of our contingent consideration liabilities based on Black-Scholes or Monte Carlo pricing models with applicable key assumptions, including estimated revenues of the acquired business, the probability of completing certain milestone targets during the contingency period, volatility, and estimated discount rates corresponding to the periods of expected payments. If the estimated revenues or probability of completing certain milestones were to increase or decrease during the respective contingency period, the fair value of the contingent consideration would increase or decrease, respectively. If the estimated discount rates were to increase or decrease, the fair value of the contingent consideration would decrease or increase, respectively. Changes in volatility may result in an increase or decrease in the fair value of the contingent consideration.

Goodwill, Intangible Assets and Impairment Assessment

Goodwill represents the excess of the purchase price in a business over the fair value of net tangible and intangible assets acquired. The determination of the value of the intangible assets acquired involves certain judgments and estimates. These judgments can include, but are not limited to, the cash flows that an asset is expected to generate in the future and the appropriate discount weighted-average cost of capital ("WACC"). Each period we evaluate the estimated remaining useful lives of purchased intangible assets and whether events or changes in circumstances warrant a revision to the remaining periods of amortization.

Goodwill is allocated to reporting units expected to benefit from the business combination. We evaluate our reporting units when changes in our operating structure occur, and if necessary, reassign goodwill using a relative fair value allocation approach. Goodwill is tested for impairment at the reporting unit level on an annual basis or whenever events or changes in circumstances indicate its carrying value may not be recoverable. We can opt to perform a qualitative assessment to test a reporting unit’s goodwill for impairment or we can directly perform a quantitative assessment. Various factors are considered in the qualitative assessment, including macroeconomic conditions, industry and market considerations, financial performance and other relevant events affecting the reporting unit. Based on our qualitative assessment, if we determine that the fair value of a reporting unit is more likely than not (i.e., a likelihood of more than 50 percent) to be less than its carrying amount, the quantitative assessment will be performed. The quantitative assessment compares the fair value of a reporting unit against its carrying amount, including the goodwill allocated to each reporting unit. We determine the fair value of our reporting units based on a combination of income and market valuation approaches. The income approach is based on the present value of estimated future cash flows that the reporting unit is expected to generate, and the market approach is based on a market multiple calculated for each reporting unit based on market data of other companies engaged in similar business. Any excess of the reporting unit’s carrying value over its fair value will be recorded as an impairment loss.

Determining the fair value of a reporting unit involves the use of significant estimates and assumptions. These estimates and assumptions include revenue growth rates, operating margins and working capital needs to calculate projected future cash flows, WACC, future economic and market conditions, estimation of the long-term rate of growth for our business and determination of appropriate market comparables. We base our fair value estimates on assumptions we believe to be reasonable but that are inherently uncertain. Actual future results related to assumed variables could differ from these estimates. In addition, we make certain judgments and assumptions in allocating assets and liabilities to determine the carrying values for each reporting unit.

As of September 27, 2019, we have two reporting units, Oncology Systems and Interventional Solutions, with goodwill balances of $447.9 million and $164.3 million, respectively. In the third quarter of fiscal year 2019, we recorded a goodwill impairment charge of $50.5 million for the full value of the Proton Solutions reporting unit goodwill. See Note 6, "Goodwill and Intangible Assets," of the Notes to the Consolidated Financial Statements for more information about the Proton Solutions goodwill impairment.

Warranty Obligations

We warrant most of our products for a specific period of time, usually 12 months from installation, against material defects. In addition, we often include additional support services (training, help desk, maintenance) and recognize these services as
separate purchase obligations along with our standard break/fix warranty cost accrual. We provide for the estimated future costs of warranty obligations in cost of revenues when the related revenues are recognized. The accrued warranty break/fix costs represent our best estimate at the time of sale of the total costs that we will incur to repair or replace product parts that fail while still under warranty. The amount of accrued estimated warranty costs obligation for established products is primarily based on historical experience as to product failures adjusted for current information on repair costs. For new products, estimates will include historical experience of similar products, as well as reasonable allowance for start-up expenses. Actual warranty costs could differ from the estimated amounts. On a quarterly basis, we review the accrued balances of our warranty obligations and update the historical warranty cost trends, if required. If we were required to accrue additional warranty costs in the future, it would have a negative effect on our operating results.

**Loss Contingencies**

From time to time, we are a party to or otherwise involved in legal proceedings, claims and government inspections or investigations or other legal matters, both inside and outside the United States, arising in the ordinary course of our business or otherwise. We accrue amounts, to the extent they can be reasonably estimated, that we believe are adequate to address any liabilities related to legal proceedings and other loss contingencies that we believe will result in a probable loss. Such matters are subject to many uncertainties, outcomes are not predictable with assurance, and actual liabilities could significantly exceed our estimates of potential liabilities. In addition, we are subject to a variety of environmental laws around the world. Those laws regulate multiple aspects of our operations, including the handling, storage, transport and disposal of hazardous substances. They impose costs on our operations. In connection with our past and present operations and facilities, we record environmental remediation liabilities when we conclude that environmental assessments or remediation efforts are probable, and we believe we can reasonably estimate the costs of those efforts. Our accrued environmental costs represent our best estimate of the total costs of assessments and remediation and the time period over which we expect to incur those costs. We review these accrued balances quarterly. If we were required to increase or decrease the accrued environmental costs or other loss contingencies in the future, it would adversely or favorably impact our operating results.

**Defined Benefit Pension Plans**

We sponsor multiple defined benefit pension plans in Germany, Japan, Switzerland and the United Kingdom covering employees who meet the applicable eligibility requirements in these countries. Several statistical and other factors that attempt to anticipate future events are used in calculating the expenses and liabilities related to the aforementioned plans. These factors include assumptions about the discount rate, expected return on plan assets, and the rate of future compensation increases, all of which we determine within certain guidelines. In addition, we use assumptions, such as withdrawal and mortality rates, to calculate the expenses and liabilities. The actuarial assumptions we use are long-term assumptions and may differ materially from actual experience, particularly in the short term due to changing market and economic conditions and changing participant demographics. These differences may have a significant impact on the amount of defined benefit pension plan expenses we record.

The expected rates of return on the various defined benefit pension plans’ assets are based on the asset allocation of each plan and the long-term projected return on those assets. Discount rates enable us to report expected future cash flows at a present value on the measurement date. The discount rates used for defined benefit plans are primarily based on the current effective yield of long-term corporate bonds that are of high quality with satisfactory liquidity and credit rating with durations corresponding to the expected duration of the benefit obligations. A change in the discount rate may cause the present value of benefit obligations to change significantly.

**Taxes on Earnings**

We are subject to taxes on earnings in both the United States and numerous foreign jurisdictions. As a global taxpayer, significant judgments and estimates are required in evaluating our tax positions and determining our provision for taxes on earnings. We account for uncertainty in income taxes following a two-step approach for recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining whether the weight of available evidence indicates that it is more likely than not that, based on the technical merits, the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon settlement. Recognition and measurement are based on management’s best judgment given the facts, circumstances and information available at the end of the accounting period.

Generally, the carrying value of our net deferred tax assets assumes that we will be able to generate sufficient future taxable earnings in the applicable tax jurisdictions to utilize these deferred tax assets. Should we conclude it is more likely than not that
we will be unable to recover our net deferred tax assets in these tax jurisdictions, we would increase our valuation allowance and our tax provision would increase in the period in which we make such a determination.

Our effective tax rate is impacted by the proportion of our earnings generated in various geographies and subject to tax at differing rates in various tax jurisdictions.

Results of Operations

Fiscal Year

Our fiscal year is the 52- or 53-week period ending on the Friday nearest September 30. Fiscal year 2019 was the 52-week period ended September 27, 2019, fiscal year 2018 was the 52-week period ended September 28, 2018, and fiscal year 2017 was the 52-week period ended September 29, 2017.

A discussion regarding our financial condition and results of operations for fiscal 2019 compared to fiscal 2018 is presented below. A discussion regarding our financial condition and results of operations for fiscal 2018 compared to fiscal 2017 can be found under Item 7 in our Annual Report on Form 10-K for the fiscal year ended September 28, 2018, filed with the SEC on November 26, 2018, which is available on the SEC’s website at www.sec.gov and our Investor Relations website at investors.varian.com.

Discussion of Results of Operations for Fiscal Years 2019, 2018 and 2017

Total Revenues

Revenues by sales classification

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>Percent Change</th>
<th>2018</th>
<th>Percent Change</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>$1,784.1</td>
<td>14%</td>
<td>$1,569.9</td>
<td>13%</td>
<td>$1,394.0</td>
</tr>
<tr>
<td>Service</td>
<td>$1,441.0</td>
<td>7%</td>
<td>$1,349.2</td>
<td>10%</td>
<td>$1,225.3</td>
</tr>
<tr>
<td>Total Revenues</td>
<td>$3,225.1</td>
<td>10%</td>
<td>$2,919.1</td>
<td>11%</td>
<td>$2,619.3</td>
</tr>
</tbody>
</table>

Product as a percentage of total revenues 55%
Service as a percentage of total revenues 45%

Total product and service revenues increased in fiscal year 2019 over fiscal year 2018, primarily due to an increase in revenues from Oncology Systems. In fiscal year 2019, product revenues also included $19.4 million from our Interventional Solutions business, which is included in the Other category, and service revenues included $19.6 million related to our CTSI acquisition, which is included in Oncology Systems.

Revenues by region

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>Percent Change</th>
<th>Constant Currency</th>
<th>2018</th>
<th>Percent Change</th>
<th>Constant Currency</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>$1,527.4</td>
<td>6%</td>
<td>7%</td>
<td>$1,436.9</td>
<td>7%</td>
<td>7%</td>
<td>$1,344.6</td>
</tr>
<tr>
<td>EMEA</td>
<td>1,073.4</td>
<td>14%</td>
<td>19%</td>
<td>942.8</td>
<td>24%</td>
<td>18%</td>
<td>759.2</td>
</tr>
<tr>
<td>APAC</td>
<td>624.3</td>
<td>16%</td>
<td>17%</td>
<td>539.4</td>
<td>5%</td>
<td>4%</td>
<td>515.5</td>
</tr>
<tr>
<td>Total Revenues</td>
<td>$3,225.1</td>
<td>10%</td>
<td>12%</td>
<td>$2,919.1</td>
<td>11%</td>
<td>10%</td>
<td>$2,619.3</td>
</tr>
</tbody>
</table>

North America (1) $1,425.1 6% 6% $1,347.2 6% 6% $1,267.8
International 1,800.0 15% 18% 1,571.9 16% 13% 1,351.5

Total Revenues $3,225.1 10% 12% $2,919.1 11% 10% $2,619.3

North America as a percentage of total revenues 44%
International as a percentage of total revenues 56%

(1) North America primarily includes the United States and Canada.
Revenues increased across all regions primarily due to an increase in revenues from Oncology Systems.

### Oncology Systems Revenues

#### Revenues by sales classification

<table>
<thead>
<tr>
<th>(Dollars in millions)</th>
<th>2019</th>
<th>Percent Change</th>
<th>Constant Currency</th>
<th>2018</th>
<th>Percent Change</th>
<th>Constant Currency</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>$1,642.4</td>
<td>15%</td>
<td>17%</td>
<td>$1,431.0</td>
<td>17%</td>
<td>15%</td>
<td>$1,221.5</td>
</tr>
<tr>
<td>Service</td>
<td>1,419.4</td>
<td>6%</td>
<td>8%</td>
<td>1,339.2</td>
<td>10%</td>
<td>8%</td>
<td>1,215.3</td>
</tr>
<tr>
<td>Total Oncology Systems Revenues</td>
<td>$3,061.8</td>
<td>11%</td>
<td>13%</td>
<td>$2,770.2</td>
<td>14%</td>
<td>12%</td>
<td>$2,436.8</td>
</tr>
</tbody>
</table>

#### Product as a percentage of Oncology Systems revenues

54% 52% 50%

#### Service as a percentage of Oncology Systems revenues

46% 48% 50%

#### Oncology Systems revenues as a percentage of total revenues

95% 95% 93%

Oncology Systems product revenues increased in fiscal year 2019 over fiscal year 2018, primarily due to an increase in revenues from both higher volumes of hardware shipments and higher software sales, partially offset by a negative impact, net of the expected refund for tariff exclusions, from the U.S./China tariffs of approximately $4 million.

Oncology Systems service revenues, which include performance obligations for installation, training and warranty, increased in fiscal year 2019 over fiscal year 2018, primarily due to increased customer adoption of service contracts as the warranty periods on our TrueBeam systems expire and an increased number of customers as the installed base of our products continues to grow. Oncology Systems service revenues also include approximately $19.6 million in revenues from our acquisition of CTSI in fiscal year 2019.

#### Revenues by region

<table>
<thead>
<tr>
<th>(Dollars in millions)</th>
<th>2019</th>
<th>Percent Change</th>
<th>Constant Currency</th>
<th>2018</th>
<th>Percent Change</th>
<th>Constant Currency</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>$1,451.3</td>
<td>7%</td>
<td>8%</td>
<td>$1,351.3</td>
<td>8%</td>
<td>8%</td>
<td>$1,256.8</td>
</tr>
<tr>
<td>EMEA</td>
<td>1,000.9</td>
<td>13%</td>
<td>18%</td>
<td>883.2</td>
<td>28%</td>
<td>21%</td>
<td>691.1</td>
</tr>
<tr>
<td>APAC</td>
<td>609.6</td>
<td>14%</td>
<td>15%</td>
<td>535.7</td>
<td>10%</td>
<td>9%</td>
<td>488.9</td>
</tr>
<tr>
<td>Total Oncology Systems Revenues</td>
<td>$3,061.8</td>
<td>11%</td>
<td>13%</td>
<td>$2,770.2</td>
<td>14%</td>
<td>12%</td>
<td>$2,436.8</td>
</tr>
</tbody>
</table>

#### North America as a percentage of total Oncology Systems revenues

44% 46% 49%

#### International as a percentage of total Oncology Systems revenues

56% 54% 51%

The Americas Oncology Systems revenues increased in fiscal year 2019 over fiscal year 2018, primarily due to an increase in revenues from hardware products and services in North America and, to a lesser extent, an increase in revenues from software licenses in North America.

EMEA Oncology Systems revenues increased in fiscal year 2019 over fiscal year 2018, primarily due to an increase in revenues from hardware products and services and, to a lesser extent, an increase in revenues from software licenses, partially offset by an unfavorable foreign currency impact in fiscal year 2019. In fiscal year 2019, revenues from services includes approximately $15.5 million from CTSI.
APAC Oncology Systems revenues increased in fiscal year 2019 over fiscal year 2018, primarily due to an increase in revenues from hardware products and, to a lesser extent, an increase in revenues from software licenses and services. Revenues from hardware products for fiscal year 2019 include a negative impact, net of the expected refund for tariff exclusions, of approximately $4 million from the U.S./China tariffs.

Variations of higher and lower revenues between the North America and international regions are impacted by regional factors influencing our gross orders, which include government spending, philanthropy/donations, economic and political instability in some countries, uncertainty created by U.S. health care policy, such as the excise tax on the sale of most medical devices, Medicare reimbursement rates and consolidation of free standing clinics in the United States, and different technology adoption cycles. See further discussion of orders under “Gross Orders.”

**Proton Solutions Revenues**

<table>
<thead>
<tr>
<th>Revenues by sales classification</th>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>Product</td>
<td>$122.3</td>
</tr>
<tr>
<td>Service</td>
<td>21.6</td>
</tr>
<tr>
<td><strong>Total Proton Solutions revenues</strong></td>
<td>$143.9</td>
</tr>
</tbody>
</table>

Proton Solutions revenues as a percentage of total revenues

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proton Solutions revenues</td>
<td>5%</td>
<td>5%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Proton Solutions revenues decreased in fiscal year 2019 over fiscal year 2018, primarily due to a decrease in product revenues that resulted from the timing of project completion and stage of progress of installations, partially offset by an increase in service revenues from an increase in proton centers transitioned to service contracts.

**Other**

Revenues from the Other category was $19.4 million for fiscal year 2019 and relate to acquisitions completed during fiscal year 2019. Revenues from the Other category are related to our Interventional Solutions business and allocated to product revenues.

**Gross Margin**

<table>
<thead>
<tr>
<th>Dollars by segment</th>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>Oncology Systems</td>
<td>$1,349.4</td>
</tr>
<tr>
<td>Proton Solutions</td>
<td>17.7</td>
</tr>
<tr>
<td>Other</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Gross margin</strong></td>
<td>$1,370.3</td>
</tr>
</tbody>
</table>

Percentage by segment

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology Systems</td>
<td>44.1%</td>
<td>45.2%</td>
<td>45.1%</td>
</tr>
<tr>
<td>Proton Solutions</td>
<td>12.3%</td>
<td>13.7%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Other</td>
<td>16.3%</td>
<td>—%</td>
<td>—%</td>
</tr>
<tr>
<td><strong>Total Company</strong></td>
<td>42.5%</td>
<td>43.6%</td>
<td>42.5%</td>
</tr>
</tbody>
</table>

Percentage by sales classification

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Company - Product</td>
<td>34.4%</td>
<td>34.7%</td>
<td>31.8%</td>
</tr>
<tr>
<td>Total Company - Service</td>
<td>52.5%</td>
<td>54.0%</td>
<td>54.7%</td>
</tr>
<tr>
<td>Oncology Systems - Product</td>
<td>36.7%</td>
<td>36.5%</td>
<td>35.1%</td>
</tr>
<tr>
<td>Oncology Systems - Service</td>
<td>52.6%</td>
<td>54.6%</td>
<td>55.0%</td>
</tr>
</tbody>
</table>
Oncology Systems product gross margin percentage increased in fiscal year 2019 over fiscal year 2018, primarily due to the mix of higher-margin products, mostly offset by the U.S. China tariffs and unfavorable foreign exchange rate fluctuations. The U.S./China tariffs had a negative impact, net of the expected refund for tariff exclusions, of $12 million, comprised of $4 million in revenues and $8 million in cost of revenues. Oncology Systems service gross margin percentage decreased in fiscal year 2019 compared to fiscal year 2018, primarily due to increased cost related to software installations and upgrades.

Proton Solutions gross margin percentage decreased in fiscal year 2019 compared to fiscal year 2018, primarily due to the mix and timing of projects recorded in revenues, approximately $7 million in additional project costs and site delays, partially offset by an increase in services revenues.

### Research and Development

<table>
<thead>
<tr>
<th>(Dollars in millions)</th>
<th>2019</th>
<th>Percent Change</th>
<th>2018</th>
<th>Percent Change</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and development</td>
<td>$247.6</td>
<td>6%</td>
<td>$233.9</td>
<td>11%</td>
<td>$210.0</td>
</tr>
</tbody>
</table>

As a percentage of total revenues

<table>
<thead>
<tr>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>6%</td>
</tr>
<tr>
<td>8%</td>
</tr>
<tr>
<td>8%</td>
</tr>
</tbody>
</table>

Research and development expenses increased $13.7 million in fiscal year 2019 over fiscal year 2018, primarily due to an increase in investments in software, adaptive radiotherapy and other strategic programs.

### Selling, General and Administrative, Impairment Charges and Acquisition-Related Expenses

<table>
<thead>
<tr>
<th>(Dollars in millions)</th>
<th>2019</th>
<th>Percent Change</th>
<th>2018</th>
<th>Percent Change</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling, general and administrative</td>
<td>$623.1</td>
<td>15%</td>
<td>$543.5</td>
<td>(2)%</td>
<td>$552.8</td>
</tr>
<tr>
<td>Impairment charges</td>
<td>$50.6</td>
<td>126%</td>
<td>$22.4</td>
<td>(56)%</td>
<td>$51.4</td>
</tr>
<tr>
<td>Acquisition-related expenses and in-process R&amp;D</td>
<td>$62.8</td>
<td>73%</td>
<td>$36.4</td>
<td>n/m</td>
<td>$1.9</td>
</tr>
</tbody>
</table>

Selling, general and administrative as a percentage of total revenues

<table>
<thead>
<tr>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>19%</td>
</tr>
<tr>
<td>19%</td>
</tr>
<tr>
<td>21%</td>
</tr>
</tbody>
</table>

Impairment charges as a percentage of total revenues

<table>
<thead>
<tr>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2%</td>
</tr>
<tr>
<td>1%</td>
</tr>
<tr>
<td>2%</td>
</tr>
</tbody>
</table>

Acquisition-related expenses and in-process R&D as a percentage of total revenues

<table>
<thead>
<tr>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2%</td>
</tr>
<tr>
<td>1%</td>
</tr>
<tr>
<td>—%</td>
</tr>
</tbody>
</table>

n/m = not meaningful

Selling, general administrative expenses increased $79.6 million in fiscal year 2019 over fiscal year 2018, primarily due to an increase in headcount to support sales and marketing for recent acquisitions and product management for treatment planning in Oncology Systems. Also included in the increase in selling, general and administrative expenses in fiscal year 2019, were increases of $7.8 million for the amortization of intangible assets, $6.0 million related to our ASTRO trade shows in fiscal year 2019, $5.4 million in charitable contributions, $3.9 million for litigation charges and legal costs, $3.0 million in consulting costs related to the U.S./China tariffs, and $2.6 million in allowance for doubtful accounts.

Impairment charges in fiscal year 2019 were primarily due to a $50.5 million goodwill impairment charge to the Proton Solutions reporting unit. Impairment charges in fiscal year 2018 were mostly due to the impairment of our subordinated loan to Maryland Proton Therapy Center.

Acquisition-related expenses and in-process R&D in fiscal year 2019 were primarily due to a $20.8 million charge associated with a write-off of in-process R&D related to an acquisition that closed in the third quarter of fiscal year 2019, an $18.6 million charge due to the increase in the fair value of contingent consideration related to the Endocare and Alicon acquisition, and transaction costs related to the acquisitions of CTSI, and Endocare and Alicon. Acquisition-related expenses and in-process R&D in fiscal year 2018 were primarily due to $29.7 million in losses related to hedging the Australian dollar purchase price of the anticipated acquisition of Sirtex Medical Limited ("Sirtex"), partially offset by the net $9.0 million breakup fee received from Sirtex in connection with the termination of the acquisition.
Other Income, Net

(Dollars in millions)

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>2019</th>
<th>Percent Change</th>
<th>2018</th>
<th>Percent Change</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest income</td>
<td>$15.1</td>
<td>(12)%</td>
<td>$17.3</td>
<td>27%</td>
<td>$13.6</td>
</tr>
<tr>
<td>Interest expense</td>
<td>$(8.8)</td>
<td>31%</td>
<td>$(6.8)</td>
<td>(36)%</td>
<td>$(10.7)</td>
</tr>
<tr>
<td>Other income, net</td>
<td>$28.3</td>
<td>n/m</td>
<td>$4.2</td>
<td>75%</td>
<td>$2.4</td>
</tr>
</tbody>
</table>

n/m = not meaningful

Interest income decreased in fiscal year 2019 over fiscal year 2018, primarily due to a decrease in interest income from loans to our Proton Solutions customers and available-for-sale securities, partially offset by an increase in interest income generated from our cash holdings due to higher interest rates as compared to the prior periods.

Interest expense increased in fiscal year 2019 over fiscal year 2018, primarily due to an increase in borrowings from our credit facility in fiscal year 2019, and an increase in interest rates.

Other income, net, increased in fiscal year 2019 over fiscal year 2018, primarily due to a $22.0 million gain on the sale of an equity investment in the first quarter of fiscal year 2019.

Taxes on Earnings

(Dollars in millions)

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>2019</th>
<th>Percent Change</th>
<th>2018</th>
<th>Percent Change</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxes on earnings</td>
<td>$128.6</td>
<td>(57.0)%</td>
<td>$301.8</td>
<td>292.0%</td>
<td>$77.1</td>
</tr>
<tr>
<td>Effective tax rate</td>
<td>30.6%</td>
<td>66.8%</td>
<td>25.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Our effective tax rate decreased in fiscal year 2019 over fiscal year 2018 because the prior period included the tax effect of a change in law due to the enactment of the Tax Cuts and Jobs Act (the "Act"), which was signed into U.S. law on December 22, 2017.

Our effective tax rate is impacted by the percentage of our total earnings that comes from our international region, the mix of particular tax jurisdictions within our international region, changes in the valuation of our deferred tax assets or liabilities, and changes in tax laws or interpretations of those laws. We expect that our effective tax rate may experience increased fluctuations from period to period. See Note 11, "Taxes on Earnings," of the Notes to the Consolidated Financial Statements for further information.

Net Earnings Per Diluted Share

(Dollars in millions)

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>2019</th>
<th>Percent Change</th>
<th>2018</th>
<th>Percent Change</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net earnings per diluted share - continuing operations</td>
<td>$3.18</td>
<td>96%</td>
<td>$1.62</td>
<td>(33)%</td>
<td>$2.42</td>
</tr>
<tr>
<td>Net earnings per diluted share - discontinued operations</td>
<td>—</td>
<td>—%</td>
<td>—</td>
<td>n/m</td>
<td>(0.07)</td>
</tr>
<tr>
<td>Total net earnings per diluted share</td>
<td>$3.18</td>
<td>96%</td>
<td>$1.62</td>
<td>(31)%</td>
<td>$2.35</td>
</tr>
</tbody>
</table>

n/m = not meaningful

Net earnings per diluted share from continuing operations increased in fiscal year 2019 over fiscal year 2018, primarily due to higher income tax expense that resulted from the Act in the first quarter of fiscal year 2018.
### Gross Orders

#### Total Gross Orders (by segment)

<table>
<thead>
<tr>
<th>Segment</th>
<th>2019 (Dollars in millions)</th>
<th>Percent Change</th>
<th>2018 (Dollars in millions)</th>
<th>Percent Change</th>
<th>2017 (Dollars in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology Systems</td>
<td>$3,397.6</td>
<td>9%</td>
<td>$3,113.9</td>
<td>9%</td>
<td>$2,846.8</td>
</tr>
<tr>
<td>Proton Solutions</td>
<td>151.8</td>
<td>163%</td>
<td>57.7</td>
<td>(75)%</td>
<td>229.2</td>
</tr>
<tr>
<td>Other</td>
<td>19.4</td>
<td>—%</td>
<td>—</td>
<td>—%</td>
<td>—</td>
</tr>
<tr>
<td><strong>Total Gross Orders</strong></td>
<td><strong>$3,568.8</strong></td>
<td><strong>13%</strong></td>
<td><strong>$3,171.6</strong></td>
<td><strong>3%</strong></td>
<td><strong>$3,076.0</strong></td>
</tr>
</tbody>
</table>

Gross orders are defined as new orders recorded during the period and revisions to previously recorded orders. New orders are recorded for the total contractual amount, excluding certain pass-through items and service items, which are recognized as revenue as recognized, once a written agreement for the delivery of goods or provision of services is in place and, other than Proton Solutions, when shipment of the product is expected to occur within two years, so long as any contingencies are deemed perfunctory. For our Proton Solutions business, we record orders when construction of the related proton therapy treatment center is reasonably expected to start within two years, but only if any contingencies are deemed perfunctory. We will not record Proton Solutions orders if there are financing contingencies, if a substantial portion of the financing for the project is not reasonably assured or if customer board approval contingencies are pending. We perform a quarterly review to verify that outstanding orders remain valid. If an order is no longer expected to ultimately convert to revenue, we record a backlog adjustment, which reduces backlog but does not impact gross orders for the period.

Gross orders in any period may not be directly correlated to the level of revenues in any particular future quarter or period since the timing of revenue recognition will vary significantly based on the delivery requirements of individual orders, acceptance schedules and the readiness of individual customer sites for installation of our products. Moreover, certain types of orders, such as orders for software or newly introduced products in our Oncology Systems segment, typically take more time from order to completion of installation and acceptance than hardware or older products. Because an order for a proton therapy system can be relatively large, an order in one fiscal period will cause gross orders in our Proton Solutions business to vary significantly, making comparisons between fiscal periods more difficult.

#### Oncology Systems Gross Orders

<table>
<thead>
<tr>
<th>Region</th>
<th>2019 (Dollars in millions)</th>
<th>Percent Change</th>
<th>2018 (Dollars in millions)</th>
<th>Percent Change</th>
<th>2017 (Dollars in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>$1,618.4</td>
<td>7%</td>
<td>$1,509.5</td>
<td>5%</td>
<td>$1,439.6</td>
</tr>
<tr>
<td>EMEA</td>
<td>1,128.6</td>
<td>12%</td>
<td>1,009.6</td>
<td>17%</td>
<td>860.3</td>
</tr>
<tr>
<td>APAC</td>
<td>650.6</td>
<td>9%</td>
<td>594.8</td>
<td>9%</td>
<td>546.9</td>
</tr>
<tr>
<td><strong>Total Oncology Systems Gross Orders</strong></td>
<td><strong>$3,397.6</strong></td>
<td><strong>9%</strong></td>
<td><strong>$3,113.9</strong></td>
<td><strong>9%</strong></td>
<td><strong>$2,846.8</strong></td>
</tr>
</tbody>
</table>

The Americas Oncology Systems gross orders increased in fiscal year 2019 over fiscal year 2018, primarily due to growth in orders in North America for our services, hardware products and software licenses.

EMEA Oncology Systems gross orders increased in fiscal year 2019 over fiscal year 2018, primarily due to growth across the region, particularly in emerging markets, for our hardware products, services and software licenses.

APAC Oncology Systems gross orders increased in fiscal year 2019 over fiscal year 2018, primarily due to growth in hardware and software license orders across the region, primarily in Greater China, Southeast Asia and South Korea, partially offset by a decrease in hardware product orders in Japan.
The trailing 12 months' growth in gross orders for Oncology Systems at the end of September 27, 2019, and at the end of the three previous fiscal quarters were:

<table>
<thead>
<tr>
<th>Region</th>
<th>September 27, 2019</th>
<th>June 28, 2019</th>
<th>March 29, 2019</th>
<th>December 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>7%</td>
<td>6%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>EMEA</td>
<td>12%</td>
<td>13%</td>
<td>18%</td>
<td>16%</td>
</tr>
<tr>
<td>APAC</td>
<td>9%</td>
<td>22%</td>
<td>20%</td>
<td>13%</td>
</tr>
<tr>
<td>North America</td>
<td>8%</td>
<td>6%</td>
<td>9%</td>
<td>5%</td>
</tr>
<tr>
<td>International</td>
<td>10%</td>
<td>15%</td>
<td>17%</td>
<td>16%</td>
</tr>
</tbody>
</table>

Consistent with the historical pattern, we expect that Oncology Systems gross orders will continue to experience regional fluctuations. Over the long-term, we expect international gross orders, specifically from emerging markets, will grow as a percentage of overall orders. Oncology Systems gross orders are affected by foreign currency fluctuations, which could impact the demand for our products. In addition, government programs that stimulate the purchase of healthcare products could affect the demand for our products from period to period, and could therefore make it difficult to compare our financial results.

**Proton Solutions Orders**

Proton Solutions orders increased in fiscal year 2019 over fiscal year 2018, primarily due to recording four proton therapy orders in fiscal year 2019 compared to two proton system orders in fiscal year 2018. The increase in gross orders in fiscal year 2019 was also due to an increase in service orders.

**Backlog**

Backlog is the accumulation of all gross orders for which revenues have not been recognized but are still considered valid. Backlog is stated at historical foreign currency exchange rates and revenue is recognized from backlog at current exchange rates, with any difference recorded as a backlog adjustment. At September 27, 2019, total company backlog was $3.4 billion, an increase of 7% compared to the backlog at September 28, 2018. Our Oncology Systems backlog at September 27, 2019 was 7% higher than the backlog at September 28, 2018, which reflected an increase of 8% and 6% for our North America and international regions, respectively. Proton Solutions backlog was approximately $241 million.

We perform a quarterly review to verify that outstanding orders in the backlog remain valid. Aged orders that are not expected to ultimately convert to revenues are deemed dormant and are reflected as a reduction in the backlog amounts in the period identified. Backlog adjustments are comprised of dormancies, cancellations, foreign currency exchange rate adjustments, backlog acquired from our acquisitions, and other adjustments. Gross orders do not include backlog adjustments. Backlog adjustments total net reductions of $136.6 million and $152.8 million in fiscal years 2019 and 2018, respectively.

**Liquidity and Capital Resources**

Liquidity is the measurement of our ability to meet potential cash requirements, including ongoing commitments to repay borrowings, acquire businesses or make other investments or loans, repurchase shares of VMS common stock, and fund continuing operations and capital expenditures. Our sources of cash generally include operations, borrowings, stock option exercises and employee stock purchases.
Cash, Cash Equivalents and Restricted Cash

The following table summarizes our cash, cash equivalents and restricted cash:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
<th>Increase (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents</td>
<td>$531.4</td>
<td>$504.8</td>
<td>$26.6</td>
</tr>
<tr>
<td>Restricted cash</td>
<td>12.7</td>
<td>11.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Total cash, cash equivalents, and restricted cash</td>
<td>$544.1</td>
<td>$516.4</td>
<td>$27.7</td>
</tr>
</tbody>
</table>

The increase in cash, cash equivalents and restricted cash in fiscal year 2019 compared to fiscal year 2018 was primarily due to $410.0 million in borrowings, net of debt repayments, under our credit facility agreements, $371.8 million in cash provided by operating activities, $63.4 million in cash provided by stock option exercises and employee stock purchases and $29.9 million in proceeds from the sale of an equity investment, partially offset by $576.2 million used for acquisitions, $166.7 million used for the repurchase of shares of VMS common stock, $58.0 million used for purchases of property, plant and equipment, $32.8 million used for the purchase of equity investments, a $16.8 million debt repayment related to a recent acquisition, and $14.5 million used for tax withholdings on vesting of equity awards.

At September 27, 2019, we had approximately $5 million, or 1%, of cash and cash equivalents in the United States and approximately $526 million, or 99%, of cash and cash equivalents were held abroad. In light of the changes to the U.S. federal taxation of foreign earnings in the Act, we no longer consider the earnings of our foreign subsidiaries to be indefinitely reinvested. As a result, we have accrued for the foreign and state income taxes that we expect would be imposed upon a future remittance.

As of September 27, 2019, most of our cash and cash equivalents that was held abroad was in U.S. Dollars and was primarily held as bank deposits. In addition to cash flows generated from operations, a significant portion of which are generated in the United States, we have used our credit facilities to meet our cash needs from time to time and expect to continue to do so in the future. Borrowings under our credit facilities may be used for working capital, capital expenditures, VMS share repurchases, acquisitions and other corporate purposes.

Cash Flows

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating activities</td>
<td>$371.8</td>
<td>$454.9</td>
<td>$399.1</td>
</tr>
<tr>
<td>Investing activities</td>
<td>(631.7)</td>
<td>(174.7)</td>
<td>(130.4)</td>
</tr>
<tr>
<td>Financing activities</td>
<td>279.2</td>
<td>(487.0)</td>
<td>(392.4)</td>
</tr>
<tr>
<td>Effects of exchange rate changes on cash and cash equivalents</td>
<td>8.4</td>
<td>4.7</td>
<td>(3.9)</td>
</tr>
<tr>
<td>Net increase (decrease) in cash and cash equivalents</td>
<td>$27.7</td>
<td>$(202.1)</td>
<td>$(127.6)</td>
</tr>
</tbody>
</table>

Our primary cash inflows and outflows for fiscal years 2019 and 2018 were as follows:

We generated net cash from operating activities of $371.8 million in fiscal year 2019, compared to $454.9 million in fiscal year 2018. The $83.1 million decrease in net cash from operating activities during fiscal year 2019 compared to fiscal year 2018 was driven by a decrease of $254.6 million in the net change from operating assets and liabilities, partially offset by an increase of $141.9 million in net earnings and an increase of $29.6 million in non-cash items.

The decrease in the net change in operating assets and liabilities in fiscal year 2019 was primarily due to:

- Trade and unbilled receivables increasing by $111.7 million primarily due to an increase in revenues in Oncology Systems and accrued China tariff receivables, partially offset by a decrease in receivables from Proton Solutions driven by project milestone attainment and strong collections;
- Inventory increasing by $106.9 million primarily due to higher volumes supporting product transition and growth in Oncology Systems; and
Prepaid expenses and other assets increasing by $40.4 million primarily due to an increase in prepaid expenses for a recent acquisition plus other receivables for tariff exclusions for inventory purchases imported into the United States.

Partially offset by:

- Accounts payable increasing by $49.7 million primarily due to timing of payments; and
- Deferred revenues increasing by $71.1 million primarily due to an increase in billing ahead of revenue recognition resulting from changes in the mix of contractual billing terms.

We expect that cash provided by operating activities may fluctuate in future periods as a result of a number of factors, including fluctuations in our operating results, timing of product shipments, product installation or customer acceptance, collection of accounts receivable, inventory management, contracts with extended payment terms, and the timing and amount of tax and other payments. See Item 1A, “Risk Factors.”

- Cash flows used in investing activities was $631.7 million in fiscal year 2019 compared to $174.7 million in fiscal year 2018. During fiscal year 2019, net cash used for investing activities primarily consisted of $576.2 million, net of cash acquired, for acquisitions, $58.0 million for purchases of property, plant and equipment, and $32.8 million for the purchase of equity investments, partially offset by $29.9 million in proceeds from the sale of an equity investment. During fiscal year 2018, net cash used for investing activities primarily consisted of $109.0 million, net of cash acquired, for acquisitions, $47.7 million for purchases of property, plant and equipment, $17.8 million for investments in available-for-sale securities, partially offset by $15.9 million received from the sale of available-for-sale securities.

- Cash flows provided by financing activities was $279.2 million in fiscal year 2019 compared to cash flows used in financing activities of $487.0 million in fiscal year 2018. During fiscal year 2019, net cash provided by financing activities primarily consisted of $410.0 million in borrowings, net of debt repayments and $63.4 million in cash proceeds received from stock option exercises and employee stock purchases, partially offset by $166.7 million in cash used for the repurchase of VMS common stock. During fiscal year 2018, cash used in financing activities primarily consisted of $350.0 million of debt repayments, net of borrowings and $181.9 million in cash used for the repurchase of VMS common stock, partially offset by $60.7 million in cash proceeds received from stock option exercises and employee stock purchases.

We expect our capital expenditures, which typically represent construction and/or purchases of facilities, manufacturing equipment, office equipment and furniture and fixtures, as well as capitalized costs related to the implementation of software applications, will be approximately 2% of revenues in fiscal year 2020.

**Borrowings**

On April 3, 2018, we entered into the Credit Agreement with certain lenders and Bank of America, N.A. as administrative agent. The Credit Agreement provides for a five-year revolving credit facility ("Revolving Credit Facility") in an aggregate principal amount of up to $1.8 billion. The Revolving Credit Facility also includes a $50.0 million sub-facility for the issuance of letters of credit and permits swing line loans of up to $25 million. Under the Revolving Credit Facility, we have the right to (i) request to increase the aggregate commitments by an aggregate amount for all such requests of up to $100.0 million and (ii) request an additional increase in the commitments or establish one or more term loans, provided that, in each case, the lenders are willing to provide such new or increased commitments and certain other conditions are met. The proceeds of the Revolving Credit Facility may be used for working capital, capital expenditures, share repurchases, permitted acquisitions and other corporate purposes.

On November 1, 2019, we entered into Amendment No. 2 to our Credit Agreement dated as of April 3, 2018. See Note 18, "Subsequent Events" in the Notes to the Consolidated Financial Statements for more information on the Amendment to the Credit Agreement.

In addition, our Japanese subsidiary ("VMS KK") has an unsecured uncommitted credit agreement with Sumitomo Mitsui Banking Corporation that enables VMS KK to borrow and have outstanding at any given time a maximum of 3.0 billion Japanese Yen (the “Sumitomo Credit Facility”). The Sumitomo Credit Facility will expire in February 2020.
The following table summarizes our short-term borrowings:

<table>
<thead>
<tr>
<th>(In millions, except for percentages)</th>
<th>September 27, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revolving Credit Facility</td>
<td>Amount: $410.0</td>
</tr>
<tr>
<td></td>
<td>Weighted-Average Interest Rate: 3.05%</td>
</tr>
<tr>
<td>Total short-term borrowings</td>
<td>$410.0</td>
</tr>
</tbody>
</table>

As of September 28, 2018, we did not have any outstanding borrowings under the Revolving Credit Facility and Sumitomo Credit Facility. See Note 7, "Borrowings," of the Notes to the Consolidated Financial Statements for further information regarding the Revolving Credit Facility and the Sumitomo Credit Facility.

The following table provides additional information regarding our short-term borrowings:

<table>
<thead>
<tr>
<th>(In millions, except for percentages)</th>
<th>Fourth Quarter of Fiscal Year 2019</th>
<th>Fiscal Years 2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount outstanding (at end of period)</td>
<td>$410.0</td>
<td>$410.0</td>
<td>—</td>
<td>$350.0</td>
</tr>
<tr>
<td>Weighted average interest rate (at end of period)</td>
<td>3.05%</td>
<td>3.05%</td>
<td>—%</td>
<td>2.36%</td>
</tr>
<tr>
<td>Average amount outstanding (during period)</td>
<td>$399.9</td>
<td>$109.8</td>
<td>$144.9</td>
<td>$192.6</td>
</tr>
<tr>
<td>Weighted average interest rate (during period)</td>
<td>3.26%</td>
<td>3.28%</td>
<td>2.53%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Maximum month-end amount outstanding during period</td>
<td>$449.0</td>
<td>$449.0</td>
<td>$340.0</td>
<td>$350.0</td>
</tr>
</tbody>
</table>

Our liquidity is affected by many factors, some of which result from the normal ongoing operations of our business and some of which arise from uncertainties and conditions in the United States and global economies. Although our cash requirements will fluctuate as a result of the shifting influences of these factors, we believe that existing cash and cash equivalents and cash to be generated from operations and current or future credit facilities will be sufficient to satisfy anticipated commitments for capital expenditures and other cash requirements for the next twelve months and into the foreseeable future. We currently anticipate that we will continue to utilize our available liquidity and cash flows from operations, as well as borrowed funds, to make strategic acquisitions, invest in the growth of our business, invest in advancing our systems and processes, repurchase VMS common stock and fund loan commitments and other strategic investments.

Total debt as a percentage of total capital was 18.8% at September 27, 2019. The ratio of current assets to current liabilities decreased to 1.27 to 1 at September 27, 2019, from 1.63 to 1 at September 28, 2018.

**Days Sales Outstanding**

Our Oncology Systems trade and unbilled receivables days sales outstanding (“DSO”) was 109 days at September 27, 2019, and 102 days at September 28, 2018. Our trade and unbilled receivables and DSO are impacted by a number of factors, primarily including the timing of product shipments, product installation or customer acceptance, collections performance, payment terms, the mix of revenues from different regions and the effects of economic instability. Proton Solutions’ DSO is not meaningful because it is highly variable. As of September 27, 2019, approximately 4% of our net trade and unbilled receivable balance was related to customer contracts with remaining terms of more than one year.
**Share Repurchase Program**

We repurchased shares of VMS common stock under various authorizations during the periods presented as follows:

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>199</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of shares</td>
<td>1.4</td>
<td>1.6</td>
<td>3.3</td>
</tr>
<tr>
<td>Average repurchase price per share</td>
<td>$121.76</td>
<td>$112.63</td>
<td>$90.63</td>
</tr>
<tr>
<td>Total cost</td>
<td>$166.7</td>
<td>$181.9</td>
<td>$294.5</td>
</tr>
</tbody>
</table>

In November 2016, the VMS Board of Directors authorized the repurchase of an additional 8.0 million shares of VMS common stock commencing on January 1, 2017. As of September 27, 2019, approximately 2.2 million shares of VMS common stock remained available for repurchase under the November 2016 authorization.

For more details see Note 12, "Stockholders' Equity and Noncontrolling Interests," of the Notes to the Consolidated Financial Statements for further discussion.

**Contractual Obligations**

The following summarizes our contractual obligations as of September 27, 2019 and the effect such obligations are expected to have on our liquidity and cash flows in future periods:

<table>
<thead>
<tr>
<th>Payments Due By Period</th>
<th>Fiscal Year</th>
<th>Fiscal Years</th>
<th>Fiscal Years</th>
<th>Beyond</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2020</td>
<td>2021-2022</td>
<td>2023-2024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating leases (1)</td>
<td>$32.5</td>
<td>$46.5</td>
<td>$25.4</td>
<td>$49.9</td>
<td>$154.3</td>
</tr>
<tr>
<td>Purchase obligations (2)</td>
<td>48.9</td>
<td>50.1</td>
<td>21.4</td>
<td>—</td>
<td>120.4</td>
</tr>
<tr>
<td>Contingent consideration (3)</td>
<td>33.2</td>
<td>41.4</td>
<td>0.7</td>
<td>—</td>
<td>75.3</td>
</tr>
<tr>
<td>Defined benefit pension plans (4)</td>
<td>9.2</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>9.2</td>
</tr>
<tr>
<td>Total (5)</td>
<td>$123.8</td>
<td>$138.0</td>
<td>$47.5</td>
<td>$49.9</td>
<td>$359.2</td>
</tr>
</tbody>
</table>

(1) Operating leases include future minimum lease payments under all our non-cancellable operating leases as of September 27, 2019.

(2) Purchase obligations include agreements to purchase goods or services that are enforceable, are legally binding and non-cancellable. Purchase obligations do not include agreements that are cancellable without penalty.

(3) Includes the fair value of our current and non-current portions of contingent consideration. While it is not certain if and/or when payments will be made, the maturity dates included in this table reflect our best estimate. See Note 2, "Business Combinations," for more information.

(4) As further described in Note 10, "Retirement Plans," of the Notes to the Consolidated Financial Statements, our post-retirement benefit plan is not presented in the table above as it is not material. As of September 27, 2019, the remaining defined benefit pension plans were underfunded by $29.6 million. Due to the impact of future plan asset performance, changes in interest rates and other economic and demographic assumptions, and the potential for changes in legislation in other foreign jurisdictions, we are not able to reasonably estimate the timing and amount of contributions necessary to fund our defined benefit pension plans beyond the next fiscal year.

(5) The following items are not included in the table above:

- Long-term income taxes payable, which include the liability for uncertain tax positions, including interest and penalties, and other long-term tax liabilities. As of September 27, 2019, our total liability for uncertain tax positions was $45.0 million, of which we do not anticipate a payment in the next 12 months. We are unable to reliably estimate the timing of the remainder of future payments related to uncertain tax positions; we believe that existing cash and cash equivalents, cash to be generated from operations, and current or future credit facilities will be sufficient to satisfy any payment obligations that may arise related to our liability for uncertain tax positions. The Act allows taxpayers to elect to pay the one-time transition tax over a period of 8 years as follows: 8% per year for each of the first five years and 15%, 20%, and 25%, in years 6 through 8, respectively. As of September 27, 2019, the noncurrent portion of the one-time transition tax on unremitted foreign earnings was
$135.3 million. See Note 11, "Taxes on Earnings," of the Notes to the Consolidated Financial Statements for more information.

• As of September 27, 2019, we had accrued $4.8 million for environmental remediation liabilities. The amount accrued represents estimates of anticipated future costs and the timing and amount of actual future environmental remediation costs may vary as the scope of our obligations becomes more clearly defined. See Note 9, "Commitments and Contingencies," of the Notes to the Consolidated Financial Statements or more information.

• As of September 27, 2019, our outstanding loan commitment to CPTC was $1.9 million for the short-term revolving loan. See Note 15, "Proton Solutions Loans and Investment," of the Notes to the Consolidated Financial Statements for further information.

Contingencies

Environmental Remediation Liabilities
For a discussion of environmental remediation liabilities, see Note 9, "Commitments and Contingencies," — Environmental Remediation Liabilities of the Notes to the Consolidated Financial Statements, which discussion is incorporated herein by reference.

Other Matters
From time to time, we are a party to or otherwise involved in legal proceedings, claims and government inspections or investigations and other legal matters both inside and outside the United States, arising in the ordinary course of our business or otherwise. Such matters are subject to many uncertainties and outcomes are not predictable with assurance. Note 9, "Commitments and Contingencies," of the Notes to the Consolidated Financial Statements, which discussion is incorporated herein by reference.

Off-Balance Sheet Arrangements
In conjunction with the sale of our products in the ordinary course of business, we provide standard indemnification of business partners and customers for losses suffered or incurred for property damages, death and injury and for patent, copyright or any other intellectual property infringement claims by any third parties with respect to our products. The terms of these indemnification arrangements are generally perpetual. Except for losses related to property damages, the maximum potential amount of future payments we could be required to make under these arrangements is unlimited. As of September 27, 2019, we have not incurred any significant costs to defend lawsuits or settle claims related to these indemnification arrangements. As a result, we believe the estimated fair value of these arrangements is minimal.

We have entered into indemnification agreements with our directors and officers and certain of our employees that serve as officers or directors of our foreign subsidiaries that may require us to indemnify our directors and officers and those certain employees against liabilities that may arise by reason of their status or service as directors or officers, and to advance their expenses incurred as a result of any legal proceeding against them as to which they could be indemnified.

From time to time, Varian is required to provide letters of credit, surety bonds and bank guarantees to support certain obligations that arise in the ordinary course of business and in some cases, in place of pledging cash collateral. The outstanding instruments were approximately $140 million as of September 27, 2019.

Recent Accounting Standards or Updates Not Yet Effective
See Note 1, "Summary of Significant Accounting Policies," of the Notes to the Consolidated Financial Statements for a description of recent accounting standards, including the expected dates of adoption and the estimated effects on our consolidated financial statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risks
We are exposed to three primary types of market risks: credit risk and counterparty risk, foreign currency exchange rate risk and interest rate risk.
Credit Risk and Counterparty Risk
We are exposed to credit loss in the event of nonperformance by counterparties on the foreign currency forward contracts used in hedging activities. These counterparties are large international and regional financial institutions and to date, no such counterparty has failed to meet its financial obligation to us under such contracts.

We are also exposed to credit loss in the event of default by counterparties of our financing receivables and our loans to Proton Solutions customers. As of September 27, 2019, we had a total of $49.3 million in loans outstanding to CPTC and $115.9 million carrying value of notes receivable including accrued interest to Proton Solutions customers, available-for-sale securities, and senior secured debt. See Note 15, "Proton Solutions Loans and Investment," of the Notes to the Condensed Consolidated Financial Statements for further information.

In addition, cash and cash equivalents held with financial institutions may exceed the Federal Deposit Insurance Corporation insurance limits or similar limits in foreign jurisdictions. We also may need to rely on our credit facilities as described below under “Interest Rate Risk.” Our access to our cash and cash equivalents or ability to borrow could be reduced if one or more financial institutions with which we have deposits or from which we borrow should fail or otherwise be adversely impacted by conditions in the financial or credit markets. Conditions such as those we experienced as a result of the last economic downturn and accompanying contraction in the credit markets heighten these risks. Concerns over economic instability could make it more difficult for us to collect outstanding receivables and could adversely impact our liquidity.

Foreign Currency Exchange Rate Risk
As a global entity, we are exposed to movements in foreign currency exchange rates. These exposures may change over time as business practices evolve. Adverse foreign currency rate movements could have a material negative impact on our financial results. Our primary exposures related to foreign currency denominated sales and purchases are in Europe, Asia, Australia and Canada.

We have many transactions denominated in foreign currencies and address certain of those financial exposures through a risk management program that includes the use of derivative financial instruments. We sell products throughout the world, often in the currency of the customer’s country, and may hedge certain of these larger foreign currency sale transactions when they are not transacted in the subsidiaries’ functional currency or in U.S. Dollars. The foreign currency transactions that fit our risk management policy criteria are hedged with foreign currency forward contracts. We may use other derivative instruments in the future. We enter into foreign currency forward contracts primarily to reduce the effects of fluctuating foreign currency exchange rates. We do not enter into foreign currency forward contracts for speculative or trading purposes. The forward contracts range from one to fifteen months in maturity.

We also hedge the balance sheet exposures from our various foreign subsidiaries and business units. We enter into foreign currency forward contracts to minimize the short-term impact of currency fluctuations on assets and liabilities denominated in currencies other than the subsidiaries’ functional currency or the U.S. Dollar. However, our foreign exchange forward contract gains or losses may impact our effective tax rate.

The notional values of our sold and purchased foreign currency forward contracts outstanding as of September 27, 2019 were $518.2 million and $52.3 million, respectively. The notional amounts of foreign currency forward contracts are not a measure of our exposure. The fair value of forward contracts generally reflects the estimated amounts that we would receive or pay to terminate the contracts at the reporting date, thereby taking into account and approximating the current unrealized and realized gains or losses of the open contracts. A move in foreign currency exchange rates would change the fair value of the contracts, and the fair value of the underlying exposures hedged by the contracts would change in a similar offsetting manner.

Interest Rate Risk
Our market risk exposure to changes in interest rates depends primarily on our investment portfolio and borrowings. Our investment portfolio primarily consisted of cash and cash equivalents and available-for-sale securities as of September 27, 2019. The principal amount of cash and cash equivalents in continuing operations at September 27, 2019 totaled $531.4 million with a weighted average interest rate of 0.81%.
Our available-for-sale securities are carried at fair value. At September 27, 2019, our available-for-sale securities, which include accrued interest are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Fair Value</th>
<th>Interest Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPTC Series B-1 Bonds</td>
<td>$27.1</td>
<td>7.5%</td>
</tr>
<tr>
<td>MPTC Series B-2 Bonds</td>
<td>25.1</td>
<td>8.5%</td>
</tr>
<tr>
<td>APTC securities</td>
<td>6.6</td>
<td>8.5%</td>
</tr>
</tbody>
</table>

We are affected by market risk exposure primarily through the effect of changes in interest rates on amounts payable under our Revolving Credit Facility. At September 27, 2019, borrowings under the Revolving Credit Facility totaled $410.0 million with a weighted average interest rate of 3.05%. If the amount outstanding under our Revolving Credit Facility remained at this level for an entire year and interest rates increased or decreased by 1%, our annual interest expense would increase or decrease, respectively, by an additional $4.1 million. See a detailed discussion of our credit facilities in “MD&A - Liquidity and Capital Resources.”

To date, we have not used derivative financial instruments to hedge the interest rate within our investment portfolio, borrowings, but may consider the use of derivative instruments in the future. In addition, although payments under certain of our operating leases for our facilities are tied to market indices, these operating leases do not expose us to material interest rate risk.
## CONSOLIDATED STATEMENTS OF EARNINGS

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>$1,784.1</td>
<td>$1,569.9</td>
<td>$1,394.0</td>
</tr>
<tr>
<td>Service</td>
<td>1,441.0</td>
<td>1,349.2</td>
<td>1,225.3</td>
</tr>
<tr>
<td><strong>Total revenues</strong></td>
<td>3,225.1</td>
<td>2,919.1</td>
<td>2,619.3</td>
</tr>
<tr>
<td><strong>Cost of revenues:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>1,169.9</td>
<td>1,024.4</td>
<td>950.9</td>
</tr>
<tr>
<td>Service</td>
<td>684.9</td>
<td>621.1</td>
<td>554.5</td>
</tr>
<tr>
<td><strong>Total cost of revenues</strong></td>
<td>1,854.8</td>
<td>1,645.5</td>
<td>1,505.4</td>
</tr>
<tr>
<td><strong>Gross margin</strong></td>
<td>1,370.3</td>
<td>1,273.6</td>
<td>1,113.9</td>
</tr>
<tr>
<td><strong>Operating expenses:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and development</td>
<td>247.6</td>
<td>233.9</td>
<td>210.0</td>
</tr>
<tr>
<td>Selling, general and administrative</td>
<td>623.1</td>
<td>543.5</td>
<td>552.8</td>
</tr>
<tr>
<td>Impairment charges</td>
<td>50.6</td>
<td>22.4</td>
<td>51.4</td>
</tr>
<tr>
<td>Acquisition-related expenses and in-process research and development</td>
<td>62.8</td>
<td>36.4</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Total operating expenses</strong></td>
<td>984.1</td>
<td>836.2</td>
<td>816.1</td>
</tr>
<tr>
<td><strong>Operating earnings</strong></td>
<td>386.2</td>
<td>437.4</td>
<td>297.8</td>
</tr>
<tr>
<td>Interest income</td>
<td>15.1</td>
<td>17.3</td>
<td>13.6</td>
</tr>
<tr>
<td>Interest expense</td>
<td>(8.8)</td>
<td>(6.8)</td>
<td>(10.7)</td>
</tr>
<tr>
<td>Other income, net</td>
<td>28.3</td>
<td>4.2</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Earnings from continuing operations before taxes</strong></td>
<td>420.8</td>
<td>452.1</td>
<td>303.1</td>
</tr>
<tr>
<td>Taxes on earnings</td>
<td>128.6</td>
<td>301.8</td>
<td>77.1</td>
</tr>
<tr>
<td><strong>Net earnings from continuing operations</strong></td>
<td>292.2</td>
<td>150.3</td>
<td>226.0</td>
</tr>
<tr>
<td><strong>Net loss from discontinued operations</strong></td>
<td>—</td>
<td>—</td>
<td>(6.8)</td>
</tr>
<tr>
<td><strong>Net earnings</strong></td>
<td>292.2</td>
<td>150.3</td>
<td>219.2</td>
</tr>
<tr>
<td>Less: Net earnings attributable to noncontrolling interests</td>
<td>0.3</td>
<td>0.4</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Net earnings attributable to Varian</strong></td>
<td>$291.9</td>
<td>$149.9</td>
<td>$218.5</td>
</tr>
</tbody>
</table>

| **Net earnings (loss) per share - basic** |       |       |       |
| Continuing operations      | $3.21 | $1.64 | $2.44 |
| Discontinued operations    | —     | —     | (0.08) |
| **Net earnings per share - basic** | $3.21 | $1.64 | $2.36 |

| **Net earnings (loss) per share - diluted** |       |       |       |
| Continuing operations      | $3.18 | $1.62 | $2.42 |
| Discontinued operations    | —     | —     | (0.07) |
| **Net earnings per share - diluted** | $3.18 | $1.62 | $2.35 |

**Shares used in the calculation of net earnings per share:**
- Weighted average shares outstanding - basic: 91.0, 91.5, 92.5
- Weighted average shares outstanding - diluted: 91.9, 92.5, 93.2

*See accompanying notes to the consolidated financial statements.*
<table>
<thead>
<tr>
<th>(In millions)</th>
<th></th>
<th>Fiscal Years</th>
<th></th>
<th></th>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net earnings</td>
<td>$</td>
<td>292.2</td>
<td>$</td>
<td>150.3</td>
<td>$</td>
<td>219.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other comprehensive earnings (loss), net of tax:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defined benefit pension and post-retirement benefit plans:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net gain (loss) arising during the year, net of tax benefit (expense) of $4.5, ($1.1), and ($2.5)</td>
<td>(27.8)</td>
<td></td>
<td>4.7</td>
<td></td>
<td>10.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior service credit (cost) arising during the year, net of tax benefit (expense) of $0.1, ($0.3), and ($0.7)</td>
<td>(0.7)</td>
<td></td>
<td>1.9</td>
<td></td>
<td>4.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amortization of prior service cost included in net periodic benefit cost, net of tax benefit of $0.1, $0.2, and $0.2</td>
<td>(0.7)</td>
<td></td>
<td>(1.0)</td>
<td></td>
<td>(0.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amortization, settlement and curtailment of net actuarial loss included in net periodic benefit cost, net of tax expense of ($0.4), ($0.6), and ($1.0)</td>
<td>2.7</td>
<td></td>
<td>3.3</td>
<td></td>
<td>5.7</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(26.5)</td>
<td></td>
<td>8.9</td>
<td></td>
<td>19.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Derivative instruments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in unrealized gain (loss), net of tax benefit (expense) of ($0.7), $0.3, and $0.0</td>
<td>2.3</td>
<td></td>
<td>(0.6)</td>
<td></td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reclassification adjustments, net of tax benefit (expense) of $0.0, ($0.3), and $0.0</td>
<td>(0.2)</td>
<td></td>
<td>0.6</td>
<td></td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td></td>
<td>—</td>
<td></td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currency translation adjustment</td>
<td>(12.4)</td>
<td></td>
<td>(5.4)</td>
<td></td>
<td>12.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other comprehensive earnings (loss)</td>
<td>(36.8)</td>
<td></td>
<td>3.5</td>
<td></td>
<td>32.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive earnings</td>
<td>255.4</td>
<td></td>
<td>153.8</td>
<td></td>
<td>251.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less: Comprehensive earnings attributable to noncontrolling interests</td>
<td>0.3</td>
<td></td>
<td>0.4</td>
<td></td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive earnings attributable to Varian</td>
<td>$</td>
<td>255.1</td>
<td>$</td>
<td>153.4</td>
<td>$</td>
<td>250.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See accompanying notes to the consolidated financial statements.*
### VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
### CONSOLIDATED BALANCE SHEETS

#### September 27, 2019  
#### September 28, 2018

<table>
<thead>
<tr>
<th>Assets</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>$531.4</td>
<td>$504.8</td>
</tr>
<tr>
<td>Trade and unbilled receivables, net of allowance for doubtful accounts of $46.5 at September 27, 2019, and $41.1 at September 28, 2018</td>
<td>1,106.3</td>
<td>1,009.9</td>
</tr>
<tr>
<td>Inventories</td>
<td>$551.5</td>
<td>438.1</td>
</tr>
<tr>
<td>Prepaid expenses and other current assets</td>
<td>206.2</td>
<td>233.3</td>
</tr>
<tr>
<td>Current assets of discontinued operations</td>
<td>—</td>
<td>2.3</td>
</tr>
<tr>
<td>Total current assets</td>
<td>2,395.4</td>
<td>2,188.4</td>
</tr>
<tr>
<td>Property, plant and equipment, net</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodwill</td>
<td>612.2</td>
<td>293.6</td>
</tr>
<tr>
<td>Intangible assets, net</td>
<td>300.7</td>
<td>101.1</td>
</tr>
<tr>
<td>Deferred tax assets</td>
<td>84.7</td>
<td>102.2</td>
</tr>
<tr>
<td>Other assets</td>
<td>397.2</td>
<td>292.8</td>
</tr>
<tr>
<td>Total assets</td>
<td>$4,101.7</td>
<td>$3,252.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities and Equity</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current liabilities:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable</td>
<td>$248.5</td>
<td>$190.3</td>
</tr>
<tr>
<td>Accrued liabilities</td>
<td>459.5</td>
<td>419.7</td>
</tr>
<tr>
<td>Deferred revenues</td>
<td>766.0</td>
<td>729.7</td>
</tr>
<tr>
<td>Short-term borrowings</td>
<td>410.0</td>
<td>—</td>
</tr>
<tr>
<td>Total current liabilities</td>
<td>1,884.0</td>
<td>1,339.7</td>
</tr>
<tr>
<td>Other long-term liabilities</td>
<td>440.1</td>
<td>324.3</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>2,324.1</td>
<td>1,664.0</td>
</tr>
</tbody>
</table>

#### Commitments and contingencies (Note 9)

#### Equity:

#### Varian stockholders' equity:

| Preferred stock of $1 par value: 1.0 shares authorized; none issued and outstanding | —       | —       |
| Common stock of $1 par value: 189.0 shares authorized; 90.8 and 91.2 shares issued and outstanding at September 27, 2019, and at September 28, 2018, respectively | 90.8    | 91.2    |
| Capital in excess of par value             | 845.6   | 778.1   |
| Retained earnings                         | 934.0   | 780.4   |
| Accumulated other comprehensive loss       | (102.1) | (65.3)  |
| Total Varian stockholders' equity          | 1,768.3 | 1,584.4 |

#### Noncontrolling interests                | 9.3     | 4.3     |

#### Total equity                             | 1,777.6 | 1,588.7 |

#### Total liabilities and equity              | $4,101.7| $3,252.7|

See accompanying notes to the consolidated financial statements.

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## VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
### CONSOLIDATED STATEMENTS OF CASH FLOWS

<table>
<thead>
<tr>
<th>Fiscal Years (In millions)</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash flows from operating activities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net earnings</td>
<td>$292.2</td>
<td>$150.3</td>
<td>$219.2</td>
</tr>
<tr>
<td>Adjustments to reconcile net earnings to net cash provided by operating activities:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share-based compensation expense</td>
<td>47.9</td>
<td>45.9</td>
<td>41.2</td>
</tr>
<tr>
<td>Depreciation</td>
<td>53.8</td>
<td>52.1</td>
<td>58.5</td>
</tr>
<tr>
<td>Amortization of intangible assets and inventory step-up</td>
<td>39.2</td>
<td>20.6</td>
<td>18.4</td>
</tr>
<tr>
<td>Deferred taxes</td>
<td>18.9</td>
<td>48.0</td>
<td>(23.3)</td>
</tr>
<tr>
<td>Provision to allowance for doubtful accounts</td>
<td>6.6</td>
<td>4.0</td>
<td>43.7</td>
</tr>
<tr>
<td>Gain on sale of equity investments, net</td>
<td>(21.8)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Impairment charges</td>
<td>50.6</td>
<td>22.4</td>
<td>51.4</td>
</tr>
<tr>
<td>Write-off of in-process research and development related to acquisition-related activities</td>
<td>20.8</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Change in fair value of contingent consideration</td>
<td>18.6</td>
<td>—</td>
<td>0.3</td>
</tr>
<tr>
<td>Other, net</td>
<td>(2.3)</td>
<td>9.7</td>
<td>2.4</td>
</tr>
<tr>
<td>Changes in assets and liabilities, net of effects of acquisitions:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade and unbilled receivables</td>
<td>(111.7)</td>
<td>(76.1)</td>
<td>(18.0)</td>
</tr>
<tr>
<td>Inventories</td>
<td>(106.9)</td>
<td>(16.4)</td>
<td>(7.2)</td>
</tr>
<tr>
<td>Prepaid expenses and other assets</td>
<td>(40.4)</td>
<td>(3.9)</td>
<td>(48.9)</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>49.7</td>
<td>21.9</td>
<td>5.5</td>
</tr>
<tr>
<td>Accrued liabilities and other long-term liabilities</td>
<td>(14.5)</td>
<td>175.6</td>
<td>12.7</td>
</tr>
<tr>
<td>Deferred revenues</td>
<td>71.1</td>
<td>0.8</td>
<td>43.2</td>
</tr>
<tr>
<td>Net cash provided by operating activities</td>
<td>371.8</td>
<td>454.9</td>
<td>399.1</td>
</tr>
<tr>
<td><strong>Cash flows from investing activities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchases of property, plant and equipment</td>
<td>(58.0)</td>
<td>(47.7)</td>
<td>(59.1)</td>
</tr>
<tr>
<td>Acquisitions, net of cash acquired</td>
<td>(576.2)</td>
<td>(109.0)</td>
<td>(3.0)</td>
</tr>
<tr>
<td>Purchase of equity investments</td>
<td>(32.8)</td>
<td>(10.1)</td>
<td>(8.4)</td>
</tr>
<tr>
<td>Sale of equity investment</td>
<td>29.9</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Sale of available-for-sale securities</td>
<td>8.5</td>
<td>15.9</td>
<td>—</td>
</tr>
<tr>
<td>Investment in available-for-sale securities</td>
<td>—</td>
<td>(17.8)</td>
<td>(13.4)</td>
</tr>
<tr>
<td>Loans to CPTC</td>
<td>(1.6)</td>
<td>(5.9)</td>
<td>—</td>
</tr>
<tr>
<td>Issuance of notes receivable</td>
<td>—</td>
<td>—</td>
<td>(18.2)</td>
</tr>
<tr>
<td>Purchase of senior secured debt</td>
<td>—</td>
<td>—</td>
<td>(24.5)</td>
</tr>
<tr>
<td>Other, net</td>
<td>(1.5)</td>
<td>(0.1)</td>
<td>(3.8)</td>
</tr>
<tr>
<td>Net cash used in investing activities</td>
<td>(631.7)</td>
<td>(174.7)</td>
<td>(130.4)</td>
</tr>
<tr>
<td><strong>Cash flows from financing activities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repurchases of common stock</td>
<td>(166.7)</td>
<td>(181.9)</td>
<td>(294.5)</td>
</tr>
<tr>
<td>Proceeds from issuance of common stock to employees</td>
<td>63.4</td>
<td>60.7</td>
<td>72.1</td>
</tr>
<tr>
<td>Tax withholdings on vesting of equity awards</td>
<td>(14.5)</td>
<td>(11.6)</td>
<td>(10.7)</td>
</tr>
<tr>
<td>Cash received from Varex term facility</td>
<td>—</td>
<td>—</td>
<td>200.0</td>
</tr>
<tr>
<td>Cash and cash equivalents received (contributed) to Varex Imaging Corporation</td>
<td>4.1</td>
<td>—</td>
<td>(42.6)</td>
</tr>
<tr>
<td>Borrowings under credit facility agreement</td>
<td>636.5</td>
<td>503.3</td>
<td>231.0</td>
</tr>
<tr>
<td>Repayments under credit facility agreement</td>
<td>(636.5)</td>
<td>(503.3)</td>
<td>(223.5)</td>
</tr>
<tr>
<td>Net borrowings (repayments) under the credit facility agreements with maturities less than 90 days</td>
<td>410.0</td>
<td>(350.0)</td>
<td>(322.0)</td>
</tr>
<tr>
<td>Repayment of acquired debt</td>
<td>(16.8)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>(0.3)</td>
<td>(4.2)</td>
<td>(2.2)</td>
</tr>
<tr>
<td>Net cash provided by (used in) financing activities</td>
<td>279.2</td>
<td>(487.0)</td>
<td>(392.4)</td>
</tr>
<tr>
<td>Effects of exchange rate changes on cash, cash equivalents and restricted cash</td>
<td>8.4</td>
<td>4.7</td>
<td>(3.9)</td>
</tr>
<tr>
<td>Net increase (decrease) in cash, cash equivalents and restricted cash</td>
<td>27.7</td>
<td>(202.1)</td>
<td>(127.6)</td>
</tr>
<tr>
<td>Cash, cash equivalents and restricted cash at beginning of period</td>
<td>516.4</td>
<td>718.5</td>
<td>846.1</td>
</tr>
<tr>
<td>Cash, cash equivalents and restricted cash at end of period</td>
<td>$544.1</td>
<td>$516.4</td>
<td>$718.5</td>
</tr>
</tbody>
</table>
See accompanying notes to the consolidated financial statements.
<table>
<thead>
<tr>
<th></th>
<th>Shares</th>
<th>Amount</th>
<th>Capital in Excess of Par Value</th>
<th>Retained Earnings</th>
<th>Accumulated Other Comprehensive Loss</th>
<th>Total Varian Stockholders’ Equity</th>
<th>Noncontrolling Interests</th>
<th>Total Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balances at September 30, 2016</strong></td>
<td>93.7</td>
<td>$93.7</td>
<td>$678.6</td>
<td>$1,122.7</td>
<td>$(100.8)</td>
<td>$1,794.2</td>
<td>3.7</td>
<td>$1,797.9</td>
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<tr>
<td>Net earnings</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>218.5</td>
<td>—</td>
<td>218.5</td>
<td>0.6</td>
<td>219.1</td>
</tr>
<tr>
<td>Other comprehensive earnings</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>32.0</td>
<td>—</td>
<td>32.0</td>
<td>—</td>
<td>32.0</td>
</tr>
<tr>
<td>Issuance of common stock</td>
<td>1.4</td>
<td>1.4</td>
<td>69.3</td>
<td>—</td>
<td>—</td>
<td>70.7</td>
<td>—</td>
<td>70.7</td>
</tr>
<tr>
<td>Tax withholdings on vesting of equity awards</td>
<td>(0.1)</td>
<td>(0.1)</td>
<td>(10.6)</td>
<td>—</td>
<td>—</td>
<td>(10.7)</td>
<td>—</td>
<td>(10.7)</td>
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<tr>
<td>Share-based compensation expense</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>40.8</td>
<td>—</td>
<td>40.8</td>
<td>—</td>
<td>40.8</td>
</tr>
<tr>
<td>Repurchases of common stock</td>
<td>(3.3)</td>
<td>(3.3)</td>
<td>(62.7)</td>
<td>(228.5)</td>
<td>—</td>
<td>(294.5)</td>
<td>—</td>
<td>(294.5)</td>
</tr>
<tr>
<td>Distribution of Varex</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>(334.1)</td>
<td>—</td>
<td>(334.1)</td>
<td>—</td>
<td>(334.1)</td>
</tr>
<tr>
<td>Other</td>
<td>—</td>
<td>—</td>
<td>0.7</td>
<td>—</td>
<td>—</td>
<td>0.7</td>
<td>—</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Balances at September 29, 2017</strong></td>
<td>91.7</td>
<td>91.7</td>
<td>716.1</td>
<td>778.6</td>
<td>(68.8)</td>
<td>1,517.6</td>
<td>4.3</td>
<td>1,521.9</td>
</tr>
<tr>
<td>Net earnings</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>149.9</td>
<td>—</td>
<td>149.9</td>
<td>0.4</td>
<td>150.3</td>
</tr>
<tr>
<td>Other comprehensive earnings</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>3.5</td>
<td>—</td>
<td>3.5</td>
<td>—</td>
<td>3.5</td>
</tr>
<tr>
<td>Issuance of common stock</td>
<td>1.2</td>
<td>1.2</td>
<td>59.5</td>
<td>—</td>
<td>—</td>
<td>60.7</td>
<td>—</td>
<td>60.7</td>
</tr>
<tr>
<td>Tax withholdings on vesting of equity awards</td>
<td>(0.1)</td>
<td>(0.1)</td>
<td>(11.5)</td>
<td>—</td>
<td>—</td>
<td>(11.6)</td>
<td>—</td>
<td>(11.6)</td>
</tr>
<tr>
<td>Share-based compensation expense</td>
<td>—</td>
<td>—</td>
<td>45.9</td>
<td>—</td>
<td>—</td>
<td>45.9</td>
<td>—</td>
<td>45.9</td>
</tr>
<tr>
<td>Repurchases of common stock</td>
<td>(1.6)</td>
<td>(1.6)</td>
<td>(32.5)</td>
<td>(147.8)</td>
<td>—</td>
<td>(181.9)</td>
<td>—</td>
<td>(181.9)</td>
</tr>
<tr>
<td>Other</td>
<td>—</td>
<td>—</td>
<td>0.6</td>
<td>(0.3)</td>
<td>—</td>
<td>0.3</td>
<td>(0.4)</td>
<td>(0.1)</td>
</tr>
<tr>
<td><strong>Balances at September 28, 2018</strong></td>
<td>91.2</td>
<td>91.2</td>
<td>778.1</td>
<td>780.4</td>
<td>(65.3)</td>
<td>1,584.4</td>
<td>4.3</td>
<td>1,588.7</td>
</tr>
<tr>
<td>Net earnings</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>291.9</td>
<td>—</td>
<td>291.9</td>
<td>0.3</td>
<td>292.2</td>
</tr>
<tr>
<td>Other comprehensive loss</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>(36.8)</td>
<td>—</td>
<td>(36.8)</td>
<td>—</td>
<td>(36.8)</td>
</tr>
<tr>
<td>Issuance of common stock</td>
<td>1.1</td>
<td>1.1</td>
<td>62.3</td>
<td>—</td>
<td>—</td>
<td>63.4</td>
<td>—</td>
<td>63.4</td>
</tr>
<tr>
<td>Tax withholdings on vesting of equity awards</td>
<td>(0.1)</td>
<td>(0.1)</td>
<td>(14.4)</td>
<td>—</td>
<td>—</td>
<td>(14.5)</td>
<td>—</td>
<td>(14.5)</td>
</tr>
<tr>
<td>Share-based compensation expense</td>
<td>—</td>
<td>—</td>
<td>47.8</td>
<td>—</td>
<td>—</td>
<td>47.8</td>
<td>—</td>
<td>47.8</td>
</tr>
<tr>
<td>Repurchases of common stock</td>
<td>(1.4)</td>
<td>(1.4)</td>
<td>(28.2)</td>
<td>(137.1)</td>
<td>—</td>
<td>(166.7)</td>
<td>—</td>
<td>(166.7)</td>
</tr>
<tr>
<td>Acquisition of Cancer Treatment Services International</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Other</td>
<td>—</td>
<td>—</td>
<td>(1.2)</td>
<td>—</td>
<td>(1.2)</td>
<td>(1.2)</td>
<td>(0.3)</td>
<td>(1.5)</td>
</tr>
<tr>
<td><strong>Balances at September 27, 2019</strong></td>
<td>90.8</td>
<td>$90.8</td>
<td>$845.6</td>
<td>$934.0</td>
<td>$(102.1)</td>
<td>$1,768.3</td>
<td>$9.3</td>
<td>$1,777.6</td>
</tr>
</tbody>
</table>

See accompanying notes to the consolidated financial statements.
1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Description of Business

The long-term growth and value creation strategy of Varian Medical Systems, Inc. (“VMS”) and subsidiaries (collectively, the “Company”) is to transform the Company from the global leader in radiation therapy to the global leader in multi-disciplinary, integrated cancer care solutions that leverage its strengths, technology, innovation and clinical experience. The Company offers solutions in radiation therapy and medical oncology, as well as interventional oncology, an emerging area of cancer care. The Company designs, manufactures, sells and services hardware and software products for treating cancer with radiotherapy, stereotactic radiosurgery, stereotactic body radiotherapy, and brachytherapy, and offers products for interventional oncology procedures and treatments, including cryoablation, microwave ablation and embolization. Software solutions include treatment planning, informatics, clinical knowledge exchange, patient care management, practice management and decision support for comprehensive cancer clinics, radiotherapy centers and medical oncology practices. The Company also develops, designs, manufactures, sells and services proton therapy products and systems for cancer treatment.

As a result of the Company's acquisition of Cancer Treatment Services International ("CTSI") in June 2019, it has expanded its services offerings to include clinical practice services that assist within the clinical workflow. These services focus on decision support and/or cancer care knowledge augmentation aimed to facilitate improved accessibility and affordability to care while maintaining a fundamental level of clinical quality. Further, the Company operates nine multi-disciplinary cancer centers and one specialty hospital in India and one multi-disciplinary cancer center in Sri Lanka.

Basis of Presentation

The consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States ("GAAP").

The historical financial position and results of operations of the Imaging Components business and costs relating to the separation and distribution (the "Distribution") of Varex Imaging Corporation ("Varex") are reported in the consolidated financial statements as discontinued operations. Information in the accompanying notes to the consolidated financial statements have been recast to reflect the effect of the Distribution. The Consolidated Statements of Comprehensive Earnings and Cash Flows have not been recast to reflect the effect of the Distribution.

Reclassifications

In fiscal year 2019, the Company adopted new accounting guidance requiring it to include restricted cash in cash and cash equivalents in the statement of cash flows. The Consolidated Statements of Cash Flows have been recast for all periods presented. See "Recently Adopted Accounting Pronouncements" below for further information. In addition, certain other reclassifications have been made to the amounts in the prior year in order to conform to the current year's presentation.

Fiscal Year

The fiscal years of the Company as reported are the 52- or 53-week periods ending on the Friday nearest September 30. Fiscal year 2019 was the 52-week period that ended on September 27, 2019. Fiscal year 2018 was the 52-week period that ended on September 28, 2018. Fiscal year 2017 was the 52-week period that ended on September 29, 2017.

Distribution

On January 28, 2017 (the "Distribution Date"), the Company completed the Distribution of Varex, the Company's former Imaging Components business segment. On the Distribution Date, each of Varian's stockholders of record as of the close of business on January 20, 2017 (the "Record Date") received 0.4 of a share of Varex common stock for every one share of Varian common stock owned as of the Record Date.

Spin-offs

On April 2, 1999, Varian Associates, Inc. reorganized into three separate publicly traded companies by spinning off, through a tax-free distribution, two of its businesses to stockholders (the “Spin-offs”). The Spin-offs resulted in the following three
companies: 1) the Company (renamed from Varian Associates, Inc. to Varian Medical Systems, Inc. following the Spin-offs); 2) Varian, Inc. (“VI”), which became a wholly owned subsidiary of Agilent Technologies Inc. in May 2010; and 3) Varian Semiconductor Equipment Associates, Inc. (“VSEA”), which became a wholly owned subsidiary of Applied Materials, Inc. in November 2011. The Spin-offs resulted in a non-cash dividend to stockholders.

In connection with the Distribution and Spin-offs, the Company, VI, VSEA, and Varex also entered into various agreements that set forth the principles to be applied in separating the companies and allocating certain related costs and specified portions of contingent liabilities. See Note 9, "Commitments and Contingencies," for additional information.

**Principles of Consolidation**

The consolidated financial statements include those of VMS and its wholly-owned and majority-owned or controlled subsidiaries. Intercompany balances, transactions and stock holdings have been eliminated in consolidation.

**Consolidation of Variable Interest Entities**

For entities in which the Company has variable interests, the Company focuses on identifying which entity has the power to direct the activities that most significantly impact the variable interest entity’s economic performance and which enterprise has the obligation to absorb losses or the right to receive benefits from the variable interest entity. If the Company is the primary beneficiary of a variable interest entity, the assets, liabilities, and results of operations of the variable interest entity will be included in the Company’s Consolidated Financial Statements. For fiscal year 2019, the Company consolidated its non-controlling interest in a joint venture included from the acquisition of CTSI. For fiscal years 2018 and 2017, the Company did not consolidate any variable interest entities because the Company determined that it was not the primary beneficiary.

**Use of Estimates**

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

**Foreign Currency Translation**

The Company uses the U.S. dollar predominately as the functional currency of its foreign subsidiaries. For foreign subsidiaries where the U.S. dollar is the functional currency, gains and losses from remeasurement of foreign currency balances into U.S. dollars are included in the Consolidated Statements of Earnings. For the foreign subsidiary where the local currency is the functional currency, any translation adjustments of foreign currency financial statements into U.S. dollars are recorded to a separate component of accumulated other comprehensive loss. See Note 8, "Derivative Instruments and Hedging Activities," regarding the Company’s hedging activities and derivative instruments.

**Cash, Cash Equivalents and Restricted Cash**

The Company considers currency on hand, demand deposits, time deposits, and all highly liquid investments with an original maturity of three months or less at the date of purchase to be cash and cash equivalents. Cash and cash equivalents are held in various financial institutions in the United States and internationally. The Company classifies cash as restricted cash when it is subject to a legal or contractual restriction by a third party, and restricted as to withdrawal or use, including restrictions that require the funds to be used for a specified purpose and restrictions that limit the purpose for which the funds can be used.

**Fair Value**

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. There is a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows:

- **Level 1** — Quoted prices in active markets for identical assets or liabilities.
- **Level 2** — Input, other than quoted prices included in Level 1, that is observable for the asset or liability, either directly or indirectly.
- **Level 3** — Input for the asset or liability that is unobservable and its计量is based on management’s assumptions.
Level 2 — Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.

Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

See Note 4, "Fair Value," for additional discussions.

Available-For-Sale Securities and Notes Receivable

The Company has investments in securities that are classified as available-for-sale securities, and which are reflected on the Consolidated Balance Sheets at fair value. Unrealized gains and losses on these investments are included as a separate component of accumulated other comprehensive loss, net of tax, on the Consolidated Balance Sheets. The Company classifies its available-for-sale securities as short-term or long-term based on the nature of the investment, its maturity date and its availability for use in current operations. The Company monitors its available-for-sale securities for possible other-than-temporary impairment when business events or changes in circumstances indicate that the carrying value of the investment may not be recoverable. The Company recorded no significant impairment charges in fiscal years 2019 and 2018 to its available-for-sale securities and recorded $51.4 million of impairment charges in fiscal year 2017. See Note 15, "Proton Solutions Loans and Investment," for more information about the impairment charge.

The Company advances notes to third parties, including its customers. The Company regularly assesses these notes for collectability by considering internal factors such as historical experience, credit quality, age of the note balances as well as external factors such as economic conditions that may affect the note holder's ability to pay. In fiscal year 2018, the Company recorded $22.1 million of impairment charges related to its notes receivables.

Equity Investments in Privately-Held Companies

Equity investments without readily determinable fair values include the Company's investments in privately-held companies in which the Company holds less than a 20% ownership interest and does not have the ability to exercise significant influence. The Company measures these investments at cost, and these investments are adjusted through net earnings when they are deemed to be impaired or when there is an adjustment from observable price changes. These investments are included in other assets on the Consolidated Balance Sheets. In addition, the Company monitors these investments to determine if impairment charges are required based primarily on the financial condition and near-term prospects of these companies.

Concentration of Risk

Cash, cash equivalents, available-for-sale securities, trade accounts receivable, notes receivable, and derivative financial instruments used in hedging activities potentially expose the Company to concentrations of credit risk. Cash and cash equivalents held with financial institutions may exceed the Federal Deposit Insurance Corporation insurance limits or similar limits in foreign jurisdictions. The Company has not experienced any losses on its deposits of cash and cash equivalents. With respect to its available-for-sale securities and notes receivable, the Company performs a periodic credit evaluation of various counterparties. The Company may be exposed to credit loss in the event of nonperformance by counterparties on the foreign currency forward contracts used in hedging activities. The Company transacts its foreign currency forward contracts with multiple large international and regional financial institutions and, therefore, does not consider the risk of nonperformance to be concentrated in any specific counterparty. The Company has not experienced any losses resulting from the failure of counterparty to meet its financial obligations under foreign currency forward contracts. Concentrations of credit risk with respect to trade accounts receivable are limited due to the large number of customers comprising the Company’s customer base and their geographic dispersion. The Company performs ongoing credit evaluations of its customers and, except for government tenders, group purchases and orders with a letter of credit, often requires its Oncology Systems and Proton Solutions customers to provide a down payment. The Company maintains an allowance for doubtful accounts based upon the expected collectability of all accounts receivable. No single customer represented 10% or more of the trade and unbilled accounts receivable amount for any period presented. The Company obtains some of the components in its products from a limited group of suppliers or from a single-source supplier.
**Inventories**

Inventories are valued at the lower of cost or market (realizable value). Excess and obsolete inventories are determined primarily based on future demand forecasts, and write-downs of excess and obsolete inventories are recorded as a component of cost of revenues. Cost is computed using standard cost (which approximates actual cost) or actual cost on a first-in-first-out or average basis.

**Property, Plant and Equipment**

Property, plant and equipment are stated at cost, net of accumulated depreciation and amortization. Major improvements are capitalized, while repairs and maintenance are expensed as incurred. Internal and external costs incurred to acquire or create internal use software during the application development stage are capitalized in accordance with guidance on internal-use software. Internally developed software primarily includes enterprise-level business software that the Company customizes to meet its specific operational needs. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets. Land is not subject to depreciation, but land improvements are depreciated over fifteen years. Land leasehold rights and leasehold improvements are amortized over the lesser of their estimated useful lives or remaining term of the lease. Buildings are depreciated between twenty and thirty years. Machinery and equipment are depreciated over their estimated useful lives, which range from three to seven years. Assets subject to lease are amortized over the lesser of their estimated useful lives or remaining lease terms. When assets are retired or otherwise disposed of, the assets and the related accumulated depreciation are removed from the accounts. Gains or losses resulting from retirements or disposals of property, plant and equipment are included in operating expenses.

**Goodwill and Intangible Assets, Net**

Goodwill is recorded when the purchase price of an acquisition exceeds the fair value of the net identified tangible and intangible assets acquired. Purchased intangible assets are carried at cost, net of accumulated amortization. Intangible assets with finite lives are amortized primarily using the straight-line method over their estimated useful lives, which generally range from one to twenty-three years.

In-process research and development ("in-process R&D") is initially capitalized at fair value as an intangible asset with an indefinite life and assessed for impairment thereafter. The impairment test for intangible assets with indefinite useful lives, if any, consists of a comparison of fair value to carrying value, with any excess of carrying value over fair value being recorded as an impairment loss. When an in-process R&D project is completed, the in-process R&D is reclassified as an amortizable purchased intangible asset and amortized over the asset’s estimated useful life.

**Impairment of Long-lived Assets, Goodwill and Intangible Assets**

The Company reviews long-lived assets and identifiable intangible assets with finite lives for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. The Company assesses these assets for impairment based on their estimated undiscounted future cash flows. If the carrying value of the assets exceeds the estimated future undiscounted cash flows, the Company recognizes an impairment loss based on the excess of the carrying amount over the fair value of the assets. The Company did not recognize any impairment charges for long-lived assets and identifiable intangible assets in fiscal years 2019, 2018 and 2017.

The Company evaluates goodwill for impairment at least annually or whenever an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. If the Company determines that a quantitative analysis is necessary, the Company will compare the fair value of a reporting unit against its carrying amount, including the goodwill allocated to each reporting unit. The Company determines the fair value of its reporting units based on a combination of income and market approaches. The income approach is based on the present value of estimated future cash flows of the reporting units and the market approach is based on a market multiple calculated for each business unit based on market data of other companies engaged in similar business. If the carrying amount of the reporting unit is in excess of its fair value, a goodwill impairment loss will be recorded for the difference.

The Company performs its annual goodwill impairment test for its reporting units that carried goodwill during its fourth fiscal quarter. In fiscal year 2019, the Company opted to evaluate its Oncology Systems reporting unit by using qualitative factors such as macroeconomic conditions, industry and market considerations, financial performance and other relevant events affecting the reporting unit. During the third quarter of fiscal year 2019, the Company recorded a goodwill impairment charge for the full value of the Proton Solutions reporting unit goodwill. See Note 6, “Goodwill and Intangible Assets,” for more information on the impairment of the Proton Solutions’ goodwill. The Company did not record any goodwill impairment charges in fiscal years 2018 and 2017.
Loss Contingencies

From time to time, the Company is a party to or otherwise involved in legal proceedings, claims and government inspections or investigations and other legal matters, both inside and outside the United States, arising in the ordinary course of its business or otherwise. The Company accrues amounts, to the extent they can be reasonably estimated, that it believes are adequate to address any liabilities related to legal proceedings and other loss contingencies that it believes will result in a probable loss.

Environmental remediation liabilities are recorded when environmental assessments and/or remediation efforts are probable, and the costs of these assessments or remediation efforts can be reasonably estimated.

Product Warranty

The Company warrants most of its products for a specific period of time, usually 12 months from installation, against material defects. In addition, the Company often includes additional support services (training, help desk, maintenance) and recognizes these services as a separate performance obligation along with its standard break/fix warranty cost accrual. The Company provides for the estimated future costs of warranty obligations in cost of revenues when the related revenues are recognized. The accrued warranty costs represent the best estimate at the time of sale of the total costs that the Company will incur to repair or replace product parts that fail while still under warranty. The amount of the accrued estimated warranty costs obligation for established products is primarily based on historical experience as to product failures adjusted for current information on repair costs. For new products, estimates include the historical experience of similar products, as well as reasonable allowance for warranty expenses associated with new products. On a quarterly basis, the Company reviews the accrued warranty costs and updates the historical warranty cost trends, if required.

Revenue Recognition

The Company's revenues are derived primarily from the sale of radiotherapy and proton therapy hardware and software products, support, training and maintenance of all those products, installation services and the sale of parts, as well as the sale of minimally invasive interventional oncology procedures and treatments. The Company accounts for a contract with a customer when there is a legally enforceable contract which includes: an approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

The Company's revenues are measured based on the consideration specified in the contract with each customer, net of any sales incentives and amounts collected on behalf of third parties such as sales taxes. The Company recognizes revenues as the performance obligations are satisfied by transferring control of the product or service to a customer.

The majority of the Company's revenue arrangements consist of multiple performance obligations including hardware, software, and services. The appropriate timing of revenue recognition is determined based on the Company's assessment of when the transfer of control occurs with respect to these arrangements.

The Company's products are generally not sold with a right of return, and the Company typically does not provide credits, rebates, or incentives, which may be required to be accounted for as variable consideration when estimating the amount of revenue to be recognized.

The Company recognizes an asset for the incremental costs of obtaining a contract with a customer if the Company expects the benefit of those costs to be longer than one year. The Company applies a practical expedient to expense costs as incurred for costs to obtain a contract when the amortization period would have been one year or less. These costs mainly include the Company's internal sales force compensation program; under the terms of these programs, compensation is generally earned, and the costs are recognized at the time the revenue is recognized.

For bundled arrangements, the Company accounts for individual products and services separately if they are distinct, that is, if a product or service is separately identifiable from other items in the bundled package and if a customer can benefit from it on its own or with other resources that are readily available to the customer. The consideration (including any discounts) is allocated between separate products and services in a bundle based on their individual stand-alone selling price ("SSP"). The SSP is determined based on observable prices at which the Company separately sells the products and services. If an SSP is not directly observable, then the Company will estimate the SSP considering marketing conditions, entity-specific factors, and information about the customer or class of customer that is reasonably available.

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The following is a description of the principal activities, separated by operating segment, from which the Company generates its revenues.

**Oncology Systems**

The Company's Oncology Systems linear accelerators are generally sold in a bundled arrangement with hardware and software accessory products that enhance efficiency and enable the delivery of advanced radiotherapy and radiosurgery treatments; however, certain products are infrequently sold on a stand-alone basis.

The majority of machine and software sales include installation services, training, warranty, and support services. Delivery of different performance obligations in a revenue arrangement often span more than one reporting period. For example, a linear accelerator and software may be delivered in one reporting period, but the related installation of those products may be completed in a later period. Hardware and software extended maintenance and service contracts are occasionally sold during the initial product sale, but the majority are sold separately near or at the end of the initial warranty period. Revenues related to extended warranty and service contracts are recognized after the expiration of the initial warranty period.

Payment terms and conditions vary by contract type, although the terms are generally commensurate with a significant milestone, such as contract signing, shipment, delivery, acceptance or service commencement. In instances where the timing of revenue recognition differs from the timing of invoicing, the Company has determined its contracts generally do not include a significant financing component. The primary purpose of the Company's invoicing terms is to provide customers with simplified and predictable ways of purchasing the Company's products and services, rather than to receive financing from the Company's customers, such as invoicing at the beginning of a contract term with revenue recognized ratably over the contract period for a service contract. Payment terms can also vary based on the type of customer, such as government purchases. There are occasions where the Company provides extended payment terms in which case a portion of the transaction price is allocated to imputed interest income. Customer billing milestones are typically event driven, which may result in revenue recognized in excess of billings at some point during the contract period which the Company presents as unbilled receivables on the Consolidated Balance Sheets.

From time to time, the Company's contracts are modified to account for additional, or to change existing, performance obligations. The Company's contract modifications are generally accounted for prospectively.

**Hardware Products and Installation**

Hardware products may include software that the hardware is dependent on and highly interrelated with and cannot operate without. The Company typically has a standard base configuration for its hardware products, but there are typically multiple options and configuration choices. Revenues from the sale of hardware are recognized when the Company transfers control to the customer.

Product installation includes uncrating, moving the machine to the treatment room, connection and validating configuration. In addition, a number of testing protocols are completed to confirm the equipment is performing to the contracted specifications. The Company recognizes revenues for hardware installation over time as the customer receives and consumes benefits provided as the Company performs the installation services.

**Software Products and Installation**

Software products include information management, treatment planning, image processing, clinical knowledge exchange, patient care management, decision-making support, and practice management software. Software installation includes transferring software to the customer’s computers, configuration of the software and potentially data migration. The Company recognizes revenues for on-premise software and software installation upon the customer's acceptance of the software and installation services.

**Service**

Service revenues include revenues from initial and extended software support agreements, extended hardware warranty agreements, training, paid service arrangements when a customer does not have an extended warranty and parts that are sold by the service department.

Revenues from hardware and software support agreements are accounted for ratably over the term of the agreement. Services and training revenues are recognized in the period the services and training are performed. Revenues for sales of parts are recognized when the parts are delivered to the customer and control is transferred.
The CTSI revenues include revenues from providing healthcare services to patients, including full-service laboratory and pathology services, in addition to professional services provided to others in the oncology industry. All revenues are recognized when the related service is provided to the patient or delivered to the customer, net of any discounts. For certain services, the Company collects sales taxes and value added taxes on behalf of the local government, which are excluded from revenues.

Warranties

The Company's sale of hardware includes a one-year warranty. The Company uses the cost accrual method to account for assurance-type warranties. The standard warranty provision further includes services in addition to an assurance-type warranty (for example, preventative maintenance inspections, help desk support, and when and if available operating system upgrades). These service-type warranty features are recorded as a separate performance obligation and recognized ratably over the one-year warranty period.

Proton Solutions

The manufacturing of the major components of a proton therapy system, installation, and commissioning typically lasts 18 to 24 months. The Company's proton therapy system is highly customized. A proton therapy system typically includes hardware, software that the hardware is dependent upon and highly interrelated with, and without which the hardware cannot operate, and installation. The Company also sells software products that include information management, treatment planning, image processing, clinical knowledge exchange, patient care management, decision-making support, and practice management software, and software installation.

The Company provides operations and maintenance services related to the proton therapy system under a separate arrangement. These contracts are typically executed at or about the same time as the proton therapy system contracts; however, the pricing and performance of the proton therapy system contracts are not typically related to the pricing or performance of the operations and maintenance contracts. Therefore, the Company recognizes operations and maintenance services as a separate performance obligation.

Under the typical payment terms of the Company's fixed-price contracts, the customer pays the Company an up-front advance payment and then performance-based payments based on quantifiable measures of performance or on the achievement of specified events or milestones. Customers do not typically receive discounts in their overall selling price based on the amount and timing of milestone payments. As the revenue is recognized over time relative to the costs incurred and the customer billing milestones are typically event driven, this may result in revenue recognized in excess of billings at some point during the contract period which the Company presents as unbilled receivables on the Consolidated Balance Sheets. Amounts billed and due from the Company's customers are classified as trade accounts receivable on the Consolidated Balance Sheets. In most contracts, the Company is entitled to receive an advance payment at the beginning of the contract. The Company recognizes a liability for these advance payments in excess of revenue recognized and presents it as deferred revenues on the Consolidated Balance Sheets. The advance payment typically is not considered a significant financing component because it is used to ensure the customer's commitment to the project and to provide assurance that the customer will perform its obligations under the contract.

The Company recognizes revenue for its proton therapy systems over time because the customer controls the work in process, the Company's performance does not create an asset with an alternative use to the Company, and the Company has an enforceable right to payment for performance completed to date.

Due to the nature of the work required to be performed on many of the Company's performance obligations, the estimation of total revenues and the costs at completion is complex, subject to many variables and requires significant judgment. The Company's contracts generally do not include award fees, incentive fees or other provisions that may be considered variable consideration.

The Company has a quarterly review process in which management reviews the progress and execution of the Company's performance obligations. As part of this process, management reviews information including, but not limited to, any outstanding key contract matters, progress towards completion and the related program schedule, identified risks and the related changes in estimates of revenues and costs. The risks and opportunities include management's judgment about the ability and costs to achieve the schedule (e.g., the number and type of milestone events), technical and other contract requirements. Management must make assumptions and estimates regarding the complexity of the work to be performed, the availability of materials and outside services, the length of time to complete the performance obligation and labor and overhead cost rates, among other significant judgments. Based on this analysis, any quarterly adjustments to revenues, cost of revenues, and the related impact to operating earnings are recognized as necessary in the period they become known on a cumulative
catch-up basis. When estimates of total costs to be incurred on a performance obligation exceed total estimates of revenues to be earned, a provision for the entire loss on the performance obligation is recognized in the period the loss is determined.

Proton Solutions revenues for software are recognized upon acceptance and revenues from installation services are recognized over time.

**Interventional Solutions**

Revenue is recognized primarily from the sale of ablation, embolic therapy, and cryoablation products when the performance obligations are satisfied by transferring control of the products to customers either upon shipment or when the customers (distributors or end customers) receive a shipment at the designated destinations.

**Contract Balances**

The timing of revenue recognition, billings and cash collections results in trade and unbilled receivables, and deferred revenues on the Consolidated Balance Sheets. In Oncology Systems, the Company often collects an advance payment and the balance is typically billed on a combination of delivery and/or acceptance. In Proton Solutions, the Company usually collects an advance payment and additional amounts are billed as work progresses in accordance with agreed-upon contractual terms upon achievement of contractual milestones. Service contracts are usually billed at the beginning of the contract period or at periodic intervals (e.g. monthly or quarterly) during the contract which could result in a contract asset and contract liability. At times, billing occurs subsequent to revenue recognition, resulting in an unbilled receivable which represents a contract asset. However, when the Company receives advances or deposits from customers, which can be higher in the initial stages of the contract, particularly for international contracts in the case of Oncology Systems, before revenue is recognized, this results in deferred revenues which represents a contract liability. These contract assets and liabilities are reported as unbilled receivables and deferred revenues, respectively, on the Consolidated Balance Sheet on a contract-by-contract basis at the end of each reporting period.

**Share-Based Compensation Expense**

Share-based compensation expense recognized in the Consolidated Statements of Earnings includes compensation expense for the share-based payment awards based on the grant date fair value estimated in accordance with the guidance on share-based compensation. Share-based compensation expense for the Company's service-based stock awards is recognized on a straight-line basis over the service period of the award. Share-based compensation expense for performance units and performance-based options is recognized on a straight-line basis over the period of time for the performance conditions to be satisfied and the expense will be adjusted based on achievement of the performance conditions. In accordance with the guidance on share-based compensation, the fair value of the cash-settled stock appreciation rights is recalculated at the end of each reporting period and the expense is adjusted based on the new fair value and the number of stock appreciation rights that vested. The Company considers only the direct tax impacts of share-based compensation awards when calculating the amount of tax windfalls or shortfalls.

**Earnings per share**

Basic net earnings per share is computed by dividing net earnings attributable to Varian by the weighted average number of shares of VMS common stock outstanding for the period. Diluted net earnings per share is computed by dividing net earnings attributable to Varian by the sum of the weighted average number of common shares outstanding and dilutive common shares under the treasury stock method. The Company excludes potentially dilutive common shares (consisting of shares underlying stock options and the employee stock purchase plan) from the computation of diluted weighted average shares outstanding if the per share value, which consists of either (i) the exercise price of the awards or (ii) the sum of (a) the exercise price of the awards and (b) the amount of the compensation cost attributed to future services and not yet recognized, is greater than the average market price of the shares, because the inclusion of the shares underlying these stock awards would be anti-dilutive to earnings per share.

**Shipping and Handling Costs**

Shipping and handling costs are included as a component of cost of revenues.
**Research and Development**

Research and development costs have been expensed as incurred. These costs primarily include employees’ compensation, consulting fees, material costs and research grants.

**Software Development Costs to be Sold**

Costs for the development of new software products and substantial enhancements to existing software products are expensed as incurred until technological feasibility has been established, at which time any additional costs would be capitalized. No costs associated with the development of software have been capitalized as the Company believes its current software development process is completed concurrent with the establishment of technological feasibility.

**Comprehensive Earnings**

Comprehensive earnings include all changes in equity (net assets) during a period from non-owner sources. Comprehensive earnings include currency translation adjustments, change in unrealized gain or loss on derivative instruments designated as cash flow hedges, net of taxes (see Note 8, "Derivative Instruments and Hedging Activities," change in unrealized gain or loss on available for sale securities, net of taxes and adjustments to and amortization of unrecognized actuarial gain or loss, unrecognized transition obligation and unrecognized prior service cost of the Company's defined benefit pension and post-retirement benefit plans (see Note 10, "Retirement Plans," for more information.

**Taxes on Earnings**

Taxes on earnings are based on pretax financial accounting income. Deferred tax assets and liabilities are recorded based on the difference between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse.

**Recently Adopted Accounting Pronouncements**

In the first quarter of fiscal year 2019, the Company adopted the Financial Accounting Standards Board ("FASB") guidance on which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. The Company adopted this amendment prospectively, and it did not have an impact on the Company's consolidated financial statements.

In the first quarter of fiscal year 2019, the Company adopted the FASB guidance on the accounting related to defined benefit plans and other post-retirement benefits. This amendment requires the service cost component of net periodic pension and post-retirement benefit cost to be presented in the same line item as other employee compensation costs, while the other components must be presented separately as other income, net. The adoption of this amendment did not have a material impact on the Company's consolidated financial statements.

In the first quarter of fiscal year 2019, the Company adopted the FASB guidance on the classification and presentation of restricted cash in the statement of cash flow. The amendment requires entities to include restricted cash in cash and cash equivalents in the statement of cash flows. The Company adopted the amendment retrospectively, and prior period amounts on the Consolidated Statements of Cash Flows have been recast to conform with the current period presentation as shown in the reconciliations provided below. See Note 3, "Other Financial Information," for a reconciliation of the cash balances within the Consolidated Statements of Cash Flows to the Consolidated Balance Sheets.

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>As Previously Reported</td>
</tr>
<tr>
<td>Cash used in investing activities</td>
<td>$ (184.0)</td>
</tr>
<tr>
<td>Cash, cash equivalents, and restricted cash at beginning of period</td>
<td>$ 716.2</td>
</tr>
<tr>
<td>Cash, cash equivalents, and restricted cash at end of period</td>
<td>$ 504.8</td>
</tr>
</tbody>
</table>

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In the first quarter of fiscal year 2019, the Company adopted the FASB guidance for tax accounting for intra-entity asset transfers. The amendment removes the prohibition against the immediate recognition of the current and deferred income tax effects of intra-entity transfers of assets other than inventory. The adoption of this amendment did not have a material impact on the Company's consolidated financial statements. See Note 11, "Taxes on Earnings," for more information about the impact of the adoption.

In the first quarter of fiscal year 2019, the Company adopted the FASB guidance related to the classification of certain cash receipts and cash payments. The amendment was issued to reduce the diversity in practice in how certain transactions are classified in the statement of cash flows. The Company adopted the amendment retrospectively, and it did not have an impact on the Company’s consolidated financial statements.

In the first quarter of fiscal year 2019, the Company adopted the FASB guidance related to recognition and measurement of financial assets and financial liabilities. The amendment addresses certain aspects of recognition, measurement, presentation and disclosure of financial instruments. Most prominent among the changes is the requirement for changes in the fair value of the Company's equity investments to be recognized through net earnings rather than other comprehensive income. Under the amendment, equity investments that do not have a readily determinable fair value are eligible for the measurement alternative, which will require the Company to measure these investments at cost, with adjustments for changes in price or impairments reflected through net earnings. The Company adopted the amendment prospectively for its privately-held investments for which the measurement alternative was elected, and adopted the amendment on a modified retrospective basis for all other financial instruments. The adoption did not have an impact on the Company's consolidated financial statements.

Recent Accounting Standards or Updates Not Yet Effective

In November 2018, the FASB amended its guidance to clarify revenue accounting for collaborative arrangements. The standard is effective for the Company beginning in the first quarter of fiscal year 2020 and will be applied retrospectively to the date of the initial application of ASC 606. The adoption of this standard is not expected to have a material impact on the Company's consolidated financial statements.

In October 2018, the FASB amended its guidance to add the Overnight Index Swap rate based on the Secured Overnight Financing Rate ("SOFR") as a benchmark interest rate for hedge accounting purposes. The amendment recognizes SOFR as a likely LIBOR replacement and supports the marketplace transition by adding the new reference rate as a benchmark interest rate. The company has not executed interest rate hedges but is adopting the amendment prospectively as the Company may consider interest rate hedges in the future. The Company is monitoring the LIBOR to SOFR migration and will coordinate the transition of outstanding LIBOR based debt and any related interest rate derivatives with counterparties when the market is liquid to ensure an orderly and efficient transition.

In August 2018, the FASB amended its guidance for costs of implementing a cloud computing service arrangement and aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. This new standard also requires customers to expense the capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement. This new standard becomes effective for the Company in the first quarter of fiscal year 2021, with early adoption permitted. This new standard can be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. The Company is evaluating the impact of adopting this amendment to its consolidated financial statements.

In August 2018, the FASB issued guidance which modifies the disclosure requirements for employers that sponsor defined benefit pension or other post-retirement plans by removing and adding certain disclosures for these plans. The standard is effective for the Company beginning in the first quarter of fiscal year 2022. Early adoption is permitted. The Company is evaluating the impact of adopting this guidance to its consolidated financial statements.
In August 2018, the FASB issued guidance which changed the disclosure requirements for fair value measurements by removing, adding and modifying certain disclosures. The standard is effective for the Company beginning in the first quarter of fiscal year 2021. Early adoption is permitted. The Company is evaluating the impact of adopting this guidance to its consolidated financial statements.

In February 2018, the FASB amended its guidance that will allow companies to reclassify disproportionate tax effects in accumulated other comprehensive income caused by the Tax Cuts and Jobs Act to retained earnings. The amendment will be effective for the Company beginning in its first quarter of fiscal year 2020. The Company does not expect the impact of adopting this amendment to its consolidated financial statements to be significant.

In June 2016, the FASB issued an amendment to its accounting guidance related to the impairment of financial instruments. The amendment adds a new impairment model that is based on expected losses, rather than incurred losses. The amendment will be effective for the Company beginning in its first quarter of fiscal year 2021 with early adoption permitted beginning in the first quarter of fiscal year 2020. The Company is evaluating the impact of adopting this amendment to its consolidated financial statements.

In February 2016, the FASB issued a new standard on accounting for leases. The new standard is intended to provide enhanced transparency and comparability by requiring lessees to record right-of-use ("ROU") assets and corresponding lease liabilities on the balance sheet. The Company will adopt the standard effective September 28, 2019 and will use the optional transition method. Under this method, the Company will apply the new standard on the effective date, rather than the earliest comparative period presented on the financial statements. Upon adoption, the Company will elect: (1) the "package of practical expedients," which permits it not to reassess under the new standard its prior conclusions about lease identification, lease classification, and initial direct costs; (2) not to separate non-lease components from lease components; and (3) not to recognize ROU assets and lease liabilities for short-term leases. In preparation for adoption of the standard, the Company has implemented internal controls and key system functionalities to enable the preparation of financial information. The Company expects to recognize ROU assets and liabilities of approximately $119 million to $140 million, on the Company's Consolidated Balance Sheets. The adoption of this standard is not expected to have a material impact on the Company's Statement of Earnings. The Company will finalize its accounting assessment and quantitative impact of the adoption during the first quarter of fiscal year 2020.

2. BUSINESS COMBINATIONS

Fiscal Year 2019

Assets acquired from Boston Scientific

In August 2019, the Company acquired Boston Scientific's embolics microspheres business, for treating arteriovenous malformations and hypervascular tumors. The Company acquired the business for a purchase price of $90.0 million in cash consideration. The acquisition was financed using proceeds from our borrowings. The assets from this purchase are included in the Company's Interventional Solutions business, which is included in the Other category. The purchase accounting from this transaction is not yet finalized; however, all of the goodwill is expected to be deductible for income tax purposes. The Company assumed a $16.0 million contingent liability, owed to a third party, that would be offset by a corresponding $16.0 million indemnification asset.

Cancer Treatment Services International ("CTSI")

In June 2019, the Company acquired CTSI, a privately-held company that provides cancer care professional services to health care providers worldwide and, through its oncology care brand, American Oncology Institute, focuses on the operation of comprehensive cancer treatment facilities in India and Sri Lanka. CTSI operates AmPath, a full-service reference laboratory and pathology provider, and CTSI Oncology Solutions, an oncology services company that provides solutions, such as remote treatment planning services and multi-disciplinary oncology consulting.

The Company acquired CTSI for a purchase price of $277.0 million, consisting of $262.8 million of cash consideration, $8.2 million of contingent consideration, and $6.0 million of other consideration. The undiscounted range of the contingent consideration payments is zero to $58 million and is based on actual revenues over the 18 months following the acquisition date. The Company also assumed an additional $3.3 million of contingent liability, which is included in the assumed liabilities. The acquisition was financed with a combination of cash on hand and proceeds from borrowings. The Company has included this acquisition in its Oncology Systems business. The purchase accounting from this transaction is not yet finalized; however, the goodwill is not expected to be deductible for income tax purposes.

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Endocare and Alicon

In June 2019, the Company acquired Austin, Texas-based Endocare and Hangzhou, China-based, Alicon, to expand its portfolio of multidisciplinary integrated cancer solutions. Endocare is a provider of hardware and software solutions for cryoablation, and has a microwave ablation product line; and Alicon develops embolic therapy for treating liver cancer in China.

The Company acquired Endocare and Alicon for a combined purchase price of $210.0 million consisting of $197.4 million of cash consideration and $12.6 million of contingent consideration. The undiscounted range of the contingent consideration payments is zero to $40 million and is based on actual revenues through March 2020. The acquisitions were financed with a combination of cash on hand and proceeds from borrowings. These acquisitions are included in the Company's Interventional Solutions business, which is included in the Other category. The purchase accounting from this transaction is not yet finalized; however, the goodwill is not expected to be deductible for income tax purposes. In the fourth quarter of fiscal year 2019, due to better than expected projected financial performance for Endocare and Alicon as well as a change in the expected mix of products, the Company recorded an increase of $18.6 million in the fair value of the contingent consideration.

The results of operations and the provisional fair values of the assets acquired and liabilities assumed have been included in the consolidated financial statements as of the date of acquisition. The following table summarizes the estimated fair value of assets acquired and liabilities assumed as a result of the CTSI, Endocare and Alicon acquisitions and the embolics microspheres business acquired from Boston Scientific:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>CTSI</th>
<th>Endocare and Alicon</th>
<th>Embolics Microspheres Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets acquired (1)</td>
<td>$52.1</td>
<td>$33.8</td>
<td>$22.4</td>
</tr>
<tr>
<td>Liabilities assumed (2)</td>
<td>(68.0)</td>
<td>(18.7)</td>
<td>(16.0)</td>
</tr>
<tr>
<td>Goodwill</td>
<td>186.1</td>
<td>118.5</td>
<td>45.8</td>
</tr>
<tr>
<td>Intangible assets</td>
<td>111.8</td>
<td>76.4</td>
<td>37.8</td>
</tr>
<tr>
<td>Fair value of net assets</td>
<td>282.0</td>
<td>210.0</td>
<td>90.0</td>
</tr>
<tr>
<td>Less: Non-controlling interest (3)</td>
<td>5.0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total purchase consideration</td>
<td>$277.0</td>
<td>$210.0</td>
<td>$90.0</td>
</tr>
</tbody>
</table>

(1) Includes $4.9 million and $11.5 million of cash and cash equivalents for CTSI and Endocare / Alicon, respectively.

(2) Includes $32.9 million and $15.7 million of deferred tax liabilities for CTSI and Endocare / Alicon, respectively.

(3) The Company's non-controlling interest is a joint venture that was determined to be a variable interest entity. The Company has concluded that it is the primary beneficiary of the joint venture because it has the ability to control the significant activities of the joint venture, has the right to significant residual returns and is exposed to significant expected losses. The Company has consolidated the joint venture into its results of operations.
Identifiable Intangible Assets

The following table provides the valuation of the intangible assets acquired from CTSI, Endocare, Alicon, and the embolics microspheres business acquired from Boston Scientific, along with their weighted average estimated useful lives:

<table>
<thead>
<tr>
<th>(Dollars in millions)</th>
<th>CTSI</th>
<th>Endocare and Alicon</th>
<th>Embolics Microspheres Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Fair Value</td>
<td>Weighted Average Estimated Useful Life (In Years)</td>
<td>Fair Value</td>
</tr>
<tr>
<td>Technologies</td>
<td>$ 16.0</td>
<td>7.0</td>
<td>$ 58.8</td>
</tr>
<tr>
<td>Customer contracts, supplier relationships (1)</td>
<td>50.9</td>
<td>20.9</td>
<td>4.9</td>
</tr>
<tr>
<td>Trade names</td>
<td>44.9</td>
<td>17.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Total intangible assets with finite lives</td>
<td>111.8</td>
<td>64.1</td>
<td>37.8</td>
</tr>
<tr>
<td>In-process R&amp;D with indefinite lives</td>
<td>—</td>
<td>12.3</td>
<td>—</td>
</tr>
<tr>
<td>Total intangible assets</td>
<td>$ 111.8</td>
<td>$ 76.4</td>
<td>$ 37.8</td>
</tr>
</tbody>
</table>

(1) CTSI has certain partner relationships with hospitals with useful lives that range from approximately 22 to 23 years.

Other Acquisitions

In the third quarter of fiscal year 2019, the Company purchased a privately-held company for a cash purchase price of $15.2 million, including a holdback of $3.6 million and contingent consideration. As of the closing date, the value of the contingent consideration is zero because none of the milestones were probable to be achieved however, the Company could potentially pay up to approximately $9 million by 2023 if certain milestones were met plus additional payments for achieving revenue targets through 2035. The acquisition was classified as an asset acquisition, and the purchase consideration was allocated primarily to the intellectual property that covers the use of radiation in the heart and other forms of radiosurgery for cardiovascular disease. This resulted in $20.8 million of in-process R&D expense because of no future alternative use, and was recorded in acquisition-related expenses and in-process R&D in the Consolidated Statements of Earnings. The assets related to this acquisition are included in the Other category.

In the first quarter of fiscal year 2019, the Company acquired a privately-held software company for a purchase price of $28.5 million. The acquisition primarily consisted of $21.9 million in goodwill and $6.5 million in finite-lived intangible assets. The Company has integrated this acquisition into its Oncology Systems reporting unit. The goodwill for this acquisition is not deductible for income tax.

Measurement Period Adjustments

In the first quarter of fiscal year 2019, the Company recorded a measurement period adjustment of $9.6 million to the fair value of the purchase consideration of a business combination that occurred in the fourth quarter of fiscal year 2018. The adjustment primarily included a $11.6 million decrease in the fair value of the contingent consideration liability, primarily offset by a decrease to the finite-lived intangible assets of $5.4 million, and a decrease of $4.8 million to goodwill.

In the third quarter of fiscal year 2019, the Company recorded a measurement period adjustment of $2.6 million to the fair value of the purchase consideration of a business combination that occurred in the third quarter of fiscal year 2018. The adjustment consisted of an additional cash payment to the sellers and a corresponding increase to goodwill.

Fiscal Year 2018

On January 30, 2018, the Company signed an agreement to acquire Sirtex Medical Limited ("Sirtex"), an Australian company that was listed on the Australian Securities Exchange, for A$28 per share or approximately A$1.6 billion. On May 4, 2018, Sirtex received an unsolicited non-binding, indicative and conditional proposal from CDH Investments ("CDH"), a China-based alternative asset manager, for the acquisition of all of the issued shares in Sirtex for A$33.60 per share. On June 14, 2018, the Company received notification from Sirtex that it had accepted the proposal from CDH. Consequently, Sirtex terminated its agreement with the Company and the Company received a net $9.0 million breakup fee from Sirtex.
During fiscal year 2018, the Company acquired four companies, including two privately-held software companies, a distributor of radiotherapy equipment, and a manufacturer of a surface-guided radiation therapy positioning and motion management system, for an aggregate purchase price $136.7 million which consisted of $109.0 million in cash consideration. The purchase price consisted of $72.1 million in goodwill and $49.9 million in finite-lived intangible assets. The Company has integrated these four acquisitions into its Oncology Systems business. Approximately $14 million of the goodwill acquired in fiscal year 2018 is deductible for income tax purposes.

**Fiscal Year 2017**

The Company did not have any business combinations in fiscal year 2017.

**Other information**

The excess of purchase price over the fair value amounts assigned to the assets acquired and liabilities assumed represents the goodwill amount. The Company believes the factors that contributed to goodwill in its completed acquisitions include synergies not available to market participants, as well as the acquisition of a talented workforce.

The fair value of assets acquired and liabilities assumed has been determined on a preliminary basis for acquisitions completed in fiscal year 2019, and the Company will finalize these amounts as it obtains the information necessary to complete the measurement process. Any changes resulting from facts and circumstances that existed as of the date of a business combination may result in certain adjustments. The Company expects to finalize these amounts no later than one year from the date of each business combination.

Management applied significant judgment in determining the fair value of intangible assets, which involved the use of significant estimates and assumptions with respect to the projected revenues, projected margins, the economic lives, product and technology migration rates, customer attrition and the discount rates. The fair value of the contingent consideration has been estimated based on the likelihood of the performance metrics being achieved.

The consolidated financial statements include the operating results from the date the business was acquired. The impact of the completed acquisitions to the periods presented was not material. Pro forma results of operations for the completed acquisitions have not been presented because the effects were not material to the Company's consolidated financial statements.

During fiscal years 2019, 2018 and 2017, the Company incurred transaction costs related to its acquisitions of $23.4 million, $6.7 million and $1.7 million, respectively.

### 3. OTHER FINANCIAL INFORMATION

**Contracts with Customers**

The following table provides the Company's unbilled receivables and deferred revenues from contracts with customers:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unbilled receivables - current</td>
<td>$346.7</td>
<td>$362.8</td>
</tr>
<tr>
<td>Unbilled receivables - long-term (1)</td>
<td>35.1</td>
<td>36.3</td>
</tr>
<tr>
<td>Deferred revenues - current</td>
<td>(766.0)</td>
<td>(729.7)</td>
</tr>
<tr>
<td>Deferred revenues - long-term (2)</td>
<td>(73.1)</td>
<td>(38.6)</td>
</tr>
<tr>
<td>Total net unbilled receivables (deferred revenues)</td>
<td>$ (457.3)</td>
<td>$ (369.2)</td>
</tr>
</tbody>
</table>

(1) Included in other assets on the Company's Consolidated Balance Sheets.
(2) Included in other long-term liabilities on the Company's Consolidated Balance Sheets.

During fiscal year 2019, unbilled receivables decreased by $17.3 million, primarily due to the timing of triggering billing milestones in proton solutions and timing of payments, and deferred revenues increased by $70.8 million, primarily due to the contractual timing of billings occurring before the revenues were recognized.
During fiscal year 2019, the Company recognized revenues of $616.9 million, which was included in the deferred revenues balance as of September 28, 2018. During fiscal year 2018, the Company recognized revenues of $407.0 million, which was included in the deferred revenues balance as of September 29, 2017.

**Unfulfilled Performance Obligations**

The following table represents the Company's unfulfilled performance obligations as of September 27, 2019, and the estimated revenue expected to be recognized in the future related to these unfulfilled performance obligations:

<table>
<thead>
<tr>
<th>Fiscal years of revenue recognition</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>Thereafter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfulfilled performance obligations</td>
<td>$2,469.6</td>
<td>$1,581.1</td>
<td>$641.8</td>
<td>$1,991.4</td>
</tr>
</tbody>
</table>

The table above includes both product and service unfulfilled performance obligations, which includes a component of service performance obligations that have not been invoiced. The fiscal years presented reflect management’s best estimate of when the Company will transfer control to the customer and may change based on timing of shipment, readiness of customers’ facilities for installation, installation requirements, and availability of products or customer acceptance terms.

**Cash, Cash Equivalents, and Restricted Cash**

The following table summarizes the Company's cash, cash equivalents, and restricted cash:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents</td>
<td>$531.4</td>
<td>$504.8</td>
</tr>
<tr>
<td>Restricted cash - current (1)</td>
<td>4.2</td>
<td>3.1</td>
</tr>
<tr>
<td>Restricted cash - long-term (2)</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Total cash, cash equivalents, and restricted cash</td>
<td>$544.1</td>
<td>$516.4</td>
</tr>
</tbody>
</table>

(1) Included in prepaid expenses and other current assets on the Company's Consolidated Balance Sheets.
(2) Included in other assets on the Company's Consolidated Balance Sheets.

**Inventories**

The following table summarizes the Company's inventories:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw materials and parts</td>
<td>$376.5</td>
<td>$304.1</td>
</tr>
<tr>
<td>Work-in-process</td>
<td>71.8</td>
<td>50.6</td>
</tr>
<tr>
<td>Finished goods</td>
<td>103.2</td>
<td>83.4</td>
</tr>
<tr>
<td>Total inventories</td>
<td>$551.5</td>
<td>$438.1</td>
</tr>
</tbody>
</table>
Prepaid Expenses and Other Current Assets

The following table summarizes the Company's prepaid expenses and other current assets:

<table>
<thead>
<tr>
<th></th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepaid income taxes</td>
<td>$51.1</td>
<td>$48.1</td>
</tr>
<tr>
<td>Prepaid sales taxes</td>
<td>21.0</td>
<td>17.5</td>
</tr>
<tr>
<td>Prepaid compensation</td>
<td>13.7</td>
<td>14.2</td>
</tr>
<tr>
<td>Advance payments to suppliers</td>
<td>15.3</td>
<td>16.6</td>
</tr>
<tr>
<td>Available-for-sale securities (1)</td>
<td>—</td>
<td>39.4</td>
</tr>
<tr>
<td>RPTC senior secured debt (1)</td>
<td>—</td>
<td>24.9</td>
</tr>
<tr>
<td>Other current receivables</td>
<td>47.2</td>
<td>24.1</td>
</tr>
<tr>
<td>Other prepaid expenses</td>
<td>57.9</td>
<td>48.5</td>
</tr>
<tr>
<td><strong>Total prepaid expenses and other current assets</strong></td>
<td><strong>$206.2</strong></td>
<td><strong>$233.3</strong></td>
</tr>
</tbody>
</table>

(1) The Company's available-for-sale securities and the Rinecker Proton Therapy Center ("RPTC") senior secured debt were reclassified to other assets in fiscal year 2019. See Note 15, "Proton Solutions Loans and Investment," for more information.

Property, Plant and Equipment, net

The following table summarizes the Company's property, plant and equipment, net:

<table>
<thead>
<tr>
<th></th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land and land improvements</td>
<td>$44.2</td>
<td>$44.2</td>
</tr>
<tr>
<td>Buildings and leasehold improvements</td>
<td>242.5</td>
<td>227.0</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>456.2</td>
<td>404.0</td>
</tr>
<tr>
<td>Construction in progress</td>
<td>42.9</td>
<td>28.6</td>
</tr>
<tr>
<td><strong>Total property, plant and equipment, net</strong></td>
<td><strong>$311.5</strong></td>
<td><strong>$274.6</strong></td>
</tr>
</tbody>
</table>

Other Assets

The following table summarizes the Company's other assets:

<table>
<thead>
<tr>
<th></th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term receivables</td>
<td>$74.3</td>
<td>$71.7</td>
</tr>
<tr>
<td>Deferred Compensation Plan (&quot;DCP&quot;) assets</td>
<td>79.0</td>
<td>75.2</td>
</tr>
<tr>
<td>Equity investments</td>
<td>64.2</td>
<td>39.4</td>
</tr>
<tr>
<td>Long-term available-for-sale securities</td>
<td>58.2</td>
<td>23.1</td>
</tr>
<tr>
<td>California Proton Therapy Center (&quot;CPTC&quot;) Term loan</td>
<td>44.0</td>
<td>44.0</td>
</tr>
<tr>
<td>RPTC senior secured debt</td>
<td>23.5</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>54.0</td>
<td>39.4</td>
</tr>
<tr>
<td><strong>Total other assets</strong></td>
<td><strong>$397.2</strong></td>
<td><strong>$292.8</strong></td>
</tr>
</tbody>
</table>

Accrued Liabilities

The following table summarizes the Company's accrued liabilities:
(In millions)

<table>
<thead>
<tr>
<th></th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accrued compensation and benefits</td>
<td>$161.9</td>
<td>$151.1</td>
</tr>
<tr>
<td>DCP liabilities</td>
<td>75.0</td>
<td>74.4</td>
</tr>
<tr>
<td>Product warranty</td>
<td>40.0</td>
<td>40.9</td>
</tr>
<tr>
<td>Income taxes payable</td>
<td>39.8</td>
<td>49.0</td>
</tr>
<tr>
<td>Contingent consideration</td>
<td>33.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Other</td>
<td>109.8</td>
<td>103.1</td>
</tr>
<tr>
<td><strong>Total accrued liabilities</strong></td>
<td><strong>$459.5</strong></td>
<td><strong>$419.7</strong></td>
</tr>
</tbody>
</table>

**Other Long-Term Liabilities**

The following table summarizes the Company's other long-term liabilities:

(In millions)

<table>
<thead>
<tr>
<th></th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income taxes payable</td>
<td>$180.3</td>
<td>$189.1</td>
</tr>
<tr>
<td>Deferred revenues</td>
<td>73.1</td>
<td>38.6</td>
</tr>
<tr>
<td>Deferred income taxes</td>
<td>75.3</td>
<td>31.4</td>
</tr>
<tr>
<td>Contingent consideration</td>
<td>42.3</td>
<td>23.2</td>
</tr>
<tr>
<td>Defined benefit pension plans</td>
<td>31.1</td>
<td>8.6</td>
</tr>
<tr>
<td>Other</td>
<td>38.0</td>
<td>33.4</td>
</tr>
<tr>
<td><strong>Total other long-term liabilities</strong></td>
<td><strong>$440.1</strong></td>
<td><strong>$324.3</strong></td>
</tr>
</tbody>
</table>

**Other Income, Net**

The following table summarizes the Company's other income, net:

(In millions)

<table>
<thead>
<tr>
<th></th>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>Gain on equity investments</td>
<td>$23.8</td>
</tr>
<tr>
<td>Net foreign currency exchange gain</td>
<td>4.2</td>
</tr>
<tr>
<td>Other</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total other income, net</strong></td>
<td><strong>$28.3</strong></td>
</tr>
</tbody>
</table>

4. FAIR VALUE

**Assets/Liabilities Measured at Fair Value on a Recurring Basis**

In the tables below, the Company has segregated all assets and liabilities that are measured at fair value on a recurring basis into the most appropriate level within the fair value hierarchy based on the inputs used to determine the fair value at the measurement date.
### Fair Value Measurement at September 27, 2019

<table>
<thead>
<tr>
<th>Type of Instruments</th>
<th>Quoted Prices in Active Markets for Identical Instruments (Level 1)</th>
<th>Significant Other Observable Inputs (Level 2)</th>
<th>Significant Unobservable Inputs (Level 3)</th>
<th>Total Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash equivalents:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Money market funds</td>
<td>$ 0.2</td>
<td>$</td>
<td>$</td>
<td>$ 0.2</td>
</tr>
<tr>
<td>Available-for-sale securities: (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPTC Series B-1 Bonds</td>
<td>—</td>
<td>27.1</td>
<td>—</td>
<td>27.1</td>
</tr>
<tr>
<td>MPTC Series B-2 Bonds</td>
<td>—</td>
<td>25.1</td>
<td>—</td>
<td>25.1</td>
</tr>
<tr>
<td>APTC securities</td>
<td>—</td>
<td>6.6</td>
<td>—</td>
<td>6.6</td>
</tr>
<tr>
<td>Derivative assets</td>
<td>—</td>
<td>2.8</td>
<td>—</td>
<td>2.8</td>
</tr>
<tr>
<td>Total assets measured at fair value</td>
<td>$ 0.2</td>
<td>$ 61.6</td>
<td>$</td>
<td>$ 61.8</td>
</tr>
<tr>
<td><strong>Liabilities:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingent consideration</td>
<td>$</td>
<td>$</td>
<td>$ (75.3)</td>
<td>$ (75.3)</td>
</tr>
<tr>
<td>Total liabilities measured at fair value</td>
<td>$</td>
<td>$</td>
<td>$ (75.3)</td>
<td>$ (75.3)</td>
</tr>
</tbody>
</table>

(1) Included in other assets on the Company's Consolidated Balance Sheets, except for amounts related to short-term interest receivable.

### Fair Value Measurements at September 28, 2018

<table>
<thead>
<tr>
<th>Type of Instruments</th>
<th>Quoted Prices in Active Markets for Identical Instruments (Level 1)</th>
<th>Significant Other Observable Inputs (Level 2)</th>
<th>Significant Unobservable Inputs (Level 3)</th>
<th>Total Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash equivalents:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Money market funds</td>
<td>$ 44.1</td>
<td>$</td>
<td>$</td>
<td>$ 44.1</td>
</tr>
<tr>
<td>Available-for-sale securities: (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPTC Series B-1 Bonds (2)</td>
<td>—</td>
<td>25.1</td>
<td>—</td>
<td>25.1</td>
</tr>
<tr>
<td>MPTC Series B-2 Bonds (1)</td>
<td>—</td>
<td>23.1</td>
<td>—</td>
<td>23.1</td>
</tr>
<tr>
<td>APTC securities (2)</td>
<td>—</td>
<td>6.4</td>
<td>—</td>
<td>6.4</td>
</tr>
<tr>
<td>GPTC securities (2)</td>
<td>—</td>
<td>7.9</td>
<td>—</td>
<td>7.9</td>
</tr>
<tr>
<td>Total assets measured at fair value</td>
<td>$ 44.1</td>
<td>$ 62.5</td>
<td>$</td>
<td>$ 106.6</td>
</tr>
<tr>
<td><strong>Liabilities:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingent consideration</td>
<td>$</td>
<td>$</td>
<td>$ (24.4)</td>
<td>$ (24.4)</td>
</tr>
<tr>
<td>Total liabilities measured at fair value</td>
<td>$</td>
<td>$</td>
<td>$ (24.4)</td>
<td>$ (24.4)</td>
</tr>
</tbody>
</table>

(1) Included in other assets on the Company's Consolidated Balance Sheets.

(2) Included in prepaid and other current assets on the Company's Consolidated Balance Sheets because the Company had the ability and intent to sell this security in the next twelve months.

The Company classifies its money market funds as Level 1 because they have daily liquidity, quoted prices for the underlying investments can be obtained, and there are active markets for the underlying investments. The Company's Level 2 available-for-sale securities consist of bonds for the Maryland Proton Therapy Center ("MPTC"), Alabama Proton Therapy Center ("APTC"), and Georgia Proton Treatment Center ("GPTC"). The observable inputs for these securities are comparable bond issues, broker/dealer quotations for the same or similar investments in active markets, and other observable inputs such as yields, credit risks, default rates, and volatility. As of September 27, 2019, and September 28, 2018, the carrying amount of the Company's Level 1 money market funds and Level 2 available-for-sale securities approximated their respective fair values. See Note 15, "Proton Solutions Loans and Investment," for more information about the available-for-sale securities.
The Company has elected to use the income approach to value its derivative instruments using standard valuation techniques and Level 2 inputs, such as currency spot rates, forward points and credit default swap spreads. The Company’s derivative instruments are generally short-term in nature, typically one month to fifteen months in duration.

The Company generally measures the fair value of its Level 3 contingent consideration liabilities based on Black-Scholes or Monte Carlo pricing models with key assumptions that include estimated revenues of the acquired business, the probability of completing certain milestone targets during the earn-out period, volatility, and estimated discount rates corresponding to the periods of expected payments. If the estimated revenues or probability of completing certain milestones were to increase or decrease during the respective earn-out period, the fair value of the contingent consideration would increase or decrease, respectively. If the estimated discount rates were to increase or decrease, the fair value of contingent consideration would decrease or increase, respectively. Changes in volatility may result in an increase or decrease in the fair value of contingent consideration. The Company's contingent consideration is from its business combinations and is included in accrued liabilities and other long-term liabilities on the Consolidated Balance Sheets.

The following table presents the reconciliation for all assets and liabilities measured and recorded at fair value on a recurring basis using significant unobservable inputs (Level 3):

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Available-for-Sale Securities</th>
<th>Contingent Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at September 29, 2017</td>
<td>$47.4</td>
<td>—</td>
</tr>
<tr>
<td>Additions</td>
<td>—</td>
<td>$(24.9)</td>
</tr>
<tr>
<td>Reclassification of Original CPTC Loans to Term Loan</td>
<td>$(47.4)</td>
<td>—</td>
</tr>
<tr>
<td>Settlements</td>
<td>—</td>
<td>0.5</td>
</tr>
<tr>
<td>Balance at September 28, 2018</td>
<td>—</td>
<td>$(24.4)</td>
</tr>
<tr>
<td>Additions</td>
<td>—</td>
<td>$(45.4)</td>
</tr>
<tr>
<td>Measurement period adjustments to a business combination in prior year</td>
<td>—</td>
<td>11.6</td>
</tr>
<tr>
<td>Settlements</td>
<td>—</td>
<td>1.0</td>
</tr>
<tr>
<td>Adjustments due to the effect of foreign exchange</td>
<td>—</td>
<td>0.5</td>
</tr>
<tr>
<td>Change in fair value recognized in earnings</td>
<td>—</td>
<td>$(18.6)</td>
</tr>
<tr>
<td>Balance at September 27, 2019</td>
<td>$</td>
<td>$(75.3)</td>
</tr>
</tbody>
</table>

There were no transfers of assets or liabilities between fair value measurement levels during fiscal years 2019, 2018 and 2017. Transfers between fair value measurement levels are recognized at the end of the reporting period.

**Fair Value of Other Financial Instruments**

The fair values of certain of the Company’s financial instruments, including bank deposits included in cash equivalents, trade and unbilled receivables, net of allowance for doubtful accounts, the revolving loan to CPTC, accounts payable, and short-term borrowings approximate their carrying amounts due to their short maturities.

As of September 27, 2019, the fair value of the Term Loan (as defined below) with CPTC approximated its carrying value of $44.0 million. The carrying value is based on the present value of expected future cash payments discounted at a rate reflecting the nature and duration of the loans, risks involved with CPTC, and its industry, as a result, the Term Loan is categorized as Level 3 in the fair value hierarchy. See Note 15, "Proton Solutions Loans and Investment," for further information.

The Company's equity investments in privately-held companies were $64.2 million and $37.2 million at September 27, 2019 and September 28, 2018, respectively.

The fair value of the outstanding long-term notes receivable, including accrued interest, approximated their carrying value of $33.6 million and $29.7 million at September 27, 2019 and September 28, 2018, respectively, because they are based on terms of recent comparable transactions and are categorized as Level 3 in the fair value hierarchy. The fair value is based on the income approach by using the discounted cash flow model with key assumptions that include discount rates corresponding to the terms and risks as well as underlying cash flow assumptions. See Note 15, "Proton Solutions Loans and Investment," for more information on the long-term notes receivable.
5. RECEIVABLES
The following table summarizes the Company's trade and unbilled receivables and notes receivable as of September 27, 2019 and September 28, 2018:

(\text{In} \text{ millions}) & \text{September 27,} & \text{September 28,} \\
& 2019 & 2018 \\
\text{Trade and unbilled receivables, gross} & $1,193.5 & $1,093.0 \\
\text{Allowance for doubtful accounts} & (46.5) & (41.1) \\
\text{Trade and unbilled receivables, net} & $1,147.0 & $1,051.9 \\
\text{Short-term} & $1,106.3 & $1,009.9 \\
\text{Long-term} & $40.7 & $42.0 \\
\text{Notes receivable} & $33.6 & $29.8 \\
\text{Short-term} & $— & $0.1 \\
\text{Long-term} & $33.6 & $29.7 \\

(1) Included in other assets on the Company's Consolidated Balance Sheets. 
(2) Included in prepaid expenses and other current assets on the Company's Consolidated Balance Sheets. 
(3) Balances include accrued interest and are recorded in other assets on the Company's Consolidated Balance Sheets.

A financing receivable represents a financing arrangement with a contractual right to receive money, on demand or on fixed or determinable dates, and that is recognized as an asset on the Company's Consolidated Balance Sheets. The Company's financing receivables consist of trade receivables with contractual maturities of more than one year and notes receivable. A small portion of the Company's financing trade receivables are included in short-term trade receivables. As of September 27, 2019, and September 28, 2018, the allowance for doubtful accounts is entirely related to short-term receivables. See Note 15, "Proton Solutions Loans and Investment," for more information on the Company's notes receivable balances.

6. GOODWILL AND INTANGIBLE ASSETS
The following table reflects the activity of goodwill by reportable operating segment:

(\text{In} \text{ millions}) & \text{Oncology} & \text{Proton Solutions} & \text{Other} & \text{Total} \\
\text{Balance at September 29, 2017} & $170.2 & $52.4 & $— & $222.6 \\
 & Business combinations & 72.1 & — & — & 72.1 \\
 & Foreign currency translation adjustments & (0.2) & (0.9) & $— & (1.1) \\
\text{Balance at September 28, 2018} & 242.1 & 51.5 & $— & 293.6 \\
 & Business combinations & 208.0 & — & 164.3 & 372.3 \\
 & Impairment charges & $— & (50.5) & $— & (50.5) \\
 & Measurement period adjustment to a business combination in prior year & (2.2) & $— & $— & (2.2) \\
 & Foreign currency translation adjustments & $— & (1.0) & $— & (1.0) \\
\text{Balance at September 27, 2019} & $447.9 & $— & $164.3 & $612.2 \\

See Note 2, "Business Combinations," for more information on the business combinations and measurement period adjustments to business combinations in prior years.

During the third quarter of fiscal year 2019, the Company recorded a goodwill impairment charge of $50.5 million for the full value of the Proton Solutions reporting unit goodwill. The impairment resulted from a downward revision of the forecasted future cash flows. Factors in the third quarter that contributed to the revised forecast include observed continued weakness in proton therapy markets and lower than expected results as compared to prior forecasts. These events decreased the forecasted cash flows and the fair value of the Proton Solutions reporting unit below its carrying value as of the third quarter of fiscal year 2019.
To determine the fair value of the Proton Solutions reporting unit, the Company used the income and market approaches. Under the income approach, the fair value of the Proton Solutions reporting unit was based on the present value of the estimated future cash flows that the reporting unit is expected to generate over its remaining life. Cash flow projections were based on management's estimates of revenue growth rates and operating margins, taking into consideration industry and market conditions and system order backlog. The discount rate used was based on the weighted-average cost of capital appropriate for the Proton Solutions reporting unit. The market approaches considered revenue multiples based on comparable transactions and public companies.

The Company also assessed whether the carrying amounts of the Proton Solutions reporting unit’s long-lived assets may not be recoverable and therefore impaired. To assess the recoverability of the reporting unit’s long-lived assets, the undiscounted cash flows of the reporting unit were analyzed and compared to the carrying value. The sum of undiscounted cash flows exceeded the carrying value of the asset group, and therefore, no impairment was indicated.

The following table reflects the gross carrying amount and accumulated amortization of the Company’s intangible assets, net:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gross Carrying Amount</td>
<td>Accumulated Amortization</td>
</tr>
<tr>
<td>Technologies and patents</td>
<td>$226.4</td>
<td>$(85.9)</td>
</tr>
<tr>
<td>Customer contracts, supplier</td>
<td>121.1</td>
<td>(25.7)</td>
</tr>
<tr>
<td>relationships and partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade names</td>
<td>55.1</td>
<td>(3.0)</td>
</tr>
<tr>
<td>Other</td>
<td>6.1</td>
<td>(6.1)</td>
</tr>
<tr>
<td>Total intangible with finite lives</td>
<td>408.7</td>
<td>(120.7)</td>
</tr>
<tr>
<td>In-process R&amp;D with indefinite</td>
<td>12.7</td>
<td>—</td>
</tr>
<tr>
<td>lives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total intangible assets</td>
<td>$421.4</td>
<td>$(120.7)</td>
</tr>
</tbody>
</table>

Amortization expense for intangible assets was $27.3 million, $20.6 million and $16.6 million for fiscal years 2019, 2018 and 2017, respectively.

As of September 27, 2019, the Company estimates that its remaining amortization expense for intangible assets with finite lives will be as follows (in millions):

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>$37.0</td>
</tr>
<tr>
<td>2021</td>
<td>35.6</td>
</tr>
<tr>
<td>2022</td>
<td>33.5</td>
</tr>
<tr>
<td>2023</td>
<td>32.7</td>
</tr>
<tr>
<td>2024</td>
<td>25.7</td>
</tr>
<tr>
<td>Thereafter</td>
<td>123.5</td>
</tr>
<tr>
<td>Total remaining amortization</td>
<td>$288.0</td>
</tr>
</tbody>
</table>
7. BORROWINGS

The following table summarizes the Company's short-term borrowings:

<table>
<thead>
<tr>
<th>(In millions, except for percentages)</th>
<th>September 27, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-term borrowings:</strong></td>
<td></td>
</tr>
<tr>
<td>Revolving Credit Facility</td>
<td>$410.0</td>
</tr>
<tr>
<td><strong>Total short-term borrowings</strong></td>
<td>$410.0</td>
</tr>
</tbody>
</table>

As of September 28, 2018, the Company did not have any short-term borrowings.

On April 3, 2018, the Company entered into a credit agreement (the "Credit Agreement") with certain lenders and Bank of America, N.A. as the administrative agent. The Credit Agreement provided for a five-year revolving credit facility (the "Revolving Credit Facility") in an aggregate principal amount of up to $1.8 billion. The Revolving Credit Facility also includes a $50.0 million sub-facility for the issuance of letters of credit and permits swing line loans of up to $25 million. Under the Revolving Credit Facility, the Company has the right to (i) request to increase the aggregate commitments by an aggregate amount for all such requests of up to $100.0 million and (ii) request an additional increase in the commitments or establish one or more term loans, provided that, in each case, the lenders are willing to provide such new or increased commitments and certain other conditions are met. The proceeds of the Revolving Credit Facility may be used for working capital, capital expenditures, Company share repurchases, permitted acquisitions and other corporate purposes.

On November 1, 2019, the Company entered into Amendment No. 2 to Credit Agreement (the “Amendment”) to its Credit Agreement dated as of April 3, 2018. See Note 18, "Subsequent Events" for more information on the Amendment to the Credit Agreement.

Borrowings under the Revolving Credit Facility accrue interest based on either (i) the Eurodollar Rate plus a margin of 1.000% to 1.375% based on a net leverage ratio involving funded indebtedness and EBITDA, or (ii) a base rate of (a) the federal funds rate plus 0.50%, (b) BofA’s announced prime rate, or (c) the Eurodollar Rate plus 1.00%, whichever is highest, plus a margin of 0.000% to 0.375% based on the same leverage ratio, depending upon instructions from the Company. Borrowings under the Eurodollar Rate have a contract repayment date of twelve months, or less. Borrowings under the base rate can be made on an overnight basis and have a final maturity of five years.

The Company must pay a commitment fee on the unused portion of the Revolving Credit Facility at a rate from 0.125% to 0.25% based on a net leverage ratio. The Company may prepay, reduce or terminate the commitments without penalty. Swing line loans under the Revolving Credit Facility will bear interest at the base rate plus the then applicable margin for base rate loans. The Company paid commitment fees of $2.3 million, $0.9 million and $0.7 million in fiscal years 2019, 2018 and 2017, respectively, related to its borrowings.

The Credit Agreement provides that certain material domestic subsidiaries must guarantee the Revolving Credit Facility, subject to certain limitations on the amount secured. As of September 27, 2019, no subsidiary guarantees were required to be executed under the Credit Agreement.

The Credit Agreement contains provisions that limit the Company's ability to, among other things, incur future indebtedness, contingent obligations or liens, guarantee indebtedness, make certain investments and capital expenditures, sell stock or assets and pay dividends, and consummate certain mergers or acquisitions.

The Credit Agreement contains affirmative and negative covenants applicable to the Company and its subsidiaries that are typical for credit facilities of this type, and that are subject to materiality and other qualifications, carve-outs, baskets and exceptions. The Company agreed to maintain a financial covenant which requires a maximum consolidated net leverage ratio. The Company was in compliance with all financial covenants under the Credit Agreement for fiscal year 2019.

Other Borrowings

VMS’s Japanese subsidiary (“VMS KK”) has an unsecured uncommitted credit agreement with Sumitomo that enables VMS KK to borrow and have outstanding at any given time a maximum of 3.0 billion Japanese Yen (the “Sumitomo Credit Facility”). In February 2019, the Sumitomo Credit Facility was extended and will expire in February 2020. Borrowings under
the Sumitomo Credit Facility accrue interest based on the basic loan rate announced by the Bank of Japan plus a margin of 0.5%. As of September 27, 2019, the Company did not have an outstanding principal balance on its Sumitomo Credit Facility.

Total Company interest paid on borrowings was $3.2 million, $4.6 million and $9.0 million in fiscal years 2019, 2018 and 2017, respectively.

8. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

The Company measures all derivatives at fair value on the Consolidated Balance Sheets. The accounting for gains or losses resulting from changes in the fair value of those derivatives depends upon the use of the derivative and whether it qualifies for hedge accounting.

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27,</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance Sheet Location</td>
<td>Fair Value</td>
<td></td>
</tr>
<tr>
<td>Derivatives designated as hedging instruments:</td>
<td>$2.8</td>
<td>$2.8</td>
</tr>
<tr>
<td>Foreign exchange forward contracts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepaid expenses and other current assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total derivatives</td>
<td>$2.8</td>
<td>$2.8</td>
</tr>
</tbody>
</table>

As of September 28, 2018, the Company did not have any outstanding derivatives designated as hedging instruments. As of September 27, 2019, and September 28, 2018, the fair value of the Company's derivatives not designated as hedging instruments were not material. Also, see Note 1, "Summary of Significant Accounting Policies," for the credit risk associated with the Company's derivative instruments.

**Offsetting of Derivatives**

The Company presents its derivative assets and derivative liabilities on a gross basis on the Consolidated Balance Sheets. However, under agreements containing provisions on netting with certain counterparties of foreign exchange contracts, subject to applicable requirements, the Company is allowed to net-settle transactions on the same date in the same currency, with a single net amount payable by one party to the other. As of September 27, 2019, and September 28, 2018, there were no potential effects of rights of setoff associated with derivative instruments. The Company is neither required to pledge nor entitled to receive cash collateral related to these derivative transactions.

**Cash Flow Hedging Activities**

The Company has many transactions denominated in foreign currencies and addresses certain of those financial exposures through a risk management program that includes the use of derivative financial instruments. The Company sells products throughout the world, often in the currency of the customer’s country, and may hedge certain of the larger foreign currency transactions when they are either not denominated in the relevant subsidiary’s functional currency or the U.S. Dollar. These foreign currency sales transactions are hedged using foreign currency forward contracts. The Company may use other derivative instruments in the future. The Company does not enter into foreign currency forward contracts for speculative or trading purposes. Foreign currency forward contracts are entered into several times a quarter and range from one to fifteen months in maturity.

The hedges of foreign currency denominated forecasted revenues are designated and accounted for as cash flow hedges. The designated cash flow hedges de-designate when the anticipated revenues associated with the transactions are recognized and the effective portion in accumulated other comprehensive loss on the Consolidated Balance Sheets is reclassified to revenues in the Consolidated Statements of Earnings. Subsequent changes in fair value of the derivative instrument are recorded in other income, net, in the Consolidated Statements of Earnings to offset changes in fair value of the resulting non-functional currency receivables. For derivative instruments that are designated and qualified as cash flow hedges, the Company formally documents for each derivative instrument at the hedge’s inception, the relationship between the hedging instrument (foreign currency forward contract) and hedged item (forecasted foreign currency revenues), the nature of the risk being hedged and its risk management objective and strategy for undertaking the hedge. The Company records the gain or loss on the derivative instruments that are designated and qualified as cash flow hedges in accumulated other comprehensive loss on the Consolidated Balance Sheets and reclassifies these amounts into revenues in the Consolidated Statements of Earnings in the period in which the hedged transaction is recognized in earnings. The Company assesses hedge effectiveness both at the onset of the hedge and
on an ongoing basis using regression analysis. The time value of the derivative and hedged item is included in the assessment of hedge effectiveness.

The Company had the following outstanding foreign currency forward contracts that were entered into to hedge forecasted revenues and designated as cash flow hedges:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Notional Value Sold</td>
</tr>
<tr>
<td>Euro</td>
<td>$76.5</td>
</tr>
<tr>
<td>Japanese Yen</td>
<td>56.7</td>
</tr>
<tr>
<td></td>
<td>$133.2</td>
</tr>
</tbody>
</table>

At the inception of the hedge relationship and quarterly thereafter, the Company assesses whether the likelihood of meeting the forecasted cash flow is highly probable. As of September 28, 2018, the Company did not have any foreign currency forward contracts designated as cash flow hedges.

The following table presents the amounts, before tax, recognized in accumulated other comprehensive loss on the Consolidated Balance Sheets that are related to the foreign currency forward contracts designated as cash flow hedges:

<table>
<thead>
<tr>
<th>Gain (Loss) Recognized in Other Comprehensive Earnings (Loss)</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign currency forward contracts</td>
<td>$3.0</td>
<td>$(0.9)</td>
<td>—</td>
</tr>
</tbody>
</table>

As of September 27, 2019, the net unrealized gain on derivatives, before tax, of $2.8 million was included in accumulated other comprehensive loss on the Consolidated Balance Sheets and is expected to be reclassified to earnings over the next 12 months.

The effect of cash flow hedge accounting on the Consolidated Statements of Earnings was as follows:

<table>
<thead>
<tr>
<th>Location and Amount of Loss Recognized in Earnings (Loss) on Cash Flow Hedging Relationships</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
<th>September 29, 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>$3,225.1</td>
<td>$2,919.1</td>
<td>$2,619.3</td>
</tr>
</tbody>
</table>

Gain (loss) on cash flow hedge relationships:

Foreign exchange contracts:

Amount gain (loss) reclassified from other comprehensive earnings (loss) into earnings: $0.2, $(0.9), —

In fiscal year 2018, the Company adopted ASU 2017-12 and excluded the ineffective portion of the cash flow hedge from the assessment of effectiveness.

**Balance Sheet Hedging Activities**

The Company also hedges balance sheet exposures from its various subsidiaries and business units where the U.S. Dollar is the functional currency. The Company enters into foreign currency forward contracts to minimize the short-term impact of foreign currency fluctuations on monetary assets and liabilities denominated in currencies other than the U.S. Dollar functional currency. The foreign currency forward contracts are short term in nature, typically with a maturity of approximately one month, and are based on the net forecasted balance sheet exposure. For derivative instruments not designated as hedging instruments, changes in their fair values are recognized in other income, net in the Consolidated Statements of Earnings.
Changes in the values of these hedging instruments are offset by changes in the values of foreign-currency-denominated assets and liabilities. Variations from the forecasted foreign currency assets or liabilities, coupled with a significant currency rate movement, may result in a material gain or loss if the hedges are not effectively offsetting the change in value of the foreign currency asset or liability. Other than foreign exchange hedging activities, the Company has no other free-standing or embedded derivative instruments.

The notional amount of the Company's outstanding foreign currency forward contracts:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notional value sold</td>
<td>$385.0</td>
<td>$398.3</td>
</tr>
<tr>
<td>Notional value purchased</td>
<td>$52.3</td>
<td>$70.3</td>
</tr>
</tbody>
</table>

The following table presents the gains (losses) recognized in the Company's Consolidated Statements of Earnings related to the foreign currency forward contracts that are not designated as hedging instruments.

<table>
<thead>
<tr>
<th>Location of Gain (Loss) Recognized in Net Earnings on Derivative</th>
<th>Amount of Gain (Loss) Recognized in Net Earnings on Derivative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Years</td>
<td>2019</td>
</tr>
<tr>
<td>Other income, net</td>
<td>$18.1</td>
</tr>
</tbody>
</table>

The gains (losses) on these derivative instruments were significantly offset by the gains (losses) resulting from the remeasurement of monetary assets and liabilities denominated in currencies other than the U.S. Dollar functional currency.

Contingent Features

Certain of the Company’s derivative instruments are subject to master agreements which contain provisions that require the Company, in the event of a default, to settle the outstanding contracts in net liability positions by making settlement payments in cash or by setting off amounts owed to the counterparty against any credit support or collateral held by the counterparty. As of September 27, 2019, and September 28, 2018, the Company did not have any outstanding derivative instruments with credit-risk-related contingent features that were in a net liability position.

9. COMMITMENTS AND CONTINGENCIES

Indemnification Agreements

In conjunction with the sale of the Company’s products in the ordinary course of business, the Company provides standard indemnification of business partners and customers for losses suffered or incurred for property damages, death and injury and for patent, copyright or any other intellectual property infringement claims by any third parties with respect to its products. The terms of these indemnification arrangements are generally perpetual. Except for losses related to property damages, the maximum potential amount of future payments the Company could be required to make under these arrangements is unlimited. As of September 27, 2019, the Company had not incurred any significant costs to defend lawsuits or settle claims related to these indemnification arrangements. As a result, the Company believes the estimated fair value of these arrangements is minimal.

VMS has entered into indemnification agreements with its directors and officers and certain of its employees that serve as officers or directors of its foreign subsidiaries that may require VMS to indemnify its directors and officers and those certain employees against liabilities that may arise by reason of their status or service as directors or officers, and to advance their expenses incurred as a result of any legal proceeding against them as to which they could be indemnified.
Product Warranty

The following table reflects the changes in the Company’s accrued product warranty:

| Fiscal Years |
|--------------|--------------|
|              | 2019         | 2018         |
| Accrued product warranty, at beginning of period | $44.8 | $41.3 |
| Charged to cost of revenues | 54.2 | 55.5 |
| Actual product warranty expenditures | (55.8) | (52.0) |
| Accrued product warranty, at end of period | $43.2 | $44.8 |

The long-term portion of accrued product warranty costs were $3.2 million and $3.9 million at September 27, 2019, and September 28, 2018, respectively and was included in other long-term liabilities on the Consolidated Balance Sheets.

Lease Commitments

At September 27, 2019, the Company was committed to minimum rentals under non-cancellable operating leases (including rent escalation clauses) for fiscal years 2020 through 2024 and thereafter, as follows: $32.5 million, $26.3 million, $20.2 million, $14.5 million, $10.9 million and $49.9 million, respectively. Rental expenses were $28.4 million, $28.7 million and $26.4 million for fiscal years 2019, 2018 and 2017, respectively.

Lessor Arrangements

The Company leases some of its equipment to certain customers on operating leases generally over a period of 15 years. As of September 27, 2019, the Company had $22.5 million and $5.5 million included in property, plant and equipment and accumulated depreciation, respectively, related to equipment leased to customers. As of September 28, 2018, the Company had $19.2 million and $1.3 million included in property, plant and equipment and accumulated depreciation, respectively, related to equipment leased to customers. The Company recorded income on these equipment leases of $8.8 million and $3.8 million during fiscal years ended September 27, 2019 and September 28, 2018, respectively.

Purchase Obligations

At September 27, 2019, the Company was committed to purchase obligations to purchase goods or services that are enforceable, are legally binding and non-cancellable. The Company's purchase obligations for fiscal years 2020 through 2024, are as follows: $48.9 million, $30.8 million, $19.3 million, $11.3 million, and $10.1 million respectively.

Other Commitments

See Note 15, "Proton Solutions Loans and Investment," for additional information about the Company's commitments for funding development and construction of various proton therapy centers.

Contingencies

Environmental Remediation Liabilities

The Company’s operations and facilities, past and present, are subject to environmental laws, including laws that regulate the handling, storage, transport and disposal of hazardous substances. Certain of those laws impose cleanup liabilities on the Company in connection with its past and present operations. Those include facilities sold as part of the Company’s electron devices business in 1995 and thin film systems business in 1997. As a result, the Company oversees various environmental cleanup projects and receives reimbursements from third parties for a portion of the costs of its cleanup activities.

The Company also reimburses certain third parties for cleanup activities. The amount the Company spent (net of amounts borne by third parties) on environmental cleanup costs, third-party claim costs, project management costs and legal costs during fiscal years 2019, 2018 and 2017, was not material.

With respect to some of these facilities, inherent uncertainties make it difficult to estimate the likelihood of the cost of future cleanup, third-party claims, project management and legal services for the cleanup sites ("Group A Sites"). Nonetheless, as of September 27, 2019, the Company estimated that, net of third parties' indemnification obligations, future costs associated with environmental remediation liabilities for the Group A Sites would range in total from $0.7 million to $4.2 million. The time
frames over which these cleanup project costs are estimated vary, ranging from one year up to thirty years as of September 27, 2019. Management believes that no amount in that range is more probable of being incurred than any other amount and therefore had accrued $0.7 million for these cleanup projects as of September 27, 2019. The accrued amount has not been discounted to present value due to the uncertainties that make it difficult to develop a single best estimate.

In addition to the Group A Sites, there are other past and present facilities (“Group B Sites”) where the Company believes it has gained sufficient knowledge to better estimate the scope and cost of monitoring, cleanup and management activities. This, in part, is based on agreements with other parties and also cleanup plans approved by or completed in accordance with the requirements of the governmental agencies having jurisdiction. As of September 27, 2019, the Company estimated that the Company’s future exposure on the Group B Sites, net of third parties’ indemnification obligations, for the costs at these facilities, and reimbursements of third-party’s claims for these facilities, ranged in total from $3.6 million to $18.7 million. The time frames over which these costs are estimated to be incurred vary, ranging from zero to thirty years as of September 27, 2019. As to each of these facilities, management determined that a particular amount within the range of estimated costs was a better estimate than any other amount within the range, and that the amount and timing of these future costs were reliably determinable. The best estimate within that range was $4.5 million at September 27, 2019. Accordingly, the Company had accrued $4.1 million for these costs as of September 27, 2019, which represented the best estimate discounted at 4%, net of inflation. This accrual is in addition to the $0.7 million described for the Group A Sites.

The table that follows presents information about the Company’s liabilities for future environmental costs at September 27, 2019, based on estimates as of that date.

<table>
<thead>
<tr>
<th>Fiscal Years:</th>
<th>Recurring Costs</th>
<th>Non-Recurring Costs</th>
<th>Total Anticipated Future Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>$</td>
<td>0.4</td>
<td>$</td>
</tr>
<tr>
<td>2021</td>
<td>0.4</td>
<td>0.3</td>
<td>0.7</td>
</tr>
<tr>
<td>2022</td>
<td>0.3</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>2023</td>
<td>0.3</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>2024</td>
<td>0.3</td>
<td>0.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Thereafter</td>
<td>0.7</td>
<td>0.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Total costs</td>
<td>2.4</td>
<td>2.8</td>
<td>5.2</td>
</tr>
<tr>
<td>Less imputed interest</td>
<td></td>
<td></td>
<td>0.4</td>
</tr>
<tr>
<td>Reserve amount</td>
<td>$</td>
<td>4.8</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Recurring costs include expenses for such tasks as the ongoing operation, maintenance and monitoring of cleanup. Non-recurring costs include expenses for such tasks as soil excavation and treatment, installation of injection and monitoring wells, other costs for soil and groundwater treatment by injection, construction of ground and surface water treatment systems, soil and groundwater investigation, governmental agency costs required to be reimbursed by the Company, removal and closure of treatment systems and monitoring wells, and the defense and settlement of pending and anticipated third-party claims.

These amounts are only estimates of anticipated future costs. The amounts the Company will actually spend may be greater than these estimates. The Company believes its reserve is adequate, however as the scope of the Company’s obligations becomes more clearly defined, the Company may modify the reserve, and charge or credit future earnings accordingly. Based on information currently known to management, management believes the costs of these environmental related matters are not reasonably likely to have a material adverse effect on the consolidated financial statements of the Company in any one fiscal year.

The Company evaluates its liability for investigation and cleanup costs in light of the obligations and apparent financial strength of potential third parties and insurance companies to which the Company believes it has rights to indemnity or reimbursement. The Company has an agreement with an insurance company under which that insurer has agreed to pay a portion of the Company’s past and future environmental related expenditures. Receivables, net of the portion due to third parties who reimburse the Company, from that insurer amounted to $1.1 million and $1.4 million at September 27, 2019 and September 28, 2018, respectively, with the respective current portion included in prepaid expenses and other current assets and the respective noncurrent portion included in other assets on the Consolidated Balance Sheets. The payable portion to that insurer is included in other long-term liabilities on the Consolidated Balance Sheets. The Company believes that this receivable is recoverable, because it is based on a binding, written settlement agreement with an insurance company that appears to be financially viable and who has paid the Company’s claims in the past.
The availability of the indemnities of third parties' will depend upon the future of their financial strength. Given the long-term nature of some of the liabilities, the third parties may be unable to fund the indemnities in the future. It is also possible that a court would disregard this contractual allocation among the parties and require the Company to assume responsibility for obligations allocated to another party, particularly if the other party were to refuse or was unable to pay any of its allocated share. In addition, the Amended and Restated Distribution Agreement dated as of January 14, 1999 and other associated agreements that govern the Spin-offs generally provide that if a court prohibits a company from satisfying its shared indemnification obligations, the indemnification obligations will be shared equally by the two other companies.

Other Matters
On October 16, 2018, Best Medical International, Inc. sued the Company in U.S. District Court in the District of Delaware, alleging infringement of four patents related to treatment planning. The Company intends to defend the suit vigorously. This lawsuit is in the initial stages and at this time, the Company is unable to predict the ultimate outcome of this matter or estimate a range of possible exposure, and therefore no amounts have been accrued.

From time to time, the Company is a party to or otherwise involved in legal proceedings, claims and government inspections or investigations and other legal matters, both inside and outside the United States, arising in the ordinary course of its business or otherwise. The Company accurses amounts, to the extent they can be reasonably estimated, that it believes are adequate to address any liabilities related to legal proceedings and other loss contingencies that the Company believes will result in a probable loss (including, among other things, probable settlement value). A loss or a range of loss is disclosed when it is reasonably possible that a material loss will be incurred and can be estimated or when it is reasonably possible that the amount of a loss, when material, will exceed the recorded provision.

In addition to the above, the Company is involved in other legal matters. However, such matters are subject to many uncertainties and their outcomes are not predictable with assurance. The Company is unable to estimate a range of reasonably possible losses with respect to such matters. There can be no assurances as to whether the Company will become subject to significant additional claims and liabilities with respect to ongoing or future proceedings. If actual liabilities significantly exceed the estimates made, the Company’s consolidated financial position, results of operations or cash flows could be materially adversely affected. Legal expenses relating to legal matters are expensed as incurred.

10. RETIREMENT PLANS
The Company sponsors the Varian Medical Systems, Inc. Retirement Plan (the “Retirement Plan”) — a defined contribution plan that is available to substantially all of its employees in the United States. Under Section 401(k) of the Internal Revenue Code, the Retirement Plan allows for tax-deferred salary contributions by eligible employees. Participants can contribute from 1% to 25% of their eligible compensation to the Retirement Plan on a pre-tax or Roth basis (plus up to an additional 15% on an after-tax basis if they have more than one year of service with the Company) and all or a portion of their bonuses under the Employee Incentive Plan. However, participant contributions are limited to a maximum annual amount as determined periodically by the Internal Revenue Service. The Company matches eligible participant contributions dollar for dollar for the first 6% of eligible base compensation or bonus without a waiting period. Employees are immediately vested in their own contributions to the Retirement Plan. Employees hired on or after July 1, 2017 are 100% vested in the company matching contributions after one year of service. All matching contributions vest immediately upon satisfaction of the service requirement.

The Company also has a defined contribution plan that is available to regular full-time employees in the United Kingdom (the “U.K. Savings Plan”). Participants can contribute from 4% to 100% of their eligible compensation to the U.K. Savings Plan subject to a maximum annual amount determined by certain tax rules. The Company matches participant contributions up to 6% of participants’ eligible compensation, based on the participants’ level of contributions under this U.K. Savings Plan. All matching contributions vest immediately.

The Company sponsors multiple defined benefit pension plans for regular full-time employees in Germany, Japan, Switzerland and the United Kingdom. The Company also sponsors a post-retirement benefit plan that provides healthcare benefits to certain eligible retirees in the United States.

The Company recognizes the funded status of its defined benefit pension and post-retirement benefit plans on its Consolidated Balance Sheets. Each overfunded plan is recognized as an asset, and each underfunded plan is recognized as a liability. Unrecognized prior service costs or credits and net actuarial gains or losses, as well as subsequent changes in the funded status are recognized as a component of accumulated other comprehensive loss within Stockholders’ equity.
Total retirement, post-retirement benefit plan and defined benefit plan expense for all retirement plans amounted to $33.2 million, $30.2 million and $30.1 million for fiscal years 2019, 2018 and 2017, respectively. The Company's post-retirement benefit plan is not presented in any of the following information as it is not material.

**Obligations and Funded Status**

The following table presents the funded status of the defined benefit pension plans:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Change in benefit obligation:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benefit obligation - beginning of fiscal year</td>
<td>$225.7</td>
<td>$230.7</td>
</tr>
<tr>
<td>Service cost</td>
<td>7.2</td>
<td>7.1</td>
</tr>
<tr>
<td>Interest cost</td>
<td>3.7</td>
<td>3.2</td>
</tr>
<tr>
<td>Plan participants’ contributions</td>
<td>12.2</td>
<td>13.0</td>
</tr>
<tr>
<td>Plan amendments</td>
<td>0.8</td>
<td>(2.2)</td>
</tr>
<tr>
<td>Plan settlements</td>
<td>(4.2)</td>
<td>(6.5)</td>
</tr>
<tr>
<td>Actuarial (gain) loss</td>
<td>54.5</td>
<td>(10.1)</td>
</tr>
<tr>
<td>Foreign currency changes</td>
<td>(6.4)</td>
<td>(3.5)</td>
</tr>
<tr>
<td>Benefit and expense payments</td>
<td>(6.1)</td>
<td>(6.0)</td>
</tr>
<tr>
<td><strong>Benefit obligation - end of fiscal year</strong></td>
<td>$287.4</td>
<td>$225.7</td>
</tr>
<tr>
<td><strong>Change in plan assets:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan assets - beginning of fiscal year</td>
<td>$224.7</td>
<td>$215.1</td>
</tr>
<tr>
<td>Employer contributions</td>
<td>8.7</td>
<td>9.0</td>
</tr>
<tr>
<td>Actual return on plan assets</td>
<td>28.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Plan participants’ contributions</td>
<td>12.2</td>
<td>13.0</td>
</tr>
<tr>
<td>Plan settlements</td>
<td>(4.2)</td>
<td>(6.5)</td>
</tr>
<tr>
<td>Foreign currency changes</td>
<td>(6.2)</td>
<td>(3.5)</td>
</tr>
<tr>
<td>Benefit and expense payments</td>
<td>(5.9)</td>
<td>(6.0)</td>
</tr>
<tr>
<td><strong>Plan assets - end of fiscal year</strong></td>
<td>$257.8</td>
<td>$224.7</td>
</tr>
<tr>
<td><strong>Funded status</strong></td>
<td>$ (29.6)</td>
<td>$ (1.0)</td>
</tr>
</tbody>
</table>

**Amounts recognized within the consolidated balance sheet:**

<table>
<thead>
<tr>
<th></th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other assets</td>
<td>$ 1.5</td>
<td>$ 7.6</td>
</tr>
<tr>
<td>Other long-term liabilities</td>
<td>(31.1)</td>
<td>(8.6)</td>
</tr>
<tr>
<td><strong>Net amount recognized</strong></td>
<td>$ (29.6)</td>
<td>$ (1.0)</td>
</tr>
</tbody>
</table>

The following table presents the amounts recognized in accumulated other comprehensive loss, before tax, for the defined benefit pension plans:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior service credit</td>
<td>$ 6.2</td>
<td>$ 7.7</td>
</tr>
<tr>
<td>Net loss</td>
<td>(81.0)</td>
<td>(51.8)</td>
</tr>
<tr>
<td><strong>Accumulated other comprehensive loss</strong></td>
<td>$ (74.8)</td>
<td>$ (44.1)</td>
</tr>
</tbody>
</table>

The following table presents the projected benefit obligation, accumulated benefit obligation and fair value of plan assets for those defined benefit pension plans where accumulated benefit obligations exceeded the fair value of plan assets:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected benefit obligation</td>
<td>$ 20.2</td>
<td>$ 15.4</td>
</tr>
<tr>
<td>Accumulated benefit obligation</td>
<td>$ 18.4</td>
<td>$ 14.3</td>
</tr>
<tr>
<td>Fair value of plan assets</td>
<td>$ 12.4</td>
<td>$ 13.0</td>
</tr>
</tbody>
</table>
The accumulated benefit obligation for all defined benefit pension plans was $232.3 million and $203.3 million at September 27, 2019 and September 28, 2018, respectively.

**Components of Net Periodic Benefit Cost and Other Amounts Recognized in Other Comprehensive Earnings (Loss)**

The following table shows the components of the Company’s net periodic benefit costs and the other amounts recognized in other comprehensive earnings (loss), before tax, for the Company’s defined benefit pension plans:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Fiscal Years</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Periodic Benefit Costs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service cost</td>
<td></td>
<td>$7.2</td>
<td>$7.1</td>
<td>$7.1</td>
</tr>
<tr>
<td>Interest cost</td>
<td></td>
<td>3.7</td>
<td>3.2</td>
<td>2.4</td>
</tr>
<tr>
<td>Loss due to settlement</td>
<td></td>
<td>0.9</td>
<td>1.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Expected return on assets</td>
<td></td>
<td>(6.3)</td>
<td>(7.9)</td>
<td>(7.1)</td>
</tr>
<tr>
<td>Amortization of prior service cost</td>
<td></td>
<td>(0.9)</td>
<td>(0.7)</td>
<td>(0.5)</td>
</tr>
<tr>
<td>Recognized actuarial loss</td>
<td></td>
<td>2.2</td>
<td>2.9</td>
<td>4.3</td>
</tr>
<tr>
<td>Net periodic benefit cost</td>
<td></td>
<td>6.8</td>
<td>5.6</td>
<td>7.6</td>
</tr>
<tr>
<td><strong>Other Amounts Recognized in Other Comprehensive (Earnings) Loss:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New prior service cost (credit)</td>
<td></td>
<td>0.8</td>
<td>(2.2)</td>
<td>(5.0)</td>
</tr>
<tr>
<td>Net (gain) loss arising during the year</td>
<td></td>
<td>32.3</td>
<td>(5.8)</td>
<td>(12.2)</td>
</tr>
<tr>
<td>Amortization of prior service cost</td>
<td></td>
<td>0.8</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Amortization or settlement of net actuarial loss</td>
<td></td>
<td>(3.1)</td>
<td>(4.0)</td>
<td>(5.7)</td>
</tr>
<tr>
<td>Total recognized in other comprehensive (earnings) loss</td>
<td></td>
<td>30.8</td>
<td>(11.3)</td>
<td>(22.4)</td>
</tr>
<tr>
<td>Total recognized in net periodic benefit cost and other comprehensive (earnings) loss</td>
<td></td>
<td>$37.6</td>
<td>$(5.7)</td>
<td>$(14.8)</td>
</tr>
</tbody>
</table>

The amounts in accumulated other comprehensive loss that are expected to be recognized as components of net periodic benefit cost during fiscal year 2020 for the Company’s defined benefit pension plans are as follows:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior service credit</td>
<td>$0.7</td>
</tr>
<tr>
<td>Net loss</td>
<td>(4.2)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$ (3.5)</td>
</tr>
</tbody>
</table>

**Assumptions**

The assumptions used to determine net periodic benefit cost and to compute the expected long-term return on assets for the Company’s defined benefit pension plans were as follows:

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discount rate</td>
<td>1.69%</td>
<td>1.40%</td>
<td>1.03%</td>
</tr>
<tr>
<td>Rate of compensation increase</td>
<td>2.37%</td>
<td>2.40%</td>
<td>2.33%</td>
</tr>
<tr>
<td>Expected long-term return on assets</td>
<td>2.85%</td>
<td>3.66%</td>
<td>3.56%</td>
</tr>
</tbody>
</table>

The assumptions used to measure the benefit obligation for the Company’s defined benefit pension plans were as follows:

<table>
<thead>
<tr>
<th>Benefit Obligation</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discount rate</td>
<td>0.63%</td>
<td>1.69%</td>
</tr>
<tr>
<td>Rate of compensation increase</td>
<td>2.27%</td>
<td>2.37%</td>
</tr>
</tbody>
</table>
The benefit obligation of defined benefit pension plans was measured as of September 27, 2019. The discount rate was adjusted as of September 27, 2019 to a range of 0.10% to 1.80%, primarily based on the current effective yield of long-term corporate bonds that are of high quality with satisfactory liquidity and credit rating with durations corresponding to the expected duration of the benefit obligations. Additionally, the rate of projected compensation increase was adjusted as of September 27, 2019 to a range of 1.75% to 3.50%, reflecting expected inflation levels and the Company’s future outlook.

During the fourth quarter of fiscal year 2019, the Company reviewed the expected long-term rate of return on defined benefit pension plan assets. This review consisted of forward-looking projections for the risk-free rate of return, inflation rate and implied equity risk premiums for particular asset classes. The results of this review were applied to the target asset allocation in accordance with the Company’s planned investment strategies, which are implemented by outside investment managers. The expected long-term rate of return on plan assets was determined based on the weighted average of projected returns on each asset class.

**Plan Assets**

For the defined benefit pension plans, the investment objectives of the Company are to generate returns that will enable the defined benefit pension plans to meet their future obligations. The precise amount of these obligations depends on future events, including the life expectancies of the pension plans’ members and the level of salary increases. The obligations are estimated using actuarial assumptions, based on the current economic environment. The investment strategy depends on the country in which the defined benefit pension plan applies. The investment objectives of some defined benefit pension plans are more conservative than others. In general, the investment strategy of the defined benefit pension plans is to balance the requirement to generate return using higher-returning assets such as equity securities, with the need to control risk with less volatile assets, such as fixed-income securities. Risks include, among others, the likelihood of the defined benefit pension plans becoming underfunded, thereby increasing their dependence on contributions from the Company. Within each asset class, investment managers give consideration to balancing the portfolio among industry sectors, geographies, interest rate sensitivity, dependence on economic growth, currency and other factors that affect investment returns. The target allocation as of the end of fiscal year 2019 was 22% equities, 51% debt and fixed income assets, 15% real estate, and 12% other.
The following table presents the Company’s defined benefit pension plans’ major asset categories, their associated fair values, as well as the actual allocation of equity, debt and fixed income, real estate and all other types of investments:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Quoted Prices in Active Markets for Identical Assets (Level 1)</th>
<th>Significant Observable Inputs (Level 2)</th>
<th>Significant Unobservable Inputs (Level 3)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>As of September 27, 2019:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment funds:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutual funds - equities</td>
<td>$</td>
<td>—</td>
<td>$51.9</td>
<td>$</td>
</tr>
<tr>
<td>Mutual funds - debt</td>
<td>—</td>
<td></td>
<td>$112.5</td>
<td>—</td>
</tr>
<tr>
<td>Hedge funds</td>
<td>—</td>
<td></td>
<td>$4.0</td>
<td>—</td>
</tr>
<tr>
<td>Mutual funds - real estate</td>
<td>—</td>
<td></td>
<td>$43.9</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>—</td>
<td></td>
<td>$27.1</td>
<td>—</td>
</tr>
<tr>
<td>Assets held by insurance company:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance contracts</td>
<td>—</td>
<td></td>
<td>$13.0</td>
<td>—</td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>1.8</td>
<td></td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>$</td>
<td>1.8</td>
<td>$252.4</td>
<td>$</td>
</tr>
<tr>
<td><strong>As of September 28, 2018:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment funds:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutual funds - equities</td>
<td>$</td>
<td>—</td>
<td>$29.5</td>
<td>$</td>
</tr>
<tr>
<td>Mutual funds - debt</td>
<td>—</td>
<td></td>
<td>$45.2</td>
<td>—</td>
</tr>
<tr>
<td>Mutual funds - real estate</td>
<td>—</td>
<td></td>
<td>$9.0</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>—</td>
<td></td>
<td>$23.7</td>
<td>—</td>
</tr>
<tr>
<td>Assets held by insurance company:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance contracts</td>
<td>—</td>
<td></td>
<td>$116.1</td>
<td>—</td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>1.2</td>
<td></td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>$</td>
<td>1.2</td>
<td>$223.5</td>
<td>$</td>
</tr>
</tbody>
</table>

**Valuation Techniques**

Debt securities are valued at the closing price reported on the stock exchange on which the individual securities are traded. Mutual funds held in trust or similar entities include investments in publicly traded mutual funds and are typically valued using the net asset value provided by the administrator of the fund. Insurance contracts are valued by the insurer using the cash surrender value, which is the amount a plan would receive if a contract was terminated. Cash includes deposits and money market accounts, which are valued at their cost plus interest on a daily basis, which approximates fair value. There were no significant changes in valuation techniques during fiscal years 2019 and 2018.

**Estimated Contributions and Future Benefit Payments**

The Company made contributions of $8.7 million to the defined benefit pension plans during fiscal year 2019, compared to $9.0 million in fiscal year 2018 and $8.2 million in fiscal year 2017. The Company expects total contributions to the defined benefit pension plans for fiscal year 2020 will be approximately $9.2 million.
Estimated future benefit payments to the defined benefit pension plans at September 27, 2019 were as follows:

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>Future Benefit Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>$ 7.0</td>
</tr>
<tr>
<td>2021</td>
<td>8.4</td>
</tr>
<tr>
<td>2022</td>
<td>8.2</td>
</tr>
<tr>
<td>2023</td>
<td>7.6</td>
</tr>
<tr>
<td>2024</td>
<td>9.3</td>
</tr>
<tr>
<td>Thereafter</td>
<td>45.6</td>
</tr>
<tr>
<td>Total</td>
<td>$ 86.1</td>
</tr>
</tbody>
</table>

11. TAXES ON EARNINGS

The Company accounts for income taxes under an asset and liability approach where deferred income taxes are based upon enacted tax laws and rates applicable to the periods in which the taxes become payable.

Taxes on earnings from continuing operations were as follows:

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current provision:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$ 39.0</td>
<td>$ 188.3</td>
<td>$ 30.9</td>
</tr>
<tr>
<td>State and local</td>
<td>5.2</td>
<td>8.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Foreign</td>
<td>69.3</td>
<td>47.9</td>
<td>67.5</td>
</tr>
<tr>
<td>Total current</td>
<td>113.5</td>
<td>244.2</td>
<td>102.7</td>
</tr>
<tr>
<td>Deferred provision (benefit):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>4.0</td>
<td>43.7</td>
<td>(18.3)</td>
</tr>
<tr>
<td>State and local</td>
<td>2.8</td>
<td>(3.3)</td>
<td>(0.2)</td>
</tr>
<tr>
<td>Foreign</td>
<td>8.3</td>
<td>17.2</td>
<td>(7.1)</td>
</tr>
<tr>
<td>Total deferred</td>
<td>15.1</td>
<td>57.6</td>
<td>(25.6)</td>
</tr>
<tr>
<td>Taxes on earnings</td>
<td>$ 128.6</td>
<td>$ 301.8</td>
<td>$ 77.1</td>
</tr>
</tbody>
</table>

Earnings from continuing operations before taxes are generated from the following geographic areas:

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>$ 136.4</td>
<td>$ 168.4</td>
<td>$ 77.2</td>
</tr>
<tr>
<td>Foreign</td>
<td>284.4</td>
<td>283.7</td>
<td>225.9</td>
</tr>
<tr>
<td>Total earnings before taxes</td>
<td>$ 420.8</td>
<td>$ 452.1</td>
<td>$ 303.1</td>
</tr>
</tbody>
</table>
The effective tax rate on continuing operations differs from the U.S. federal statutory tax rate as a result of the following:

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal statutory income tax rate</td>
<td>21.0 %</td>
<td>24.6 %</td>
<td>35.0 %</td>
</tr>
<tr>
<td>Impact of U.S. Tax Reform</td>
<td>2.1 %</td>
<td>46.3 %</td>
<td>— %</td>
</tr>
<tr>
<td>State and local taxes, net of federal tax benefit</td>
<td>2.6 %</td>
<td>0.5 %</td>
<td>0.9 %</td>
</tr>
<tr>
<td>Non-U.S. income taxed at different rates, net</td>
<td>1.5 %</td>
<td>(0.6)%</td>
<td>(8.4)%</td>
</tr>
<tr>
<td>Foreign-derived intangible income deduction</td>
<td>(1.4)%</td>
<td>— %</td>
<td>— %</td>
</tr>
<tr>
<td>Resolution of tax contingencies due to expiration of statutes of limitation</td>
<td>(1.8)%</td>
<td>(2.5)%</td>
<td>(1.7)%</td>
</tr>
<tr>
<td>Excess stock deduction</td>
<td>(1.6)%</td>
<td>(1.5)%</td>
<td>— %</td>
</tr>
<tr>
<td>Goodwill impairment</td>
<td>2.5 %</td>
<td>— %</td>
<td>— %</td>
</tr>
<tr>
<td>Change in acquirer's deferred taxes related to purchase accounting</td>
<td>0.7 %</td>
<td>(1.8)%</td>
<td>— %</td>
</tr>
<tr>
<td>In-process R&amp;D expense</td>
<td>1.1 %</td>
<td>— %</td>
<td>— %</td>
</tr>
<tr>
<td>Other</td>
<td>3.9 %</td>
<td>1.8 %</td>
<td>(0.4)%</td>
</tr>
<tr>
<td>Effective tax rate</td>
<td>30.6 %</td>
<td>66.8 %</td>
<td>25.4 %</td>
</tr>
</tbody>
</table>

During fiscal year 2019, the Company's effective tax rate was higher than the U.S. federal statutory rate primarily because the current period includes a goodwill impairment charge and an in-process R&D expense, neither of which generate a tax benefit for the Company. As a result of finalizing the impact of the Tax Cuts and Jobs Act (the "Act"), the Company recognized a tax expense of $6.2 million in fiscal year ended September 27, 2019. The Company recognized a total tax expense related to the Act of $214.0 million as of September 27, 2019 as compared to the provisional estimate of $207.8 million recognized as of September 28, 2018. The current period also includes the impact of several provisions of the Act that take effect for the Company for the first time in the fiscal year ending September 27, 2019, including a new minimum tax on certain foreign earnings (the Global Intangible Low-taxed Income, or "GILTI"), a new tax on certain payments to foreign related parties (the Base Erosion and Anti-avoidance Tax), a new incentive for foreign-derived intangible income, changes to the limitation on the deductibility of certain executive compensation, and new limitations on the deductibility of interest expense. The Company has elected to account for GILTI as a period cost rather than on a deferred basis. The current period also reflects the fact that, as the Company has a September fiscal year end, the lower 21% federal rate is now fully phased in; that is, it is applicable to our domestic earnings for the full fiscal year ending September 27, 2019.

During fiscal year 2018, the Company’s effective tax rate was higher than the U.S. federal statutory rate primarily because it included the tax effect of a change in law due to the enactment of the Act. Among other changes, the Act reduced the U.S. corporate tax rate from 35% to 21%, and imposed a one-time transition tax on the unremitted earnings of the Company's foreign subsidiaries.

During fiscal year 2017, the Company’s effective tax rate was lower than the U.S. federal statutory rate primarily because the Company’s foreign earnings are taxed at rates that are, on average, lower than the U.S. federal rate. This reduction is partly offset by the fact that the Company’s domestic earnings are also subject to state income taxes.

The Company adopted the FASB guidance related to intra-entity transfers of assets other than inventory in the first quarter of fiscal year 2019. This standard changes the treatment of the tax effect of transfers of property other than inventory among the entities within a registrant's consolidated group. Under the prior standard, the tax effect related to the transfer of property other than inventory from one member of the group to another was recorded to prepaid income taxes, which is included in prepaid expenses and other current assets on the Condensed Consolidated Balance Sheets. Under the new standard, the tax effect related to the transfer of property other than inventory from one member of the group to another is recorded as a discrete item to taxes on earnings in the Condensed Consolidated Statements of Earnings. The Company recorded a cumulative effect of a change in accounting principle of $0.2 million as of September 29, 2018, as a result of adopting the new standard. The Company expects that the new standard may cause its effective tax rate to be more volatile and less predictable going forward.
Significant components of deferred tax assets and liabilities are as follows:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deferred Tax Assets:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deferred revenues</td>
<td>$21.1</td>
<td>$13.2</td>
</tr>
<tr>
<td>Deferred compensation</td>
<td>33.9</td>
<td>34.6</td>
</tr>
<tr>
<td>Product warranty</td>
<td>5.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Inventory adjustments</td>
<td>6.0</td>
<td>7.6</td>
</tr>
<tr>
<td>Share-based compensation</td>
<td>12.4</td>
<td>13.7</td>
</tr>
<tr>
<td>Environmental reserve</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Accruals and reserves</td>
<td>11.8</td>
<td>12.1</td>
</tr>
<tr>
<td>Net operating loss carryforwards</td>
<td>120.7</td>
<td>132.0</td>
</tr>
<tr>
<td>Other</td>
<td>37.1</td>
<td>24.2</td>
</tr>
<tr>
<td>Valuation allowance</td>
<td>(99.7)</td>
<td>(101.6)</td>
</tr>
<tr>
<td><strong>Total deferred tax assets</strong></td>
<td>$150.6</td>
<td>$145.5</td>
</tr>
<tr>
<td><strong>Deferred Tax Liabilities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax-deductible goodwill</td>
<td>(20.7)</td>
<td>(31.6)</td>
</tr>
<tr>
<td>Intangibles</td>
<td>(61.7)</td>
<td>(6.7)</td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>(7.1)</td>
<td>(9.4)</td>
</tr>
<tr>
<td>Unremitted earnings of foreign subsidiaries</td>
<td>(34.1)</td>
<td>(20.4)</td>
</tr>
<tr>
<td>Other</td>
<td>(17.6)</td>
<td>(6.6)</td>
</tr>
<tr>
<td><strong>Total deferred tax liabilities</strong></td>
<td>(141.2)</td>
<td>(74.7)</td>
</tr>
<tr>
<td><strong>Net deferred tax assets</strong></td>
<td>$9.4</td>
<td>$70.8</td>
</tr>
</tbody>
</table>

**Reported As:**

<table>
<thead>
<tr>
<th></th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deferred tax assets</td>
<td>$84.7</td>
<td>$102.2</td>
</tr>
<tr>
<td>Net current deferred tax liabilities (included in accrued liabilities)</td>
<td>(75.3)</td>
<td>(31.4)</td>
</tr>
<tr>
<td><strong>Net deferred tax assets</strong></td>
<td>$9.4</td>
<td>$70.8</td>
</tr>
</tbody>
</table>

The Company has federal net operating loss carryforwards of approximately $8.1 million expiring between 2020 and 2031. The federal net operating loss carryforwards are subject to an annual limitation of $0.8 million per year. The Company has state net operating loss carryforwards of $5.7 million expiring between 2021 and 2032. The Company has foreign net operating loss carryforwards of $382.3 million with an indefinite life. Of this amount, $22.1 million is unavailable to the Company under local loss utilization rules.

The valuation allowance relates primarily to net operating losses in certain foreign jurisdictions where, based on the weight of available evidence, it is more likely than not that the tax benefit of the net operating losses will not be realized. The valuation allowance decreased by $1.9 million, and $4.2 million in fiscal years 2019 and 2018, respectively, and increased by $26.2 million in fiscal year 2017.

Income taxes paid were as follows:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>Federal income taxes paid, net</td>
<td>$50.5</td>
</tr>
<tr>
<td>State, income taxes paid, net</td>
<td>11.9</td>
</tr>
<tr>
<td>Foreign income taxes paid, net</td>
<td>66.1</td>
</tr>
<tr>
<td><strong>Total income taxes paid, net</strong></td>
<td>$128.5</td>
</tr>
</tbody>
</table>

The Company accounts for uncertainty in income taxes following a two-step approach for recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining whether the weight of available evidence indicates that it is more likely than not that, based on the technical merits, the position will be sustained on audit.
including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon settlement.

Changes in the Company’s unrecognized tax benefits were as follows:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrecognized tax benefits balance—beginning of fiscal year</td>
<td>$ 43.5</td>
<td>$ 42.7</td>
<td>$ 40.7</td>
</tr>
<tr>
<td>Additions based on tax positions related to a prior year</td>
<td>0.2</td>
<td>1.1</td>
<td>1.4</td>
</tr>
<tr>
<td>Reductions based on tax positions related to a prior year</td>
<td>(0.8)</td>
<td>(3.0)</td>
<td>(0.3)</td>
</tr>
<tr>
<td>Additions based on tax positions related to the current year</td>
<td>13.2</td>
<td>14.8</td>
<td>5.8</td>
</tr>
<tr>
<td>Settlements</td>
<td>—</td>
<td>(2.8)</td>
<td>—</td>
</tr>
<tr>
<td>Reductions resulting from the expiration of the applicable statute of limitations</td>
<td>(6.3)</td>
<td>(9.3)</td>
<td>(4.9)</td>
</tr>
<tr>
<td>Unrecognized tax benefits balance—end of fiscal year</td>
<td>$ 49.8</td>
<td>$ 43.5</td>
<td>$ 42.7</td>
</tr>
</tbody>
</table>

As of September 27, 2019, the total amount of gross unrecognized tax benefits was $49.8 million. Of this amount, $30.7 million would affect the effective tax rate if recognized. The difference would be offset by changes to deferred tax assets and liabilities.

The Company includes interest and penalties related to income taxes within taxes on earnings on the Consolidated Statements of Earnings. As of September 27, 2019, the Company had accrued $7.5 million for the payment of interest and penalties related to unrecognized tax benefits. During fiscal year 2019, a net charge of $0.9 million related to interest and penalties was included in taxes on earnings in the Consolidated Statements of Earnings. As of September 28, 2018, the Company had accrued $6.6 million for the payment of interest and penalties related to unrecognized tax benefits. During fiscal year 2018, a net benefit of $1.8 million related to interest and penalties was included in taxes on earnings in the Consolidated Statements of Earnings.

The Company files U.S. federal, U.S. state, and foreign tax returns. The Company’s U.S. federal tax returns are generally no longer subject to tax examinations for years prior to 2016. The Company has significant operations in Switzerland. The Company’s Swiss tax returns are generally no longer subject to tax examinations for years prior to 2015. For U.S. states and other foreign tax returns, the Company is generally no longer subject to tax examinations for years prior to 2007.

12. STOCKHOLDERS’ EQUITY AND NONCONTROLLING INTERESTS

Share Repurchase Program

In November 2016, the VMS Board of Directors authorized the repurchase of an additional 8.0 million shares of VMS common stock commencing on January 1, 2017. Share repurchases under the Company's authorizations may be made in open market purchases, in privately negotiated transactions, or under Rule 10b5-1 share repurchase plans, and may be made from time to time in one or more blocks. All shares that were repurchased under the Company's share repurchase programs have been retired. As of September 27, 2019, approximately 2.2 million shares of VMS common stock remained available for repurchase under the November 2016 authorization.

The Company repurchased shares of VMS common stock under various authorizations during the periods presented as follows:

<table>
<thead>
<tr>
<th>(In millions, except per share amounts)</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of shares</td>
<td>1.4</td>
<td>1.6</td>
<td>3.3</td>
</tr>
<tr>
<td>Average repurchase price per share</td>
<td>$121.76</td>
<td>$112.63</td>
<td>$90.63</td>
</tr>
<tr>
<td>Total cost</td>
<td>$166.7</td>
<td>$181.9</td>
<td>$294.5</td>
</tr>
</tbody>
</table>
Other Comprehensive Earnings

The changes in accumulated other comprehensive loss by component and related tax effects are summarized as follows:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Balance at September 30, 2016</th>
<th>Other comprehensive earnings before reclassifications</th>
<th>Amounts reclassified out of other comprehensive earnings (loss)</th>
<th>Tax expense</th>
<th>Balance at September 29, 2017</th>
<th>Other comprehensive earnings (loss) before reclassifications</th>
<th>Amounts reclassified out of other comprehensive earnings (loss)</th>
<th>Tax expense</th>
<th>Balance at September 28, 2018</th>
<th>Other comprehensive earnings (loss) before reclassifications</th>
<th>Amounts reclassified out of other comprehensive earnings (loss)</th>
<th>Tax expense</th>
<th>Balance at September 27, 2019</th>
<th>Other comprehensive earnings (loss) before reclassifications</th>
<th>Amounts reclassified out of other comprehensive earnings (loss)</th>
<th>Tax expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Unrealized Gains (Losses) Defined Benefit Plans</td>
<td>$</td>
<td>(63.3)</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>(37.5)</td>
<td>$</td>
<td>(100.8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Unrealized Gains (Losses) Cash Flow Hedging Instruments</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>3.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative Translation Adjustment</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accumulated Other Comprehensive Loss</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Unrealized Gains (Losses) Cash Flow Hedging Instruments</td>
<td>$</td>
<td>(3.4)</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>(4.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative Translation Adjustment</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>(4.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accumulated Other Comprehensive Loss</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>—</td>
<td>$</td>
<td>(4.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The amounts reclassified out of other comprehensive earnings (loss) into the Consolidated Statements of Earnings, with line item location, during each period were as follows (in millions):

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>Comprehensive Earnings (Loss) Components</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
<th>Line Item in Statements of Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrealized loss on defined benefit pension and post-retirement benefit plans</td>
<td>$</td>
<td>(1.5)</td>
<td>$</td>
<td>(1.7)</td>
<td>$</td>
</tr>
<tr>
<td>Unrealized earnings (loss) on cash flow hedging instruments</td>
<td>$</td>
<td>0.2</td>
<td>$</td>
<td>(0.9)</td>
<td>—</td>
</tr>
<tr>
<td>Total amounts reclassified out of other comprehensive earnings (loss)</td>
<td>$</td>
<td>(1.3)</td>
<td>$</td>
<td>(2.6)</td>
<td>$</td>
</tr>
</tbody>
</table>

13. EMPLOYEE STOCK PLANS

Employee Stock Plans

Varian's 2005 Omnibus Stock Plan was last amended and restated in December 2017 and approved by VMS's stockholders at the 2018 Annual Meeting of Stockholders (as amended and restated, the “2005 Plan”). The maximum number of shares issuable under the 2005 Plan is (a) 31.0 million, plus (b) the number of shares authorized for issuance, but never issued, under previously approved plans, plus (c) the number of shares subject to awards previously granted under previously approved plans that terminate, expire, or lapse, plus (d) amounts granted in substitution of options in connection with certain transactions. Pursuant to the 2005 Plan, the Company may grant stock options, restricted stock units, performance units, performance-based options, cash-settled stock appreciation rights to employees, and restricted stock units to directors. Stock options and cash-settled stock appreciation rights generally vest and become exercisable over three years from the date of grant and restricted stock unit awards generally vest over a period of three years from the date of grant (one year in the case of directors). Performance units and performance-based options generally vest over a three-year performance period based on specified performance targets which are set by the Compensation and Management Development Committee of the Board of Directors at the beginning of the performance period. The award agreements documenting such awards contain certain provisions that
provide for continued and/or accelerated vesting in the event of retirement, disability and death, and proration in the event of retirement.

The fair value of stock options, performance-based options and cash-settled stock appreciation rights granted under the 2005 Plan and the option component of the shares purchased under the Employee Stock Purchase Plan (which is described further below) were estimated at the date of grant using the Black-Scholes model with the following weighted average assumptions:

<table>
<thead>
<tr>
<th>Employee Stock Option Plans</th>
<th>Employee Stock Purchase Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Years</td>
<td>Fiscal Years</td>
</tr>
<tr>
<td>Expected term (in years)</td>
<td>3.76</td>
</tr>
<tr>
<td>Risk-free interest rate</td>
<td>2.4%</td>
</tr>
<tr>
<td>Expected volatility</td>
<td>23.6%</td>
</tr>
<tr>
<td>Expected dividend</td>
<td>—%</td>
</tr>
<tr>
<td>Weighted average fair value at grant date</td>
<td>$27.20</td>
</tr>
</tbody>
</table>

The expected term represents the weighted average period the equity awards or Employee Stock Purchase Plan purchase rights are expected to remain outstanding. The expected term is based on the observed and expected time to post-vesting exercise and post-vesting cancellations by Company employees. The Company used a combination of historical and implied volatility of its traded options, or blended volatility, in deriving the expected volatility assumption. The risk-free interest rate assumption is based upon observed interest rates appropriate for the term of the equity awards or Employee Stock Purchase Plan purchase rights. The dividend yield assumption is based on the Company’s history and expectation of no dividend payouts.

As share-based compensation expense recognized in the Consolidated Statements of Earnings is based on awards ultimately expected to vest.

The table below summarizes the effect of recording share-based compensation expense:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Fiscal Years</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of revenues - Product</td>
<td></td>
<td>$2.9</td>
<td>$3.1</td>
<td>$3.0</td>
</tr>
<tr>
<td>Cost of revenues - Service</td>
<td></td>
<td>4.5</td>
<td>4.2</td>
<td>4.1</td>
</tr>
<tr>
<td>Research and development</td>
<td></td>
<td>4.7</td>
<td>4.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Selling, general and administrative</td>
<td></td>
<td>35.8</td>
<td>34.3</td>
<td>27.0</td>
</tr>
<tr>
<td>Total share-based compensation expense</td>
<td></td>
<td>$47.9</td>
<td>$46.4</td>
<td>$39.2</td>
</tr>
<tr>
<td>Income tax benefit for share-based compensation</td>
<td></td>
<td>$(9.2)</td>
<td>$(10.5)</td>
<td>$(11.5)</td>
</tr>
</tbody>
</table>

The table below summarizes the effect of recording pre-tax share-based compensation expense for equity awards:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Fiscal Years</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted stock units (1)</td>
<td></td>
<td>$21.1</td>
<td>$21.6</td>
<td>$22.8</td>
</tr>
<tr>
<td>Performance units and performance options</td>
<td></td>
<td>13.6</td>
<td>12.1</td>
<td>3.4</td>
</tr>
<tr>
<td>Stock options</td>
<td></td>
<td>8.6</td>
<td>8.5</td>
<td>9.2</td>
</tr>
<tr>
<td>Employee stock purchase plan</td>
<td></td>
<td>4.5</td>
<td>4.2</td>
<td>3.8</td>
</tr>
<tr>
<td>Cash-settled stock appreciation rights</td>
<td></td>
<td>0.1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total share-based compensation expense</td>
<td></td>
<td>$47.9</td>
<td>$46.4</td>
<td>$39.2</td>
</tr>
</tbody>
</table>

(1) Restricted stock units include restricted units granted to directors.
Activity under the Company’s employee stock plans related to stock options and performance-based options is presented below:

### Options Outstanding

<table>
<thead>
<tr>
<th>Options Outstanding</th>
<th>Number of Shares</th>
<th>Weighted Average Exercise Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at September 28, 2018 (3.7 million options exercisable at a weighted average exercise price of $74.14)</td>
<td>2.3</td>
<td>$85.82</td>
</tr>
<tr>
<td>Granted</td>
<td>0.6</td>
<td>123.33</td>
</tr>
<tr>
<td>Canceled, expired or forfeited</td>
<td>(0.1)</td>
<td>107.50</td>
</tr>
<tr>
<td>Exercised</td>
<td>(0.6)</td>
<td>77.11</td>
</tr>
<tr>
<td>Balance at September 27, 2019</td>
<td>2.2</td>
<td>$97.66</td>
</tr>
</tbody>
</table>

The total pre-tax intrinsic value of stock options exercised was $31.0 million, $28.3 million and $25.6 million in fiscal years 2019, 2018 and 2017, respectively. The total fair value of stock options vested was $9.3 million, $9.6 million and $9.7 million in fiscal years 2019, 2018 and 2017, respectively.

The following table summarizes information related to stock options outstanding and exercisable under the Company’s employee stock plans at September 27, 2019:

<table>
<thead>
<tr>
<th>Options Outstanding</th>
<th>Options Exercisable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of Exercise Prices</td>
<td>Number of Shares</td>
</tr>
<tr>
<td>(In millions, except per share amounts)</td>
<td></td>
</tr>
<tr>
<td>$60.91 - $77.49</td>
<td>0.4</td>
</tr>
<tr>
<td>$80.40 - $99.26</td>
<td>0.6</td>
</tr>
<tr>
<td>$107.32 - $118.27</td>
<td>0.7</td>
</tr>
<tr>
<td>$118.76 - $131.77</td>
<td>0.5</td>
</tr>
<tr>
<td>Total</td>
<td>2.2</td>
</tr>
</tbody>
</table>

(i) The aggregate intrinsic value represents the total pre-tax intrinsic value, which is computed based on the difference between the exercise price and the closing price of VMS common stock of $118.16 as of September 27, 2019, the last trading date of fiscal year 2019, and which represents the amount that would have been received by the option holders had all option holders exercised their options and sold the shares received upon exercise as of that date.

As of September 27, 2019, there was $19.4 million of total unrecognized compensation expense related to stock options and performance stock options granted under the Company’s employee stock plans. This unrecognized compensation expense is expected to be recognized over a weighted average period of 1.9 years.

The activity for restricted stock, restricted stock units, deferred stock units and performance units is summarized as follows:

### Options Outstanding

<table>
<thead>
<tr>
<th>Options Outstanding</th>
<th>Number of Shares</th>
<th>Weighted Average Grant-Date Fair Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at September 28, 2018</td>
<td>0.8</td>
<td>$89.17</td>
</tr>
<tr>
<td>Granted</td>
<td>0.3</td>
<td>124.73</td>
</tr>
<tr>
<td>Vested</td>
<td>(0.3)</td>
<td>82.38</td>
</tr>
<tr>
<td>Canceled or expired</td>
<td>(0.1)</td>
<td>91.30</td>
</tr>
<tr>
<td>Balance at September 27, 2019</td>
<td>0.7</td>
<td>$108.35</td>
</tr>
</tbody>
</table>

The total grant-date fair value of restricted stock units, deferred stock units and performance units was $36.9 million, $33.7 million and $31.4 million in fiscal years 2019, 2018 and 2017, respectively. The total fair value of restricted stock, restricted stock units, deferred stock units and performance units that vested was $43.9 million, $36.9 million and $29.8 million in fiscal years 2019, 2018 and 2017, respectively.
As of September 27, 2019, unrecognized compensation expense totaling $41.4 million was related to restricted stock, restricted stock units, deferred stock units and performance units granted under the Company’s employee stock plans. This unrecognized share-based compensation expense is expected to be recognized over a weighted average period of 1.8 years. The Company withheld 0.1 million shares with a fair value of $14.5 million to cover employees’ minimum withholding taxes due at vesting and/or settlement of such awards in fiscal year 2019.

**Employee Stock Purchase Plan**

In February 2010, VMS’s stockholders approved the 2010 Employee Stock Purchase Plan (the “2010 ESPP”). The 2010 ESPP provides eligible employees with an opportunity to purchase shares of VMS common stock at 85% of the lower of its fair market value at the start and end of a six-month purchase period. The 2010 ESPP provides for the purchase of up to seven million shares of VMS common stock.

VMS issued approximately 0.2 million shares for $16.9 million in fiscal year 2019 and approximately 0.2 million shares for $15.7 million in fiscal year 2018. At September 27, 2019, 5.0 million shares were available for issuance under the 2010 ESPP.

### 14. EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted net earnings per share:

<table>
<thead>
<tr>
<th>(In millions, except per share amounts)</th>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>Net earnings from continuing operations</td>
<td>$ 292.2</td>
</tr>
<tr>
<td>Less: Net earnings from continuing operations attributable to noncontrolling interests</td>
<td>0.3</td>
</tr>
<tr>
<td>Net earnings from continuing operations attributable to Varian</td>
<td>291.9</td>
</tr>
<tr>
<td>Net loss from discontinued operations</td>
<td>—</td>
</tr>
<tr>
<td>Less: Net earnings from discontinued operations attributable to noncontrolling interests</td>
<td>—</td>
</tr>
<tr>
<td>Net loss from discontinued operations attributable to Varian</td>
<td>$ 291.9</td>
</tr>
<tr>
<td>Net earnings attributable to Varian</td>
<td></td>
</tr>
<tr>
<td>Weighted average shares outstanding - basic</td>
<td>91.0</td>
</tr>
<tr>
<td>Dilutive effect of potential common shares</td>
<td>0.9</td>
</tr>
<tr>
<td>Weighted average shares outstanding - diluted</td>
<td>91.9</td>
</tr>
<tr>
<td>Net earnings (loss) per share attributable to Varian - basic</td>
<td></td>
</tr>
<tr>
<td>Continuing operations</td>
<td>$ 3.21</td>
</tr>
<tr>
<td>Discontinued operations</td>
<td>—</td>
</tr>
<tr>
<td>Net earnings per share - basic</td>
<td>$ 3.21</td>
</tr>
<tr>
<td>Net earnings (loss) per share attributable to Varian - diluted</td>
<td></td>
</tr>
<tr>
<td>Continuing operations</td>
<td>$ 3.18</td>
</tr>
<tr>
<td>Discontinued operations</td>
<td>—</td>
</tr>
<tr>
<td>Net earnings per share - diluted</td>
<td>$ 3.18</td>
</tr>
<tr>
<td>Anti-dilutive employee share-based awards, excluded</td>
<td>0.9</td>
</tr>
</tbody>
</table>

### 15. PROTON SOLUTIONS LOANS AND INVESTMENTS

In limited cases, the Company participates, along with other investors and at market terms, in the financing of proton therapy centers. Over time, the Company has divested some of its investments, including investments in CPTC, the New York Proton Center (“NYPC”), GPTC and the Delray Radiation Therapy Center.

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The following table lists the Company's notes receivable including accrued interest, senior secured debt, available-for-sale securities, loans outstanding and future commitments for funding the development, construction and operation of various proton therapy centers:

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>September 27, 2019</th>
<th>September 28, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Balance</td>
<td>Commitment</td>
</tr>
<tr>
<td><strong>Notes receivable and secured debt:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NYPC loan (1)</td>
<td>$31.8</td>
<td>$—</td>
</tr>
<tr>
<td>RPTC senior secured debt (2)</td>
<td>23.5</td>
<td>$—</td>
</tr>
<tr>
<td>Proton International LLC loan (1)</td>
<td>1.8</td>
<td>$—</td>
</tr>
<tr>
<td></td>
<td>$57.1</td>
<td>$—</td>
</tr>
<tr>
<td><strong>Available-for-sale Securities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPTC Series B-1 Bonds (2)</td>
<td>$27.1</td>
<td>$—</td>
</tr>
<tr>
<td>MPTC Series B-2 Bonds (1)</td>
<td>25.1</td>
<td>$—</td>
</tr>
<tr>
<td>GPTC securities (3)</td>
<td>$—</td>
<td>$—</td>
</tr>
<tr>
<td>APTC securities (2)</td>
<td>6.6</td>
<td>$—</td>
</tr>
<tr>
<td></td>
<td>$58.8</td>
<td>$—</td>
</tr>
<tr>
<td><strong>CPTC Loans and Investment:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term revolving loan (3)</td>
<td>$5.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Term loan (1)</td>
<td>44.0</td>
<td>$—</td>
</tr>
<tr>
<td>Equity investment in CPTC (1)</td>
<td>$—</td>
<td>$—</td>
</tr>
<tr>
<td></td>
<td>$49.3</td>
<td>1.9</td>
</tr>
</tbody>
</table>

(1) Included in other assets on the Company's Consolidated Balance Sheets.
(2) Included in other assets at September 27, 2019, and prepaid and other current assets at September 28, 2018, on the Company's Consolidated Balance Sheets.
(3) Included in prepaid and other current assets on the Company's Consolidated Balance Sheets.

**Alabama Proton Therapy Center ("APTC") Securities**

In December 2017, the Company purchased $6.0 million in Subordinate Revenue Bonds which financed the APTC. The Subordinate Revenue Bonds carry an interest rate of 8.5% and pay interest semi-annually. The Company is scheduled to start receiving annual principal payments on the Subordinate Revenue Bonds beginning on November 1, 2022. The Subordinate Revenue Bonds will mature on October 1, 2047.

At September 27, 2019, the Company had $2.1 million in unbilled receivables from APTC. At September 28, 2018, the Company did not have any trade and unbilled receivables from APTC.

**Rinecker Proton Therapy Center ("RPTC") Senior Secured Debt**

In July 2017, the Company purchased the outstanding senior secured debt related to the RPTC in Munich, Germany for 21.5 million Euros or $24.5 million. By purchasing the senior secured debt, the Company has a right to 77 million Euros in claims against all of RPTC's assets. In September 2017, the management of RPTC filed for bankruptcy in Germany. In January 2018, the final insolvency proceedings commenced, and upon finalization of bankruptcy proceedings, the Company believes it is probable it will recover the outstanding senior secured debt balance and trade accounts receivable, net. In September 2019, the Company reclassified its senior secured debt to long-term other assets because it now expects the bankruptcy proceedings to be complete in fiscal year 2021.

At both September 27, 2019 and September 28, 2018, the Company had $4.6 million and $4.5 million, respectively, in trade receivables, net, for RPTC, which does not include any unbilled accounts receivable.
Georgia Proton Treatment Center ("GPTC") Security

In July 2017 and July 2018, the Company purchased a total of $16.1 million in Senior Capital Appreciation Bonds ("Senior Bonds") which financed the GPTC. In September 2018 and June 2019, the Company sold all of its Senior Bonds for a total of $16.8 million, which included payment of accrued interest.

New York Proton Center ("NYPC") Loan

In July 2015, the Company committed to loan up to $91.5 million to MM Proton I, LLC. In June 2016, the Company assigned $73.0 million of this loan to Deutsche Bank AG. The remaining balance is comprised of an $18.5 million “Subordinate Loan” with a six-and-a-half-year term at up to 13.5% interest. As of September 27, 2019, the Subordinate Loan is $31.8 million, including accrued interest. The principal balance and accrued interest on the Subordinate Loan are due in full at maturity in January 2022.

In addition to the outstanding loan, as of September 27, 2019, the Company had $16.6 million of trade and unbilled receivables, which included $6.0 million in unbilled receivables, and as of September 28, 2018, the Company had $24.1 million in unbilled receivables from NYPC.

Maryland Proton Treatment Center ("MPTC") Loans and Securities

In August 2018, MPTC refinanced its then outstanding subordinated debt, including accrued interest, and notes receivable balances. As part of the refinancing, in exchange for its then outstanding subordinated loan, the Company received $22.9 million in Subordinate Revenue Bonds ("MPTC Series B-2 Bonds") that carry an interest rate of 8.5% per annum with interest accruing up to the MPTC Series B-2 Bonds face amount of $33.9 million until January 1, 2022 and then will pay cash interest semi-annually. The MPTC Series B-2 Bonds will mature on January 1, 2049. In exchange for its outstanding deferred equipment payment arrangement, the Company also received $6.0 million in cash and $25.0 million in Subordinate Revenue Bonds ("MPTC Series B-1 Bonds") that carry an interest rate of 7.5% with interest accruing up to the MPTC Series B-1 Bonds face amount of $32.0 million until January 1, 2022 and then will pay cash interest semi-annually. The MPTC Series B-1 Bonds will mature on January 1, 2048. The MPTC Series B-1 Bonds are senior in right and time to the MPTC Series B-2 Bonds.

As of September 27, 2019, the Company had zero net trade and unbilled receivables from MPTC. At September 28, 2018, the Company had $0.5 million in trade receivables, net, from MPTC.

Variable Interest Entities

The Company has determined that MM Proton I, LLC and RPTC are variable interest entities and that the Company holds a significant variable interest of each of the entities through its participation in the loan facilities and its agreements to supply and service the proton therapy equipment. The Company has concluded that it is not the primary beneficiary of any of these entities. The Company has no voting rights, has no approval authority or veto rights for these centers' budget, and does not have the power to direct patient recruitment, clinical operations and management of these Centers, which the Company believes are the matters that most significantly affect their economic performance. The Company’s exposure to loss as a result of its involvement with MM Proton I, LLC and RPTC is limited to the carrying amounts of the above-mentioned assets on its Consolidated Balance Sheets.

California Proton Therapy Center ("CPTC") Loans and Investment

Between September 2011 and November 2015, the Company, ORIX and J.P. Morgan ("the Lenders") funded loans ("Original CPTC Loans") to the Scripps Proton Therapy Center in San Diego, California. ORIX is the loan agent.

In March 2017, California Proton Treatment Center, LLC ("Original CPTC") filed for bankruptcy and concurrently entered into a Debtor-in-Possession facility (the "DIP Facility") with the Lenders where the Company's pro-rata share of the DIP Facility was $7.3 million. In September 2017, the Lenders and Scripps signed a Transition Agreement to transition the operations of the center from Scripps to Proton Doctors Professional Corporation ("Practice"). As a result of these events the Company recorded an impairment charge of $51.4 million to its Original CPTC Loans in fiscal year 2017.

Pursuant to an order of the Bankruptcy Court, Original CPTC conducted an auction of the Scripps Proton Therapy Center. On December 6, 2017 ("Closing Date"), the Bankruptcy Court approved the sale of Scripps Proton Therapy Center to the California Proton Therapy Center, LLC ("CPTC"), an entity owned by the Lenders. The Lenders purchased all assets and

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assumed $112.0 million of Original CPTC’s outstanding liabilities. On December 13, 2017, the Bankruptcy Court dismissed the bankruptcy filing of Original CPTC.

On the Closing Date, the Lenders entered into a Credit Agreement with Original CPTC of which the terms of the Original CPTC Loans, DIP Facility and accrued interest (collectively “Former Loans”) were modified. In addition to the partially satisfied Original CPTC Loans reinstated by the Bankruptcy Court, the Company received a 47.08% equity ownership in CPTC. Original CPTC has assigned all its Former Loans to CPTC at an amount of $112.0 million, the partially satisfied loan balance. Per the terms of the Credit Agreement, the Company's portion of the $112.0 million is $53.5 million; the remainder is allocated between ORIX and J.P. Morgan. The $53.5 million is composed of four Tranches: Tranche A of $2.0 million, Tranche B of $7.2 million, Tranche C of $15.6 million, and Tranche D of $28.7 million (collectively the “Term Loan”). The maturity date of the Term Loan is three years from the Closing Date. The Term Loan is secured by the assets of CPTC.

In addition, the Lenders have committed to lend up to $15.0 million in a Revolving Loan with a maturity date of one year from the Closing Date. The Company's share of the funding commitment from the Revolving Loan is $7.2 million, and as of September 27, 2019, the Company has funded $5.3 million.

All of the Tranches accrue paid-in-kind interest at 7.5% per annum, except the Tranche B and Revolving Loan which accrue paid-in-kind interest at 10% per annum. The seniority of these loans is as follows: Revolving Loan, Tranche A, Tranche B, Tranche C and Tranche D. If CPTC is in default, the interest rate of the Tranche A, C and D will increase to 9.5% and the interest rate on the Tranche B and the Revolving Loan will increase to 12.0%.

Considering Original CPTC’s financial difficulties, the modification of the original terms of the Former Loans, and the Lenders agreement to grant a concession on the Original CPTC Loans, the Company classified the transaction above as a troubled debt restructuring (“TDR”). The Company does not have any unamortized fees from the Former Loans and any prepayment penalties.

The Company, using a discounted cash flow approach, determined that the fair value of CPTC's equity as of Closing Date was $20.1 million. The Company's 47.08% ownership percentage amounted to a $9.5 million equity interest in CPTC. Since the common stock received was in addition to a loan receivable partially satisfied through the bankruptcy proceedings, in accordance with the TDR accounting guidance, the Company recorded the equity interest at fair value and as an offset to the reinstated loan balance. The equity investment in CPTC was accounted for under the equity method of accounting, and the Company accounted for its equity method share of the income or loss of CPTC on a quarter lag basis. In March 2019, the Company sold its equity interest, with a carrying value of zero, in CPTC for a nominal amount. Therefore, beginning in the second quarter of fiscal year 2019, the Company no longer records losses related to the CPTC equity investment.

The Company believes it is probable that it will collect the amounts owed under the Term Loan and Revolving Loan when due based on CPTC’s current operating plan. This plan includes an increase in patient volume, partnership with a significant clinical partner, and maintenance of its current reimbursement structure. In July 2019, the Centers for Medicare and Medicaid Services (“CMS”) proposed an alternative payment model (or “APM”) pilot program for radiation oncology. This proposed APM could materially impact the reimbursement to CPTC for its services. CPTC's inability to execute its operating plan, as well as finalization of the proposed APM as currently drafted could negatively impact CPTC's ability to repay or refinance the debt when it comes due, which may result in an impairment of the loan receivable; this impairment could be material.

As of September 27, 2019, and September 28, 2018, the Company had recorded $2.6 million and $1.8 million in trade receivables, net, respectively, from CPTC.

Further, the Company has determined that CPTC is a variable interest entity because of the Company's participation in the loan facilities and its operations and maintenance agreement. The Company has no special approval authority or veto rights for CPTC’s budget, and does not have the power to direct patient recruitment, clinical operations and management of CPTC, which the Company believes are the matters that most significantly affect their economic performance. Therefore, the Company does not have majority voting rights and no power to direct activities at CPTC, and as a result it is not the primary beneficiary of CPTC.

16. SEGMENT INFORMATION

The Company has two reportable operating segments: Oncology Systems and Proton Solutions. The Company's Interventional Solutions business is reflected in the "Other" category because it does not meet the criteria for a reportable operating segment. The operating segments were determined based on how the Company’s Chief Executive Officer, its Chief Operating Decision

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Maker ("CODM"), views and evaluates the Company’s operations. The CODM allocates resources to and evaluates the financial performance of each operating segment primarily based on operating earnings.

**Description of Segments**

The Oncology Systems segment designs, manufactures, sells and services hardware and software products for treating cancer with conventional radiation therapy, and advanced treatments such as fixed field intensity-modulated radiation therapy ("IMRT"), image-guided radiation therapy ("IGRT"), volumetric modulated arc therapy ("VMAT"), stereotactic radiosurgery ("SRS"), stereotactic body radiotherapy ("SBRT") and brachytherapy as well as associated quality assurance equipment.

The Oncology Systems’ hardware products include linear accelerators, brachytherapy afterloaders, treatment accessories, artificial intelligence-powered adaptive delivery systems and quality assurance software. The Oncology Systems’ software solutions include treatment planning, informatics, clinical knowledge exchange, patient care management, practice management and decision support for comprehensive cancer clinics, radiotherapy centers and medical oncology practices.

Oncology Systems’ products enable radiation oncology departments in hospitals and clinics to perform conventional radiotherapy treatments and offer advanced treatments such as IMRT, IGRT, VMAT, SRS and SBRT, and treat patients using brachytherapy techniques, which involve the introduction or temporary insertion of radioactive sources. The Oncology Systems’ products are also used by surgeons and radiation oncologists to perform stereotactic radiosurgery and by medical oncology departments to manage patient treatments. Oncology Systems’ customers worldwide include university research and community hospitals, private and governmental institutions, healthcare agencies, physicians’ offices, medical oncology practices, radiotherapy centers and cancer care clinics.

The Oncology Systems segment offers services ranging from hardware phone support, break/fix repair of linear accelerators, obsolescence protection of hardware, software support, software upgrades, hosting as a service, as well as clinical consulting services.

The Oncology Systems segment also provides clinical practice services that assist within the clinical workflow. These services focus on decision support and/or cancer care knowledge augmentation aimed at facilitating improved accessibility and affordability to care while maintaining a fundamental level of clinical quality. Further, the Company operates nine multi-disciplinary cancer centers and one specialty hospital in India and one multi-disciplinary cancer center in Sri Lanka.

The Proton Solutions segment develops, designs, manufactures, sells and services products and systems for delivering proton therapy, another form of external beam radiotherapy using proton beams, for the treatment of cancer.

The Other category primarily includes the Interventional Solutions business, which offers products for interventional oncology procedures and treatments, including cryoablation, microwave ablation and embolization. Interventional Solutions also provides software and remote services for post treatment dose calculation for Yttrium-90 microspheres used in selective internal radiation therapy. The Other category also includes assets related to the use of radiation in the heart and other forms of radiosurgery for cardiovascular disease, which were acquired in fiscal year 2019.

Accordingly, the following information is provided for purposes of achieving an understanding of operations, but may not be indicative of the financial results of the reported segments were they independent organizations. In addition, comparisons of the Company’s operations to similar operations of other companies may not be meaningful.

The Company allocates corporate costs to its operating segments based on the relative revenues of Oncology Systems, Proton Solutions and Interventional Solutions. The Company allocates these costs excluding certain corporate related costs, transactions or adjustments that the Company's CODM considers to be non-operational, such as restructuring and impairment charges, significant litigation charges or benefits and legal costs, and acquisition-related expenses. Although the Company excludes these amounts from segment operating earnings, they are included in the consolidated operating earnings and included in the reconciliation below.

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The following table summarizes select operating results information for each reportable segment:

<table>
<thead>
<tr>
<th></th>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
</tr>
<tr>
<td>Oncology Systems</td>
<td>$3,061.8</td>
</tr>
<tr>
<td>Proton Solutions</td>
<td>143.9</td>
</tr>
<tr>
<td><strong>Total reportable segments</strong></td>
<td>3,205.7</td>
</tr>
<tr>
<td>Other</td>
<td>19.4</td>
</tr>
<tr>
<td><strong>Total Company</strong></td>
<td>$3,225.1</td>
</tr>
<tr>
<td><strong>Earnings from continuing operations before taxes</strong></td>
<td></td>
</tr>
<tr>
<td>Oncology Systems</td>
<td>$555.9</td>
</tr>
<tr>
<td>Proton Solutions</td>
<td>(97.3)</td>
</tr>
<tr>
<td><strong>Total reportable segments</strong></td>
<td>458.6</td>
</tr>
<tr>
<td>Other</td>
<td>(25.8)</td>
</tr>
<tr>
<td>Unallocated corporate</td>
<td>(46.6)</td>
</tr>
<tr>
<td>Operating earnings</td>
<td>386.2</td>
</tr>
<tr>
<td>Interest income, net</td>
<td>6.3</td>
</tr>
<tr>
<td>Other income</td>
<td>28.3</td>
</tr>
<tr>
<td><strong>Total Company</strong></td>
<td>$420.8</td>
</tr>
</tbody>
</table>

**Disaggregation of Revenue**

The Company disaggregates its revenues from contracts by major product categories and by geographic region for each of its reportable operating segments and the Other category, as the Company believes this best depicts how the nature, amount, timing and uncertainty of revenues and cash flows are affected by economic factors. See details in the tables below.

**Total Revenues by Product Type**

<table>
<thead>
<tr>
<th></th>
<th>Fiscal Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td><strong>Hardware</strong></td>
<td></td>
</tr>
<tr>
<td>Oncology Systems</td>
<td>$1,393.6</td>
</tr>
<tr>
<td>Proton Solutions</td>
<td>119.3</td>
</tr>
<tr>
<td>Other</td>
<td>19.4</td>
</tr>
<tr>
<td><strong>Total Hardware</strong></td>
<td>1,532.3</td>
</tr>
<tr>
<td><strong>Software</strong> (1)</td>
<td></td>
</tr>
<tr>
<td>Oncology Systems</td>
<td>574.0</td>
</tr>
<tr>
<td>Proton Solutions</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Total Software</strong></td>
<td>577.0</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td></td>
</tr>
<tr>
<td>Oncology Systems</td>
<td>1,094.2</td>
</tr>
<tr>
<td>Proton Solutions</td>
<td>21.6</td>
</tr>
<tr>
<td><strong>Total Service</strong></td>
<td>1,115.8</td>
</tr>
<tr>
<td><strong>Total Revenues</strong></td>
<td>$3,225.1</td>
</tr>
</tbody>
</table>

(1) Includes software support agreements that are recorded in revenues from service, and software licenses that are recorded in revenues from product in the Consolidated Statements of Earnings.
### Total Revenues by Geographical Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Oncology Systems</th>
<th>Proton Solutions</th>
<th>Other</th>
<th>Total Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>1,451.3</td>
<td>70.0</td>
<td>6.1</td>
<td>1,527.4</td>
</tr>
<tr>
<td>2018</td>
<td>1,351.3</td>
<td>85.6</td>
<td>—</td>
<td>1,436.9</td>
</tr>
<tr>
<td>2017</td>
<td>1,256.8</td>
<td>87.8</td>
<td>—</td>
<td>1,344.6</td>
</tr>
</tbody>
</table>

| EMEA         |                  |                  |       |                |
| 2019         | 1,000.9          | 66.3             | 6.2   | 1,073.4        |
| 2018         | 883.2            | 59.6             | —     | 942.8          |
| 2017         | 691.1            | 68.1             | —     | 759.2          |

| APAC         |                  |                  |       |                |
| 2019         | 609.6            | 7.6              | 7.1   | 624.3          |
| 2018         | 535.7            | 3.7              | —     | 539.4          |
| 2017         | 488.9            | 26.6             | —     | 515.5          |

| North America (1) |                  |                  |       |                |
| 2019             | 1,349.2          | 70.0             | 5.9   | 1,425.1        |
| 2018             | 1,261.6          | 85.6             | —     | 1,347.2        |
| 2017             | 1,180.0          | 87.8             | —     | 1,267.8        |

| International   |                  |                  |       |                |
| 2019             | 1,712.6          | 73.9             | 13.5  | 1,800.0        |
| 2018             | 1,508.6          | 63.3             | —     | 1,571.9        |
| 2017             | 1,256.8          | 94.7             | —     | 1,351.5        |

| Total International |                  |                  |       |                |
| 2019               | 1,564.7          | 19.4             | —     | 1,664.1        |
| 2018               | 1,434.8          | —                | —     | 1,454.3        |
| 2017               | 1,221.5          | —                | —     | 1,221.5        |

| Total Revenues    | $ 3,225.1        | $2,919.1         | $2,619.3 |

(1) North America primarily includes the United States and Canada.

### Total Revenues by Product Type

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Oncology Systems</th>
<th>Proton Solutions</th>
<th>Other</th>
<th>Total Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products Transferred at a point in time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>1,642.3</td>
<td>3.0</td>
<td>19.4</td>
<td>1,664.7</td>
</tr>
<tr>
<td>2018</td>
<td>1,431.0</td>
<td>3.8</td>
<td>—</td>
<td>1,434.8</td>
</tr>
<tr>
<td>2017</td>
<td>1,221.5</td>
<td>—</td>
<td>—</td>
<td>1,221.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Products and Services transferred over time</th>
<th>Oncology Systems</th>
<th>Proton Solutions</th>
<th>Other</th>
<th>Total Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>1,419.5</td>
<td>140.9</td>
<td>—</td>
<td>1,560.4</td>
</tr>
<tr>
<td>2018</td>
<td>1,339.2</td>
<td>145.1</td>
<td>—</td>
<td>1,484.3</td>
</tr>
<tr>
<td>2017</td>
<td>1,215.3</td>
<td>182.5</td>
<td>—</td>
<td>1,397.8</td>
</tr>
</tbody>
</table>

| Total Products and Services transferred over time | $ 1,560.4 | $1,484.3 | $1,397.8 |
| Total Revenues                                   | $ 3,225.1 | $2,919.1 | $2,619.3 |
### Other Items

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Depreciation &amp; Amortization</th>
<th>Total Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fiscal Years</td>
<td>Fiscal Years</td>
</tr>
<tr>
<td></td>
<td>2019</td>
<td>2018</td>
</tr>
<tr>
<td>Oncology Systems</td>
<td>49.6</td>
<td>42.1</td>
</tr>
<tr>
<td>Proton Solutions</td>
<td>4.8</td>
<td>7.9</td>
</tr>
<tr>
<td>Total reportable segments</td>
<td>54.4</td>
<td>50.0</td>
</tr>
<tr>
<td>Other</td>
<td>14.8</td>
<td>—</td>
</tr>
<tr>
<td>Corporate</td>
<td>23.8</td>
<td>22.7</td>
</tr>
<tr>
<td>Discontinued operations</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total Company</td>
<td>54.4</td>
<td>50.0</td>
</tr>
</tbody>
</table>

### Geographic Information

<table>
<thead>
<tr>
<th>(In millions)</th>
<th>Revenues</th>
<th>Property, plant and equipment, net</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fiscal Years</td>
<td>Fiscal Years</td>
</tr>
<tr>
<td></td>
<td>2019</td>
<td>2018</td>
</tr>
<tr>
<td>United States</td>
<td>$1,384.3</td>
<td>$1,308.3</td>
</tr>
<tr>
<td>Other countries</td>
<td>1,840.8</td>
<td>1,610.8</td>
</tr>
<tr>
<td>Total Company</td>
<td>$3,225.1</td>
<td>$2,919.1</td>
</tr>
</tbody>
</table>

The Company operates various manufacturing and marketing operations outside the United States. Allocation between domestic and foreign revenues is based on the final destination of products sold. No country outside the United States represented 10% or more of the Company’s total revenues. In fiscal year 2019, India represented approximately 12% of total property, plant and equipment, net, and in fiscal years 2018 and 2017, no country outside the United States represented 10% or more of the Company’s property, plant and equipment, net. Intercompany and intracompany profits are eliminated in consolidation.
## 17. QUARTERLY FINANCIAL DATA (UNAUDITED)

<table>
<thead>
<tr>
<th>(In millions, except per share amounts)</th>
<th>Fiscal Year 2019</th>
<th>Fiscal Year 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Quarter (1)</td>
<td>Second Quarter</td>
</tr>
<tr>
<td>Total revenues</td>
<td>$ 741.0</td>
<td>$ 779.4</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$ 316.1</td>
<td>$ 318.2</td>
</tr>
<tr>
<td>Net earnings</td>
<td>$ 103.9</td>
<td>$ 88.4</td>
</tr>
<tr>
<td>Net earnings attributable to Varian</td>
<td>$ 103.2</td>
<td>$ 88.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net earnings per share - basic</td>
<td>$ 1.13</td>
<td>$ 0.97</td>
</tr>
<tr>
<td>Net earnings per share - diluted</td>
<td>$ 1.12</td>
<td>$ 0.96</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(In millions, except per share amounts)</th>
<th>Fiscal Year 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Quarter (4)</td>
</tr>
<tr>
<td>Total revenues</td>
<td>$ 678.5</td>
</tr>
<tr>
<td>Gross margin</td>
<td>$ 302.8</td>
</tr>
<tr>
<td>Net earnings (loss)</td>
<td>$(112.2)</td>
</tr>
<tr>
<td>Net earnings attributable to Varian</td>
<td>$(112.3)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Net earnings (loss) per share - basic</td>
<td>$(1.22)</td>
</tr>
<tr>
<td>Net earnings (loss) per share - diluted</td>
<td>$(1.22)</td>
</tr>
</tbody>
</table>

(1) In the first quarter of fiscal year 2019, net earnings includes a $22.0 million gain on the sale of our investment in Augmenix.

(2) In the third quarter of fiscal year 2019, net earnings includes a $50.5 million goodwill impairment charge related to the Company's Proton Solutions business and a $20.8 million charge associated with the write-off of in-process R&D related to an acquisition.

(3) In the fourth quarter of fiscal year 2019, net earnings includes an $18.6 million charge to acquisition-related expenses due to an increase to the fair value of contingent consideration related to an acquisition.

(4) In the first quarter of fiscal year 2018, net earnings includes a $207.1 million income tax expense related to the tax effect of a change in law related to the Act.

(5) In the second quarter of fiscal year 2018, net earnings includes a $16.4 million loss related to hedging the anticipated Australian dollar purchase price for Sirtex and an $11.1 million impairment charge related to our MPTC subordinated loan.

(6) In the third quarter of fiscal year 2018, net earnings includes a $13.3 million loss related to hedging the anticipated Australian dollar purchase price of the Sirtex acquisition, an $11.0 million impairment charge related to our MPTC subordinated loan, acquisition costs of $8.4 million, partially offset by the net $9.0 million breakup fee received from Sirtex in connection with the termination of the acquisition.

(7) In the fourth quarter of fiscal year 2018, net earnings includes a $8.0 million benefit to income tax expense due to the partial release of a valuation allowance as the result of an acquisition and a $7.1 million benefit to income tax expense related to the Act.

## 18. SUBSEQUENT EVENTS

On November 1, 2019, the Company entered into Amendment No. 2 (the “Amendment”) to its Credit Agreement dated as of April 3, 2018 (the “Credit Agreement”), by and among the Company, certain lenders party thereto, and Bank of America, N.A., as administrative agent, swing line lender and letter of credit issuer. The Amendment, among other things, reduces the aggregate principal amount available under the revolving credit facility provided under the Credit Agreement from $1.8 billion to $1.2 billion, reduces the commitment fee, adds a $500 million sublimit for multi-currency borrowings, increases the letter of credit sublimit to $225 million, and extends the maturity date from April 2023 to November 2024.
Management of Varian Medical Systems, Inc. and its subsidiaries (the “Company”) is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934. The Company’s internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America. Internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles in the United States of America, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company’s assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions and that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of the Company’s internal control over financial reporting as of September 27, 2019. In making this assessment, management used the criteria set forth in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on its assessment and those criteria, management concluded that the Company maintained effective internal control over financial reporting as of September 27, 2019. PricewaterhouseCoopers LLP has issued a report on the Company’s internal control over financial reporting as of September 27, 2019, which appears immediately after this report.
To the Board of Directors and Stockholders of
Varian Medical Systems, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Varian Medical Systems, Inc. and its subsidiaries (the “Company”) as of September 27, 2019 and September 28, 2018, and the related consolidated statements of earnings, comprehensive earnings, equity and cash flows for each of the three years in the period ended September 27, 2019, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of September 27, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 27, 2019 and September 28, 2018, and the results of its operations and its cash flows for each of the three years in the period ended September 27, 2019 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 27, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Report of Management on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the
company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

**Critical Audit Matters**

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

**Goodwill Impairment Assessment - Proton Solutions Reporting Unit**

As described in Notes 1 and 6 to the consolidated financial statements, the Company’s consolidated goodwill balance was $612.2 million as of September 27, 2019, which includes the effects of the goodwill impairment charge of $50.5 million taken during the fiscal year. Management evaluates goodwill for impairment at least annually during the fourth quarter, or whenever an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. Management determines the fair value of its reporting units based on a combination of income and market approaches. The income approach is based on the present value of estimated future cash flows of the reporting unit and the market approach is based on a market multiple calculated for each business unit based on market data of other companies engaged in similar business. Determining the fair value of a reporting unit involves the use of significant estimates and assumptions. To determine the fair value of the Proton Solutions reporting unit, management used the income and market approaches. Under the income approach, the fair value of the Proton Solutions reporting unit was based on the present value of the estimated future cash flows that the reporting unit is expected to generate over its remaining life. Cash flow projections were based on management’s estimates of revenue growth rates, operating margins and the discount rate. The market approach considered revenue multiples based on comparable transactions and public companies.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment - Proton Solutions reporting unit is a critical audit matter are there was significant judgment by management when developing the fair value measurement of the reporting unit. This in turn led to high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating evidence related to revenue growth rates used to calculate projected future cash flows. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management’s goodwill impairment assessment, including controls over the valuation of the Company’s reporting unit and controls over the development of the assumptions related to the valuation of the Company’s reporting units, including revenue growth rates. These procedures also included, among others: testing management’s process for developing the fair value estimate; evaluating the appropriateness of the income and market approaches; testing the completeness, accuracy, and relevance of underlying data used in the income and market approaches; and evaluating the significant assumptions used by management, including the revenue growth rates. Evaluating management's assumption related to revenue growth rates involved evaluating whether the assumptions used by management were reasonable considering the past performance of the Proton Solutions reporting unit, industry projections, and system order backlog. Professionals with specialized skill and knowledge were used to assist in evaluating the appropriateness of management’s income approach and evaluating the reasonableness of the assumptions used in the income approach.

**Acquisitions of Cancer Treatment Services International ("CTSI"), Endocare, Inc. ("Endocare") and Alicon Pharmaceutical Technology Company, Ltd. ("Alicon")**

As described in Note 2 to the consolidated financial statements, during 2019 the Company acquired CTSI, a privately-held company that provides cancer care professional services to health care providers worldwide, for a total purchase price of $277 million, and Endocare and Alicon, companies providing solutions in interventional oncology, for a combined total purchase price of $210 million. Intangible assets of $111.8 million and $76.4 million were recorded for CTSI and Endocare and Alicon,
respectively, consisting of technologies, customer contracts, supplier relationships, partner relationships, trade names, and in-process research and development. Management applied significant judgment in determining the fair value of intangible assets, which involved the use of significant estimates and assumptions with respect to the projected revenue, economic lives, product and technology migration rates, customer attrition, projected margins, and the discount rate.

The principal considerations for our determination that performing procedures relating to the acquisitions of CTSI and Endocare and Alicon is a critical audit matter are there was a high degree of auditor judgment and subjectivity in applying procedures relating to the fair value measurement of intangible assets acquired due to the significant amount of judgment by management when developing the estimates. This in turn led to significant audit effort in performing procedures to evaluate the significant assumptions relating to the estimates, such as projected revenue, economic lives, and projected margins. Additionally, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the acquisition accounting, including controls over management’s valuation of the intangible assets and controls over the development of the assumptions related to the valuation of the intangible assets, including the projected revenue, economic lives, and projected margins. These procedures also included, among others, reading the purchase agreements and testing management’s process for estimating the fair value of intangible assets. Testing management’s process included evaluating the appropriateness of the valuation methods; testing the completeness, accuracy and relevance of underlying data used in the valuation methods; and assessing the reasonableness of significant assumptions used by management, including projected revenue, economic lives, and projected margins. Evaluating the reasonableness of projected revenue and margins involved considering historical results of the acquired business, industry and market data and market share information. Evaluating the reasonableness of the economic lives assigned to the intangible assets acquired involved comparing similar technology acquired through previous acquisitions and comparing to publicly available data of competitors. Professionals with specialized skill and knowledge were used to assist in evaluating the appropriateness of management’s valuation methods and evaluating the reasonableness of the assumptions used in the valuation methods.

/s/ PricewaterhouseCoopers LLP

San Jose, California
November 25, 2019

We have served as the Company’s auditor since at least 1976. We have not been able to determine the specific year we began serving as auditor of the Company.
Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

(a) Disclosure controls and procedures. Based on the evaluation of our disclosure controls and procedures (as defined in the Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) required by Exchange Act Rules 13a-15(b) or 15d-15(b), our principal executive officer and principal financial officer have concluded that as of the end of the period covered by this report, our disclosure controls and procedures were effective to ensure that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and include controls and procedures designed to ensure that information required to be disclosed by us in such reports is accumulated and communicated to our management, including the principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

(b) Report of management on internal control over financial reporting. The information required to be furnished pursuant to this item is set forth under the caption “Report of Management on Internal Control over Financial Reporting” under Item 8, “Financial Statements and Supplementary Data” of this Annual Report on Form 10-K, and is incorporated here by reference.

(c) Changes in internal control over financial reporting. There were no changes in our internal control over financial reporting that occurred during our fourth fiscal quarter of fiscal year 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.
PART III

Item 10. Directors, Executive Officers and Corporate Governance

Directors and Executive Officers

The information required by this item with respect to our executive officers is set forth in Part I of this Annual Report on Form 10-K. The information required by this item with respect to our directors, our Audit Committee and its members, and audit committee financial expert is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Stockholders under the caption “Proposal One—Election of Directors.” The information required by this item with respect to compliance with Section 16(a) of the Exchange Act is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Stockholders under the caption “Stock Ownership—Delinquent Section 16(a) Reports.”

Code of Conduct

We have adopted a Code of Conduct that applies to all of our executive officers and directors. The Code of Conduct is posted on our website. The Internet address for our website is http://www.varian.com, and the Code of Conduct may be found as follows:

1. From our main web page, first click “Investors.”
2. Next click on “Corporate Governance” in the left-hand navigation bar.
3. Finally, click on “Code of Conduct.”

We intend to satisfy the disclosure requirements under Item 5.05(c) of Form 8-K regarding an amendment to, or waiver from, a provision of the Code of Conduct that applies to our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions by posting such information on our website, at the address and location specified above.

Item 11. Executive Compensation

The information required by this item is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Stockholders under the caption “Compensation of the Named Executive Officers and Directors.”


Equity Compensation Plan Information

The following table provides information as of September 27, 2019 with respect to the shares of VMS common stock that may be issued under existing equity compensation plans.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of securities to be issued upon exercise of outstanding options, warrants and rights</td>
<td>Weighted average exercise price of outstanding options, warrants and rights</td>
<td>Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column A)</td>
</tr>
<tr>
<td>Equity compensation plans approved by security holders</td>
<td>2.9</td>
<td>$97.66</td>
<td>10.7</td>
</tr>
<tr>
<td>Total</td>
<td>2.9</td>
<td>$97.66</td>
<td>10.7</td>
</tr>
</tbody>
</table>

(1) The weighted average exercise price does not take into account the shares issuable upon vesting of outstanding restricted stock units, deferred stock units and performance units, which have no exercise price.

(2) Consists of stock options (including performance-based options), restricted stock units, deferred stock units and performance units granted under the Fifth Amended and Restated 2005 Omnibus Stock Plan (the “Fifth Amended 2005 Plan”). The number of shares subject to outstanding performance awards assumes the maximum payout with respect to such awards.

129
Includes 5.7 million shares available for future issuance under the Fifth Amended 2005 Plan. Also includes 5.0 million shares available for future issuance under the 2010 Employee Stock Purchase Plan, including shares subject to purchase during the current purchase period, which commenced on October 29, 2019 (the exact number of which will not be known until the purchase date on May 1, 2020). Subject to the number of shares remaining in the share reserve, the maximum number of shares purchasable by any participant under the 2010 Employee Stock Purchase Plan on any one purchase date for any purchase period, including the current purchase period may not exceed 1,000 shares.

The information required by this item with respect to the security ownership of certain beneficial owners and the security ownership of directors and executive officers is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Stockholders under the caption “Stock Ownership—Beneficial Ownership of Certain Stockholders, Directors and Executive Officers.”

**Item 13. Certain Relationships and Related Transactions, and Director Independence**

The information required by this item with respect to certain relationships and related transactions is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Stockholders under the caption “Certain Relationships and Related Transactions.” The information required by this item with respect to director and committee member independence is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Stockholders under the caption “Proposal One—Election of Directors.”

**Item 14. Principal Accountant Fees and Services**

The information required by this item is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Stockholders under the caption “Proposal Four—Ratification of the Appointment of Our Independent Registered Public Accounting Firm.”
PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) The following documents are filed as part of this report:

(1) Consolidated Financial Statements:

• Consolidated Statements of Earnings
• Consolidated Statements of Comprehensive Earnings
• Consolidated Balance Sheets
• Consolidated Statements of Cash Flows
• Consolidated Statements of Equity
• Notes to the Consolidated Financial Statements
• Report of Independent Registered Public Accounting Firm

(2) Consolidated Financial Statement Schedule:

The following financial statement schedule of the Registrant and its subsidiaries for fiscal years 2019, 2018 and 2017 is filed as a part of this report and should be read in conjunction with the Consolidated Financial Statements of the Registrant and its subsidiaries:

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>Valuation and Qualifying Accounts</td>
<td>137</td>
</tr>
</tbody>
</table>

All other schedules are omitted because of the absence of conditions under which they are required or because the required information is given in the financial statements or the notes thereto.

(3) Exhibits:

The exhibits listed below are filed or incorporated by reference as part of this Form 10-K.

<table>
<thead>
<tr>
<th>Exhibit Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Registrant’s Amended and Restated Certificate of Incorporation, as amended (incorporated by reference to Exhibit No. 3.1 to the Registrant’s Form 8-K Current Report filed as of August 18, 2014, File No. 1-7598).</td>
</tr>
<tr>
<td>3.2</td>
<td>Registrant’s By-Laws, as amended, effective September 1, 2018 (incorporated by reference to Exhibit No. 3.1 to the Registrant’s Form 8-K Current Report filed as of August 21, 2018, File No. 1-7598).</td>
</tr>
<tr>
<td>4.1</td>
<td>Specimen Common Stock Certificate (incorporated by reference to Exhibit No. 4.1 to the Registrant’s Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).</td>
</tr>
<tr>
<td>4.2</td>
<td>Form of Senior Indenture, between Registrant and one or more trustees to be named (incorporated by reference to Exhibit No. 4.2 to the Registrant's Form S-3, File No. 333-221763).</td>
</tr>
<tr>
<td>4.3</td>
<td>Form of Subordinated Indenture, between Registrant and one or more trustees to be named (incorporated by reference to Exhibit No. 4.3 to the Registrant's Form-3, File No. 333-221763).</td>
</tr>
<tr>
<td>4.4 *</td>
<td>Description of Securities Registered Under Section 12 of the Exchange Act.</td>
</tr>
<tr>
<td>Exhibit Number</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>10.1†</td>
<td>Form of Registrant’s Indemnity Agreement with the directors and executive officers (incorporated by reference to Exhibit No. 10.3 to the Registrant’s Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).</td>
</tr>
<tr>
<td>10.2†</td>
<td>Form of Registrant’s Change in Control Agreement for Chief Executive Officer (incorporated by reference to Exhibit 10.2 to the Registrant's Form 10-K Annual Report for the year ended October 2, 2015, File No. 1-7598).</td>
</tr>
<tr>
<td>10.3†</td>
<td>Form of Registrant’s Change in Control Agreement for Senior Executives (Chief Financial Officer and General Counsel) (incorporated by reference to Exhibit 10.3 to the Registrant's Form 10-K Annual Report for the year ended October 2, 2015, File No. 1-7598).</td>
</tr>
<tr>
<td>10.4†</td>
<td>Form of Registrant’s Change in Control Agreement for Senior Executives (other than the Chief Executive Officer, the Chief Financial Officer, and the General Counsel) (incorporated by reference to Exhibit 10.4 to the Registrant's Form 10-K Annual Report for the year ended October 2, 2015, File No. 1-7598).</td>
</tr>
<tr>
<td>10.5†</td>
<td>Form of Registrant’s Change in Control Agreement for Key Employees (incorporated by reference to Exhibit 10.5 to the Registrant's Form 10-K Annual Report for the year ended October 2, 2015, File No. 1-7598).</td>
</tr>
<tr>
<td>10.9†</td>
<td>Registrant’s Frozen Deferred Compensation Plan (incorporated by reference to Exhibit No. 10.17 to the Registrant’s Form 10-K Annual Report for the fiscal year ended September 29, 2000, File No. 1-7598).</td>
</tr>
<tr>
<td>10.10†</td>
<td>Registrant’s Amended and Restated 2005 Deferred Compensation Plan (incorporated by reference to Exhibit No. 10.2 of the Registrant’s Form 10-Q Quarterly Report for the quarter ended January 2, 2009, File No. 1-7598).</td>
</tr>
<tr>
<td>10.11†</td>
<td>Registrant’s Management Incentive Plan (incorporated by reference to Exhibit 10.12 to the Registrant's Form 10-K Annual Report for the year ended October 2, 2015, File No. 1-7598).</td>
</tr>
<tr>
<td>10.12†</td>
<td>Registrant’s 2010 Employee Stock Purchase Plan (incorporated by reference to Exhibit No. 10.1 to the Registrant’s Form 10-Q Quarterly Report for the quarter ended April 2, 2010, File No. 1-7598).</td>
</tr>
<tr>
<td>10.14†</td>
<td>Form of Registrant’s Nonqualified Stock Option Agreement under the Registrant’s Third Amended and Restated 2005 Omnibus Stock Plan (incorporated by reference to Exhibit No. 10.2 to the Registrant’s Form 10-Q Quarterly Report for the quarter ended March 30, 2012, File No. 1-7598).</td>
</tr>
<tr>
<td>10.15†</td>
<td>Form of Registrant’s Nonqualified Stock Option Agreement under the Registrant’s Third Amended and Restated 2005 Omnibus Stock Plan (effective for nonqualified stock option awards granted to executive officers after November 8, 2015) (incorporated by reference to Exhibit No. 10.1 to the Registrant’s Form 8-K Current Report filed as of November 12, 2015, File No. 1-7598).</td>
</tr>
<tr>
<td>Exhibit Number</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>10.16†</td>
<td>Form of Registrant’s Non-Employee Director Nonqualified Stock Option Agreement under the Registrant’s Third Amended and Restated 2005 Omnibus Stock Option Plan (incorporated by reference to Exhibit No. 10.3 to the Registrant’s Form 10-Q Quarterly Report for the quarter ended March 30, 2012, File No. 1-7598).</td>
</tr>
<tr>
<td>10.17†</td>
<td>Form of Registrant’s Restricted Stock Unit Agreement under the Registrant’s Third Amended and Restated 2005 Omnibus Stock Plan (effective for restricted stock unit awards granted to executive officers after November 8, 2015) (incorporated by reference to Exhibit No. 10.2 to the Registrant’s Form 8-K Current Report filed as of November 12, 2015, File No. 1-7598).</td>
</tr>
<tr>
<td>10.18†</td>
<td>Form of Registrant’s Performance Unit Agreement under the Registrant’s Third Amended and Restated 2005 Omnibus Stock Plan (effective for performance unit awards granted to executive officers after November 8, 2015) (incorporated by reference to Exhibit No. 10.3 to the Registrant’s Form 8-K Current Report filed as of November 12, 2015, File No. 1-7598).</td>
</tr>
<tr>
<td>10.19†</td>
<td>Form of Registrant’s Grant Agreement for Deferred Stock Units under the Registrant’s Third Amended and Restated 2005 Omnibus Stock Plan (incorporated by reference to Exhibit No. 10.7 to the Registrant’s Form 10-Q Quarterly Report for the quarter ended March 30, 2012, File No. 1-7598).</td>
</tr>
<tr>
<td>10.20†</td>
<td>Form of Registrant’s Non-Employee Grant Agreement for Deferred Stock Units (for use in Singapore) under the Registrant’s Third Amended and Restated 2005 Omnibus Stock Plan (incorporated by reference to Exhibit 10.8 of the Registrant’s Form 10-Q Quarterly Report for the quarter ended March 30, 2012, File No. 1-7598).</td>
</tr>
<tr>
<td>10.21++</td>
<td>Loan and Security Agreement (Building Loan) dated as of July 15, 2015 by and among MM PROTON I, LLC, as Borrower; JPMORGAN CHASE BANK, N.A., as Administrative Agent and Collateral Agent; and the Lenders referenced therein. “Lenders” includes the Registrant (incorporated by reference to Exhibit 10.43 to the Registrant’s Form 10-K/A filed as of August 18, 2016, File No. 1-7598).</td>
</tr>
<tr>
<td>10.22++</td>
<td>First Amendment to Loan and Security Agreement (Building Loan) dated as of August 5, 2015 by and among MM PROTON I, LLC, as Borrower; JPMORGAN CHASE BANK, N.A., as Administrative Agent and Collateral Agent; and the Lenders referenced therein. “Lenders” includes the Registrant (incorporated by reference to Exhibit 10.44 to the Registrant’s Form 10-K/A filed as of August 18, 2016, File No. 1-7598).</td>
</tr>
<tr>
<td>10.24++</td>
<td>Amendment No. One to Loan and Security Agreement (Project Loan) dated as of July 31, 2015 by and among MM PROTON I, LLC, as Borrower; JPMORGAN CHASE BANK, N.A., as Administrative Agent and Collateral Agent, and the Lenders referenced therein (incorporated by reference to Exhibit 10.46 to the Registrant’s Form 10-K/A filed as of August 18, 2016, File No. 1-7598). “Lenders” includes the Registrant.</td>
</tr>
<tr>
<td>Exhibit Number</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>10.32†</td>
<td>Form of Registrant’s Performance-based Nonqualified Stock Option Agreement under the Registrant’s Fourth Amended and Restated 2005 Omnibus Stock Plan for Section 16 officers (incorporated by reference to Exhibit No. 10.1 to the Registrant's Form 8-K Current Report filed as of November 15, 2017, File No. 1-7598).</td>
</tr>
<tr>
<td>10.33†</td>
<td>Form of Registrant’s Time-based Nonqualified Stock Option Agreement under the Registrant’s Fourth Amended and Restated 2005 Omnibus Stock Plan for Section 16 officers (incorporated by reference to Exhibit No. 10.2 to the Registrant's Form 8-K Current Report filed as of November 15, 2017, File No. 1-7598).</td>
</tr>
<tr>
<td>10.34†</td>
<td>Form of Registrant’s Restricted Stock Unit Agreement under the Registrant’s Fourth Amended and Restated 2005 Omnibus Stock Plan for Section 16 officers (incorporated by reference to Exhibit No. 10.3 to the Registrant's Form 8-K Current Report filed as of November 15, 2017, File No. 1-7598).</td>
</tr>
<tr>
<td>10.35†</td>
<td>Form of Registrant’s Performance Unit Agreement under the Registrant’s Fourth Amended and Restated 2005 Omnibus Stock Plan for Section 16 officers (incorporated by reference to Exhibit No. 10.4 to the Registrant's Form 8-K Current Report filed as of November 15, 2017, File No. 1-7598).</td>
</tr>
<tr>
<td>10.36†</td>
<td>Credit Agreement, dated as of April 3, 2018, among Registrant, Bank of America, N.A., as Administrative Agent, Swing Line Lender and L/C Issuer and each lender from time to time party thereto (incorporated by reference to Exhibit No. 10.1 to the Registrant’s Form 8-K Current Report filed as of April 4, 2018, File No. 1-7598).</td>
</tr>
<tr>
<td>10.38†</td>
<td>Form of Registrant’s Time-based Nonqualified Stock Option Agreement under the Registrant’s Fifth Amended and Restated 2005 Omnibus Stock Plan.</td>
</tr>
<tr>
<td>10.39†</td>
<td>Form of Registrant’s Time Based Restricted Stock Unit Agreement under the Registrant’s Fifth Amended and Restated 2005 Omnibus Stock Plan.</td>
</tr>
<tr>
<td>10.40†</td>
<td>Form of Registrant Performance Units Agreement under the Registrant's Fifth Amended and Restated 2005 Omnibus Stock Plan</td>
</tr>
<tr>
<td>10.41*</td>
<td>Amendment No.2 to Credit Agreement, dated November 1, 2019, by and among Registrant, Bank of America, N.A., as Administrative Agent, Swing Line Lender and L/C Issuer and each lender from time to time party thereto.</td>
</tr>
<tr>
<td>21*</td>
<td>List of Subsidiaries as of November 15, 2019</td>
</tr>
<tr>
<td>23*</td>
<td>Consent of Independent Registered Public Accounting Firm.</td>
</tr>
<tr>
<td>31.1*</td>
<td>Chief Executive Officer Certification Pursuant to Rule 13a-14(a) of the Securities Exchange Act.</td>
</tr>
<tr>
<td>32.1**</td>
<td>Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</td>
</tr>
<tr>
<td>32.2**</td>
<td>Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</td>
</tr>
</tbody>
</table>

The cover page from the Company's Annual Report on Form 10-K for the year ended September 27, 2019, formatted in Inline XBRL and contained in Exhibit 101.

† Management contract or compensatory arrangement.

* Filed herewith.

** Furnished, not filed.

++ Confidential treatment has been granted as to certain portions of this exhibit pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Item 16. Form 10-K Summary

None.
SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: November 25, 2019

VARIAN MEDICAL SYSTEMS, INC.

By: /s/ GARY E. BISCHOPING, JR.

Gary E. Bischoping, Jr.
Senior Vice President, Finance and
Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated.

<table>
<thead>
<tr>
<th>Signature</th>
<th>Capacity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>/s/ DOW R. WILSON</td>
<td>President and Chief Executive Officer and Director (Principal Executive Officer)</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Dw. R. Wilson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ GARY E. BISCHOPING, JR.</td>
<td>Senior Vice President, Finance and Chief Financial Officer (Principal Financial Officer)</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Gary E. Bischoping, Jr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ MAGNUS A. MOMSEN</td>
<td>Senior Vice President, Chief Accounting Officer and Corporate Controller (Principal Accounting Officer)</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Magnus A. Momsen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ R. ANDREW ECKERT</td>
<td>Chairman of the Board of Directors</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>R. Andrew Eckert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ TIMOTHY E. GUERTIN</td>
<td>Director</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Timothy E. Guertin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ JEFFREY R. BALSER</td>
<td>Director</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Jeffrey R. Balser</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ ANAT ASHKENAZI</td>
<td>Director</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Anat Ashkenazi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ JUDY BRUNER</td>
<td>Director</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Judy Bruner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ JEAN-LUC BUTEL</td>
<td>Director</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Jean-Luc Butel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ Regina E. Dugan</td>
<td>Director</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Regina E. Dugan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ David J. Illingworth</td>
<td>Director</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>David J. Illingworth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/s/ Phillip Febbo</td>
<td>Director</td>
<td>November 25, 2019</td>
</tr>
<tr>
<td>Phillip Febbo</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
#### VALUATION AND QUALIFYING ACCOUNTS

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Description</th>
<th>Balance at Beginning of Period</th>
<th>Provision to Allowance for Doubtful Accounts</th>
<th>Write-offs Adjustments Charged to Allowance</th>
<th>Balance at End of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Allowance for doubtful accounts</td>
<td>$41.1</td>
<td>$6.6</td>
<td>$(1.2)</td>
<td>$46.5</td>
</tr>
<tr>
<td>2018</td>
<td>Allowance for doubtful accounts</td>
<td>$63.1</td>
<td>$4.0</td>
<td>$(26.0)</td>
<td>$41.1</td>
</tr>
<tr>
<td>2017</td>
<td>Allowance for doubtful accounts</td>
<td>$24.2</td>
<td>$43.0</td>
<td>$(4.1)</td>
<td>$63.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Description</th>
<th>Balance at Beginning of Period</th>
<th>Increases</th>
<th>Deductions</th>
<th>Balance at End of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Valuation allowance for deferred tax assets</td>
<td>$101.6</td>
<td>$6.7</td>
<td>$(8.6)</td>
<td>$99.7</td>
</tr>
<tr>
<td>2018</td>
<td>Valuation allowance for deferred tax assets</td>
<td>$105.8</td>
<td>$5.3</td>
<td>$(9.5)</td>
<td>$101.6</td>
</tr>
<tr>
<td>2017</td>
<td>Valuation allowance for deferred tax assets</td>
<td>$79.6</td>
<td>$26.2</td>
<td>—</td>
<td>$105.8</td>
</tr>
</tbody>
</table>
**DESCRIPTION OF COMMON STOCK**

Our authorized capital stock consists of 189,000,000 shares of common stock with a par value of $1.00 per share. Each holder of our common stock is entitled to one vote for each share on all matters to be voted upon by the stockholders and there are no cumulative voting rights. Subject to any preferential rights of any outstanding preferred stock, holders of our common stock are entitled to receive ratably the dividends, if any, as may be declared from time to time by our Board of Directors ("Board") out of funds legally available therefor. If there is a liquidation, dissolution or winding up of the Company, holders of our common stock would be entitled to share in our assets remaining after the payment of liabilities and any preferential rights of any outstanding preferred stock.

Holders of our common stock have no preemptive or conversion rights or other subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The outstanding shares of common stock are fully paid and non-assessable. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Our common stock is listed on the New York Stock Exchange under the symbol “VAR.” The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. Its address is P.O. Box 505000, Louisville, Kentucky 40233, and its telephone number is (800) 756-8200.

**Effect of Certain Provisions of our Amended and Restated Certificate of Incorporation and Bylaws and the Delaware Anti-Takeover Statute**

Some provisions of Delaware Law and our Amended and Restated Certificate of Incorporation and Bylaws contain provisions that could make the following transactions more difficult:

- acquisition of us by means of a tender offer;
- acquisition of us by means of a proxy contest or otherwise; or
- removal of our incumbent officers and directors.

Those provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids and to promote stability in our management. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our Board.
Amended and Restated Certificate of Incorporation and Bylaws

Our Amended and Restated Certificate of Incorporation and Bylaws provide for the following:

• **Undesignated Preferred Stock.** The ability to authorize undesignated preferred stock makes it possible for our Board to issue one or more series of preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of the Company. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of the Company.

• **Stockholder Meetings.** Our charter documents provide that a special meeting of stockholders may be called by the Chairman of the Board or the Chief Executive Officer, or in the absence of each of them, by the Vice Chairman of the Board, or by the Secretary at the written request of a majority of the Board.

• **Requirements for Advance Notification of Stockholder Nominations and Proposals.** Our bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of the Board or a committee of the Board.

• **Exclusive Forum Selection.** Our bylaws provide that the sole and exclusive forum for certain actions or proceedings involving us shall be the Court of Chancery of the State of Delaware. These certain actions or proceedings include derivative actions, actions claiming breach of fiduciary duty, actions involving Delaware Law or our organizational documents, and actions involving the internal affairs legal doctrine.
AMENDMENT NO. 2 TO CREDIT AGREEMENT

This AMENDMENT NO. 2 TO CREDIT AGREEMENT (this “Amendment”), effective as of November 1, 2019, is entered into by and among VARIAN MEDICAL SYSTEMS, INC., a Delaware corporation (the “Borrower”), BANK OF AMERICA, N.A., in its capacity as administrative agent for the Lenders (as defined in the Credit Agreement) (in such capacity, the “Administrative Agent”), and as Swingline Lender and L/C Issuer, and each of the Lenders signatory hereto. Each capitalized term used and not otherwise defined in this Amendment has the definition specified in the Credit Agreement.

RECITALS

A. The Borrower, the Administrative Agent and the Lenders have entered into that certain Credit Agreement dated as of April 3, 2018 (as amended by Amendment No. 1 to Credit Agreement effective as of September 7, 2018 (the “Existing Credit Agreement”), the Existing Credit Agreement as amended by this Amendment and as may be further amended, modified, supplemented, restated, or amended and restated from time to time, the “Credit Agreement”), pursuant to which the Lenders have made available to the Borrower a revolving credit facility;

B. The Borrower has requested that the Administrative Agent and the Lenders amend the Existing Credit Agreement as set forth here; and

C. Subject to the terms and conditions of this Amendment, the Administrative Agent and the Lenders signatory hereto are willing to effect such amendments on the terms and conditions as set forth herein.

NOW, THEREFORE, for valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Amendments to Existing Credit Agreement. Subject to and in accordance with the terms and conditions set forth herein and in reliance upon the representations and warranties set forth herein, the parties hereby agree that (a) the Existing Credit Agreement (other than Schedules and Exhibits thereof, except as specified in clauses (b) and (c) below) is hereby amended to delete the stricken text (indicated textually in the same manner as the following example: stricken text) and to add the double underlined text (indicated textually in the same manner as the following example: double-underlined text) as set forth in the Credit Agreement attached hereto as Annex A, (b) Schedules 2.01, 2.03, 5.06, 5.09, 5.13, 5.20, 7.01, 7.03, 8.01(h), 10.02, and 10.06 to the Existing Credit Agreement are hereby restated as set forth on Annex B hereto, and (c) Exhibits A, B, C, D, and E to the Existing Credit Agreement are hereby amended and restated as set forth on Annex C hereto.

2. Representations and Warranties. In order to induce the Administrative Agent and the Lenders to enter into this Amendment, the Borrower represents and warrants to the Administrative Agent as follows:
At the time of and immediately after giving effect to this Amendment, the representations and warranties made by the Borrower in Article V of the Credit Agreement, and in each of the other Loan Documents to which it is a party, are true and correct in all material respects (except that if a qualifier relating to materiality, Material Adverse Effect or a similar concept applies, such representation and warranty shall be true and correct in all respects) on and as of the date hereof, except to the extent that such representations and warranties expressly relate to an earlier date, in which case such representations and warranties are true and correct in all material respects as of such earlier date;

(b) At the time of and after giving effect to this Amendment, no Default or Event of Default has occurred and is continuing;

(c) Since the date of the most recent financial reports of the Borrower delivered pursuant to Section 6.01 of the Credit Agreement, no act, event, condition or circumstance has occurred or arisen which, singly or in the aggregate with one or more other acts, events, occurrences or conditions (whenever occurring or arising), has had or could reasonably be expected to have a Material Adverse Effect;

(d) As of the date hereof, there are no Persons that are required to be a party to the Guaranty pursuant to the terms of the Credit Agreement and the other Loan Documents;

(e) This Amendment has been duly authorized, executed and delivered by the Borrower and each other Loan Party and constitutes the legal, valid and binding obligations of such Loan Party enforceable against such Loan Party in accordance with its terms, subject to effect of any applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditors’ rights generally and subject to the effect of general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law);

(f) The Borrower is entering into this Amendment on the basis of its own investigation and for its own reasons, without reliance upon the Administrative Agent, any Lender or any other Person; and

(g) The obligations of the Borrower under the Credit Agreement and each other Loan Document are not subject to any defense, counterclaim, set-off, right of recoupment, abatement or other claim.

3. Effective Date. This Amendment will become effective on the date on which each of the conditions precedent set forth in this Section 3 has been satisfied (the “Effective Date”):

(a) The Administrative Agent shall have received each of the following documents or instruments in form and substance reasonably acceptable to the Administrative Agent:

(i) executed counterparts of this Amendment, duly executed by the Borrower, the Administrative Agent and the Lenders;
(ii) a Note executed by the Borrower in favor of each Lender requesting a Note;

(iii) such certificates of resolutions or other action, incumbency certificates and/or other certificates of Responsible Officers of each Loan Party as the Administrative Agent may require evidencing the identity, authority and capacity of each Responsible Officer thereof authorized to act as a Responsible Officer in connection with this Amendment and the other Loan Documents to which such Loan Party is a party;

(iv) such documents and certifications as the Administrative Agent may reasonably require to evidence that each Loan Party is duly organized or formed, and that each of the Borrower and each Guarantor is validly existing, in good standing and qualified to engage in business in each jurisdiction where its ownership, lease or operation of properties or the conduct of its business requires such qualification, except to the extent that failure to do so could not reasonably be expected to have a Material Adverse Effect;

(v) a favorable opinion of DLA Piper, counsel to the Loan Parties, addressed to the Administrative Agent and each Lender, as to such matters concerning the Loan Parties and the Loan Documents as the Required Lenders may reasonably request;

(vi) certificate of a Responsible Officer of each Loan Party either (A) attaching copies of all consents, licenses and approvals required in connection with the execution, delivery and performance by such Loan Party and the validity against such Loan Party of the Loan Documents to which it is a party, and such consents, licenses and approvals shall be in full force and effect, or (B) stating that no such consents, licenses or approvals are so required;

(vii) a certificate signed by a Responsible Officer of the Borrower certifying (A) that the conditions specified in Sections 2(a) and (b) of this Amendment have been satisfied, (B) that there has been no event or circumstance since December 31, 2018, that has had or could be reasonably expected to have, either individually or in the aggregate, a Material Adverse Effect, and (C) no action, suit, investigation or proceeding is pending or, to the knowledge of the Borrower, threatened in any court or before any arbitrator or governmental authority that would reasonably be expected to have a Material Adverse Effect;

(viii) (A) at least three business days prior to the Second Amendment Effective Date all documentation and other information required by bank regulatory authorities under applicable “know-your-customer” and anti-money laundering, rules and regulations, including the Patriot Act, to the extent requested at least seven days prior to the Second Amendment Effective Date and (B) at least three business days prior to the Second Amendment Effective Date, to the extent the Borrower qualifies as a “legal entity customer” under the Beneficial Ownership Regulation, a Beneficial Ownership Certification.

(ix) such other documents, instruments, opinions, certifications, undertakings, further assurances and other matters as the Administrative Agent shall reasonably request; and
(b) all accrued fees and expenses of the Lead Arranger, the Administrative Agent and the Lenders (including the reasonable fees and expenses of counsel to the Administrative Agent to the extent invoiced prior to the date hereof) in connection with this Amendment shall have been paid in full (without prejudice to final settling of accounts for such fees and expenses).

4. **Reservation of Rights.** The Borrower acknowledges and agrees that neither the execution nor the delivery by the Administrative Agent and the Lenders signatory hereto of this Amendment shall (a) be deemed to create a course of dealing or otherwise obligate the Administrative Agent or the Lenders to execute similar amendments, consents or waivers under the same or similar circumstances in the future or (b) be deemed to create any implied waiver of any right or remedy of the Administrative Agent or the Lenders with respect to any term or provision of any Loan Document.

5. **Entire Agreement.** This Amendment, together with the other Loan Documents (collectively, the “Relevant Documents”), sets forth the entire understanding and agreement of the parties hereto in relation to the subject matter hereof and supersedes any prior negotiations and agreements among the parties relating to such subject matter. No promise, condition, representation or warranty, express or implied, not set forth in the Relevant Documents shall bind any party hereto, and no such party has relied on any such promise, condition, representation or warranty. Each of the parties hereto acknowledges that, except as otherwise expressly stated in the Relevant Documents, no representations, warranties or commitments, express or implied, have been made by any party to any other party in relation to the subject matter hereof or thereof. None of the terms or conditions of this Amendment may be changed, modified, waived or canceled orally or otherwise, except in writing and in accordance with Section 10.01 of the Credit Agreement.

6. **Full Force and Effect of Credit Agreement.** Except as hereby specifically amended, modified or supplemented, the Credit Agreement and all other Loan Documents are hereby confirmed and ratified in all respects and shall be and remain in full force and effect according to their respective terms. The execution, delivery and effectiveness of this Amendment shall not, except as expressly provided herein, operate as a waiver of any right, power or remedy of any Lender or the Administrative Agent under any of the Loan Documents, nor constitute a waiver of any provision of any of the Loan Documents. On and after the effectiveness of this Amendment, this Amendment shall for all purposes constitute a Loan Document.

7. **Governing Law; Jurisdiction; Etc.**

   (a) **GOVERNING LAW.** THIS AMENDMENT, THE CREDIT AGREEMENT AND THE OTHER LOAN DOCUMENTS AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSE OF ACTION (WHETHER IN CONTRACT OR TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS AMENDMENT, THE CREDIT AGREEMENT OR ANY OTHER LOAN DOCUMENT (EXCEPT, AS TO ANY OTHER LOAN DOCUMENT, AS EXPRESSLY SET FORTH THEREIN) AND THE TRANSACTIONS CONTEMPLATED HEREBY AND THEREBY SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK, IN ACCORDANCE WITH SECTION 5-1401 OF THE GENERAL OBLIGATION LAW OF THE STATE OF NEW YORK.
(b) **SUBMISSION TO JURISDICTION.** THE BORROWER AND EACH OTHER LOAN PARTY IRREVOCABLY AND UNCONDITIONALLY AGREES THAT IT WILL NOT COMMENCE ANY ACTION, LITIGATION OR PROCEEDING OF ANY KIND OR DESCRIPTION, WHETHER IN LAW OR EQUITY, WHETHER IN CONTRACT OR IN TORT OR OTHERWISE, AGAINST THE ADMINISTRATIVE AGENT, ANY LENDER, THE L/C ISSUER, OR ANY RELATED PARTY OF THE FOREGOING IN ANY WAY RELATING TO THIS AMENDMENT, THE CREDIT AGREEMENT OR ANY OTHER LOAN DOCUMENT OR THE TRANSACTIONS RELATING HERETO OR THERETO, IN ANY FORUM OTHER THAN THE COURTS OF THE STATE OF NEW YORK SITTING IN NEW YORK COUNTY AND OF THE UNITED STATES DISTRICT COURT OF THE SOUTHERN DISTRICT OF NEW YORK, AND ANY APPELLATE COURT FROM ANY THEREOF, AND EACH OF THE PARTIES HERETO IRREVOCABLY AND UNCONDITIONALLY SUBMITS TO THE JURISDICTION OF SUCH COURTS AND AGREES THAT ALL CLAIMS IN RESPECT OF ANY SUCH ACTION, LITIGATION OR PROCEEDING MAY BE HEARD AND DETERMINED IN SUCH NEW YORK STATE COURT OR, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN SUCH FEDERAL COURT. EACH OF THE PARTIES HERETO AGREES THAT A FINAL JUDGMENT IN ANY SUCH ACTION, LITIGATION OR PROCEEDING SHALL BE CONCLUSIVE AND MAY BE ENFORCED IN OTHER JURISDICTIONS BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY LAW. NOTHING IN THIS AMENDMENT, THE CREDIT AGREEMENT OR IN ANY OTHER LOAN DOCUMENT SHALL AFFECT ANY RIGHT THAT THE ADMINISTRATIVE AGENT, ANY LENDER OR THE L/C ISSUER MAY OTHERWISE HAVE TO BRING ANY ACTION OR PROCEEDING RELATING TO THIS AMENDMENT, THE CREDIT AGREEMENT OR ANY OTHER LOAN DOCUMENT AGAINST THE BORROWER OR ANY OTHER LOAN PARTY OR ITS PROPERTIES IN THE COURTS OF ANY JURISDICTION.

(c) **WAIVER OF VENUE.** THE BORROWER AND EACH OTHER LOAN PARTY IRREVOCABLY AND UNCONDITIONALLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AMENDMENT, THE CREDIT AGREEMENT OR ANY OTHER LOAN DOCUMENT IN ANY COURT REFERRED TO IN PARAGRAPH (b) OF THIS SECTION. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE DEFENSE OF AN INCONVENIENT FORUM TO THE MAINTENANCE OF SUCH ACTION OR PROCEEDING IN ANY SUCH COURT.

(d) **SERVICE OF PROCESS.** EACH PARTY HERETO IRREVOCABLY CONSENTS TO SERVICE OF PROCESS IN THE MANNER PROVIDED FOR NOTICES IN SECTION 10.02 OF THE CREDIT AGREEMENT. NOTHING IN THIS AMENDMENT WILL AFFECT THE RIGHT OF ANY PARTY HERETO TO SERVE PROCESS IN ANY OTHER MANNER PERMITTED BY APPLICABLE LAW.
(e) **Judgment Currency.** Each party hereto agrees that Section 10.19 of the Credit Agreement is hereby incorporated by reference into the Guaranty and each of the other Loan Documents, to the extent applicable.

8. **Enforceability.** Should any one or more of the provisions of this Amendment be determined to be illegal or unenforceable as to one or more of the parties hereto, all other provisions nevertheless shall remain effective and binding on the parties hereto.

9. **References.** From and after the date hereof, all references in the Credit Agreement and any of the other Loan Documents to the “Credit Agreement” shall mean the Credit Agreement, as amended hereby and as from time to time hereafter further amended, modified, supplemented, restated or amended and restated.

10. **Successors and Assigns.** This Amendment shall be binding upon and inure to the benefit of the Borrower, each other Loan Party, the Administrative Agent, each Lender and their respective successors and assignees to the extent such assignees are permitted assignees as provided in Section 10.06 of the Credit Agreement. No third party beneficiaries are intended in connection with this Amendment.

12. **Counterparts.** Section 10.10 of the Credit Agreement is hereby incorporated by reference as if fully set forth herein, **mutatis mutandis.**

[Remainder of this page intentionally left blank]
IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and effective as of the date first above written.

VARIAN MEDICAL SYSTEMS, INC.

By: /s/ Anshul Maheshwari
Name: Anshul Maheshwari
Title: Vice President, Finance and Treasurer

Signature Page to Amendment No. 2 to Credit Agreement
BANK OF AMERICA, N.A., as Administrative Agent

By: /s/ Gavin Shak
Name: Gavin Shak
Title: Assistant Vice President

Signature Page to Amendment No. 2 to Credit Agreement
BANK OF AMERICA, N.A., as a Lender, L/C Issuer and Swing Line Lender

By: /s/ Joseph L. Corah
Name: Joseph L. Corah
Title: Director

Signature Page to Amendment No. 2 to Credit Agreement
WELLS FARGO BANK, N.A., as a Lender

By: /s/ Sara Barton
Name: Sara Barton
Title: Vice President

Signature Page to Amendment No. 2 to Credit Agreement
CITIBANK, N.A., as a Lender

By: /s/ Michael Chen
Name: Michael Chen
Title: Authorized Signer

Signature Page to Amendment No. 2 to Credit Agreement
DNB CAPITAL LLC, as a Lender

By: /s/ Kristi Li  
Name: Kristi Li  
Title: Senior Vice President  

By: /s/ Kristi Birkeland Sorensen  
Name: Kristi Birkeland Sorensen  
Title: Senior Vice President, Head of Corporate Banking  

Signature Page to Amendment No. 2 to Credit Agreement
FIFTH THIRD BANK, as a Lender

By: /s/ Thomas Avery
Name: Thomas Avery
Title: Director

Signature Page to Amendment No. 2 to Credit Agreement
JPMORGAN CHASE BANK N.A., as a Lender

By: /s/ Kyle Eng
Name: Kyle Eng
Title: Vice President

Signature Page to Amendment No. 2 to Credit Agreement
ROYAL BANK OF CANADA, as a Lender

By:    /s/ Theodore Brown
Name:  Theodore Brown
Title:  Authorized Signatory

Signature Page to Amendment No. 2 to Credit Agreement
SUMITOMO MITSUI BANKING CORP., as a Lender

By:  /s/ Michael Maguire
Name:  Michael Maguire
Title:  Executive Director

Signature Page to Amendment No. 2 to Credit Agreement
TDD BANK, NA, as a Lender

By: /s/ Jason Siewert
Name: Jason Siewert
Title: Senior Vice President

Signature Page to Amendment No. 2 to Credit Agreement
PNC BANK NATIONAL ASSOCIATION, as a Lender

By:   /s/ Walter A. Martz II
Name: Walter A. Martz II
Title: Vice President

Signature Page to Amendment No. 2 to Credit Agreement
BNP PARONAS, as a Lender

By: /s/ Michael Pearce
Name: Michael Pearce
Title: Managing Director

By: /s/ Tony Baratta
Name: Tony Baratta
Title: Managing Director

Signature Page to Amendment No. 2 to Credit Agreement
GOLDMAN SACHS BANK USA, as a Lender

By: /s/ Rebecca Kratz
Name: Rebecca Kratz
Title: Authorized Signatory

Signature Page to Amendment No. 2 to Credit Agreement
Annex A

See attached.
CREDIT AGREEMENT

Dated as of April 3, 2018

among

VARIAN MEDICAL SYSTEMS, INC.,

as the Borrower,

BANK OF AMERICA, N.A.,

as Administrative Agent, Swing Line Lender

and

L/C Issuer,

and

The Other Lenders Party Hereto

MERRILL LYNCH, PIERCE, FENNER & SMITH INCORPORATED, BOFA SECURITIES, INC.,

WELLS FARGO BANK, N.A.,

CITIBANK, N.A.,

DNB MARKETS, INC.,

FIFTH THIRD BANK,

JPMORGAN CHASE BANK, N.A.,

PNC CAPITAL MARKETS LLC,

RBC CAPITAL MARKETS,

SUMITOMO MITSUI BANKING CORPORATION,

and

TD BANK, N.A.,

PNC CAPITAL MARKETS LLC,

and

BNP PARIBAS S.A.

as Joint Lead Arrangers and Co-Syndication Agents

and

MERRILL LYNCH, PIERCE, FENNER & SMITH INCORPORATED

BOFA SECURITIES, INC.,

and

WELLS FARGO SECURITIES,

as Joint Bookrunners

WELLS FARGO BANK, N.A.,

CITIBANK, N.A.,

DNB BANK ASA, NEW YORK BRANCH,

FIFTH THIRD BANK,

JPMORGAN CHASE BANK, N.A.,

PNC BANK, NATIONAL ASSOCIATION,
ROYAL BANK OF CANADA,
SUMITOMO MITSUI BANKING CORPORATION,
and
TD BANK, N.A.,
as Co-Syndication Agents and Co-Documentation Agents
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-x-
CREDIT AGREEMENT

This CREDIT AGREEMENT ("Agreement") is entered into as of April 3, 2018, among VARIAN MEDICAL SYSTEMS, INC., a Delaware corporation (the "Borrower"), each lender from time to time party hereto (collectively, the "Lenders" and individually, a "Lender"), and BANK OF AMERICA, N.A., as Administrative Agent, Swing Line Lender and L/C Issuer.

The Borrower has requested that the Lenders provide a revolving credit facility, and the Lenders are willing to do so on the terms and conditions set forth herein.

In consideration of the mutual covenants and agreements herein contained, the parties hereto covenant and agree as follows:

ARTICLE I. DEFINITIONS AND ACCOUNTING TERMS

1.01 Defined Terms. As used in this Agreement, the following terms shall have the meanings set forth below:

"Accelerated Share Repurchases" means purchases, redemptions, and other acquisitions by the Borrower of shares of its common stock consistent with past practice and approved by the Administrative Agent.

"Acquired EBITDA" means, with respect to any Acquired Entity acquired during the applicable Measurement Period, Consolidated EBITDA for such Acquired Entity (determined as if references to the Borrower and the Subsidiaries in the definition of Consolidated EBITDA were references to such Acquired Entity and its Subsidiaries on a consolidated basis) for the most recent four (4) fiscal quarter period preceding the acquisition thereof, as adjusted (without duplication) by verifiable expense reductions and other add-backs described in clause (a)(viii)(B) of the definition of Consolidated EBITDA, in each case such adjustments (if any) to be calculated on a quarter by quarter basis by the Loan Parties and as reasonably acceptable to Administrative Agent.

"Acquired Entity" means (a) any Person that becomes a Subsidiary of the Borrower as a result of an Acquisition or (b) any business entity or division of a Person, all or substantially all of the assets and business of which are acquired by the Borrower or a Subsidiary of the Borrower pursuant to an Acquisition.

"Acquisition" means any transaction or series of related transactions for the purpose of or resulting, directly or indirectly, in (a) the acquisition of all or substantially all of the assets of a Person, or of any business or division of a Person (other than a Person that is a Subsidiary), (b) the acquisition of in excess of 50% of the capital stock, partnership interests, membership interests or equity of any Person (other than a Person that is a Subsidiary), or otherwise causing any Person to become a Subsidiary, or (c) a merger or consolidation or any other combination with another Person (other than a Person that is a Subsidiary).
“Acquisition Leverage Ratio Notice” means a written notice from the Borrower to the Administrative Agent (a) delivered not later than the date by which the Loan Parties are required to provide financial statements pursuant to Sections 6.01(a) and (b) for the most recently ended fiscal quarter or fiscal year, as the case may be, in which the Borrower seeks to invoke an adjustment to the Consolidated Net Leverage Ratio, and (b) which describes the Acquisition which formed the basis for such request (including without limitation, a calculation of the Consolidated Net Leverage Ratio, calculated on a pro forma basis immediately prior to and after giving effect to such Acquisition) and otherwise in form and substance reasonably satisfactory to the Administrative Agent.

“Administrative Agent” means Bank of America in its capacity as administrative agent under any of the Loan Documents, or any successor administrative agent.

“Administrative Agent’s Office” means, with respect to any currency, the Administrative Agent’s address and, as appropriate, account as set forth on Schedule 10.02, or such other address or account with respect to such currency as the Administrative Agent may from time to time notify to the Borrower and the Lenders.

“Administrative Questionnaire” means an Administrative Questionnaire in substantially the form of Exhibit E-2 or any other form approved by the Administrative Agent.

“Affiliate” means, with respect to a specified Person, another Person that directly, or indirectly through one or more intermediaries, Controls or is Controlled by or is under common Control with the Person specified.

“Aggregate Commitments” means the Commitments of all the Lenders. As of the Closing Second Amendment Effective Date the Aggregate Commitments shall be $1,800,000,000. 1,200,000,000.

“Aggregate Revolving Credit Commitments” means the Revolving Credit Commitments of all the Revolving Credit Lenders. As of the Closing Second Amendment Effective Date, the Aggregate Revolving Credit Commitments shall be $1,800,000,000. 1,200,000,000.

“Agreement” means this Credit Agreement.

“Alternative Currency” means each of the following currencies: Euro, Sterling, Yen, Australian Dollars, New Zealand Dollars, Canadian Dollars, and Swiss Francs, together with each other currency (other than Dollars) that is approved in accordance with Section 1.06.

“Alternative Currency Equivalent” means, at any time, with respect to any amount denominated in Dollars, the equivalent amount thereof in the applicable Alternative Currency as determined by the Administrative Agent or the L/C Issuer, as the case may be, at such time on the basis of the Spot Rate (determined in respect of the most recent Revaluation Date) for the purchase of such Alternative Currency with Dollars.
“Alternative Currency Sublimit” means an amount equal to the lesser of the Aggregate Commitments and $500,000,000. The Alternative Currency Sublimit is part of, and not in addition to, the Aggregate Commitments.

“Applicable Percentage” means with respect to any Revolving Credit Lender at any time, the percentage (carried out to the ninth decimal place) of the Aggregate Revolving Credit Commitments represented by such Revolving Credit Lender’s Revolving Credit Commitment at such time, in each case, subject to adjustment as provided in Section 2.16. If the commitment of each Revolving Credit Lender to make Revolving Credit Loans and the obligation of the L/C Issuer to make L/C Credit Extensions have been terminated pursuant to Section 8.02, or if the Revolving Credit Commitments have expired, then the Applicable Percentage of each Revolving Credit Lender in respect of the Revolving Credit Facility shall be determined based on the Applicable Percentage of such Revolving Credit Lender in respect of the Revolving Credit Facility most recently in effect, giving effect to any subsequent assignments. The initial Applicable Percentage of each Lender in respect of each Facility is set forth opposite the name of such Lender on Schedule 2.01 or in the Assignment and Assumption pursuant to which such Lender becomes a party hereto, as applicable.

“Applicable Rate” means the following percentages per annum, based upon the Consolidated Net Leverage Ratio as set forth in the most recent Compliance Certificate received by the Administrative Agent pursuant to Section 6.02(ba):

<table>
<thead>
<tr>
<th>Pricing Level</th>
<th>Consolidated Net Leverage Ratio</th>
<th>Commitment Fee</th>
<th>Eurodollar Rate + Letters of Credit</th>
<th>Base Rate +</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Less than 1.00 to 1.00</td>
<td>0.125</td>
<td>1.000%</td>
<td>0.000%</td>
</tr>
<tr>
<td>2</td>
<td>Greater than or equal to 1.00 to 1.00 but less than 2.00 to 1.00</td>
<td>0.150</td>
<td>1.125%</td>
<td>0.125%</td>
</tr>
<tr>
<td>3</td>
<td>Greater than or equal to 2.00 to 1.00 but less than 3.00 to 1.00</td>
<td>0.200</td>
<td>1.250%</td>
<td>0.250%</td>
</tr>
<tr>
<td>4</td>
<td>Greater than or equal to 3.00 to 1.00</td>
<td>0.250</td>
<td>1.375%</td>
<td>0.375%</td>
</tr>
</tbody>
</table>

Any increase or decrease in the Applicable Rate resulting from a change in the Consolidated Net Leverage Ratio shall become effective as of the first Business Day immediately following the date a Compliance Certificate is delivered pursuant to Section 6.02(ba); provided, however, that if a Compliance Certificate is not delivered when due in accordance with such Section, then, upon the request of the Required Lenders, Pricing Level 4 shall apply as of the first Business Day after the date on which such Compliance Certificate was required to have been delivered and shall remain in effect until the date on which such Compliance Certificate is delivered. The Applicable Rate in effect from the Closing Second Amendment Effective Date through the date immediately prior to the consummation of the Sirtex Acquisition (and the prompt delivery of the next Compliance Certificate in connection therewith is delivered pursuant to Section 6.02(a)) shall be determined.

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based upon Pricing Level 2.1. Notwithstanding anything to the contrary contained in this definition, the determination of the Applicable Rate for any period shall be subject to the provisions of Section 2.10(b).

“Applicable Revolving Credit Percentage” means with respect to any Revolving Credit Lender at any time, such Revolving Credit Lender’s Applicable Percentage in respect of the Revolving Credit Facility at such time.

“Applicable Time” means, with respect to any borrowings and payments in any Alternative Currency, the local time in the place of settlement for such Alternative Currency as may be determined by the Administrative Agent or the L/C Issuer, as the case may be, to be necessary for timely settlement on the relevant date in accordance with normal banking procedures in the place of payment.

“Appropriate Lender” means, at any time, (a) with respect to any Facility, a Lender that has a Commitment with respect to such Facility or holds a Loan under such Facility at such time, (b) with respect to the Letter of Credit Sublimit, (i) the L/C Issuer and (ii) if any Letters of Credit have been issued pursuant to Section 2.03(a), the Revolving Credit Lenders and (c) with respect to the Swing Line Sublimit, (i) the Swing Line Lender and (ii) if any Swing Line Loans are outstanding pursuant to Section 2.04(a), the Revolving Credit Lenders.

“Approved Fund” means any Fund that is administered or managed by (a) a Lender, (b) an Affiliate of a Lender or (c) an entity or an Affiliate of an entity that administers or manages a Lender.


“Assignment and Assumption” means an assignment and assumption entered into by a Lender and an Eligible Assignee (with the consent of any party whose consent is required by Section 10.06(b)), and accepted by the Administrative Agent, in substantially the form of Exhibit E-1 or any other form (including electronic documentation generated by MarkitClear or other electronic platform) approved by the Administrative Agent.

“Attributable Indebtedness” means, with respect to any Person, on any date, (a) in respect of any capital lease of such Person, the capitalized amount thereof that would appear on a balance sheet of such Person prepared as of such date in accordance with GAAP, and (b) in respect of any Synthetic Lease Obligation, the capitalized amount of the remaining lease payments under the relevant lease that would appear on a balance sheet of such Person prepared as of such date in accordance with GAAP if such lease were accounted for as a capital lease.

“Audited Financial Statements” means the audited consolidated balance sheet of the Borrower and its Subsidiaries for the fiscal year ended September 30, 2017, and the related consolidated statements of income or operations, shareholders’ equity and cash flows for such fiscal year of the Borrower and its Subsidiaries, including the notes thereto.

“Australian Dollars” and “AUD” means the lawful currency of Australia.

“Availability Period” means, in respect of the Revolving Credit Facility, the period from and including the Closing Date to the earliest of (a) the Maturity Date for the Revolving Credit Facility, (b) the date of termination of the Revolving Credit Commitments pursuant to Section 2.06.
and (c) the date of termination of the commitment of each Revolving Credit Lender to make Revolving Credit Loans and of the obligation of the L/C Issuer to make L/C Credit Extensions pursuant to Section 8.02.

“Bail-In Action” means the exercise of any Write-Down and Conversion Powers by the applicable EEA Resolution Authority in respect of any liability of an EEA Financial Institution.

“Bail-In Legislation” means, with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule.


“Base Rate” means for any day a fluctuating rate per annum equal to the highest of (a) the Federal Funds Rate plus 1/2 of 1%, (b) the rate of interest in effect for such day as publicly announced from time to time by Bank of America as its “prime rate,” and (c) the Eurodollar Rate plus 1.00%. The “prime rate” is a rate set by Bank of America based upon various factors including Bank of America’s costs and desired return, general economic conditions and other factors, and is used as a reference point for pricing some loans, which may be priced at, above, or below such announced rate. Any change in such prime rate announced by Bank of America shall take effect at the opening of business on the day specified in the public announcement of such change.

“Base Rate Loan” means a Revolving Credit Loan that bears interest based on the Base Rate. All Base Rate Loans shall be denominated in Dollars.

“Beneficial Ownership Certification” means a certification regarding beneficial ownership required by the Beneficial Ownership Regulation.


“Benefit Plan” means any of (a) an “employee benefit plan” (as defined in ERISA) that is subject to Title I of ERISA, (b) a “plan” as defined in Section 4975 of the Code or (c) any Person whose assets include (for purposes of ERISA Section 3(42) or otherwise for purposes of Title I of ERISA or Section 4975 of the Code) the assets of any such “employee benefit plan” or “plan”.

“Borrower” has the meaning specified in the introductory paragraph hereto.

“Borrower Materials” has the meaning specified in Section 6.02.

“Borrowing” means a Revolving Credit Borrowing or a Swing Line Borrowing, as the context may require.

“Business Day” means any day other than a Saturday, Sunday or other day on which commercial banks are authorized to close under the Laws of, or are in fact closed in, the state where the Administrative Agent’s Office with respect to Obligations denominated in Dollars is located and.
(a) if such day relates to any interest rate settings as to a Eurodollar Rate Loan denominated in Dollars, any fundings, disbursements, settlements and payments in Dollars in respect of any such Eurodollar Rate Loan, or any other dealings in Dollars to be carried out pursuant to this Agreement in respect of any such Eurodollar Rate Loan, means any such day that is also a London Banking Day;

(b) if such day relates to any interest rate settings as to a Eurodollar Rate Loan denominated in Euro, any fundings, disbursements, settlements and payments in Euro in respect of any such Eurodollar Rate Loan, or any other dealings in Euro to be carried out pursuant to this Agreement in respect of any such Eurodollar Rate Loan, means a TARGET Day;

(c) if such day relates to any interest rate settings as to a Eurodollar Rate Loan denominated in a currency other than Dollars or Euro, means any such day on which dealings in deposits in the relevant currency are conducted by and between banks in the London or other applicable offshore interbank market for such currency; and

(d) if such day relates to any fundings, disbursements, settlements and payments in a currency other than Dollars or Euro in respect of a Eurodollar Rate Loan denominated in a currency other than Dollars or Euro, or any other dealings in any currency other than Dollars or Euro to be carried out pursuant to this Agreement in respect of any such Eurodollar Rate Loan (other than any interest rate settings), means any such day on which banks are open for foreign exchange business in the principal financial center of the country of such currency.

“Canadian Dollars” and “Cdn.$” means dollars in the lawful currency of Canada.

“Capital Expenditures” means, with respect to any Person for any period, any expenditure in respect of the purchase or other acquisition of any fixed or capital asset (excluding normal replacements and maintenance which are properly charged to current operations). For purposes of this definition, the purchase price of equipment that is purchased promptly with the trade-in of existing equipment or with insurance proceeds shall be included in Capital Expenditures only to the extent of the gross amount by which such purchase price exceeds the credit granted by the seller of such equipment for the equipment being traded in at such time or the amount of such insurance proceeds, as the case may be.

“Cash Collateralize” means to pledge and deposit with or deliver to the Administrative Agent, for the benefit of one or more of the L/C Issuer or the Revolving Credit Lenders, as collateral for L/C Obligations or obligations of the Revolving Credit Lenders to fund participations in respect of L/C Obligations, cash or deposit account balances or, if the Administrative Agent and the L/C Issuer shall agree in their sole discretion, other credit support, in each case pursuant to documentation in form and substance satisfactory to the Administrative Agent and the L/C Issuer. “Cash Collateral” shall have a meaning correlative to the foregoing and shall include the proceeds of such cash collateral and other credit support.
“Cash Management Agreement” means any agreement to provide cash management services, including treasury, depository, overdraft, credit or debit card, electronic funds transfer and other cash management arrangements.

“Cash Management Bank” means any Person that, (a) at the time it enters into a Cash Management Agreement with a Loan Party, is a Lender or an Affiliate of a Lender, or (b) at the time it (or its Affiliate) becomes a Lender, is a party to a Cash Management Agreement with a Loan Party, in each case in its capacity as a party to such Cash Management Agreement (even if such Person ceases to be a Lender or such Person’s Affiliate ceased to be a Lender); provided, however, that for any of the foregoing to be included as a “Secured Cash Management Agreement” on any date of determination by the Administrative Agent, the applicable Cash Management Bank (other than the Administrative Agent or an Affiliate of the Administrative Agent) must have delivered a Secured Party Designation Notice to the Administrative Agent prior to such date of determination.

“Change in Law” means the occurrence, after the date of this Agreement, of any of the following: (a) the adoption or taking effect of any law, rule, regulation or treaty, (b) any change in any law, rule, regulation or treaty or in the administration, interpretation, implementation or application thereof by any Governmental Authority or (c) the making or issuance of any request, rule, guideline or directive (whether or not having the force of law) by any Governmental Authority; provided that notwithstanding anything herein to the contrary, (x) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives thereunder or issued in connection therewith and (y) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign regulatory authorities, in each case pursuant to Basel III, shall in each case be deemed to be a “Change in Law”, regardless of the date enacted, adopted or issued.

“Change of Control” means an event or series of events by which:

(a) any “person” or “group” (as such terms are used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, but excluding any employee benefit plan of such person or its subsidiaries, and any person or entity acting in its capacity as trustee, agent or other fiduciary or administrator of any such plan) becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Securities Exchange Act of 1934, except that a person or group shall be deemed to have “beneficial ownership” of all securities that such person or group has the right to acquire, whether such right is exercisable immediately or only after the passage of time (such right, an “option right”)), directly or indirectly, of 35% or more of the equity securities of the Borrower entitled to vote for members of the board of directors or equivalent governing body of the Borrower on a fully-diluted basis (and taking into account all such securities that such person or group has the right to acquire pursuant to any option right); or

(b) during any period of 12 consecutive months, a majority of the members of the board of directors or other equivalent governing body of the Borrower cease to be composed of individuals (i) who were members of that board or equivalent governing body on the first day of such period, (ii) whose election or nomination to that board or equivalent
governing body was approved by individuals referred to in clause (i) above constituting at the time of such election or nomination at least a majority of that board or equivalent governing body or (iii) whose election or nomination to that board or other equivalent governing body was approved by individuals referred to in clauses (i) and (ii) above constituting at the time of such election or nomination at least a majority of that board or equivalent governing body.

“Closing Date” means the first date all the conditions precedent in Section 4.01 are satisfied or waived in accordance with Section 10.01.


“Commitment” means a Revolving Credit Commitment, as the context may require.

“Commodity Exchange Act” means the Commodity Exchange Act (7 U.S.C. § 1 et seq.), as amended from time to time, and any successor statute.

“Competitor” means any Person that is a bona fide direct competitor of the Borrower, or any of such Person’s Subsidiaries in the same industry or a substantially similar industry which offers a substantially similar product or service as the Borrower or any of its Subsidiaries.

“Compliance Certificate” means a certificate substantially in the form of Exhibit D.

“Connection Income Taxes” means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.

“Consolidated EBITDA” means, for any period, for the Borrower and its Subsidiaries on a consolidated basis, an amount equal to Consolidated Net Income for such period plus (a) the following to the extent deducted in calculating such Consolidated Net Income: (i) Consolidated Interest Charges for such period, (ii) the provision for Federal, state, local and foreign income taxes payable by the Borrower and its Subsidiaries for such period, (iii) depreciation and amortization expense, (iv) other non-recurring expenses of the Borrower and its Subsidiaries reducing such Consolidated Net Income which do not represent a cash item in such period or any future period, (v) cost of employee services received in share-based payment transactions (in accordance with FASB ASC 718) which do not represent a cash item in such period or any future period, (vi) non-cash charges and losses, including, without limitation, any loan impairments, any non-cash loss or expense (or income or gain) due to the application of FASB ASC 815-10 regarding hedging activity and FASB ASC-350 regarding impairment of goodwill, (vii) costs, fees, charges or expenses incurred by the Borrower in connection with the Spin-Off, (viii) (A) costs, fees, charges and expenses incurred in connection with any Acquisition and Disposition permitted hereunder, whether or not consummated, and (B) costs, fees, charges and expenses incurred in connection with severance costs, relocation costs, integration and facilities opening and closing costs, signing costs, retention or completion bonuses, transition costs and restructuring charges or reserves related to Acquisitions consummated after the date hereof; provided that the aggregate amount added back pursuant to this clause (viii) shall not exceed 10% of Consolidated EBITDA in the aggregate for such Measurement Period (calculated before giving effect to this clause (viii)), (ix) costs, fees, charges and expenses
incurred in connection with the Second Amendment, and minus (b) the following to the extent included in calculating such Consolidated Net Income: (i) Federal, state, local and foreign income tax credits of the Borrower and its Subsidiaries for such period and (ii) all non-cash items increasing Consolidated Net Income for such period.

There shall be included in determining Consolidated EBITDA, without duplication, (i) the Acquired EBITDA of any Acquired Entity owned, directly or indirectly, by the Loan Parties as a result of the Sirtex Acquisition, plus (ii) the Acquired EBITDA of any Acquired Entity owned, directly or indirectly, by the Loan Parties for which the total consideration paid or payable (including without limitation, all transaction costs, assumed Indebtedness and liabilities incurred, assumed or reflected on a consolidated balance sheet of the Loan Parties and their Subsidiaries after giving effect to such Acquisition and the maximum amount of all deferred payments, including earnouts) was greater than or equal to $25,000,000 (each, a “Material Acquisition”) and for which the Administrative Agent has received financial statements pursuant to Section 6.01(b) for less than four (4) fiscal quarters, minus (iii) with respect to any Material Disposition consummated within the Measurement Period, Consolidated EBITDA (if any) attributable to the Subsidiary, profit centers or other asset which is the subject of such Material Disposition from the beginning of such period until the date of consummation of such Material Disposition.

In determining Consolidated EBITDA for purposes of calculating the Consolidated Net Leverage Ratio, (A) (i) in connection with a Revolving Credit Increase pursuant to Section 2.14(a) where such increase is being made to finance an Acquisition or (ii) under Section 7.02(f), pro forma effect shall be given to the Target EBITDA of the Target to be acquired in the Acquisition or (B) in the case of the Sirtex Acquisition, the Consolidated EBITDA of Sirtex Medical Limited for the most recent four (4) fiscal quarter period preceding the Sirtex Acquisition shall be determined as follows: an amount equal to the product of (i) $195,036 multiplied by (ii) 365 minus the number of days that have elapsed since the consummation of the Sirtex Acquisition.

“Consolidated Funded Indebtedness” means, as of any date of determination, for the Borrower and its Subsidiaries on a consolidated basis, the sum of (a) the outstanding principal amount of all obligations, whether current or long-term, for borrowed money (including Obligations hereunder) and all obligations evidenced by bonds, debentures, notes, loan agreements or other similar instruments, (b) all purchase money Indebtedness, (c) all direct, non-contingent obligations arising under letters of credit (including standby and commercial), bankers’ acceptances, bank guaranties, surety bonds and similar instruments (in each case limited to the extent drawn and not yet reimbursed), (d) all obligations in respect of the deferred purchase price of property or services (other than trade accounts and intercompany accounts payable in the ordinary course of business), (e) Attributable Indebtedness in respect of capital leases and Synthetic Lease Obligations, (f) without duplication, all Guarantees with respect to outstanding Indebtedness of the types specified in clauses (a) through (e) above of Persons other than the Borrower or any Subsidiary, and (g) all Indebtedness of the types referred to in clauses (a) through (f) above of any partnership or joint venture (other than a joint venture that is itself a corporation or limited liability company) in which the Borrower or a Subsidiary is a general partner or joint venturer, unless such Indebtedness is expressly made non-recourse to the Borrower or such Subsidiary.
“Consolidated Funded Net Indebtedness” means, Consolidated Funded Indebtedness net of unrestricted cash and Cash Equivalents of the Loan Parties of up to $150,000,000 which is maintained in accounts held in the United States at Bank of America or any other Lender. the Dollar Equivalent of $400,000,000.

“Consolidated Interest Charges” means, for any period, for the Borrower and its Subsidiaries on a consolidated basis, cash interest expense determined in accordance with GAAP, consistently applied.

“Consolidated Net Leverage Ratio” means, as of any date of determination, the ratio of (a) Consolidated Funded Net Indebtedness as of such date to (b) Consolidated EBITDA for the period of the four fiscal quarters most recently ended.

“Consolidated Net Income” means, for any period, for the Borrower and its Subsidiaries on a consolidated basis, the net income of the Borrower and its Subsidiaries (excluding extraordinary gains and extraordinary losses and the related tax effects thereon) for that period as determined in accordance with GAAP.

“Contractual Obligation” means, as to any Person, any provision of any security issued by such Person or of any agreement, instrument or other undertaking to which such Person is a party or by which it or any of its property is bound.

“Control” means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a Person, whether through the ability to exercise voting power, by contract or otherwise. “Controlling” and “Controlled” have meanings correlative thereto.

“Credit Extension” means each of the following: (a) a Borrowing and (b) an L/C Credit Extension.

“Debtor Relief Laws” means the Bankruptcy Code of the United States, and all other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief Laws of the United States or other applicable jurisdictions from time to time in effect and affecting the rights of creditors generally.

“Default” means any event or condition that constitutes an Event of Default or that, with the giving of any notice, the passage of time, or both, would be an Event of Default.

“Default Rate” means (a) when used with respect to Obligations other than Letter of Credit Fees, an interest rate equal to (i) the Base Rate plus (ii) the Applicable Rate, if any, applicable to Base Rate Loans under the Revolving Credit Facility, as applicable, plus (iii) 2% per annum; provided, however, that with respect to a Eurodollar Rate Loan, the Default Rate shall be an interest rate equal to the interest rate (including any Applicable Rate) otherwise applicable to such Loan plus 2% per annum, and (b) when used with respect to Letter of Credit Fees, a rate equal to the Applicable Rate under the Revolving Credit Facility plus 2% per annum.
“Defaulting Lender” means, subject to Section 2.16(b), any Lender that (a) has failed to (i) fund all or any portion of its Loans within two Business Days of the date such Loans were required to be funded hereunder unless such Lender notifies the Administrative Agent and the Borrower in writing that such failure is the result of such Lender’s determination that one or more conditions precedent to funding (each of which conditions precedent, together with any applicable default, shall be specifically identified in such writing) has not been satisfied, or (ii) pay to the Administrative Agent, the L/C Issuer, the Swing Line Lender or any other Lender any other amount required to be paid by it hereunder (including, in the case of any Revolving Credit Lender, in respect of its participation in Letters of Credit or Swing Line Loans) within two Business Days of the date when due, (b) has notified the Borrower, the Administrative Agent, the L/C Issuer or the Swing Line Lender in writing that it does not intend to comply with its funding obligations hereunder, or has made a public statement to that effect (unless such writing or public statement relates to such Lender’s obligation to fund a Loan hereunder and states that such position is based on such Lender’s determination that a condition precedent to funding (which condition precedent, together with any applicable default, shall be specifically identified in such writing or public statement) cannot be satisfied), (c) has failed, within three Business Days after written request by the Administrative Agent or the Borrower, to confirm in writing to the Administrative Agent and the Borrower that it will comply with its prospective funding obligations hereunder (provided that such Lender shall cease to be a Defaulting Lender pursuant to this clause (c) upon receipt of such written confirmation by the Administrative Agent and the Borrower), or (d) has, or has a direct or indirect parent company that has, (i) become the subject of a proceeding under any Debtor Relief Law, (ii) had appointed for it a receiver, custodian, conservator, trustee, administrator, assignee for the benefit of creditors or similar Person charged with reorganization or liquidation of its business or assets, including the Federal Deposit Insurance Corporation or any other state or federal regulatory authority acting in such a capacity; or (iii) become the subject of a Bail-In Action; provided that a Lender shall not be a Defaulting Lender solely by virtue of the ownership or acquisition of any Equity Interest in that Lender or any direct or indirect parent company thereof by a Governmental Authority so long as such ownership interest does not result in or provide such Lender with immunity from the jurisdiction of courts within the United States or from the enforcement of judgments or writs of attachment on its assets or permit such Lender (or such Governmental Authority) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender. Any determination by the Administrative Agent that a Lender is a Defaulting Lender under any one or more of clauses (a) through (d) above, and of the effective date of such status, shall be conclusive and binding absent manifest error, and such Lender shall be deemed to be a Defaulting Lender (subject to Section 2.16(b)) as of the date established therefor by the Administrative Agent in a written notice of such determination, which shall be delivered by the Administrative Agent to the Borrower, the L/C Issuer, the Swing Line Lender and each other Lender promptly following such determination.

“Designated Jurisdiction” means any country, region or territory to the extent that such country, region or territory itself is the subject of any Sanction.

“Disposition” or “Dispose” means the sale, transfer, license, lease or other disposition (in one transaction or in a series of transactions and whether effected pursuant to a Division or otherwise) of any property by any Person (including any sale and leaseback transaction and any issuance of Equity Interests by a Subsidiary of such Person) of any property by any Person, including any sale,
assignment, transfer or other disposal, with or without recourse, of any notes or accounts receivable or any rights and claims associated therewith, but excluding any Involuntary Disposition.

“Disqualified Institution” means, on any date, (a) any Person set forth on Schedule 10.06 and (b) any other Person that is a Competitor, which Person has been designated by the Borrower as a “Competitor” by written notice to the Administrative Agent (which such notice shall specify such Person by exact legal name) and the Lenders (including by posting such notice to the Platform) not less than five (5) Business Days prior to such date; provided that “Disqualified Institutions” shall exclude any Person that the Borrower has designated as no longer being a “Disqualified Institution” by written notice delivered to the Administrative Agent from time to time; provided, further, that any bona fide debt fund or investment vehicle that is engaged in making, purchasing, holding or otherwise investing in commercial loans and similar extensions of credit in the ordinary course of business which is managed, sponsored or advised by any Person Controlling, Controlled by or under common Control with such Competitor or its Controlling owner and for which no personnel involved with the competitive activities of such Competitor or Controlling owner (i) makes any investment decisions for such debt fund or (ii) has access to any confidential information (other than publicly available information) relating to the Borrower and its Subsidiaries shall be deemed not to be a Competitor of the Borrower or any of its Subsidiaries.

“Disqualified Institution List” has the meaning set forth in Section 10.06(f)(iv).

“Dividing Person” has the meaning assigned to it in the definition of “Division.”

“Division” means the division of the assets, liabilities and/or obligations of a Person (the “Dividing Person”) among two or more Persons (whether pursuant to a “plan of division” or similar arrangement), which may or may not include the Dividing Person and pursuant to which the Dividing Person may or may not survive.

“Dollar” and “$” mean lawful money of the United States.

“Dollar Equivalent” means, at any time, (a) with respect to any amount denominated in Dollars, such amount, and (b) with respect to any amount denominated in any Alternative Currency, the equivalent amount thereof in Dollars as determined by the Administrative Agent or the L/C Issuer, as the case may be, at such time on the basis of the Spot Rate (determined in respect of the most recent Revaluation Date) for the purchase of Dollars with such Alternative Currency.

“Domestic Subsidiary” means any Subsidiary that is organized under the laws of any state or other political subdivision (including the District of Columbia) of the United States.

“Earn Out Obligations” means, with respect to an Acquisition, all obligations of the Borrower to make earn out or other contingency payments (including purchase price adjustments, non-competition and consulting agreements, or other indemnity obligations) pursuant to the documentation relating to such Acquisition. The amount of any Earn Out Obligations at the time of determination shall be the aggregate amount, if any, of such Earn Out Obligations that are required at such time under GAAP to be recognized as liabilities on the consolidated balance sheet of the Borrower.
“EEA Financial Institution” means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition, or (c) any financial institution established in an EEA Member Country which is a Subsidiary of an institution described in clauses (a) or (b) of this definition and is subject to consolidated supervision with its parent.

“EEA Member Country” means any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

“EEA Resolution Authority” means any public administrative authority or any Person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

“Eligible Assignee” means any Person that meets the requirements to be an assignee under Section 10.06(b)(iii) and (v) (subject to such consents, if any, as may be required under Section 10.06(b)(iii)). For the avoidance of doubt, any Disqualified Institution is subject to Section 10.06(f).

“Environmental Laws” means any and all Federal, state, local, and foreign statutes, laws, regulations, ordinances, rules, judgments, orders, decrees, permits, concessions, grants, franchises, licenses, agreements or governmental restrictions relating to pollution and the protection of the environment or the release of any hazardous materials into the environment, including those related to hazardous substances or wastes, air emissions and discharges to waste or public systems.

“Environmental Liability” means any liability, contingent or otherwise (including any liability for damages, costs of environmental remediation, fines, penalties or indemnities), of the Borrower, any other Loan Party or any of their respective Subsidiaries directly or indirectly resulting from or based upon (a) violation of any Environmental Law, (b) the generation, use, handling, transportation, storage, treatment or disposal of any Hazardous Materials, (c) exposure to any Hazardous Materials, (d) the release or threatened release of any Hazardous Materials into the environment or (e) any contract, agreement or other consensual arrangement pursuant to which liability is assumed or imposed with respect to any of the foregoing.

“Equity Interests” means, with respect to any Person, all of the shares of capital stock of (or other ownership or profit interests in) such Person, all of the warrants, options or other rights for the purchase or acquisition from such Person of shares of capital stock of (or other ownership or profit interests in) such Person, all of the securities convertible into or exchangeable for shares of capital stock of (or other ownership or profit interests in) such Person or warrants, rights or options for the purchase or acquisition from such Person of such shares (or such other interests), and all of the other ownership or profit interests in such Person (including partnership, member or trust interests therein), whether voting or nonvoting, and whether or not such shares, warrants, options, rights or other interests are outstanding on any date of determination.

“ERISA Affiliate” means any trade or business (whether or not incorporated) under common control with the Borrower within the meaning of Section 414(b) or (c) of the Code (and Sections 414(m) and (o) of the Code for purposes of provisions relating to Section 412 of the Code).

“ERISA Event” means (a) a Reportable Event with respect to a Pension Plan; (b) the withdrawal of the Borrower or any ERISA Affiliate from a Pension Plan subject to Section 4063 of ERISA during a plan year in which such entity was a “substantial employer” as defined in Section 4001(a)(2) of ERISA or a cessation of operations that is treated as such a withdrawal under Section 4062(e) of ERISA; (c) a complete or partial withdrawal by the Borrower or any ERISA Affiliate from a Multiemployer Plan or notification that a Multiemployer Plan is in reorganization; (d) the filing of a notice of intent to terminate, the treatment of a Pension Plan amendment as a termination under Section 4041 or 4041A of ERISA; (e) the institution by the PBGC of proceedings to terminate a Pension Plan; (f) any event or condition which constitutes grounds under Section 4042 of ERISA for the termination of, or the appointment of a trustee to administer, any Pension Plan; (g) the determination that any Pension Plan is considered an at-risk plan or a plan in endangered or critical status within the meaning of Sections 430, 431 and 432 of the Code or Sections 303, 304 and 305 of ERISA; or (h) the imposition of any material liability under Title IV of ERISA, other than for PBGC premiums due but not delinquent under Section 4007 of ERISA, upon the Borrower or any ERISA Affiliate.

“EU Bail-In Legislation Schedule” means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor person), as in effect from time to time.

“Euro” and “€” mean the single currency of the Participating Member States.

“Eurodollar Rate” means:

(a) with respect to any Credit Extension:

(i) denominated in a LIBOR Quoted Currency, the rate per annum equal to the London Interbank Offered Rate, as administered by ICE Benchmark Administration (or any other Person that takes over the administration of such rate for U.S. Dollars for a period equal in length to such Interest Period) (“LIBOR”), as published on the applicable Bloomberg screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time) at approximately 11:00 a.m., London time, two Business Days prior to the commencement of such Interest Period, for deposits in the relevant currency (for delivery on the first day of such Interest Period) with a term equivalent to such Interest Period;

(ii) (a) for any Interest Period, with respect to a Eurodollar Rate Loan denominated in Canadian Dollars, the rate per annum equal to the London Interbank Offered Rate (“LIBOR Canadian Dealer Offered Rate (“CDOR”), or a comparable or successor rate which is approved by the Administrative Agent, as published on the applicable Bloomberg screen page (or such other commercially available source providing such quotations as may be designated by the
Administrative Agent from time to time) at or about 10:00 a.m. (Toronto, Ontario time) on the Rate Determination Date with a term equivalent to such Interest Period;

(iii) denominated in Australian Dollars, the rate per annum equal to the Bank Bill Swap Reference Bid Rate (“BBSY”) or a comparable or successor rate, which rate is approved by the Administrative Agent, as published on the applicable Bloomberg screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time) at or about 10:30 a.m. (Melbourne, Australia time) on the Rate Determination Date with a term equivalent to such Interest Period;

(iv) denominated in New Zealand Dollars, the rate per annum equal to the Bank Bill Reference Bid Rate (“BKBM”) or a comparable or successor rate, which rate is approved by the Administrative Agent, as published on the applicable Bloomberg screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time) at approximately 11:00 a.m., London time, two Business Days prior to the commencement of such Interest Period, for Dollar deposits (for delivery on the first day of such Interest Period) or about 10:45 a.m. (Auckland, New Zealand time) on the Rate Determination Date with a term equivalent to such Interest Period;

(v) with respect to a Credit Extension denominated in any other Non-LIBOR Quoted Currency, the rate per annum as designated with respect to such Alternative Currency at the time such Alternative Currency is approved by the Administrative Agent and the Lenders pursuant to Section 1.06(a); and

(b) for any interest calculation with respect to a Base Rate Loan on any date, the rate per annum equal to LIBOR, at or about 11:00 a.m., London time determined two Business Days prior to such date for U.S. Dollar deposits with a term of one month commencing that day; and

(c) if the Eurodollar Rate shall be less than zero, such rate shall be deemed zero for purposes of this Agreement;

provided that to the extent a comparable or successor rate is approved by the Administrative Agent in connection herewith, the approved rate shall be applied in a manner consistent with market practice; provided, further that to the extent such market practice is not administratively feasible for the Administrative Agent, such approved rate shall be applied in a manner as otherwise reasonably determined by the Administrative Agent.

“Eurodollar Rate Loan” means a Revolving Credit Loan that bears interest at a rate based on clause (a) of the definition of “Eurodollar Rate.” Eurodollar Rate Loans may be denominated in Dollars or in an Alternative Currency. All Revolving Credit Loans denominated in an Alternative Currency must be Eurodollar Rate Loans.

“Event of Default” has the meaning specified in Section 8.01.
“Excluded Swap Obligation” means, with respect to any Guarantor, any Swap Obligation if, and to the extent that, all or a portion of the Guaranty of such Guarantor of, or the grant by such Guarantor of a security interest to secure, such Swap Obligation (or any Guaranty thereof) is or becomes illegal under the Commodity Exchange Act or any rule, regulation or order of the Commodity Futures Trading Commission (or the application or official interpretation of any thereof) by virtue of such Guarantor’s failure for any reason to constitute an “eligible contract participant” as defined in the Commodity Exchange Act (determined after giving effect to Section 10.20 or Section 28 of the Guaranty and any other “keepwell, support or other agreement” for the benefit of such Guarantor and any and all guarantees of such Guarantor’s Swap Obligations by other Loan Parties) at the time the Guaranty of such Guarantor, or a grant by such Guarantor of a security interest, becomes effective with respect to such Swap Obligation. If a Swap Obligation arises under a master agreement governing more than one swap, such exclusion shall apply only to the portion of such Swap Obligation that is attributable to swaps for which such Guaranty or security interest is or becomes excluded in accordance with the first sentence of this definition.

“Excluded Taxes” means any of the following Taxes imposed on or with respect to any Recipient or required to be withheld or deducted from a payment to a Recipient, (a) Taxes imposed on or measured by net income (however denominated), franchise Taxes, and branch profits Taxes, in each case, (i) imposed as a result of such Recipient being organized under the laws of, or having its principal office located in, the jurisdiction imposing such Tax (or any political subdivision thereof) or (ii) that are Other Connection Taxes, (b) in the case of a Lender, U.S. federal withholding Taxes imposed on amounts payable to or for the account of such Lender with respect to an applicable interest in a Loan or Commitment pursuant to a law in effect on the date on which (i) such Lender acquires such interest in the Loan or Commitment (other than pursuant to an assignment request by the Borrower under Section 10.13) or (ii) such Lender changes its Lending Office, except in each case to the extent that, pursuant to Section 3.01(a)(ii), (a)(iii) or (c), amounts with respect to such Taxes were payable either to such Lender's assignor immediately before such Lender became a party hereto or to such Lender immediately before it changed its Lending Office, (c) Taxes attributable to such Recipient’s failure to comply with Section 3.01(e) and (d) any U.S. federal withholding Taxes imposed pursuant to FATCA.

“Existing Credit Agreement” means that certain Credit Agreement dated as of September 1, 2017, as amended, supplemented or otherwise modified prior to the date hereof, among the Borrower, the lenders from time to time party thereto, and Bank of America, N.A., as administrative agent, swing line lender and L/C issuer.

“Existing Letters of Credit” means the letters of credit issued by JPMorgan Chase Bank, N.A. and identified on Schedule 2.03 attached hereto.

“Facility” means the Revolving Credit Facility.

“Facility Termination Date” means the date as of which all of the following shall have occurred: (a) the Aggregate Commitments have terminated, (b) all Obligations have been paid in full (other than contingent indemnification obligations), and (c) all Letters of Credit have terminated.
or expired (other than Letters of Credit as to which other arrangements with respect thereto satisfactory to the Administrative Agent and the L/C Issuer shall have been made).

“FASB ASC” means the Accounting Standards Codification of the Financial Accounting Standards Board.

“FATCA” means Sections 1471 through 1474 of the Code, as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with) and any current or future regulations or official interpretations thereof and any agreements entered into pursuant to Section 1471(b)(1) of the Code.

“FDA” means the U.S. Food and Drug Administration, together with any comparable regulatory agency or other Governmental Authority existing under the laws of any non-U.S. jurisdiction.

“FDA Regulations” means any Laws relating to or administered by the FDA.

“Federal Funds Rate” means, for any day, the rate per annum equal to the weighted average of the rates on overnight calculated by the Federal Reserve Bank of New York based on such day’s federal funds transactions with members of depository institutions (as determined in such manner as the Federal Reserve System arranged by Federal funds brokers on such day), as published by the Federal Reserve Bank of New York on the Business Day next succeeding such day; provided that (a) if such day is not a Business Day, Bank of New York shall set forth on its public website from time to time) and published on the next succeeding Business Day by the Federal Reserve Bank of New York as the federal funds effective rate; provided that if the Federal Funds Rate for such day shall be such rate on such transactions on the next preceding Business Day as so published on the next succeeding Business Day; and (b) if no such rate is so published on such next succeeding Business Day, the Federal Funds Rate for such day shall be the average rate (rounded upward, if necessary, to a whole multiple of 1/100 of 1%) charged to Bank of America on such day on such transactions as determined by the Administrative Agent as so determined would be less than zero, such rate shall be deemed to be zero for purposes of this Agreement.

“Fee Letter” means the letter agreement, dated February 26, 2018, among the Borrower, the Administrative Agent and the Arranger.

“First Tier Foreign Subsidiary” means a Foreign Subsidiary that is a direct Subsidiary of the Borrower or of a Domestic Subsidiary.

“Foreign Government Scheme or Arrangement” has the meaning specified in Section 5.12(d).

“Foreign Lender” means (a) if the Borrower is a U.S. Person, a Lender that is not a U.S. Person, and (b) if the Borrower is not a U.S. Person, a Lender that is resident or organized under the laws of a jurisdiction other than that in which the Borrower is resident for tax purposes. For purposes of this definition, the United States, each State thereof and the District of Columbia shall be deemed to constitute a single jurisdiction.
“Foreign Plan” has the meaning specified in Section 5.12(d).

“Foreign Subsidiary” means any Subsidiary other than a Domestic Subsidiary.

“Foreign Subsidiary Holding Company” means, as of any time of determination, a Domestic Subsidiary that at such time (i) holds Equity Interests of one or more Foreign Subsidiaries, (ii) conducts no business or financial operations, (iii) has no Indebtedness, (iv) holds no assets other than assets incidental to the ownership of such Equity Interests of such Foreign Subsidiaries, and (v) has no Liens (other than Liens pursuant to the Loan Documents) on any of its assets.

“FRB” means the Board of Governors of the Federal Reserve System of the United States.

“Fronting Exposure” means, at any time there is a Defaulting Lender that is a Revolving Credit Lender, (a) with respect to the L/C Issuer, such Defaulting Lender’s Applicable Percentage of the outstanding L/C Obligations other than L/C Obligations as to which such Defaulting Lender’s participation obligation has been reallocated to other Revolving Credit Lenders or Cash Collateralized in accordance with the terms hereof, and (b) with respect to the Swing Line Lender, such Defaulting Lender’s Applicable Percentage of Swing Line Loans other than Swing Line Loans as to which such Defaulting Lender’s participation obligation has been reallocated to other Revolving Credit Lenders or Cash Collateralized in accordance with the terms hereof.

“Fund” means any Person (other than a natural Person) that is (or will be) engaged in making, purchasing, holding or otherwise investing in commercial loans and similar extensions of credit in the ordinary course of its activities.

“Funding Indemnity Letter” means a funding indemnity letter, substantially in the form of Exhibit K.

“GAAP” means generally accepted accounting principles in the United States set forth in the opinions and pronouncements of the Accounting Principles Board and the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or such other principles as may be approved by a significant segment of the accounting profession in the United States, that are applicable to the circumstances as of the date of determination, consistently applied and as in effect from time to time.

“Governmental Authority” means the government of the United States or any other nation, or of any political subdivision thereof, whether state or local, and any agency, authority, instrumentality, regulatory body, court, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any supra-national bodies such as the European Union or the European Central Bank).

“Guarantee” means, as to any Person, (a) any obligation, contingent or otherwise, of such Person guaranteeing or having the economic effect of guaranteeing any Indebtedness or other obligation payable or performable by another Person (the “primary obligor”) in any manner, whether directly or indirectly, and including any obligation of such Person, direct or indirect, (i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness or other
obligation, (ii) to purchase or lease property, securities or services for the purpose of assuring the obligee in respect of such Indebtedness or other obligation of the payment or performance of such Indebtedness or other obligation, (iii) to maintain working capital, equity capital or any other financial statement condition or liquidity or level of income or cash flow of the primary obligor so as to enable the primary obligor to pay such Indebtedness or other obligation, or (iv) entered into for the purpose of assuring in any other manner the obligee in respect of such Indebtedness or other obligation of the payment or performance thereof or to protect such obligee against loss in respect thereof (in whole or in part), or (b) any Lien on any assets of such Person securing any Indebtedness or other obligation of any other Person, whether or not such Indebtedness or other obligation is assumed by such Person (or any right, contingent or otherwise, of any holder of such Indebtedness to obtain any such Lien). The amount of any Guarantee shall be deemed to be an amount equal to the stated or determinable amount of the related primary obligation, or portion thereof, in respect of which such Guarantee is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof as determined by the guaranteeing Person in good faith. The term “Guarantee” as a verb has a corresponding meaning.

“Guarantor Assessment Date” means each of (i) any date on which the Borrower delivers or is obligated to deliver to the Administrative Agent financial statements under Section 6.01(a), (ii) any date on which the Borrower consummates any Acquisition, or acquires or creates any new or additional Subsidiary, (iii) any date on which the Borrower Disposes of any Subsidiary or all or substantially of the assets of any Subsidiary, and (iv) any date on which a Domestic Subsidiary previously deemed a Foreign Subsidiary Holding Company ceases to be a Foreign Subsidiary Holding Company.

“Guarantor” means (a) each Subsidiary that, following the Closing Date, shall be required to execute and deliver a guaranty or guaranty joinder or supplement pursuant to Section 6.14 and (b) with respect to (i) Secured Obligations owing by any Loan Party (other than the Borrower) under any Swap Contract or any Cash Management Agreement and (ii) the payment and performance by each Specified Loan Party of its obligations under its Guaranty with respect to all Swap Obligations, the Borrower.

“Guaranty” means the Guaranty Agreement made by the Guarantors in favor of the Administrative Agent and for the benefit of the Secured Parties, substantially in the form of Exhibit F, as supplemented from time to time by the execution and delivery of any Guaranty Joinder Agreements pursuant to Section 6.14.

“Guaranty Joinder Agreement” means each Guaranty Joinder Agreement, substantially in the form thereof attached to the Guaranty, executed and delivered by a Subsidiary to the Administrative Agent (for the benefit of the Secured Parties) pursuant to Section 6.14.

“Hazardous Materials” means all explosive or radioactive substances or wastes and all hazardous or toxic substances, wastes or other pollutants, including petroleum or petroleum distillates, asbestos or asbestos-containing materials, polychlorinated biphenyls, radon gas, infectious or medical wastes and all other substances or wastes of any nature regulated pursuant to any Environmental Law because of their hazardous, dangerous or deleterious properties or characteristics.
“Hedge Bank” means any Person that, (a) at the time it enters into an interest rate Swap Contract permitted by this Agreement, is a Lender or an Affiliate of a Lender, or (b) at the time it (or its Affiliate) becomes a Lender, is a party to an interest rate Swap Contract not prohibited by this Agreement, in each case, in its capacity as a party to such Swap Contract (even if such Person ceases to be a Lender or such Person’s Affiliate ceased to be a Lender); provided that for any of the foregoing to be included as a “Secured Hedge Agreement” on any date of determination by the Administrative Agent, the applicable Hedge Bank (other than the Administrative Agent or an Affiliate of the Administrative Agent) must have delivered a Secured Party Designation Notice to the Administrative Agent prior to such date of determination.

“Honor Date” has the meaning specified in Section 2.03(c)(i).

“IFRS” means International Financial Reporting Standards as adopted by the International Accounting Standards Board from time to time, consistently applied.

“Increase Effective Date” has the meaning specified in Section 2.14(b)(iv).

“Indebtedness” means, as to any Person at a particular time, without duplication, all of the following, whether or not included as indebtedness or liabilities in accordance with GAAP:

(a) all obligations of such Person for borrowed money and all obligations of such Person evidenced by bonds, debentures, notes, loan agreements or other similar instruments;

(b) all direct or contingent obligations of such Person arising under letters of credit (including standby and commercial), bankers’ acceptances, bank guaranties, surety bonds and similar instruments;

(c) net obligations of such Person under any Swap Contract;

(d) all obligations of such Person to pay the deferred purchase price of property (including Earn Out Obligations) or services (other than trade accounts payable in the ordinary course of business);

(e) indebtedness (excluding prepaid interest thereon) secured by a Lien on property owned or being purchased by such Person (including indebtedness arising under conditional sales or other title retention agreements), whether or not such indebtedness shall have been assumed by such Person or is limited in recourse;

(f) capital leases and Synthetic Lease Obligations;

(g) all obligations of such Person to purchase, redeem, retire, defease or otherwise make any payment in respect of any Equity Interest in such Person or any other Person, valued, in the case of a redeemable preferred interest, at the greater of its voluntary or involuntary liquidation preference plus accrued and unpaid dividends; and

(h) all Guarantees of such Person in respect of any of the foregoing.
For all purposes hereof, the Indebtedness of any Person shall include the Indebtedness of any partnership or joint venture (other than a joint venture that is itself a corporation or limited liability company) in which such Person is a general partner or a joint venturer, unless such Indebtedness is expressly made non-recourse to such Person. The amount of any net obligation under any Swap Contract on any date shall be deemed to be the Swap Termination Value thereof as of such date. The amount of any capital lease or Synthetic Lease Obligation as of any date shall be deemed to be the amount of Attributable Indebtedness in respect thereof as of such date.

“Indemnified Taxes” means (a) Taxes, other than Excluded Taxes, imposed on or with respect to any payment made by or on account of any obligation of any Loan Party under any Loan Document and (b) to the extent not otherwise described in clause (a), Other Taxes.

“Indemnitees” has the meaning specified in Section 10.04(b).

“Information” has the meaning specified in Section 10.07.

“Intangible Assets” means assets that are considered to be intangible assets under GAAP, including customer lists, goodwill, computer software, copyrights, trade names, trademarks, patents, franchises, licenses, unamortized deferred charges, unamortized debt discount and capitalized research and development costs.

“Interest Payment Date” means, (a) as to any Loan other than a Base Rate Loan, the last day of each Interest Period applicable to such Loan and the Maturity Date; provided, however, that if any Interest Period for a Eurodollar Rate Loan exceeds three months, the respective dates that fall every three months after the beginning of such Interest Period shall also be Interest Payment Dates; and (b) as to any Base Rate Loan (including a Swing Line Loan), the last Business Day of each March, June, September and December and the Maturity Date.

“Interest Period” means as to each Eurodollar Rate Loan, the period commencing on the date such Eurodollar Rate Loan is disbursed or converted to or continued as a Eurodollar Rate Loan and ending on the date one, two, three or six months (or, with the consent of each Lender, nine or twelve months) thereafter, as selected by the Borrower in its Loan Notice, or such other period that is twelve months or less requested by the Borrower and consented to by all the Appropriate Lenders; provided that:

(i) any Interest Period that would otherwise end on a day that is not a Business Day shall be extended to the next succeeding Business Day unless, in the case of a Eurodollar Rate Loan, such Business Day falls in another calendar month, in which case such Interest Period shall end on the next preceding Business Day;

(ii) any Interest Period pertaining to a Eurodollar Rate Loan that begins on the last Business Day of a calendar month (or on a day for which there is no numerically corresponding day in the calendar month at the end of such Interest Period) shall end on the last Business Day of the calendar month at the end of such Interest Period; and

(iii) no Interest Period shall extend beyond the Maturity Date.
“Investment” means, as to any Person, any direct or indirect acquisition or investment by such Person, whether by means of (a) the purchase or other acquisition of capital stock or other securities of another Person, (b) a loan, advance or capital contribution to, Guarantee or assumption of debt of, or purchase or other acquisition of any other debt or equity participation or interest in, another Person, including any partnership or joint venture interest in such other Person and any arrangement pursuant to which the investor Guarantees Indebtedness of such other Person, or (c) the purchase or other acquisition (in one transaction or a series of transactions) of assets of another Person that constitute a business unit. For purposes of covenant compliance, the amount of any Investment shall be the amount actually invested, without adjustment for subsequent increases or decreases in the value of such Investment.

“Involuntary Disposition” means any loss of, damage to or destruction of, or any condemnation or other taking for public use of, any property of any Loan Party or any of its Subsidiaries.

“IP Rights” has the meaning specified in Section 5.20.

“IRS” means the United States Internal Revenue Service.

“ISP” means, with respect to any Letter of Credit, the “International Standby Practices 1998” published by the International Chamber of Commerce, Publication No. 590 (or such later version thereof as may be in effect at the time of issuance).

“Issuer Documents” means with respect to any Letter of Credit, the Letter of Credit Application, and any other document, agreement and instrument entered into by the L/C Issuer and the Borrower (or any Subsidiary) or in favor of the L/C Issuer and relating to such Letter of Credit.

“Laws” means, collectively, all international, foreign, Federal, state and local statutes, treaties, rules, guidelines, regulations, ordinances, codes and administrative or judicial precedents or authorities, including the interpretation or administration thereof by any Governmental Authority charged with the enforcement, interpretation or administration thereof, and all applicable administrative orders, directed duties, requests, licenses, authorizations and permits of, and agreements with, any Governmental Authority, in each case whether or not having the force of law.

“L/C Advance” means, with respect to each Revolving Credit Lender, such Lender’s funding of its participation in any L/C Borrowing in accordance with its Applicable Revolving Credit Percentage.

“L/C Borrowing” means an extension of credit resulting from a drawing under any Letter of Credit which has not been reimbursed on the date when made or refinanced as a Revolving Credit Borrowing.

“L/C Credit Extension” means, with respect to any Letter of Credit, the issuance thereof or extension of the expiry date thereof, or the increase of the amount thereof.
“L/C Issuer” means each of Bank of America, BNP Paribas and JPMorgan Chase Bank, N.A., each in its capacity as issuer of Letters of Credit hereunder, or any successor issuer of Letters of Credit hereunder. At any time there is more than one L/C Issuer, all singular references to the L/C Issuer shall mean any L/C Issuer, either L/C Issuer, each L/C Issuer, the L/C Issuer that has issued the applicable Letter of Credit or both L/C Issuers, as the context may require. The L/C Issuer may, in its discretion, arrange for one or more Letters of Credit to be issued by Affiliates of the L/C Issuer, in which case the term “L/C Issuer” shall include any such Affiliate with respect to Letters of Credit issued by such Affiliate.

“L/C Obligations” means, as at any date of determination, the aggregate amount available to be drawn under all outstanding Letters of Credit plus the aggregate of all Unreimbursed Amounts, including all L/C Borrowings. For purposes of computing the amount available to be drawn under any Letter of Credit, the amount of such Letter of Credit shall be determined in accordance with Section 1.06. For all purposes of this Agreement, if on any date of determination a Letter of Credit has expired by its terms but any amount may still be drawn thereunder by reason of the operation of Article 29(a) of the UCP or Rule 3.13 or Rule 3.14 of the ISP or similar terms of the Letter of Credit itself, or if compliant documents have been presented but not yet honored, such Letter of Credit shall be deemed to be “outstanding” and “undrawn” in the amount so remaining available to be drawn paid, and the obligations of the Borrower and each Lender shall remain in full force and effect until the L/C Issuer and the Lenders shall have no further obligations to make any payments or disbursements under any circumstances with respect to any Letter of Credit.


“Lender” has the meaning specified in the introductory paragraph hereto and, unless the context requires otherwise, includes the Swing Line Lender.

“Lending Office” means, as to any Lender, the office or offices of such Lender described as such in such Lender’s Administrative Questionnaire, or such other office or offices as a Lender may from time to time notify the Borrower and the Administrative Agent, which office may include any Affiliate of such Lender or any domestic or foreign branch of such Lender or such Affiliate. Unless the context otherwise requires each reference to a Lender shall include its applicable Lending Office.

“Letter of Credit” means any standby letter of credit issued hereunder providing for the payment of cash upon the honoring of a presentation thereunder, and shall include the Existing Letters of Credit. Letters of Credit may be issued in Dollars or in an Alternative Currency.

“Letter of Credit Application” means an application and agreement for the issuance or amendment of a Letter of Credit in the form from time to time in use by the L/C Issuer.
“Letter of Credit Expiration Date” means the day that is seven days prior to the Maturity Date then in effect (or, if such day is not a Business Day, the next preceding Business Day).

“Letter of Credit Fee” has the meaning specified in Section 2.03(h).

“Letter of Credit Sublimit” means, (a) with respect to Bank of America and its Affiliates, an amount equal to $25,000,000, and $75,000,000, (b) with respect to JPMorgan Chase Bank, N.A. and its Affiliates, an amount equal to $25,000,000 a Dollar Equivalent amount equal to $75,000,000 and (c) with respect to BNP Paribas and its Affiliates, a Dollar Equivalent amount equal to $75,000,000; provided that, any L/C Issuer may, in its sole discretion, issue Letters of Credit in an aggregate available amount in excess of such L/C Issuer’s Letter of Credit Sublimit so long as the aggregate Dollar Equivalent amount of all Letters of Credit available to be drawn does not exceed $225,000,000. The Letter of Credit Sublimit is part of, and not in addition to, the Aggregate Revolving Credit Commitments.

“LIBOR Quoted Currency” means each of the following currencies: Dollars, Euro, Sterling, Yen, and Swiss Franc, in each case as long as there is a published LIBOR rate with respect thereto.

“LIBOR Screen Rate” means the LIBOR quote on the applicable screen page the Administrative Agent designates to determine LIBOR (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time).

“LIBOR Successor Rate” has the meaning specified in Section 2.17.

“LIBOR Successor Rate Conforming Changes” means, with respect to any proposed LIBOR Successor Rate, any conforming changes to the definition of Base Rate, Interest Period, timing and frequency of determining rates and making payments of interest and other administrative matters as may be appropriate, in the reasonable discretion of the Administrative Agent, to reflect the adoption of such LIBOR Successor Rate and to permit the administration thereof by the Administrative Agent in a manner substantially consistent with market practice (or, if the Administrative Agent reasonably determines that adoption of any portion of such market practice is not administratively feasible or that no market practice for the administration of such LIBOR Successor Rate exists, in such other manner of administration as the Administrative Agent reasonably determines in consultation with the Borrower).

“Lien” means any mortgage, pledge, hypothecation, assignment, deposit arrangement, encumbrance, lien (statutory or other), charge, or preference, priority or other security interest or preferential arrangement in the nature of a security interest of any kind or nature whatsoever (including any conditional sale or other title retention agreement, any easement, right of way or other encumbrance on title to real property, and any financing lease having substantially the same economic effect as any of the foregoing).

“Loan” means an extension of credit by a Lender to the Borrower under Article II in the form of a Revolving Credit Loan or a Swing Line Loan.
“Loan Documents” means this Agreement, each Note, each Issuer Document, any agreement creating or perfecting rights in Cash Collateral pursuant to the provisions of Section 2.15 of this Agreement, the Fee Letter and the Guaranty.

“Loan Notice” means a notice of (a) a Revolving Credit Borrowing, (b) a conversion of Loans from one Type to the other, or (c) a continuation of Eurodollar Rate Loans, pursuant to Section 2.02(a), which, if in writing, shall be substantially in the form of Exhibit A or such other form as may be approved by the Administrative Agent (including any form on an electronic platform or electronic transmission system as shall be approved by the Administrative Agent), appropriately completed and signed by a Responsible Officer of the Borrower.

“Loan Parties” means, collectively, the Borrower and each Guarantor.

“London Banking Day” means any day on which dealings in Dollar deposits are conducted by and between banks in the London interbank eurodollar market.

“Material Acquisition” has the meaning set forth in the definition of “Consolidated EBITDA.”

“Material Adverse Effect” means (a) a material adverse change in, or a material adverse effect upon, the operations, business, properties, liabilities (actual or contingent), or financial condition of the Borrower or the Borrower and its Subsidiaries taken as a whole; (b) a material impairment of the ability of any Loan Party to perform its material obligations under any Loan Document to which it is a party relating to indebtedness in an aggregate principal amount exceeding $25,000,000; or (c) a material adverse effect upon the legality, validity, binding effect or enforceability against any Loan Party of any Loan Document to which it is a party relating to indebtedness in an aggregate principal amount exceeding $25,000,000.

“Material Disposition” means any Disposition for which the total consideration received by the Borrower or any of its Subsidiaries (including, without limitation, all transaction costs, transferred Indebtedness and liabilities repaid, transferred or no longer reflected on a consolidated balance sheet of the Loan Parties and their Subsidiaries after giving effect to such Disposition and the maximum amount of all deferred payments, including earnouts) exceeds $25,000,000.

“Material IP Rights” has the meaning specified in Section 5.20.

“Material Subsidiary” means,

(a) any Domestic Subsidiary (other than a Foreign Subsidiary Holding Company) that, on any Guarantor Assessment Date (other than a Guarantor Assessment Date occurring as a result of an Acquisition, creation or divestiture), meets either of the following conditions: (i) such Subsidiary’s total assets, as of the last day of the four fiscal quarter period most recently ended, are equal to or greater than fifteen percent (15%) of the consolidated total assets of the Borrower and its Subsidiaries as of such date, determined in accordance with GAAP, or (ii) such Subsidiary’s total revenues (excluding intercompany revenues from the Borrower or its Subsidiaries) for the four fiscal quarter period most recently ended is equal to or greater than fifteen percent (15%) of the
consolidated total revenues of the Borrower and its Subsidiaries for such four fiscal quarter period, determined in accordance with GAAP; in each case as reflected in the most recent annual or quarterly (as applicable) financial statements of the Borrower required to be delivered pursuant to Section 6.01; and

(b) any Domestic Subsidiary (other than a Foreign Subsidiary Holding Company) that, on any Guarantor Assessment Date occurring as a result of an Acquisition, creation or divestiture, meets either of the following conditions: (i) such Subsidiary’s total assets are equal to or greater than fifteen percent (15%) of the pro forma consolidated total assets of the Borrower and its Subsidiaries as of such Guarantor Assessment Date (after giving effect to the applicable Acquisition, creation or divestiture), or (ii) such Subsidiary’s pro forma total revenues (excluding intercompany revenues from the Borrower or its Subsidiaries) for the four fiscal quarter period most recently ended would have been equal to or greater than fifteen percent (15%) of the pro forma consolidated total revenues of the Borrower and its Subsidiaries for such four fiscal quarter period (after giving effect to the applicable Acquisition, creation or divestiture, as though it had occurred on the first day of such four fiscal quarter period), in each case, determined in accordance with GAAP.

For the avoidance of doubt the Borrower’s Equity Interest in its Subsidiaries shall not be included in valuing the assets of the Borrower.

“Maturity Date” means April 3, 2023; November 1, 2024; provided, however, that if such date is not a Business Day, the Maturity Date shall be the immediately preceding Business Day.

“Measurement Period” means, at any date of determination, the most recently completed four (4) fiscal quarters of the Borrower.

“Minimum Collateral Amount” means, at any time, (i) with respect to Cash Collateral consisting of cash or deposit account balances provided to reduce or eliminate Fronting Exposure during the existence of a Defaulting Lender, an amount equal to 103% of the Fronting Exposure of the L/C Issuer with respect to Letters of Credit issued and outstanding at such time, (ii) with respect to Cash Collateral consisting of cash or deposit account balances provided in accordance with the provisions of Section 2.15(a)(i), (a)(ii) or (a)(iii), an amount equal to 103% of the Outstanding Amount of all L/C Obligations, and (iii) otherwise, an amount determined by the Administrative Agent and the L/C Issuer in their sole discretion.

“Multiemployer Plan” means any employee benefit plan of the type described in Section 4001(a)(3) of ERISA, to which the Borrower or any ERISA Affiliate makes or is obligated to make contributions, or during the preceding five plan years, has made or been obligated to make contributions.

“Multiple Employer Plan” means a Plan which has two or more contributing sponsors (including the Borrower or any ERISA Affiliate) at least two of whom are not under common control, as such a plan is described in Section 4064 of ERISA.

“New Zealand Dollars” means the lawful currency of New Zealand.
“Non-Consenting Lender” means any Lender that does not approve any consent, waiver or amendment that (i) requires the approval of all Lenders or all affected Lenders in accordance with the terms of Section 10.01 and (ii) has been approved by the Required Lenders.

“Non-Defaulting Lender” means, at any time, each Lender that is not a Defaulting Lender at such time.

“Non-LIBOR Quoted Currency” means any currency other than a LIBOR Quoted Currency.

“Note” means a Revolving Credit Note.

“Obligations” means all advances to, and debts, liabilities, obligations, covenants and duties of, any Loan Party arising under any Loan Document or otherwise with respect to any Loan or Letter of Credit, whether direct or indirect (including those acquired by assumption), absolute or contingent, due or to become due, now existing or hereafter arising and including interest and fees that accrue after the commencement by or against any Loan Party or any Affiliate thereof of any proceeding under any Debtor Relief Laws naming such Person as the debtor in such proceeding, regardless of whether such interest and fees are allowed claims in such proceeding.

“OFAC” means the Office of Foreign Assets Control of the United States Department of the Treasury.

“Organization Documents” means, (a) with respect to any corporation, the certificate or articles of incorporation and the bylaws (or equivalent or comparable constitutive documents with respect to any non-U.S. jurisdiction); (b) with respect to any limited liability company, the certificate or articles of formation or organization and operating agreement; and (c) with respect to any partnership, joint venture, trust or other form of business entity, the partnership, joint venture or other applicable agreement of formation or organization and any agreement, instrument, filing or notice with respect thereto filed in connection with its formation or organization with the applicable Governmental Authority in the jurisdiction of its formation or organization and, if applicable, any certificate or articles of formation or organization of such entity.

“Other Connection Taxes” means, with respect to any Recipient, Taxes imposed as a result of a present or former connection between such Recipient and the jurisdiction imposing such Tax (other than connections arising from such Recipient having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan or Loan Document).

“Other Taxes” means all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes that arise from any payment made under, from the execution, delivery, performance, enforcement or registration of, from the receipt or perfection of a security interest under, or otherwise with respect to, any Loan Document, except any such Taxes that are Other Connection Taxes imposed with respect to an assignment (other than an assignment made pursuant to Section 3.06).

“Outstanding Amount” means (i) with respect to Revolving Credit Loans and Swing Line Loans on any date, the Dollar Equivalent amount of the aggregate outstanding principal amount.
thereof after giving effect to any borrowings and prepayments or repayments of Revolving Credit Loans and Swing Line Loans, as the case may be, occurring on such date; and (ii) with respect to any L/C Obligations on any date, the Dollar Equivalent amount of amount of such L/C Obligations on such date after giving effect to any L/C Credit Extension occurring on such date and any other changes in the aggregate amount of the L/C Obligations as of such date, including as a result of any reimbursements by the Borrower of Unreimbursed Amounts.

“Overnight Rate” means, for any day, (a) with respect to any amount denominated in Dollars, the greater of (i) the Federal Funds Rate and (ii) an overnight rate determined by the Administrative Agent, the L/C Issuer, or the Swing Line Lender, as the case may be, in accordance with banking industry rules on interbank compensation, and (b) with respect to any amount denominated in an Alternative Currency, the rate of interest per annum at which overnight deposits in the applicable Alternative Currency, in an amount approximately equal to the amount with respect to which such rate is being determined, would be offered for such day by a branch or Affiliate of Bank of America in the applicable offshore interbank market for such currency to major banks in such interbank market.

“Participant” has the meaning specified in Section 10.06(d).

“Participant Register” has the meaning specified in Section 10.06(d).

“Participating Member State” means any member state of the European Union that has the Euro as its lawful currency in accordance with legislation of the European Union relating to Economic and Monetary Union.

“PBGC” means the Pension Benefit Guaranty Corporation.

“Pension Act” means the Pension Protection Act of 2006.

“Pension Funding Rules” means the rules of the Code and ERISA regarding minimum required contributions (including any installment payment thereof) to Pension Plans and set forth in, with respect to plan years ending prior to the effective date of the Pension Act, Section 412 of the Code and Section 302 of ERISA, each as in effect prior to the Pension Act and, thereafter, Section 412, 430, 431, 432 and 436 of the Code and Sections 302, 303, 304 and 305 of ERISA.

“Pension Plan” means any employee pension benefit plan (including a Multiple Employer Plan or a Multiemployer Plan) that is maintained or is contributed to by the Borrower and any ERISA Affiliate and is either covered by Title IV of ERISA or is subject to the minimum funding standards under Section 412 of the Code.

“Permitted Disposition” has the meaning specified in Section 7.05.

“Permitted Investment” has the meaning specified in Section 7.02.

“Permitted Liens” has the meaning specified in Section 7.01.
“Person” means any natural person, corporation, limited liability company, trust, joint venture, association, company, partnership, Governmental Authority or other entity.

“Plan” means any employee benefit plan within the meaning of Section 3(3) of ERISA (including a Pension Plan), maintained for employees of the Borrower or any ERISA Affiliate or any such Plan to which the Borrower or any ERISA Affiliate is required to contribute on behalf of any of its employees.

“Platform” has the meaning specified in Section 6.02.

“PTE” means a prohibited transaction class exemption issued by the U.S. Department of Labor, as any such exemption may be amended from time to time.

“Public Lender” has the meaning specified in Section 6.02.

“Qualified ECP Guarantor” shall mean, at any time, each Loan Party with total assets exceeding $10,000,000 or that qualifies at such time as an “eligible contract participant” under the Commodity Exchange Act and can cause another person to qualify as an “eligible contract participant” at such time under §1a(18)(A)(v)(II) of the Commodity Exchange Act.

“Rate Determination Date” means two (2) Business Days prior to the commencement of such Interest Period (or such other day as is generally treated as the rate fixing day by market practice in such interbank market, as determined by the Administrative Agent; provided that to the extent such market practice is not administratively feasible for the Administrative Agent, such other day as otherwise reasonably determined by the Administrative Agent).

“Recipient” means the Administrative Agent, any Lender, the L/C Issuer or any other recipient of any payment to be made by or on account of any obligation of any Loan Party hereunder.

“Register” has the meaning specified in Section 10.06(c).

“Related Parties” means, with respect to any Person, such Person’s Affiliates and the partners, directors, officers, employees, agents, trustees, administrators, managers, advisors and representatives of such Person and of such Person’s Affiliates.

“Reportable Event” means any of the events set forth in Section 4043(c) of ERISA, other than events for which the 30 day notice period has been waived.

“Request for Credit Extension” means (a) with respect to a Borrowing, conversion or continuation of Revolving Credit Loans, a Loan Notice, (b) with respect to an L/C Credit Extension, a Letter of Credit Application, and (c) with respect to a Swing Line Loan, a Swing Line Loan Notice.

“Required Lenders” means, at any time, Lenders having Total Credit Exposures representing more than 50% of the Total Credit Exposures of all Lenders. The Total Credit Exposure of any Defaulting Lender shall be disregarded in determining Required Lenders at any time; provided that, the amount of any participation in any Swing Line Loan and Unreimbursed Amounts that any Defaulting Lender has failed to fund that have not been reallocated to and funded by another Lender.
shall be deemed to be held by the Lender that is the Swing Line Lender or L/C Issuer, as the case may be, in making such determination.

“Responsible Officer” means the chief executive officer, president, chief financial officer, treasurer, treasury director, assistant treasurer or controller of a Loan Party, solely for purposes of the delivery of incumbency certificates pursuant to Section 4.01, the secretary or any assistant secretary of a Loan Party and, solely for purposes of notices given pursuant to Article II, any other officer or employee of the applicable Loan Party so designated by any of the foregoing officers in a notice to the Administrative Agent or any other officer or employee of the applicable Loan Party designated in or pursuant to an agreement between the applicable Loan Party and the Administrative Agent. Any document delivered hereunder that is signed by a Responsible Officer of a Loan Party shall be conclusively presumed to have been authorized by all necessary corporate, partnership and/or other action on the part of such Loan Party and such Responsible Officer shall be conclusively presumed to have acted on behalf of such Loan Party. To the extent requested by the Administrative Agent, each Responsible Officer will provide an incumbency certificate and to the extent requested by the Administrative Agent, appropriate authorization documentation, in form and substance satisfactory to the Administrative Agent.

“Restricted Payment” means any dividend or other distribution (whether in cash, securities or other property) with respect to any capital stock or other Equity Interest of the Borrower or any Subsidiary, or any payment (whether in cash, securities or other property), including any sinking fund or similar deposit, on account of the purchase, redemption, retirement, acquisition, cancellation or termination of any such capital stock or other Equity Interest, or on account of any return of capital to the Borrower’s stockholders, partners or members (or the equivalent Person thereof).

“Revaluation Date” means (a) with respect to any Loan, each of the following: (i) each date of a Borrowing of a Eurodollar Rate Loan denominated in an Alternative Currency, (ii) each date of a continuation of a Eurodollar Rate Loan denominated in an Alternative Currency pursuant to Section 2.02, and (iii) such additional dates as the Administrative Agent shall determine or the Required Lenders shall require; and (b) with respect to any Letter of Credit, each of the following: (i) each date of issuance of a Letter of Credit denominated in an Alternative Currency, (ii) each date of an amendment of any such Letter of Credit having the effect of increasing the amount thereof, (iii) each date of any payment by the L/C Issuer under any Letter of Credit denominated in an Alternative Currency, and (iv) such additional dates as the Administrative Agent or the L/C Issuer shall determine or the Required Lenders shall require.

“Revolving Credit Borrowing” means a borrowing consisting of simultaneous Revolving Credit Loans of the same Type and, in the case of Eurodollar Rate Loans, having the same Interest Period made by each of the Lenders pursuant to Section 2.01.

“Revolving Credit Commitment” means, as to each Revolving Credit Lender, its obligation to (a) make Revolving Credit Loans to the Borrower pursuant to Section 2.01, (b) purchase participations in L/C Obligations, and (c) purchase participations in Swing Line Loans, in an aggregate principal amount at any one time outstanding not to exceed the amount set forth opposite such Lender’s name on Schedule 2.01 under the caption “Revolving Credit Commitment” or opposite such caption in the Assignment and Assumption pursuant to which such Lender becomes
a party hereto, as applicable, as such amount may be adjusted from time to time in accordance with this Agreement.

“Revolving Credit Exposure” means, as to any Revolving Credit Lender at any time, the aggregate principal amount at such time of its outstanding Revolving Credit Loans and such Revolving Credit Lender’s participation in L/C Obligations and Swing Line Loans at such time.

“Revolving Credit Facility” means, at any time, the revolving credit facility provided in this Agreement in the aggregate amount of the Revolving Credit Lenders’ Revolving Credit Commitments at such time.

“Revolving Credit Lender” means, at any time, (a) so long as any Revolving Credit Commitment is in effect, any Lender that has a Revolving Credit Commitment at such time or (b) if the Revolving Credit Commitments have terminated or expired, any Lender that has a Revolving Credit Loan or a participation in L/C Obligations or Swing Line Loans at such time.

“Revolving Credit Loan” has the meaning specified in Section 2.01.

“Revolving Credit Note” means a promissory note made by the Borrower in favor of a Revolving Credit Lender evidencing Revolving Credit Loans or Swing Line Loans, as the case may be, made by such Revolving Credit Lender, substantially in the form of Exhibit C-1.

“Same Day Funds” means (a) with respect to disbursements and payments in Dollars, immediately available funds, and (b) with respect to disbursements and payments in an Alternative Currency, same day or other funds as may be determined by the Administrative Agent or the L/C Issuer, as the case may be, to be customary in the place of disbursement or payment for the settlement of international banking transactions in the relevant Alternative Currency.

“Sanction(s)” means any international economic sanction administered or enforced by the United States Government (including without limitation, OFAC), the United Nations Security Council, the European Union, Her Majesty’s Treasury or other relevant sanctions authority.

“Second Amendment Effective Date” means November 1, 2019.

“Secured Cash Management Agreement” means any Cash Management Agreement that is entered into by and between any Loan Party and any Cash Management Bank.

“Secured Hedge Agreement” means any interest rate Swap Contract permitted under Article VI or VII that is entered into by and between any Loan Party and any Hedge Bank.

“Secured Obligations” means all Obligations, all obligations of any Loan Party arising under Secured Cash Management Agreements and Secured Hedge Agreements and all costs and expenses incurred in connection with enforcement and collection of the foregoing by any Loan Party, including the fees, charges and disbursements of counsel, in each case whether direct or indirect (including those acquired by assumption), absolute or contingent, due or to become due, now existing or hereafter arising and including interest and fees that accrue after the commencement by or against any Loan Party or any Affiliate thereof of any proceeding under any Debtor Relief Laws naming -31-
such Person as the debtor in such proceeding, regardless of whether such interest and fees are allowed claims in such proceeding; provided that the “Secured Obligations” shall exclude any Excluded Swap Obligations.

“Secured Parties” means, collectively, the Administrative Agent, the Lenders, the L/C Issuer, the Hedge Banks, the Cash Management Banks, each co-agent or sub-agent appointed by the Administrative Agent from time to time pursuant to Section 9.05.

“Secured Party Designation Notice” shall mean a notice from any Lender or an Affiliate of a Lender substantially in the form of Exhibit J.

“SEC” means the Securities and Exchange Commission, or any Governmental Authority succeeding to any of its principal functions.

“Securities Laws” means the Securities Act of 1933, the Securities Exchange Act of 1934, Sarbanes-Oxley and the applicable accounting and auditing principles, rules, standards and practices promulgated, approved or incorporated by the SEC or the Public Company Accounting Oversight Board, as each of the foregoing may be amended and in effect on any applicable date hereunder.

“Shareholders’ Equity” means, as of any date of determination, consolidated shareholders’ equity of the Borrower and its Subsidiaries as of that date determined in accordance with GAAP.

“Significant Subsidiary” means, as of any date of determination, any Subsidiary having, as of the then-most recent fiscal quarter-end end date for which financial statements are available, total assets of not less than $15,000,000; provided, however, the aggregate total assets of all Subsidiaries not constituting a ‘Significant Subsidiary’ shall not exceed $150,000,000.

“Sirtex Acquisition” means the Acquisition by the Borrower of Sirtex Medical Limited, an Australian company listed on the Australian Securities Exchange, as described in the Borrower’s current reports on form 8-K filed on January 29, 2018 and January 30, 2018.

“SOFR” with respect to any day means the secured overnight financing rate published for such day by the Federal Reserve Bank of New York, as the administrator of the benchmark (or a successor administrator) on the Federal Reserve Bank of New York’s website (or any successor source) and, in each case, that has been selected or recommended by the Relevant Governmental Body.

“SOFR-Based Rate” means SOFR or Term SOFR.

“Solvent” means, with respect to any Person as of a particular date, that on such date (a) such Person is able to pay its debts and other liabilities, contingent obligations and other commitments as they mature in the normal course of business, (b) such Person does not intend to, and does not believe that it will, incur debts or liabilities beyond such Person’s ability to pay as such debts and liabilities mature in their ordinary course, (c) such Person is not engaged in a business or transaction, and is not about to engage in a business or a transaction, for which such Person’s assets would constitute unreasonably small capital after giving due consideration to the prevailing practice in the industry in which such Person is engaged or is to engage, (d) the fair value of the assets of such Person is greater than the total amount of liabilities, including contingent liabilities,
of such Person, and (e) the aggregate fair saleable value (i.e., the amount that may be realized within a reasonable time, considered
to be six months to one year, either through collection or sale at the regular market value, conceiving the latter as the amount that
could be obtained for the assets in question within such period by a capable and diligent businessman from an interested buyer who is
willing to purchase under ordinary selling conditions) of the assets of such Person will exceed its debts and other liabilities
(including contingent, subordinated, unmatured and unliquidated debts and liabilities). For purposes of this definition, “debt” means
any liability on a claim, and “claim” means (I) a right to payment, whether or not such a right is reduced to judgment, liquidated,
unliquidated, fixed, contingent, matured, unmatured, disputed, undisputed, legal, equitable, secured or unsecured, or (ii) a right to an
equitable remedy for breach of performance if such breach gives rise to a payment, whether or not such right is an equitable remedy,
is reduced judgment, liquidated, unliquidated, fixed, contingent, matured, unmatured, disputed, undisputed, secured or unsecured.

“Special Notice Currency” means at any time an Alternative Currency, other than the currency of a country that is a member
of the Organisation for Economic Co-operation and Development at such time located in North America or Europe.

“Specified Loan Party” means any Loan Party that is not an “eligible contract participant” under the Commodity Exchange
Act (determined prior to giving effect to Section 10.20 or Section 28 of the Guaranty).

“Spin-Off” means the spin-off of Varex Imaging Corporation from the Borrower.

“Spot Rate” for a currency means the rate determined by the Administrative Agent or the L/C Issuer, as applicable, to be the
rate quoted by the Person acting in such capacity as the spot rate for the purchase by such Person of such currency with another
currency through its principal foreign exchange trading office at approximately 11:00 a.m. on the date two Business Days prior to
the date as of which the foreign exchange computation is made; provided that the Administrative Agent or the L/C Issuer may obtain
such spot rate from another financial institution designated by the Administrative Agent or the L/C Issuer if the Person acting in such
capacity does not have as of the date of determination a spot buying rate for any such currency; and provided further that the L/C
Issuer may use such spot rate quoted on the date as of which the foreign exchange computation is made in the case of any Letter of
Credit denominated in an Alternative Currency.

“Sterling” and “£” mean the lawful currency of the United Kingdom.

“Subsidiary” of a Person means a corporation, partnership, joint venture, limited liability company or other business entity of
which a majority of the shares of securities or other interests having ordinary voting power for the election of directors or other
governing body (other than securities or interests having such power only by reason of the happening of a contingency) are at the
time beneficially owned, or the management of which is otherwise controlled, directly, or indirectly through one or more
intermediaries, or both, by such Person. Unless otherwise specified, all references herein to a “Subsidiary” or to “Subsidiaries” shall
refer to a Subsidiary or Subsidiaries of the Borrower.

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“Swap Contract” means (a) any and all rate swap transactions, basis swaps, credit derivative transactions, forward rate transactions, commodity swaps, commodity options, forward commodity contracts, equity or equity index swaps or options, bond or bond price or bond index swaps or options or forward bond or forward bond price or forward bond index transactions, interest rate options, forward foreign exchange transactions, cap transactions, floor transactions, collar transactions, currency swap transactions, cross-currency rate swap transactions, currency options, spot contracts, or any other similar transactions or any combination of any of the foregoing (including any options to enter into any of the foregoing), whether or not any such transaction is governed by or subject to any master agreement, and (b) any and all transactions of any kind, and the related confirmations, which are subject to the terms and conditions of, or governed by, any form of master agreement published by the International Swaps and Derivatives Association, Inc., any International Foreign Exchange Master Agreement, or any other master agreement (any such master agreement, together with any related schedules, a “Master Agreement”), including any such obligations or liabilities under any Master Agreement.

“Swap Obligations” means, with respect to any Guarantor, any obligation to pay or perform under any agreement, contract or transaction that constitutes a “swap” within the meaning of Section 1a(47) of the Commodity Exchange Act.

“Swap Termination Value” means, in respect of any one or more Swap Contracts, after taking into account the effect of any legally enforceable netting agreement relating to such Swap Contracts, (a) for any date on or after the date such Swap Contracts have been closed out and termination value(s) determined in accordance therewith, such termination value(s), and (b) for any date prior to the date referenced in clause (a), the amount(s) determined as the mark-to-market value(s) for such Swap Contracts, as determined based upon one or more mid-market or other readily available quotations provided by any recognized dealer in such Swap Contracts (which may include a Lender or any Affiliate of a Lender).

“Swing Line Borrowing” means a borrowing of a Swing Line Loan pursuant to Section 2.04.

“Swing Line Lender” means Bank of America in its capacity as provider of Swing Line Loans, or any successor swing line lender hereunder.

“Swing Line Loan” has the meaning specified in Section 2.04(a).

“Swing Line Loan Notice” means a notice of a Swing Line Borrowing pursuant to Section 2.04(b), which, if in writing, shall be substantially in the form of Exhibit B or such other form as approved by the Administrative Agent (including any form on an electronic platform or electronic transmission system as shall be approved by the Administrative Agent), appropriately completed and signed by a Responsible Officer of the Borrower.

“Swing Line Sublimit” means an amount equal to the lesser of (a) $25,000,000 and (b) the Aggregate Revolving Credit Commitments. The Swing Line Sublimit is part of, and not in addition to, the Aggregate Revolving Credit Commitments.
“Swiss Franc” means the lawful currency of Switzerland.

“Synthetic Lease Obligation” means the monetary obligation of a Person under (a) a so-called synthetic, off-balance sheet or tax retention lease, or (b) an agreement for the use or possession of property creating obligations that do not appear on the balance sheet of such Person but which, upon the insolvency or bankruptcy of such Person, would be characterized as the indebtedness of such Person (without regard to accounting treatment).

“Target” means the Person or division, line of business or other business unit of the Person to be acquired in an Acquisition.

“Target EBITDA” means with respect to any Target to be acquired, Consolidated EBITDA for such Target (determined as if references to the Borrower and the Subsidiaries in the definition of Consolidated EBITDA were references to such Target and its Subsidiaries on a consolidated basis) for the most recent four (4) fiscal quarter period preceding the acquisition thereof, as adjusted (without duplication) by verifiable expense reductions and other add-backs described in clause (a)(viii)(B) of the definition of Consolidated EBITDA, in each case such adjustments (if any) to be calculated on a quarter by quarter basis by the Loan Parties and as reasonably acceptable to Administrative Agent.

“Taxes” means all present or future taxes, levies, impost, duties, deductions, withholdings (including backup withholding), assessments, fees or other charges imposed by any Governmental Authority, including any interest, additions to tax or penalties applicable thereto.

“Term SOFR” means the forward-looking term rate for any period that is approximately (as determined by the Administrative Agent) as long as any of the Interest Period options set forth in the definition of “Interest Period” and that is based on SOFR and that has been selected or recommended by the Relevant Governmental Body, in each case as published on an information service as selected by the Administrative Agent from time to time in its reasonable discretion.

“Threshold Amount” means $25,000,000.

“Total Consideration” means, in respect of any Acquisition undertaken by the Borrower or its Subsidiaries, total consideration paid or agreed to be paid by the Borrower or its Subsidiaries in connection therewith, including consideration consisting of (i) cash and cash equivalents, (ii) Equity Interests of the Borrower, (iii) licenses granted or received in connection therewith in respect of IP Rights (excluding, however, any licenses of acquired IP Rights that are transferred back to the seller in such Acquisition), (iv) the assumption of Indebtedness or other obligations or liabilities of the Acquired Entity existing prior to such Acquisition, and (v) Earn Out Obligations.

“Total Credit Exposure” means, as to any Lender at any time, the Total Revolving Credit Exposure of such Lender at such time.

“Total Liquidity” means, as of any date of determination for the Borrower and its Subsidiaries on a consolidated basis, the sum, without duplication, of (i) cash, (ii) cash-equivalents, and (iii) marketable securities.
“Total Outstandings” means the aggregate Outstanding Amount of all Loans and all L/C Obligations.

“Total Revolving Credit Exposure” means, as to any Revolving Credit Lender at any time, the unused Revolving Credit Commitments and Revolving Credit Exposure of such Revolving Credit Lender at such time.

“Total Revolving Credit Outstandings” means the aggregate Outstanding Amount of all Revolving Credit Loans, Swing Line Loans and L/C Obligations.

“Type” means, with respect to a Loan, its character as a Base Rate Loan or a Eurodollar Rate Loan.

“UCC” means the Uniform Commercial Code as in effect in the State of New York.

“UCP” means, with respect to any Letter of Credit, the Uniform Customs and Practice for Documentary Credits, International Chamber of Commerce (“ICC”) Publication No. 600 (or such later version thereof as may be in effect at the time of issuance).

“United States” and “U.S.” mean the United States of America.

“Unreimbursed Amount” has the meaning specified in Section 2.03(c)(i).

“U.S. Person” means any Person that is a “United States Person” as defined in Section 7701(a)(30) of the Code.

“U.S. Tax Compliance Certificate” has the meaning specified in Section 3.01(e)(ii)(B)(III).

“Voting Equity Interests” means, with respect to any Person, the Equity Interests entitled to vote for members of the board of directors or equivalent governing body of such Person.

“Write-Down and Conversion Powers” means, with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule.

“Yen” and “¥” mean the lawful currency of Japan.

1.02 Other Interpretive Provisions. With reference to this Agreement and each other Loan Document, unless otherwise specified herein or in such other Loan Document:

(a) The definitions of terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. The words “include,” “includes” and “including” shall be deemed to be followed by the phrase “without limitation.” The word “will” shall be construed to have the same meaning and effect as the word “shall.” Unless the context requires otherwise, (i) any definition of or reference to any
agreement, instrument or other document (including any Loan Document and any Organization Document) shall be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or in any other Loan Document), (ii) any reference herein to any Person shall be construed to include such Person’s successors and permitted assigns, (iii) the words “hereto,” “herein,” “hereof” and “hereunder,” and words of similar import when used in any Loan Document, shall be construed to refer to such Loan Document in its entirety and not to any particular provision thereof, (iv) all references in a Loan Document to Articles, Sections, Preliminary Statements, Exhibits and Schedules shall be construed to refer to Articles and Sections of, and Preliminary Statements, Exhibits and Schedules to, the Loan Document in which such references appear, (v) any reference to any law shall include all statutory and regulatory provisions consolidating, amending, replacing or interpreting such law and any reference to any law or regulation shall, unless otherwise specified, refer to such law or regulation as amended, modified or supplemented from time to time, and (vi) the words “asset” and “property” shall be construed to have the same meaning and effect and to refer to any and all tangible and intangible assets and properties, including cash, securities, accounts and contract rights.

(b) In the computation of periods of time from a specified date to a later specified date, the word “from” means “from and including;” the words “to” and “until” each mean “to but excluding;” and the word “through” means “to and including.”

(c) Section headings herein and in the other Loan Documents are included for convenience of reference only and shall not affect the interpretation of this Agreement or any other Loan Document.

(d) Any reference herein to a merger, amalgamation, consolidation, assignment, sale, disposition or transfer, or similar term, shall be deemed to apply to a division of or by a limited liability company, or an allocation of assets to a series of a limited liability company (or the unwinding of such a division or allocation), as if it were a merger, amalgamation, consolidation, assignment, sale, disposition or transfer, or similar term, as applicable, to, of or with a separate Person. Any division of a limited liability company shall constitute a separate Person hereunder (and each division of any
limited liability company that is a Subsidiary, joint venture or any other like term shall also constitute such a Person or entity.

1.03 Accounting Terms.

(a) Generally. All accounting terms not specifically or completely defined herein shall be construed in conformity with, and all financial data (including financial ratios and other financial calculations) required to be submitted pursuant to this Agreement shall be prepared in conformity with, GAAP applied on a consistent basis, as in effect from time to time, applied in a manner consistent with that used in preparing the Audited Financial Statements, except as otherwise specifically prescribed herein. Notwithstanding the foregoing, for purposes of determining compliance with any covenant (including the computation of any financial covenant) contained herein, Indebtedness of the Borrower and its Subsidiaries shall be deemed to be carried at 100% of the outstanding principal amount thereof, and the effects of FASB ASC 825 and FASB ASC 470-20 on financial liabilities shall be disregarded.

(b) Changes in GAAP. If at any time any change in GAAP (including the adoption of IFRS) would affect the computation of any financial ratio or requirement set forth in any Loan Document, and either the Borrower or the Required Lenders shall so request, the Administrative Agent, the Lenders and the Borrower shall negotiate in good faith to amend such ratio or requirement to preserve the original intent thereof in light of such change in GAAP (subject to the approval of the Required Lenders); provided that, until so amended, (A) such ratio or requirement shall continue to be computed in accordance with GAAP prior to such change thereof and (B) the Borrower shall provide to the Administrative Agent and the Lenders financial statements and other documents required under this Agreement or as reasonably requested hereunder setting forth a reconciliation between calculations of such ratio or requirement made before and after giving effect to such change in GAAP. Without limiting the foregoing, leases shall continue to be classified and accounted for on a basis consistent with that reflected in the Audited Financial Statements for all purposes of this Agreement, notwithstanding any change in GAAP relating thereto, unless the parties hereto shall enter into a mutually acceptable amendment addressing such changes, as provided for above.

(c) Consolidation of Variable Interest Entities. All references herein to consolidated financial statements of the Borrower and its Subsidiaries or to the determination of any amount
1.04 **Rounding.** Any financial ratios required to be maintained by the Borrower pursuant to this Agreement shall be calculated by dividing the appropriate component by the other component, carrying the result to one place more than the number of places by which such ratio is expressed herein and rounding the result up or down to the nearest number (with a rounding-up if there is no nearest number).

1.01 **Exchange Rates; Currency Equivalents.**

(a) The Administrative Agent or the L/C Issuer, as applicable, shall determine the Spot Rates as of each Revaluation Date to be used for calculating Dollar Equivalent amounts of Credit Extensions and Outstanding Amounts denominated in Alternative Currencies. Such Spot Rates shall become effective as of such Revaluation Date and shall be the Spot Rates employed in converting any amounts between the applicable currencies until the next Revaluation Date to occur. Except for purposes of financial statements delivered by Loan Parties hereunder or calculating financial covenants hereunder or except as otherwise provided herein, the applicable amount of any currency (other than Dollars) for purposes of the Loan Documents shall be such Dollar Equivalent amount as so determined by the Administrative Agent or the L/C Issuer, as applicable.

(b) Wherever in this Agreement in connection with a Revolving Credit Borrowing, conversion, continuation or prepayment of a Eurodollar Rate Loan or the issuance, amendment or extension of a Letter of Credit, an amount, such as a required minimum or multiple amount, is expressed in Dollars, but such Revolving Credit Borrowing, Eurodollar Rate Loan or Letter of Credit is denominated in an Alternative Currency, such amount shall be the relevant Alternative Currency Equivalent of such Dollar amount (rounded to the nearest unit of such Alternative Currency, with 0.5 of a unit being rounded upward), as determined by the Administrative Agent or the L/C Issuer, as the case may be.

(c) The Administrative Agent does not warrant, nor accept responsibility, nor shall the Administrative Agent have any liability with respect to the administration, submission or any other matter related to the rates in the definition of “Eurodollar Rate” or with respect to any rate that is an alternative or replacement for or
successor to any of such rates (including, without limitation, any LIBOR Successor Rate) or the effect of any of the foregoing, or of any LIBOR Successor Rate Conforming Changes.

1.02 Additional Alternative Currencies

(a) The Borrower may from time to time request that Eurodollar Rate Loans be made and/or Letters of Credit be issued in a currency other than those specifically listed in the definition of “Alternative Currency;” provided that such requested currency is a lawful currency (other than Dollars) that is readily available and freely transferable and convertible into Dollars. In the case of any such request with respect to the making of Eurodollar Rate Loans, such request shall be subject to the approval of the Administrative Agent and the Lenders; and in the case of any such request with respect to the issuance of Letters of Credit, such request shall be subject to the approval of the Administrative Agent and the L/C Issuer.

(b) Any such request shall be made to the Administrative Agent not later than 11:00 a.m., 20 Business Days prior to the date of the desired Credit Extension (or such other time or date as may be agreed by the Administrative Agent and, in the case of any such request pertaining to Letters of Credit, the L/C Issuer, in its or their sole discretion). In the case of any such request pertaining to Eurodollar Rate Loans, the Administrative Agent shall promptly notify each Lender thereof; and in the case of any such request pertaining to Letters of Credit, the Administrative Agent shall promptly notify the L/C Issuer thereof. Each Lender (in the case of any such request pertaining to Eurodollar Rate Loans) or the L/C Issuer (in the case of a request pertaining to Letters of Credit) shall notify the Administrative Agent, not later than 11:00 a.m., ten Business Days after receipt of such request whether it consents, in its sole discretion, to the making of Eurodollar Rate Loans or the issuance of Letters of Credit, as the case may be, in such requested currency.

(c) Any failure by a Lender or the L/C Issuer, as the case may be, to respond to such request within the time period specified in the preceding sentence shall be deemed to be a refusal by such Lender or the L/C Issuer, as the case may be, to permit Eurodollar Rate Loans to be made or Letters of Credit to be issued in such requested currency. If the Administrative Agent and all the Lenders consent to making Eurodollar Rate Loans in such requested currency, the Administrative Agent shall so notify the Borrower and such currency shall thereupon be deemed for all purposes to be an
Alternative Currency hereunder for purposes of any Revolving Credit Borrowings of Eurodollar Rate Loans; and if the Administrative Agent and the L/C Issuer consent to the issuance of Letters of Credit in such requested currency, the Administrative Agent shall so notify the Borrower and such currency shall thereupon be deemed for all purposes to be an Alternative Currency hereunder for purposes of any Letter of Credit issuances. If the Administrative Agent shall fail to obtain consent to any request for an additional currency under this Section 1.06, the Administrative Agent shall promptly so notify the Borrower.

1.03 Change of Currency.

(a) Each obligation of the Borrower to make a payment denominated in the national currency unit of any member state of the European Union that adopts the Euro as its lawful currency after the date hereof shall be redesignated into Euro at the time of such adoption. If, in relation to the currency of any such member state, the basis of accrual of interest expressed in this Agreement in respect of that currency shall be inconsistent with any convention or practice in the London interbank market for the basis of accrual of interest in respect of the Euro, such expressed basis shall be replaced by such convention or practice with effect from the date on which such member state adopts the Euro as its lawful currency; provided that if any Revolving Credit Borrowing in the currency of such member state is outstanding immediately prior to such date, such replacement shall take effect, with respect to such Revolving Credit Borrowing, at the end of the then current Interest Period.

(b) Each provision of this Agreement shall be subject to such reasonable changes of construction as the Administrative Agent may from time to time specify to be appropriate to reflect the adoption of the Euro by any member state of the European Union and any relevant market conventions or practices relating to the Euro.

(c) Each provision of this Agreement also shall be subject to such reasonable changes of construction as the Administrative Agent may from time to time specify to be appropriate to reflect a change in currency of any other country and any relevant market conventions or practices relating to the change in currency.

1.04 1.05 Times of Day. Unless otherwise specified, all references herein to times of day shall be references to Pacific time (daylight or standard, as applicable).

1.05 1.06 Letter of Credit Amounts. Unless otherwise specified herein, the amount of a Letter of Credit at any time shall be deemed to be the Dollar.
Equivalent of the stated amount of such Letter of Credit in effect at such time; provided, however, that with respect to any Letter of Credit that, by its terms or the terms of any Issuer Document related thereto, provides for one or more automatic increases in the stated amount thereof, the amount of such Letter of Credit shall be deemed to be the Dollar Equivalent of the maximum stated amount of such Letter of Credit after giving effect to all such increases, whether or not such maximum stated amount is in effect at such time.

ARTICLE II. THE COMMITMENTS AND CREDIT EXTENSIONS

2.01 Loans. Revolving Credit Borrowings. Subject to the terms and conditions set forth herein, each Revolving Credit Lender severally agrees to make loans (each such loan, a “Revolving Credit Loan”) to the Borrower from time to time in Dollars or in one or more Alternative Currencies, on any Business Day during the Availability Period, in an aggregate amount not to exceed at any time outstanding the amount of such Lender’s Revolving Credit Commitment; provided, however, that after giving effect to any Revolving Credit Borrowing, (i) the Total Revolving Credit Outstandings shall not exceed the Aggregate Revolving Credit Commitments, and (ii) the Revolving Credit Exposure of any Revolving Credit Lender shall not exceed such Lender’s Revolving Credit Commitment and (iii) the aggregate Outstanding Amount of all Revolving Credit Loans denominated in Alternative Currencies shall not exceed the Alternative Currency Sublimit. Within the limits of each Revolving Credit Lender’s Revolving Credit Commitment, and subject to the other terms and conditions hereof, the Borrower may borrow under this Section 2.01, prepay under Section 2.05, and reborrow under this Section 2.01. Revolving Credit Loans may be Base Rate Loans or Eurodollar Rate Loans, as further provided herein; provided, however, that any Revolving Credit Borrowings made on the Closing Date or any of the three (3) Business Days following the Closing Date shall be made as Base Rate Loans unless the Borrower delivers a Funding Indemnity Letter not less than three Business Days prior to the date of such Revolving Credit Borrowing.

2.02 Borrowings, Conversions and Continuations of Loans.

(a) Each Revolving Credit Borrowing, each conversion of Revolving Credit Loans from one Type to the other, and each continuation of Eurodollar Rate Loans shall be made upon the Borrower’s irrevocable notice to the Administrative Agent, which may be given by (A) telephone, or (B) a Loan Notice; provided that any telephone notice must be confirmed immediately by delivery to the Administrative Agent of a Loan Notice. Each such notice must be received by the Administrative Agent not later than 10:00 a.m. (i) three Business Days prior to the requested date of any Borrowing of, conversion to or continuation of Eurodollar Rate Loans denominated in Dollars or of any conversion of Eurodollar Rate Loans to Base
Rate Loans, and (ii) denominated in Dollars to Base Rate Loans, (ii) four Business Days (or five Business Days in the case of a Special Notice Currency) prior to the requested date of any Borrowing or continuation of Eurodollar Rate Loans denominated in Alternative Currencies, and (iii) on the requested date of any Borrowing of Base Rate Loans; provided, however, that if the Borrower wishes to request Eurodollar Rate Loans having an Interest Period other than one, two, three or six months in duration as provided in the definition of “Interest Period,” the applicable notice must be received by the Administrative Agent not later than 10:00 a.m. (i) four Business Days prior to the requested date of such Borrowing, conversion or continuation of Eurodollar Rate Loans denominated in Dollars, or (ii) five Business Days (or six Business Days in the case of a Special Notice Currency) prior to the requested date of such Borrowing, conversion or continuation of Eurodollar Rate Loans denominated in Alternative Currencies, whereupon the Administrative Agent shall give prompt notice to the Lenders of such request and determine whether the requested Interest Period is acceptable to all of them. Not later than 11:00 a.m., (i) three Business Days before the requested date of such Borrowing, conversion or continuation of Eurodollar Rate Loans denominated in Dollars, or (ii) four Business Days (or five Business Days in the case of a Special Notice Currency) prior to the requested date of such Borrowing, conversion or continuation of Eurodollar Rate Loans denominated in Alternative Currencies, the Administrative Agent shall notify the Borrower (which notice may be by telephone) whether or not the requested Interest Period has been consented to by all the Lenders. Each telephonic notice by the Borrower pursuant to this Section 2.02(a) must be confirmed promptly by delivery to the Administrative Agent of a written Loan Notice, appropriately completed and signed by a Responsible Officer of the Borrower. Each Borrowing of, conversion to or continuation of Eurodollar Rate Loans shall be in a principal amount of $2,000,000 or a whole multiple of $1,000,000 in excess thereof. Except as provided in Sections 2.03(c) and 2.04(c), each Borrowing of or conversion to Base Rate Loans shall be in a principal amount of $500,000 or a whole multiple of $100,000 in excess thereof. Each Loan Notice (whether telephonic or written) shall specify (i) whether the Borrower is requesting a Revolving Credit Borrowing, a conversion of Revolving Credit Loans from one Type to the other, or a continuation of Eurodollar Rate Loans, (ii) the requested date of the Borrowing, conversion or continuation, as the case may be (which shall be a Business Day), (iii) the principal amount of Loans to be borrowed, converted or continued, (iv) the Type of Loans to be borrowed or to which existing Revolving Credit Loans are to be converted, and (v) if applicable, the duration of the Interest Period.
with respect thereto and (vi) the currency of the Revolving Credit Loans to be borrowed. If the Borrower fails to specify a currency in a Loan Notice requesting a Borrowing, then the Revolving Credit Loans so requested shall be made in Dollars. If the Borrower fails to specify a Type of Loan in a Loan Notice or if the Borrower fails to give a timely notice requesting a conversion or continuation, then the applicable Revolving Credit Loans shall be made as, or converted to, Base Rate Loans; provided, however, that in the case of a failure to timely request a continuation of Revolving Credit Loans denominated in an Alternative Currency, such Loans shall be continued as Eurodollar Rate Loans in their original currency with an Interest Period of one month. Any such automatic conversion to Base Rate Loans shall be effective as of the last day of the Interest Period then in effect with respect to the applicable Eurodollar Rate Loans. If the Borrower requests a Borrowing of, conversion to, or continuation of Eurodollar Rate Loans in any such Loan Notice, but fails to specify an Interest Period, it will be deemed to have specified an Interest Period of one month. No Revolving Credit Loan may be converted into or continued as a Revolving Credit Loan denominated in a different currency, but instead must be prepaid in the original currency of such Revolving Credit Loan and reborrowed in the other currency.

(b) Following receipt of a Loan Notice for a Facility, the Administrative Agent shall promptly notify each Appropriate Lender of the amount (and currency) of its Applicable Percentage under such Facility of the applicable Loans, and if no timely notice of a conversion or continuation is provided by the Borrower, the Administrative Agent shall notify each Appropriate Lender of the details of any automatic conversion to Base Rate Loans or continuation of Loans denominated in a currency other than Dollars, in each case as described in the preceding subsection. In the case of a Revolving Credit Borrowing, each Appropriate Lender shall make the amount of its Loan available to the Administrative Agent in immediately available funds Same Day Funds at the Administrative Agent’s Office in the applicable currency not later than 1:00 p.m., in the case of any Loan denominated in Dollars, and not later than the Applicable Time specified by the Administrative Agent in the case of any Loan in an Alternative Currency, in each case on the Business Day specified in the applicable Loan Notice. Upon satisfaction of the applicable conditions set forth in Section 4.02 (and, if such Borrowing is the initial Credit Extension, Section 4.01), the Administrative Agent shall make all funds so received available to the Borrower in like funds as received by the Administrative Agent either by (i) crediting the account of the Borrower on the books of
Bank of America with the amount of such funds or (ii) wire transfer of such funds, in each case in accordance with instructions provided to (and reasonably acceptable to) the Administrative Agent by the Borrower; provided, however, that if, on the date a Loan Notice with respect to a Revolving Credit Borrowing denominated in Dollars is given by the Borrower, there are L/C Borrowings outstanding, then the proceeds of such Revolving Credit Borrowing, first, shall be applied to the payment in full of any such L/C Borrowings, and second, shall be made available to the Borrower as provided above.

(c) Except as otherwise provided herein, a Eurodollar Rate Loan may be continued or converted only on the last day of an Interest Period for such Eurodollar Rate Loan. During the existence of a Default, no Loans may be requested as, converted to or continued as Eurodollar Rate Loans (whether in Dollars or any Alternative Currency) without the consent of the Required Lenders, and the Required Lenders may demand that any or all of the then outstanding Eurodollar Rate Loans be converted immediately to Base Rate Loans denominated in an Alternative Currency be prepaid, or redenominated into Dollars in the amount of the Dollar Equivalent thereof, on the last day of the then current Interest Period with respect thereto.

(d) The Administrative Agent shall promptly notify the Borrower and the Lenders of the interest rate applicable to any Interest Period for Eurodollar Rate Loans upon determination of such interest rate. At any time that Base Rate Loans are outstanding, the Administrative Agent shall notify the Borrower and the Lenders of any change in Bank of America’s prime rate used in determining the Base Rate promptly following the public announcement of such change.

(e) After giving effect to all Revolving Credit Borrowings, all conversions of Revolving Credit Loans from one Type to the other, and all continuations of Revolving Credit Loans as the same Type, there shall not be more than ten Interest Periods in effect in respect of the Revolving Credit Facility.

(f) Notwithstanding anything to the contrary in this Agreement, any Lender may exchange, continue or rollover all of the portion of its Loans in connection with any refinancing, extension, loan modification or similar transaction permitted by the terms of this Agreement, pursuant to a cashless settlement mechanism approved by the Borrower, the Administrative Agent, and such Lender.

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2.03 Letters of Credit.

(a) The Letter of Credit Commitment.

(i) Subject to the terms and conditions set forth herein, (A) the L/C Issuer agrees, in reliance upon the agreements of the Revolving Credit Lenders set forth in this Section 2.03, (1) from time to time on any Business Day during the period from the Closing Date until the Letter of Credit Expiration Date, to issue Letters of Credit denominated in Dollars or in one or more Alternative Currencies for the account of the Borrower or its Subsidiaries, and to amend or extend Letters of Credit previously issued by it, in accordance with subsection (b) below, and (2) to honor drawings under the Letters of Credit; and (B) the Revolving Credit Lenders severally agree to participate in Letters of Credit issued for the account of the Borrower or its Subsidiaries and any drawings thereunder; provided that after giving effect to any L/C Credit Extension with respect to any Letter of Credit, (w) the Total Revolving Credit Outstandings shall not exceed the Aggregate Revolving Credit Commitments, (x) the Revolving Credit Exposure of any Revolving Credit Lender shall not exceed such Lender’s Revolving Credit Commitment, (y) the Outstanding Amount of the L/C Obligations issued by an L/C Issuer shall not exceed such L/C Issuer’s Letter of Credit Sublimit and (z) the Outstanding Amount of the L/C Obligations shall not exceed the Letter of Credit Sublimit. Each request by the Borrower for the issuance or amendment of a Letter of Credit shall be deemed to be a representation by the Borrower that the L/C Credit Extension so requested complies with the conditions set forth in the proviso to the preceding sentence. Within the foregoing limits, and subject to the terms and conditions hereof, the Borrower’s ability to obtain Letters of Credit shall be fully revolving, and accordingly the Borrower may, during the foregoing period, obtain Letters of Credit to replace Letters of Credit that have expired or that have been drawn upon and reimbursed. The Existing Letters of Credit shall be deemed to have been issued pursuant to this Agreement, and from and after the Closing Date shall be subject to and governed by the terms and conditions hereof.

(ii) The L/C Issuer shall not issue any Letter of Credit, if: [reserved];

(A)—Subject to Section 2.03(b)(iii), the expiry date of the requested Letter of Credit would occur more than twelve months after the date of issuance or last extension, unless the Required Lenders have approved such expiry date; or

(B)—the expiry date of the requested Letter of Credit would occur after the Letter of Credit Expiration Date, unless all the Revolving Credit Lenders have approved such expiry date.

(iii) The L/C Issuer shall not be under any obligation to issue any Letter of Credit if:

(A) any order, judgment or decree of any Governmental Authority or arbitrator shall by its terms purport to enjoin or restrain the L/C Issuer

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from issuing the Letter of Credit, or any Law applicable to the L/C Issuer or any request or directive (whether or not having the force of law) from any Governmental Authority with jurisdiction over the L/C Issuer shall prohibit, or request that the L/C Issuer refrain from, the issuance of letters of credit generally or the Letter of Credit in particular or shall impose upon the L/C Issuer with respect to the Letter of Credit any restriction, reserve or capital requirement (for which the L/C Issuer is not otherwise compensated hereunder) not in effect on the Closing Date, or shall impose upon the L/C Issuer any unreimbursed loss, cost or expense which was not applicable on the Closing Date and which the L/C Issuer in good faith deems material to it;

(B) the issuance of the such Letter of Credit would violate one or more policies of the L/C Issuer applicable to letters of credit generally;

(C) except as otherwise agreed by the Administrative Agent and the L/C Issuer, the Letter of Credit is in an initial stated amount less than $100,000;

(D) except as otherwise agreed by the Administrative Agent and the L/C Issuer, the Letter of Credit is to be denominated in a currency other than Dollars or an Alternative Currency;

(E) any Revolving Credit Lender is at that time a Defaulting Lender, unless the L/C Issuer has entered into arrangements, including the delivery of Cash Collateral, satisfactory to the L/C Issuer (in its sole discretion) with the Borrower or such Defaulting Lender to eliminate the L/C Issuer’s actual or potential Fronting Exposure (after giving effect to Section 2.16(a)(iv)) with respect to the Defaulting Lender arising from either the Letter of Credit then proposed to be issued or that Letter of Credit and all other L/C Obligations as to which the L/C Issuer has actual or potential Fronting Exposure, as it may elect in its sole discretion;

(F) the Letter of Credit contains any provisions for automatic reinstatement of the stated amount after any drawing thereunder; or

(G) after giving effect to the issuance of the Letter of Credit, the Outstanding Amount of the L/C Obligations issued by the applicable L/C Issuer exceeds such L/C Issuer’s Letter of Credit Sublimit; or

(H) subject to Section 2.03(b)(iii), the expiry date of the requested Letter of Credit would occur more than twelve months after the date of issuance or last extension, unless the Required Lenders have approved such expiry date; or
(i) The expiry date of the requested Letter of Credit would occur after the Letter of Credit Expiration Date, unless all the Revolving Credit Lenders have approved such expiry date.

(iv) The L/C Issuer shall not amend any Letter of Credit if the L/C Issuer would not be permitted at such time to issue the Letter of Credit in its amended form under the terms hereof.

(v) The L/C Issuer shall be under no obligation to amend any Letter of Credit if (A) the L/C Issuer would have no obligation at such time to issue the Letter of Credit in its amended form under the terms hereof, or (B) the beneficiary of the Letter of Credit does not accept the proposed amendment to the Letter of Credit.

(vi) The L/C Issuer shall act on behalf of the Revolving Credit Lenders with respect to any Letters of Credit issued by it and the documents associated therewith, and the L/C Issuer shall have all of the benefits and immunities (A) provided to the Administrative Agent in Article IX with respect to any acts taken or omissions suffered by the L/C Issuer in connection with Letters of Credit issued by it or proposed to be issued by it and Issuer Documents pertaining to such Letters of Credit as fully as if the term “Administrative Agent” as used in Article IX included the L/C Issuer with respect to such acts or omissions, and (B) as additionally provided herein with respect to the L/C Issuer.

(b) Procedures for Issuance and Amendment of Letters of Credit; Auto-Extension Letters of Credit.

(i) Each Letter of Credit shall be issued or amended, as the case may be, upon the request of the Borrower delivered to the L/C Issuer (with a copy to the Administrative Agent) in the form of a Letter of Credit Application, appropriately completed and signed by a Responsible Officer of the Borrower. Such Letter of Credit Application may be sent by facsimile, by United States mail, by overnight courier, by electronic transmission using the system provided by the L/C Issuer, by personal delivery or by any other means acceptable to the L/C Issuer. Such Letter of Credit Application must be received by the L/C Issuer and the Administrative Agent not later than 11:00 a.m. at least two Business Days (or such later date and time as the Administrative Agent and the L/C Issuer may agree in a particular instance in their sole discretion) prior to the proposed issuance date or date of amendment, as the case may be. In the case of a request for an initial issuance of a Letter of Credit, such Letter of Credit Application shall specify in form and detail satisfactory to the L/C Issuer: (A) the proposed issuance date of the requested Letter of Credit (which shall be a Business Day); (B) the amount and currency thereof; (C) the expiry date thereof; (D) the name and address of the beneficiary thereof; (E) the documents to be presented by such beneficiary in case of any drawing thereunder; (F) the full text of any certificate to be presented by such beneficiary in case of any drawing thereunder; (G) the purpose and nature of the requested Letter of Credit; and (H) such other matters as the L/C Issuer may require. In the case of a request for an
amendment of any outstanding Letter of Credit, such Letter of Credit Application shall specify in form and detail satisfactory to the L/C Issuer (A) the Letter of Credit to be amended; (B) the proposed date of amendment thereof (which shall be a Business Day); (C) the nature of the proposed amendment; and (D) such other matters as the L/C Issuer may require. Additionally, the Borrower shall furnish to the L/C Issuer and the Administrative Agent such other documents and information pertaining to such requested Letter of Credit issuance or amendment, including any Issuer Documents, as the L/C Issuer or the Administrative Agent may require.

(ii) Promptly after receipt of any Letter of Credit Application, the L/C Issuer will confirm with the Administrative Agent (by telephone or in writing) that the Administrative Agent has received a copy of such Letter of Credit Application from the Borrower and, if not, the L/C Issuer will provide the Administrative Agent with a copy thereof. Unless the L/C Issuer has received written notice from any Revolving Credit Lender, the Administrative Agent or any Loan Party, at least one Business Day prior to the requested date of issuance or amendment of the applicable Letter of Credit, that one or more applicable conditions contained in Article IV shall not then be satisfied, then, subject to the terms and conditions hereof, the L/C Issuer shall, on the requested date, issue a Letter of Credit for the account of the Borrower (or the applicable Subsidiary) or enter into the applicable amendment, as the case may be, in each case in accordance with the L/C Issuer’s usual and customary business practices. Immediately upon the issuance of each Letter of Credit, each Revolving Credit Lender shall be deemed to, and hereby irrevocably and unconditionally agrees to, purchase from the L/C Issuer a risk participation in such Letter of Credit in an amount equal to the product of such Revolving Credit Lender’s Applicable Revolving Credit Percentage times the amount of such Letter of Credit.

(iii) If the Borrower so requests in any applicable Letter of Credit Application, the L/C Issuer may, in its sole discretion, agree to issue a Letter of Credit that has automatic extension provisions (each, an “Auto-Extension Letter of Credit”); provided that any such Auto-Extension Letter of Credit must permit the L/C Issuer to prevent any such extension at least once in each twelve-month period (commencing with the date of issuance of such Letter of Credit) by giving prior notice to the beneficiary thereof not later than a day (the “Non-Extension Notice Date”) in each such twelve-month period to be agreed upon at the time such Letter of Credit is issued. Unless otherwise directed by the L/C Issuer, the Borrower shall not be required to make a specific request to the L/C Issuer for any such extension. Once an Auto-Extension Letter of Credit has been issued, the Revolving Credit Lenders shall be deemed to have authorized (but may not require) the L/C Issuer to permit the extension of such Letter of Credit at any time to an expiry date not later than the Letter of Credit Expiration Date; provided, however, that the L/C Issuer shall not permit any such extension if (A) the L/C Issuer has determined that it would not be permitted, or would have no obligation, at such time to issue such Letter of Credit in its revised form (as extended) under the terms hereof (by reason of the provisions of clause (ii) or (iii) of Section 2.03(a) or otherwise), or (B) it has received...
notice (which may be by telephone or in writing) on or before the day that is seven Business Days before the Non-Extension Notice Date (1) from the Administrative Agent that the Required Lenders have elected not to permit such extension or (2) from the Administrative Agent, any Revolving Credit Lender or the Borrower that one or more of the applicable conditions specified in Section 4.02 is not then satisfied, and in each such case directing the L/C Issuer not to permit such extension.

(iv) Promptly after its delivery of any Letter of Credit or any amendment to a Letter of Credit to an advising bank with respect thereto or to the beneficiary thereof, the L/C Issuer will also deliver to the Borrower and the Administrative Agent a true and complete copy of such Letter of Credit or amendment.

(c) Drawings and Reimbursements; Funding of Participations.

(i) Upon receipt from the beneficiary of any Letter of Credit of any notice of a drawing under such Letter of Credit, the L/C Issuer shall notify the Borrower and the Administrative Agent thereof. In the case of a Letter of Credit denominated in an Alternative Currency, the Borrower shall reimburse the L/C Issuer in such Alternative Currency, unless (A) the L/C Issuer (at its option) shall have specified in such notice that it will require reimbursement in Dollars, or (B) in the absence of any such requirement for reimbursement in Dollars, the Borrower shall have notified the L/C Issuer promptly following receipt of the notice of drawing that the Borrower will reimburse the L/C Issuer in Dollars. In the case of any such reimbursement in Dollars of a drawing under a Letter of Credit denominated in an Alternative Currency, the L/C Issuer shall notify the Borrower of the Dollar Equivalent of the amount of the drawing promptly following the determination thereof. Not later than 11:00 a.m. on the date of any payment by the L/C Issuer under a Letter of Credit to be reimbursed in Dollars, or the Applicable Time on the date of any payment by the L/C Issuer under a Letter of Credit to be reimbursed in an Alternative Currency (each such date, an “Honor Date”), the Borrower shall reimburse the L/C Issuer through the Administrative Agent in an amount equal to the amount of such drawing and in the applicable currency; provided, that, the Borrower has received notice of such payment by 10:00 a.m. on such Honor Date, otherwise the Borrower shall make such payment not later than 11:00 a.m. on the following Business Day (together with interest thereon). In the event that (A) a drawing denominated in an Alternative Currency is to be reimbursed in Dollars pursuant to the second sentence in this Section 2.03(c)(i) and (B) the Dollar amount paid by the Borrower, whether on or after the Honor Date, shall not be adequate on the date of that payment to purchase in accordance with normal banking procedures a sum denominated in the Alternative Currency equal to the drawing, the Borrower agrees, as a separate and independent obligation, to indemnify the L/C Issuer for the loss resulting from its inability on that date to purchase the Alternative Currency in the full amount of the drawing. If the Borrower fails to so reimburse the L/C Issuer by such time, the Administrative Agent shall promptly notify each Revolving Credit Lender of the Honor Date, the
amount of the unreimbursed drawing (expressed in Dollars in the amount of the Dollar Equivalent thereof in the case of a Letter of Credit denominated in an Alternative Currency) (the “Unreimbursed Amount”), and the amount of such Lender’s Applicable Percentage thereof. In such event, the Borrower shall be deemed to have requested a Revolving Credit Borrowing of Base Rate Loans to be disbursed on the Honor Date in an amount equal to the Unreimbursed Amount, without regard to the minimum and multiples specified in Section 2.02 for the principal amount of Base Rate Loans, but subject to the amount of the unutilized portion of the Revolving Credit Commitments and the conditions set forth in Section 4.02 (other than the delivery of a Loan Notice) (it being understood and agreed that no Default or Event of Default caused solely by the Borrower’s failure to reimburse the L/C Issuer for any Unreimbursed Amount in accordance with the first sentence of this Section 2.03(c)(i) shall exist to the extent such Unreimbursed Amount is refinanced by a borrowing of Revolving Credit Loans in the amount of such Unreimbursed Amount pursuant to this Section 2.03(c)(i)). Any notice given by the L/C Issuer or the Administrative Agent pursuant to this Section 2.03(c)(i) may be given by telephone if immediately confirmed in writing; provided that the lack of such an immediate confirmation shall not affect the conclusiveness or binding effect of such notice.

(ii) Each Revolving Credit Lender shall upon any notice pursuant to Section 2.03(c)(i) make funds available (and the Administrative Agent may apply Cash Collateral provided for this purpose) to the Administrative Agent for the account of the L/C Issuer, in Dollars, at the Administrative Agent’s Office for Dollar-denominated payments in an amount equal to its Applicable Revolving Credit Percentage of the Unreimbursed Amount not later than 1:00 p.m. on the Business Day specified in such notice by the Administrative Agent, whereupon, subject to the provisions of Section 2.03(c)(iii), each Revolving Credit Lender that so makes funds available shall be deemed to have made a Base Rate Loan to the Borrower in such amount. The Administrative Agent shall remit the funds so received to the L/C Issuer in Dollars.

(iii) With respect to any Unreimbursed Amount that is not fully refinanced by a Revolving Credit Borrowing of Base Rate Loans because the conditions set forth in Section 4.02 cannot be satisfied or for any other reason, the Borrower shall be deemed to have incurred from the L/C Issuer an L/C Borrowing in the amount of the Unreimbursed Amount that is not so refinanced, which L/C Borrowing shall be due and payable on demand (together with interest) and shall bear interest at the Default Rate. In such event, each Revolving Credit Lender’s payment to the Administrative Agent for the account of the L/C Issuer pursuant to Section 2.03(c)(ii) shall be deemed payment in respect of its participation in such L/C Borrowing and shall constitute an L/C Advance from such Revolving Credit Lender in satisfaction of its participation obligation under this Section 2.03.

(iv) Until each Revolving Credit Lender funds its Revolving Credit Loan or L/C Advance pursuant to this Section 2.03(c) to reimburse the L/C Issuer for any
amount drawn under any Letter of Credit, interest in respect of such Revolving Credit Lender’s Applicable Revolving Credit Percentage of such amount shall be solely for the account of the L/C Issuer.

(v) Each Revolving Credit Lender’s obligation to make Revolving Credit Loans or L/C Advances to reimburse the L/C Issuer for amounts drawn under Letters of Credit, as contemplated by this Section 2.03(c), shall be absolute and unconditional and shall not be affected by any circumstance, including (A) any setoff, counterclaim, recoupment, defense or other right which such Revolving Credit Lender may have against the L/C Issuer, the Borrower or any other Person for any reason whatsoever; (B) the occurrence or continuance of a Default; or (C) any other occurrence, event or condition, whether or not similar to any of the foregoing; provided, however, that each Revolving Credit Lender’s obligation to make Revolving Credit Loans pursuant to this Section 2.03(c) is subject to the conditions set forth in Section 4.02 (other than delivery by the Borrower of a Loan Notice). No such making of an L/C Advance shall relieve or otherwise impair the obligation of the Borrower to reimburse the L/C Issuer for the amount of any payment made by the L/C Issuer under any Letter of Credit, together with interest as provided herein.

(vi) If any Revolving Credit Lender fails to make available to the Administrative Agent for the account of the L/C Issuer any amount required to be paid by such Revolving Credit Lender pursuant to the foregoing provisions of this Section 2.03(c) by the time specified in Section 2.03(c)(ii), then, without limiting the other provisions of this Agreement, the L/C Issuer shall be entitled to recover from such Revolving Credit Lender (acting through the Administrative Agent), on demand, such amount with interest thereon for the period from the date such payment is required to the date on which such payment is immediately available to the L/C Issuer at a rate per annum equal to the greater of the Federal Funds Rate and a rate determined by the L/C Issuer in accordance with banking industry rules on interbank compensation applicable Overnight Rate from time to time in effect, plus any administrative, processing or similar fees customarily charged by the L/C Issuer in connection with the foregoing. If such Revolving Credit Lender pays such amount (with interest and fees as aforesaid), the amount so paid shall constitute such Revolving Credit Lender’s Revolving Credit Loan included in the relevant Revolving Credit Borrowing or L/C Advance in respect of the relevant L/C Borrowing, as the case may be. A certificate of the L/C Issuer submitted to any Revolving Credit Lender (through the Administrative Agent) with respect to any amounts owing under this clause (vi) shall be conclusive absent manifest error.

(d) Repayment of Participations.

(i) At any time after the L/C Issuer has made a payment under any Letter of Credit and has received from any Revolving Credit Lender such Revolving Credit Lender’s L/C Advance in respect of such payment in accordance with Section 2.03(c), if the Administrative Agent receives for the account of the L/C Issuer any payment
in respect of the related Unreimbursed Amount or interest thereon (whether directly from the Borrower or otherwise, including proceeds of Cash Collateral applied thereto by the Administrative Agent), the Administrative Agent will distribute to such Revolving Credit Lender its Applicable Revolving Credit Percentage thereof in Dollars and in the same funds as those received by the Administrative Agent.

(ii) If any payment received by the Administrative Agent for the account of the L/C Issuer pursuant to Section 2.03(c)(i) is required to be returned under any of the circumstances described in Section 10.05 (including pursuant to any settlement entered into by the L/C Issuer in its discretion), each Revolving Credit Lender shall pay to the Administrative Agent for the account of the L/C Issuer its Applicable Revolving Credit Percentage thereof on demand of the Administrative Agent, plus interest thereon from the date of such demand to the date such amount is returned by such Revolving Credit Lender, at a rate per annum equal to the applicable Federal Funds Overnight Rate from time to time in effect. The obligations of the Revolving Credit Lenders under this clause shall survive the payment in full of the Obligations and the termination of this Agreement.

(e) **Obligations Absolute.** The obligation of the Borrower to reimburse the L/C Issuer for each drawing under each Letter of Credit and to repay each L/C Borrowing shall be absolute, unconditional and irrevocable, and shall be paid strictly in accordance with the terms of this Agreement under all circumstances, including the following:

(i) any lack of validity or enforceability of such Letter of Credit, this Agreement, or any other Loan Document;

(ii) the existence of any claim, counterclaim, setoff, defense or other right that the Borrower or any Subsidiary may have at any time against any beneficiary or any transferee of such Letter of Credit (or any Person for whom any such beneficiary or any such transferee may be acting), the L/C Issuer or any other Person, whether in connection with this Agreement, the transactions contemplated hereby or by such Letter of Credit or any agreement or instrument relating thereto, or any unrelated transaction;

(iii) any draft, demand, certificate or other document presented under such Letter of Credit proving to be forged, fraudulent, invalid or insufficient in any respect or any statement therein being untrue or inaccurate in any respect; or any loss or delay in the transmission or otherwise of any document required in order to make a drawing under such Letter of Credit;

(iv) waiver by the L/C Issuer of any requirement that exists for the L/C Issuer’s protection and not the protection of the Borrower or any waiver by the L/C Issuer which does not in fact materially prejudice the Borrower;
(v) honor of a demand for payment presented electronically even if such Letter of Credit requires that demand be in the form of a draft;

(vi) any payment made by the L/C Issuer in respect of an otherwise complying item presented after the date specified as the expiration date of, or the date by which documents must be received under such Letter of Credit if presentation after such date is authorized by the UCC, the ISP or the UCP, as applicable;

(vii) any payment by the L/C Issuer under such Letter of Credit against presentation of a draft or certificate that does not strictly comply with the terms of such Letter of Credit; or any payment made by the L/C Issuer under such Letter of Credit to any Person purporting to be a trustee in bankruptcy, debtor-in-possession, assignee for the benefit of creditors, liquidator, receiver or other representative of or successor to any beneficiary or any transferee of such Letter of Credit, including any arising in connection with any proceeding under any Debtor Relief Law;

(viii) any adverse change in the relevant exchange rates or in the availability of the relevant Alternative Currency to the Borrower or any Subsidiary or in the relevant currency markets generally; or

(ix) any other event or circumstance whatsoever, whether or not similar to any of the foregoing, including any other circumstance that might otherwise constitute a defense available to, or a discharge of, the Borrower or any Subsidiary.

The Borrower shall promptly examine a copy of each Letter of Credit and each amendment thereto that is delivered to it and, in the event of any claim of noncompliance with the Borrower’s instructions or other irregularity, the Borrower will promptly notify the L/C Issuer. The Borrower shall be conclusively deemed to have waived any such claim against the L/C Issuer and its correspondents unless such notice is given as aforesaid.

(f) Role of L/C Issuer. Each Lender and the Borrower agree that, in paying any drawing under a Letter of Credit, the L/C Issuer shall not have any responsibility to obtain any document (other than any sight draft, certificates and documents expressly required by the Letter of Credit) or to ascertain or inquire as to the validity or accuracy of any such document or the authority of the Person executing or delivering any such document. None of the L/C Issuer, the Administrative Agent, any of their respective Related Parties nor any correspondent, participant or assignee of the L/C Issuer shall be liable to any Lender for (i) any action taken or omitted in connection herewith at the request or with the approval of the Lenders or the Required Lenders, as applicable; (ii) any action taken or omitted in the absence of gross negligence or willful misconduct; or (iii) the due execution, effectiveness, validity or enforceability of any document or instrument related to any Letter of Credit or Issuer Document. The
Borrower hereby assumes all risks of the acts or omissions of any beneficiary or transferee with respect to its use of any Letter of Credit; provided, however, that this assumption is not intended to, and shall not, preclude the Borrower’s pursuing such rights and remedies as it may have against the beneficiary or transferee at law or under any other agreement. None of the L/C Issuer, the Administrative Agent, any of their respective Related Parties nor any correspondent, participant or assignee of the L/C Issuer shall be liable or responsible for any of the matters described in clauses (i) through (viii) of Section 2.03(e); provided, however, that anything in such clauses to the contrary notwithstanding, the Borrower may have a claim against the L/C Issuer, and the L/C Issuer may be liable to the Borrower, to the extent, but only to the extent, of any direct, as opposed to consequential or exemplary, damages suffered by the Borrower which the Borrower proves, as determined by a final nonappealable judgment of a court of competent jurisdiction, were caused by the L/C Issuer’s willful misconduct or gross negligence or the L/C Issuer’s willful failure to pay under any Letter of Credit after the presentation to it by the beneficiary of a sight draft and certificate(s) strictly complying with the terms and conditions of a Letter of Credit. In furtherance and not in limitation of the foregoing, the L/C Issuer may accept documents that appear on their face to be in order, without responsibility for further investigation, regardless of any notice or information to the contrary, and the L/C Issuer shall not be responsible for the validity or sufficiency of any instrument transferring or assigning or purporting to transfer or assign a Letter of Credit or the rights or benefits thereunder or proceeds thereof, in whole or in part, which may prove to be invalid or ineffective for any reason. The L/C Issuer may send a Letter of Credit or conduct any communication to or from the beneficiary via the Society for Worldwide Interbank Financial Telecommunication (“SWIFT”) message or overnight courier, or any other commercially reasonable means of communicating with a beneficiary.

(g) Applicability of ISP and UCP; Limitation of Liability. Unless otherwise expressly agreed by the L/C Issuer and the Borrower when a Letter of Credit is issued by it, the rules of the ISP shall apply to each Letter of Credit. Notwithstanding the foregoing, the L/C Issuer shall not be responsible to the Borrower for, and the L/C Issuer’s rights and remedies against the Borrower shall not be impaired by, any action or inaction of the L/C Issuer required or permitted under any law, order, or practice that is required or permitted to be applied to any Letter of Credit or this Agreement, including the Law or any order of a jurisdiction where the L/C Issuer or the beneficiary is located, the practice stated in the ISP or UCP, as
applicable, or in the decisions, opinions, practice statements, or official commentary of the ICC Banking
Commission, the Bankers Association for Finance and Trade - International Financial Services Association (BAFT-
IFSA), or the Institute of International Banking Law & Practice, whether or not any Letter of Credit chooses such law
or practice.

(h) **Letter of Credit Fees.** The Borrower shall pay to the Administrative Agent for the account of each
Revolving Credit Lender in accordance, subject to Section 2.16, with its Applicable Revolving Credit Percentage, in
Dollars, a Letter of Credit fee (the “Letter of Credit Fee”) for each Letter of Credit equal to the Applicable Rate times
the Dollar Equivalent of the daily amount available to be drawn under such Letter of Credit. For purposes of
computing the daily amount available to be drawn under any Letter of Credit, the amount of such Letter of Credit
shall be determined in accordance with Section 1.06. Letter of Credit Fees shall be (i) due and payable on the first
Business Day after the end of each March, June, September and December, commencing with the first such date to
occur after the issuance of such Letter of Credit, on the Letter of Credit Expiration Date and thereafter on demand and
(ii) computed on a quarterly basis in arrears. If there is any change in the Applicable Rate during any quarter, the
daily amount available to be drawn under each Letter of Credit shall be computed and multiplied by the Applicable
Rate separately for each period during such quarter that such Applicable Rate was in effect. Notwithstanding anything
to the contrary contained herein, upon the request of the Required Lenders, while any Event of Default exists, all
Letter of Credit Fees shall accrue at the Default Rate.

(i) **Fronting Fee and Documentary and Processing Charges Payable to L/C Issuer.** The Borrower shall pay
directly to the L/C Issuer for its own account, in Dollars, a fronting fee with respect to each Letter of Credit at the
rate per annum specified in the Fee Letter, computed on the daily amount available to be drawn under such Letter of
Credit on a quarterly basis in arrears as mutually agreed between the L/C Issuer and the Borrower. Such fronting fee
shall be due and payable on the tenth Business Day after the end of each March, June, September and December in
respect of the most recently-ended quarterly period (or portion thereof, in the case of the first payment), commencing
with the first such date to occur after the issuance of such Letter of Credit, on the Letter of Credit Expiration Date and
thereafter on demand. For purposes of computing the daily amount available to be drawn under any Letter of Credit,
the amount of such Letter of Credit shall be determined in accordance with
Section 1.06. In addition, the Borrower shall pay directly to the L/C Issuer for its own account, in Dollars, the customary issuance, presentation, amendment and other processing fees, and other standard costs and charges, of the L/C Issuer relating to letters of credit as from time to time in effect. Such customary fees and standard costs and charges are due and payable on demand and are nonrefundable.

(j) Conflict with Issuer Documents. In the event of any conflict between the terms hereof and the terms of any Issuer Document, the terms hereof shall control.

(k) Letters of Credit Issued for Subsidiaries. Notwithstanding that a Letter of Credit issued or outstanding hereunder is in support of any obligations of, or is for the account of, a Subsidiary, the Borrower shall be obligated to reimburse, indemnify and compensate the L/C Issuer hereunder for any and all drawings under such Letter of Credit as if such Letter of Credit had been issued solely for the account of the Borrower. The Borrower irrevocably waives any and all defenses that might otherwise be available to it as a guarantor or surety of any or all of the obligations of such Subsidiary in respect of such Letter of Credit. The Borrower hereby acknowledges that the issuance of Letters of Credit for the account of Subsidiaries inures to the benefit of the Borrower, and that the Borrower’s business derives substantial benefits from the businesses of such Subsidiaries.

(l) Letters of Credit Reports. For so long as any Letter of Credit issued by an L/C Issuer is outstanding, such L/C Issuer shall deliver to the Administrative Agent on the last Business Day of each calendar month, and on each date that an L/C Credit Extension occurs with respect to any such Letter of Credit, a report in the form of Exhibit L hereto, appropriately completed with the information for every outstanding Letter of Credit issued by such L/C Issuer.

2.04 Swing Line Loans.

(a) The Swing Line. Subject to the terms and conditions set forth herein, the Swing Line Lender, in reliance upon the agreements of the other Lenders set forth in this Section 2.04, may in its sole discretion make loans in Dollars (each such loan, a “Swing Line Loan”) to the Borrower from time to time on any Business Day during the Availability Period in an aggregate amount not to exceed at any time outstanding the amount of the Swing Line Sublimit, notwithstanding the fact that such Swing Line Loans, when aggregated with the Applicable Revolving Credit Percentage of the
Outstanding Amount of Revolving Credit Loans and L/C Obligations of the Lender acting as Swing Line Lender, may exceed the amount of such Lender’s Revolving Credit Commitment; provided, however, that (x) after giving effect to any Swing Line Loan, (i) the Total Revolving Credit Outstandings shall not exceed the Aggregate Revolving Credit Commitments, and (ii) the Revolving Credit Exposure of any Revolving Credit Lender shall not exceed such Lender’s Revolving Credit Commitment, (y) the Borrower shall not use the proceeds of any Swing Line Loan to refinance any outstanding Swing Line Loan, and (z) the Swing Line Lender shall not be under any obligation to make any Swing Line Loan if it shall determine (which determination shall be conclusive and binding absent manifest error) that it has, or by such Credit Extension may have, Fronting Exposure. Within the foregoing limits, and subject to the other terms and conditions hereof, the Borrower may borrow under this Section 2.04, prepay under Section 2.05, and reborrow under this Section 2.04. Each Swing Line Loan shall be a Base Rate Loan. Immediately upon the making of a Swing Line Loan, each Revolving Credit Lender shall be deemed to, and hereby irrevocably and unconditionally agrees to, purchase from the Swing Line Lender a risk participation in such Swing Line Loan in an amount equal to the product of such Revolving Credit Lender’s Applicable Revolving Credit Percentage times the amount of such Swing Line Loan.

(b) Borrowing Procedures. Each Swing Line Borrowing shall be made upon the Borrower’s irrevocable notice to the Swing Line Lender and the Administrative Agent, which may be given by (A) telephone or (B) by a Swing Line Loan Notice; provided that any telephonic notice must be confirmed promptly by delivery to the Swing Line Lender and the Administrative Agent of a Swing Line Loan Notice. Each such notice must be received by the Swing Line Lender and the Administrative Agent not later than 10:00 a.m. on the requested borrowing date, and shall specify (i) the amount to be borrowed, which shall be a minimum of $100,000, and (ii) the requested borrowing date, which shall be a Business Day. Each such telephonic notice must be confirmed promptly by delivery to the Swing Line Lender and the Administrative Agent of a written Swing Line Loan Notice, appropriately completed and signed by a Responsible Officer of the Borrower. Promptly after receipt by the Swing Line Lender of any telephonic Swing Line Loan Notice, the Swing Line Lender will confirm with the Administrative Agent (by telephone or in writing) that the Administrative Agent has also received such Swing Line Loan Notice and, if not, the Swing Line Lender will notify the Administrative Agent (by telephone or in writing) of the contents thereof. Unless the Swing Line Lender has
received notice (by telephone or in writing) from the Administrative Agent (including at the request of any Revolving Credit Lender) prior to 11:00 a.m. on the date of the proposed Swing Line Borrowing (A) directing the Swing Line Lender not to make such Swing Line Loan as a result of the limitations set forth in the first proviso to the first sentence of Section 2.04(a), or (B) that one or more of the applicable conditions specified in Article IV is not then satisfied, then, subject to the terms and conditions hereof, the Swing Line Lender will, not later than 12:00 p.m. on the borrowing date specified in such Swing Line Loan Notice, make the amount of its Swing Line Loan available to the Borrower at its office by crediting the account of the Borrower on the books of the Swing Line Lender in immediately available funds Same Day Funds.

(c) Refinancing of Swing Line Loans.

(i) The Swing Line Lender at any time in its sole discretion may request, on behalf of the Borrower (which hereby irrevocably authorizes the Swing Line Lender to so request on its behalf), that each Revolving Credit Lender make a Base Rate Loan in an amount equal to such Revolving Credit Lender's Applicable Revolving Credit Percentage of the amount of Swing Line Loans then outstanding. Such request shall be made in writing (which written request shall be deemed to be a Loan Notice for purposes hereof) and in accordance with the requirements of Section 2.02, without regard to the minimum and multiples specified therein for the principal amount of Base Rate Loans, but subject to the unutilized portion of the Aggregate Commitments and the conditions set forth in Section 4.02. The Swing Line Lender shall furnish the Borrower with a copy of the applicable Loan Notice promptly after delivering such notice to the Administrative Agent. Each Revolving Credit Lender shall make an amount equal to its Applicable Revolving Credit Percentage of the amount specified in such Loan Notice available to the Administrative Agent in immediately available funds Same Day Funds (and the Administrative Agent may apply Cash Collateral available with respect to the applicable Swing Line Loan) for the account of the Swing Line Lender at the Administrative Agent's Office for Dollar-denominated payments not later than 10:00 a.m. on the day specified in such Loan Notice, whereupon, subject to Section 2.04(c)(ii), each Revolving Credit Lender that so makes funds available shall be deemed to have made a Base Rate Loan to the Borrower in such amount. The Administrative Agent shall remit the funds so received to the Swing Line Lender.

(ii) If for any reason any Swing Line Loan cannot be refinanced by such a Revolving Credit Borrowing in accordance with Section 2.04(c)(i), the request for Base Rate Loans submitted by the Swing Line Lender as set forth herein shall be deemed to be a request by the Swing Line Lender that each of the Revolving Credit Lenders fund its risk participation in the relevant Swing Line Loan and each Revolving Credit Lender's payment to the Administrative Agent for the account of
the Swing Line Lender pursuant to Section 2.04(c)(i) shall be deemed payment in respect of such participation.

(iii) If any Revolving Credit Lender fails to make available to the Administrative Agent for the account of the Swing Line Lender any amount required to be paid by such Lender pursuant to the foregoing provisions of this Section 2.04(c) by the time specified in Section 2.04(c)(i), the Swing Line Lender shall be entitled to recover from such Revolving Credit Lender (acting through the Administrative Agent), on demand, such amount with interest thereon for the period from the date such payment is required to the date on which such payment is immediately available to the Swing Line Lender at a rate per annum equal to the greater of the Federal Funds Rate and a rate determined by the Swing Line Lender in accordance with applicable Overnight Rate from time to time in effect, plus any administrative, processing or similar fees customarily charged by the Swing Line Lender in connection with the foregoing. If such Revolving Credit Lender pays such amount (with interest and fees as aforesaid), the amount so paid shall constitute such Revolving Credit Lender’s Revolving Credit Loan included in the relevant Revolving Credit Borrowing or funded participation in the relevant Swing Line Loan, as the case may be. A certificate of the Swing Line Lender submitted to any Lender (through the Administrative Agent) with respect to any amounts owing under this clause (iii) shall be conclusive absent manifest error.

(iv) Each Revolving Credit Lender’s obligation to make Revolving Credit Loans or to purchase and fund risk participations in Swing Line Loans pursuant to this Section 2.04(c) shall be absolute and unconditional and shall not be affected by any circumstance, including (A) any setoff, counterclaim, recoupment, defense or other right which such Lender may have against the Swing Line Lender, the Borrower or any other Person for any reason whatsoever, (B) the occurrence or continuance of a Default, or (C) any other occurrence, event or condition, whether or not similar to any of the foregoing; provided, however, that each Revolving Credit Lender’s obligation to make Revolving Credit Loans pursuant to this Section 2.04(c) is subject to the conditions set forth in Section 4.02 (other than delivery by the Borrower of a Loan Notice). No such funding of risk participations shall relieve or otherwise impair the obligation of the Borrower to repay Swing Line Loans, together with interest as provided herein.

(d) Repayment of Participations.

(i) At any time after any Revolving Credit Lender has purchased and funded a risk participation in a Swing Line Loan, if the Swing Line Lender receives any payment on account of such Swing Line Loan, the Swing Line Lender will distribute to such Revolving Credit Lender its Applicable Revolving Credit Percentage thereof in the same funds as those received by the Swing Line Lender.

(ii) If any payment received by the Swing Line Lender in respect of principal or interest on any Swing Line Loan is required to be returned by the Swing
Line Lender under any of the circumstances described in Section 10.05 (including pursuant to any settlement entered into by the Swing Line Lender in its discretion), each Revolving Credit Lender shall pay to the Swing Line Lender its Applicable Revolving Credit Percentage thereof on demand of the Administrative Agent, plus interest thereon from the date of such demand to the date such amount is returned, at a rate per annum equal to the Federal Funds applicable Overnight Rate. The Administrative Agent will make such demand upon the request of the Swing Line Lender. The obligations of the Revolving Credit Lenders under this clause shall survive the payment in full of the Obligations and the termination of this Agreement.

(e) **Interest for Account of Swing Line Lender.** The Swing Line Lender shall be responsible for invoicing the Borrower for interest on the Swing Line Loans. Until each Revolving Credit Lender funds its Base Rate Loan or risk participation pursuant to this Section 2.04 to refinance such Revolving Credit Lender’s Applicable Revolving Credit Percentage of any Swing Line Loan, interest in respect of such Applicable Revolving Credit Percentage shall be solely for the account of the Swing Line Lender.

(f) **Payments Directly to Swing Line Lender.** The Borrower shall make all payments of principal and interest in respect of the Swing Line Loans directly to the Swing Line Lender.

### 2.05 Prepayments.

(a) The Borrower may, upon written notice to the Administrative Agent, at any time or from time to time voluntarily prepay Revolving Credit Loans in whole or in part without premium or penalty; provided that (i) such notice must be received by the Administrative Agent not later than 10:00 a.m. (A) three Business Days prior to any date of prepayment of Eurodollar Rate Loans denominated in Dollars, (B) four Business Days (or five, in the case of prepayment of Loans denominated in Special Notice Currencies) prior to any date of prepayment of Eurodollar Rate Loans denominated in Alternative Currencies, and (C) on the date of prepayment of Base Rate Loans; (ii) any prepayment of Eurodollar Rate Loans denominated in Dollars shall be in a principal amount of $2,000,000 or a whole multiple of $1,000,000 in excess thereof (or, if less, the entire principal amount thereof then outstanding); and (iii) any prepayment of Eurodollar Rate Loans denominated in Alternative Currencies shall be in a minimum principal amount of $2,000,000 or a whole multiple of $1,000,000 in excess thereof; and (iv) any prepayment of Base Rate Loans shall be in a principal amount of $500,000 or a whole multiple of $100,000 in excess thereof or, in each case, if less, the entire principal amount thereof then outstanding.
Each such notice shall specify the date and amount of such prepayment and the Type(s) of Loans to be prepaid and, if Eurodollar Rate Loans are to be prepaid, the Interest Period(s) of such Loans. The Administrative Agent will promptly notify each Lender of its receipt of each such notice, and of the amount of such Lender’s Applicable Percentage of such prepayment. If such notice is given by the Borrower, the Borrower shall make such prepayment and the payment amount specified in such notice shall be due and payable on the date specified therein. Any prepayment of a Eurodollar Rate Loan shall be accompanied by all accrued interest on the amount prepaid, together with any additional amounts required pursuant to Section 3.05. Subject to Section 2.16, each such prepayment shall be applied to the Loans of the Lenders in accordance with their respective Applicable Percentages in respect of each of the relevant Facilities. Unless the Borrower otherwise instructs the Administrative Agent at the time prepayment is made, prepayment of Revolving Credit Loans pursuant to this Section 2.05(a) shall not reduce the Aggregate Revolving Credit Commitments.

(b) The Borrower may, upon written notice to the Swing Line Lender (with a copy to the Administrative Agent), at any time or from time to time, voluntarily prepay Swing Line Loans in whole or in part without premium or penalty; provided that (i) such notice must be received by the Swing Line Lender and the Administrative Agent not later than 10:00 a.m. on the date of the prepayment, and (ii) any such prepayment shall be in a minimum principal amount of $100,000 (or, if less, the entire principal amount thereof then outstanding). Each such notice shall specify the date and amount of such prepayment. If such notice is given by the Borrower, the Borrower shall make such prepayment and the payment amount specified in such notice shall be due and payable on the date specified therein.

(c) If for any reason the Total Revolving Credit Outstandings at any time exceed the Aggregate Revolving Credit Commitments then in effect, the Borrower shall immediately prepay Revolving Credit Loans, Swing Line Loans and L/C Borrowings and/or Cash Collateralize the L/C Obligations in an aggregate amount equal to such excess; provided, however, that the Borrower shall not be required to Cash Collateralize the L/C Obligations pursuant to this Section 2.05(c) unless after the prepayment in full of the Revolving Credit Loans and Swing Line Loans the Total Revolving Credit Outstandings exceed the Aggregate Revolving Credit Commitments then in effect.
The Administrative Agent may, at any time and from time to time after the initial deposit of such Cash Collateral, request that additional Cash Collateral be provided in order to protect against the results of exchange rate fluctuations.

(d) **If the Administrative Agent notifies the Borrower at any time that the Outstanding Amount of all Loans denominated in Alternative Currencies at such time exceeds an amount equal to 105% of the Alternative Currency Sublimit then in effect, then, within two Business Days after receipt of such notice, the Borrower shall prepay Loans in an aggregate amount sufficient to reduce such Outstanding Amount as of such date of payment to an amount not to exceed 100% of the Alternative Currency Sublimit then in effect.**

**2.06 Termination or Reduction of Revolving Credit Commitments.** The Borrower may, upon notice to the Administrative Agent, terminate, in whole or in part, the Aggregate Revolving Credit Commitments, or from time to time permanently reduce the Aggregate Revolving Credit Commitments; provided that (i) any such notice shall be received by the Administrative Agent not later than 11:00 a.m. five Business Days prior to the date of termination or reduction, (ii) any such partial reduction shall be in an aggregate amount of $10,000,000 or any whole multiple of $1,000,000 in excess thereof, (iii) the Borrower shall not terminate or reduce the Aggregate Revolving Credit Commitments if, after giving effect thereto and to any concurrent prepayments hereunder, the Total Revolving Credit Outstandings would exceed the Aggregate Revolving Credit Commitments, and (iv) if, after giving effect to any reduction of the Aggregate Revolving Credit Commitments, the Alternative Currency Sublimit, the Letter of Credit Sublimit or the Swing Line Sublimit exceeds the amount of the Aggregate Revolving Credit Commitments, such Sublimit shall be automatically reduced by the amount of such excess. The Administrative Agent will promptly notify the Lenders of any such notice of termination or reduction of the Aggregate Revolving Credit Commitments. **The amount of any such Aggregate Revolving Credit Commitment reduction shall not be applied to the Alternative Currency Sublimit or the Letter of Credit Sublimit unless otherwise specified by the Borrower.** Any reduction of the Aggregate Revolving Credit Commitments shall be applied to the Revolving Credit Commitment of each Revolving Credit Lender according to its Applicable Revolving Credit Percentage. All fees accrued until the effective date of any termination of the Aggregate Revolving Credit Commitments shall be paid on the effective date of such termination.

**2.07 Repayment of Loans.**

(a) **Revolving Credit Loans.** The Borrower shall repay to the Revolving Credit Lenders on the Maturity Date the aggregate principal amount of Revolving Credit Loans outstanding on such date.
(b) **Swing Line Loans.** The Borrower shall repay each Swing Line Loan on the earlier to occur of (i) the date ten Business Days after such Loan is made and (ii) the Maturity Date.

**2.08 Interest.**

(a) Subject to the provisions of subsection (b) below, (i) each Eurodollar Rate Loan shall bear interest on the outstanding principal amount thereof for each Interest Period at a rate per annum equal to the Eurodollar Rate for such Interest Period plus the Applicable Rate; (ii) each Base Rate Loan shall bear interest from the applicable borrowing date on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the Base Rate plus the Applicable Rate; and (iii) each Swing Line Loan shall bear interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the Base Rate plus the Applicable Rate.

(b) (%4) If any amount of principal of any Loan is not paid when due (without regard to any applicable grace periods), whether at stated maturity, by acceleration or otherwise, such amount shall thereafter bear interest at a fluctuating interest rate per annum at all times equal to the Default Rate to the fullest extent permitted by applicable Laws.

(i) If any amount (other than principal of any Loan) payable by the Borrower under any Loan Document is not paid when due (after the expiration of any applicable grace periods), whether at stated maturity, by acceleration or otherwise, then upon the request of the Required Lenders, such amount shall thereafter bear interest at a fluctuating interest rate per annum at all times equal to the Default Rate to the fullest extent permitted by applicable Laws.

(ii) Upon the request of the Required Lenders, while any Event of Default exists (other than as set forth in clauses (b)(i) and (b)(ii) above) and is continuing, the Borrower shall pay interest on the principal amount of all outstanding Obligations hereunder at a fluctuating interest rate per annum at all times equal to the Default Rate to the fullest extent permitted by applicable Laws.

(iii) Accrued and unpaid interest on past due amounts (including interest on past due interest) shall be due and payable upon demand.

(c) Interest on each Loan shall be due and payable in arrears on each Interest Payment Date applicable thereto and at such other times as may be specified herein. Interest hereunder shall be due and payable in accordance with the terms hereof before and after
2.09 Fees. In addition to certain fees described in subsections (h) and (i) of Section 2.03:

(a) **Commitment Fee.** Subject to adjustment as provided in Section 2.16, the Borrower shall pay to the Administrative Agent for the account of each Revolving Credit Lender in accordance with its Applicable Revolving Credit Percentage, a commitment fee in Dollars equal to the Applicable Rate times the actual daily amount by which the Aggregate Revolving Credit Commitments exceed the sum of (i) the Outstanding Amount of Revolving Credit Loans and (ii) the Outstanding Amount of L/C Obligations. For the avoidance of doubt, the Outstanding Amount of Swing Line Loans shall not be counted towards or considered usage of the Aggregate Revolving Credit Commitments for purposes of determining the commitment fee. The commitment fee shall accrue at all times during the Availability Period, including at any time during which one or more of the conditions in Article IV is not met, and shall be due and payable quarterly in arrears on the last Business Day of each March, June, September and December, commencing with the first such date to occur after the Closing Date, and on the last day of the Availability Period. The commitment fee shall be calculated quarterly in arrears, and if there is any change in the Applicable Rate during any quarter, the actual daily amount shall be computed and multiplied by the Applicable Rate separately for each period during such quarter that such Applicable Rate was in effect.

(b) **Other Fees.** The Borrower shall pay to the Arranger and the Administrative Agent for their own respective accounts, in Dollars, fees in the amounts and at the times specified in the Fee Letter. Such fees shall be fully earned when paid and shall not be refundable for any reason whatsoever.

(i) The Borrower shall pay to the Lenders such fees as shall have been separately agreed upon in writing in the amounts and at the times so specified. Such fees shall be fully earned when paid and shall not be refundable for any reason whatsoever.

2.10 Computation of Interest and Fees; Retroactive Adjustments of Applicable Rate.

(a) All computations of interest for Base Rate Loans (including Base Rate Loans determined by reference to the Eurodollar Rate) shall be made on the basis of a year of 365 or 366 days, as the case may be, and actual days elapsed. All other computations of fees and interest shall be made on
the basis of a 360-day year and actual days elapsed (which results in more fees or interest, as applicable, being paid than if computed on the basis of a 365-day year), or, in the case of interest in respect of Loans denominated in Alternative Currencies as to which market practice differs from the foregoing, in accordance with such market practice. Interest shall accrue on each Loan for the day on which the Loan is made, and shall not accrue on a Loan, or any portion thereof, for the day on which the Loan or such portion is paid, provided that any Loan that is repaid on the same day on which it is made shall, subject to Section 2.12(a), bear interest for one day. Each determination by the Administrative Agent of an interest rate or fee hereunder shall be conclusive and binding for all purposes, absent manifest error. With respect to all Non-LIBOR Quoted Currencies, the calculation of the applicable interest rate shall be determined in accordance with market practice.

(b) If, as a result of any restatement of or other adjustment to the financial statements of the Borrower or for any other reason, the Borrower or the Lenders determine that (i) the Consolidated Net Leverage Ratio as calculated by the Borrower as of any applicable date was inaccurate and (ii) a proper calculation of the Consolidated Net Leverage Ratio would have resulted in higher pricing for such period, the Borrower shall immediately and retroactively be obligated to pay to the Administrative Agent for the account of the applicable Lenders or the L/C Issuer, as the case may be, promptly on demand by the Administrative Agent (or, after the occurrence of an actual or deemed entry of an order for relief with respect to the Borrower under the Bankruptcy Code of the United States, automatically and without further action by the Administrative Agent, any Lender or the L/C Issuer), an amount equal to the excess of the amount of interest and fees that should have been paid for such period over the amount of interest and fees actually paid for such period. This paragraph shall not limit the rights of the Administrative Agent, any Lender or the L/C Issuer, as the case may be, under Section 2.03(c)(iii), 2.03(h) or 2.08(b) or under Article VIII. The Borrower’s obligations under this paragraph shall survive the termination of the Aggregate Commitments and the repayment of all other Obligations hereunder for a period of one (1) year from the date of such termination.

2.11 Evidence of Debt.

(a) The Credit Extensions made by each Lender shall be evidenced by one or more accounts or records maintained by such Lender and by the Administrative Agent in the ordinary course of business. The accounts or records maintained by the Administrative Agent and each Lender shall be conclusive absent manifest error of the amount of the Credit Extensions made by the Lenders to the Borrower and the interest and payments thereon. Any failure to so record or any error in doing so shall not, however, limit or otherwise affect the obligation of the Borrower hereunder to pay any amount owing with respect to the Obligations. In the event of any conflict between the accounts and records maintained by any Lender and the accounts and records of the Administrative Agent in respect of such matters, the accounts and records of the Administrative Agent shall control in the absence of manifest error. Upon the request of any Lender made through the Administrative Agent, the Borrower shall execute and deliver to such Lender (through the Administrative Agent) a Note, which shall evidence such Lender’s Loans in addition to such accounts or records. Each Lender may attach schedules to
its Note and endorse thereon the date, Type (if applicable), amount, currency and maturity of its Loans and payments with respect thereto.

(b) In addition to the accounts and records referred to in subsection (a) above, each Lender and the Administrative Agent shall maintain in accordance with its usual practice accounts or records evidencing the purchases and sales by such Lender of participations in Letters of Credit and Swing Line Loans. In the event of any conflict between the accounts and records maintained by the Administrative Agent and the accounts and records of any Lender in respect of such matters, the accounts and records of the Administrative Agent shall control in the absence of manifest error.
2.12 Payments Generally; Administrative Agent’s Clawback.

(a) General. All payments to be made by the Borrower shall be made free and clear of and without condition or deduction for any counterclaim, defense, recoupment or setoff. Except as otherwise expressly provided herein and except with respect to principal of and interest on Loans denominated in an Alternative Currency, all payments by the Borrower hereunder shall be made to the Administrative Agent, for the account of the respective Lenders to which such payment is owed, at the applicable Administrative Agent’s Office in Dollars and in Same Day Funds not later than 11:00 a.m. on the date specified herein. Except as otherwise expressly provided herein, all payments by the Borrower hereunder with respect to principal and interest on Loans denominated in an Alternative Currency shall be made to the Administrative Agent, for the account of the respective Lenders to which such payment is owed, at the Administrative Agent’s Office in Dollars and in immediately available funds not later than 11:00 a.m. on the date specified herein, such Alternative Currency and in Same Day Funds not later than the Applicable Time specified by the Administrative Agent on the dates specified herein. Without limiting the generality of the foregoing, the Administrative Agent may require that any payments due under this Agreement be made in the United States. If, for any reason, the Borrower is prohibited by any Law from making any required payment hereunder in an Alternative Currency, the Borrower shall make such payment in Dollars in the Dollar Equivalent of the Alternative Currency payment amount. The Administrative Agent will promptly distribute to each Lender its Applicable Percentage in respect of the relevant Facility (or other applicable share as provided herein) of such payment in like funds as received by wire transfer to such Lender’s Lending Office. All payments received by the Administrative Agent (i) after 11:00 a.m., shall in the case of payments in Dollars, or (ii) after the Applicable Time specified by the Administrative Agent in the case of payments in an Alternative Currency, shall in each case be deemed received on the next succeeding Business Day and any applicable interest or fee shall continue to accrue. If any payment to be made by the Borrower shall come due on a day other than a Business Day, payment shall be made on the next following Business Day, and such extension of time shall be reflected in computing interest or fees, as the case may be.

(b) (4%) Funding by Lenders; Presumption by Administrative Agent. Unless the Administrative Agent shall have received notice from a Lender prior to the proposed date of any Borrowing of Eurodollar Rate Loans (or, in the case of any Borrowing
of Base Rate Loans, prior to 9:00 a.m. on the date of such Borrowing) that such Lender will not make available to the Administrative Agent such Lender’s share of such Borrowing, the Administrative Agent may assume that such Lender has made such share available on such date in accordance with Section 2.02 (or, in the case of a Borrowing of Base Rate Loans, that such Lender has made such share available in accordance with and at the time required by Section 2.02) and may, in reliance upon such assumption, make available to the Borrower a corresponding amount. In such event, if a Lender has not in fact made its share of the applicable Borrowing available to the Administrative Agent, then the applicable Lender and the Borrower severally agree to pay to the Administrative Agent forthwith on demand such corresponding amount in immediately available funds Same Day Funds with interest thereon, for each day from and including the date such amount is made available to the Borrower to but excluding the date of payment to the Administrative Agent, at (A) in the case of a payment to be made by such Lender, the greater of the Federal Funds Rate and a rate determined by the Administrative Agent in accordance with banking industry rules on interbank compensation Overnight Rate, plus any administrative, processing or similar fees customarily charged by the Administrative Agent in connection with the foregoing, and (B) in the case of a payment to be made by the Borrower, the interest rate applicable to Base Rate Loans. If the Borrower and such Lender shall pay such interest to the Administrative Agent for the same or an overlapping period, the Administrative Agent shall promptly remit to the Borrower the amount of such interest paid by the Borrower for such period. If such Lender pays its share of the applicable Borrowing to the Administrative Agent, then the amount so paid shall constitute such Lender’s Loan included in such Borrowing. Any payment by the Borrower shall be without prejudice to any claim the Borrower may have against a Lender that shall have failed to make such payment to the Administrative Agent.

(i) Payments by Borrower; Presumptions by Administrative Agent. Unless the Administrative Agent shall have received notice from the Borrower prior to the date on which any payment is due to the Administrative Agent for the account of the Lenders or the L/C Issuer hereunder that the Borrower will not make such payment, the Administrative Agent may assume that the Borrower has made such payment on such date in accordance herewith and may, in reliance upon such assumption, distribute to the Appropriate Lenders or the L/C Issuer, as the case may be, the amount due. In such event, if the Borrower has not in fact made such payment, then each of the Appropriate Lenders or the L/C Issuer, as the case may be, severally agrees to repay to the Administrative Agent forthwith on demand the amount so distributed to such Lender or the L/C Issuer, in immediately available funds Same Day Funds.
Day Funds with interest thereon, for each day from and including the date such amount is distributed to it to but excluding the date of payment to the Administrative Agent, at the greater of the Federal Funds Rate and a rate determined by the Administrative Agent in accordance with banking industry rules on interbank compensation, Overnight Rate.

A notice of the Administrative Agent to any Lender or the Borrower with respect to any amount owing under this subsection (b) shall be conclusive, absent manifest error.

(c) Failure to Satisfy Conditions Precedent. If any Lender makes available to the Administrative Agent funds for any Loan to be made by such Lender as provided in the foregoing provisions of this Article II, and such funds are not made available to the Borrower by the Administrative Agent because the conditions to the applicable Credit Extension set forth in Article IV are not satisfied or waived in accordance with the terms hereof, the Administrative Agent shall return such funds (in like funds as received from such Lender) to such Lender, without interest.

(d) Obligations of Lenders Several. The obligations of the Lenders hereunder to make Revolving Credit Loans, to fund participations in Letters of Credit and Swing Line Loans and to make payments pursuant to Section 10.04(c) are several and not joint. The failure of any Lender to make any Loan, to fund any such participation or to make any payment under Section 10.04(c) on any date required hereunder shall not relieve any other Lender of its corresponding obligation to do so on such date, and no Lender shall be responsible for the failure of any other Lender to so make its Loan, to purchase its participation or to make its payment under Section 10.04(c).

(e) Funding Source. Nothing herein shall be deemed to obligate any Lender to obtain the funds for any Loan in any particular place or manner or to constitute a representation by any Lender that it has obtained or will obtain the funds for any Loan in any particular place or manner.

2.13 Sharing of Payments by Lenders. If any Lender shall, by exercising any right of setoff or counterclaim or otherwise, obtain payment in respect of any principal of or interest on any of the Loans made by it, or the participations in L/C Obligations or in Swing Line Loans held by it resulting in such Lender’s receiving payment of a proportion of the aggregate amount of such Loans or participations and accrued interest thereon greater than its pro rata share thereof as provided herein, then the Lender receiving such greater proportion shall (a) notify the Administrative Agent of such fact, and (b) purchase (for cash at face value) participations in the Loans and subparticipations in L/C Obligations and Swing Line Loans of the other Lenders, or make such other adjustments as shall be equitable, so that the benefit of
all such payments shall be shared by the Lenders ratably in accordance with the aggregate amount of principal of and accrued interest on their respective Loans and other amounts owing them, provided that:

(i) if any such participations or subparticipations are purchased and all or any portion of the payment giving rise thereto is recovered, such participations or subparticipations shall be rescinded and the purchase price restored to the extent of such recovery, without interest; and

(ii) the provisions of this Section shall not be construed to apply to (x) any payment made by or on behalf of the Borrower pursuant to and in accordance with the express terms of this Agreement (including the application of funds arising from the existence of a Defaulting Lender), (y) the application of Cash Collateral provided for in Section 2.15, or (z) any payment obtained by a Lender as consideration for the assignment of or sale of a participation in any of its Loans or subparticipations in L/C Obligations or Swing Line Loans to any assignee or participant, other than an assignment to the Borrower or any Subsidiary thereof (as to which the provisions of this Section shall apply).

The Borrower consents to the foregoing and agrees, to the extent it may effectively do so under applicable law, that any Lender acquiring a participation pursuant to the foregoing arrangements may exercise against the Borrower rights of setoff and counterclaim with respect to such participation as fully as if such Lender were a direct creditor of the Borrower in the amount of such participation.

2.14 Increase in Commitments.

(a) Revolving Credit Facility Increase and Term Loan Request.

(i) Request for Revolving Credit Increase and Term Loan Request. Provided there exists no Default that is then continuing, upon notice to the Administrative Agent (which shall promptly notify the Revolving Credit Lenders), the Borrower may from time to time after the Closing Date, (A) establish one or more term loan commitments by an additional amount (“Term Loan Request”) subject to the conditions listed below and/or (b) request an increase in the Aggregate Revolving Credit Commitments (each, a “Revolving Credit Increase”) by an amount (for all such requests for a Revolving Credit Increase or Term Loan Requests) not exceeding the sum of (x) $100,000,000 plus (y) so long as the Consolidated Net Leverage Ratio (determined on a pro forma basis assuming that such Term Loan Request or Revolving Credit Increase is fully drawn) is not greater than the then applicable maximum Consolidated Net Leverage Ratio as of the end of the latest fiscal quarter for which internal financial statements are available, additional Revolving Credit Increases or Term Loan Requests; provided that (i) any such request for a Revolving Credit Increase or Term Loan Request shall be in Dollars in a minimum amount of $50,000,000, and (ii) the Borrower may make a maximum of

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five such requests for Revolving Credit Increases. At the time of sending such notice, the Borrower (in consultation with the Administrative Agent) shall specify the time period within which each Revolving Credit Lender is requested to respond (which shall in no event be less than ten Business Days from the date of delivery of such notice to the Revolving Credit Lenders); provided that any existing Lender may elect or decline, in its sole discretion, to increase its Revolving Credit Commitment or commit to provide a term loan.

(ii) **Lender Elections to Increase.** Each Lender shall notify the Administrative Agent within such time period whether or not it agrees in its sole discretion to (i) increase its Revolving Credit Commitment and, if so, whether by an amount equal to, greater than, or less than its Applicable Revolving Credit Percentage of such requested increase and, if applicable (ii) commit to provide a term loan. Any Revolving Credit Lender not responding within such time period shall be deemed to have declined to increase its Revolving Credit Commitment and, if applicable, to commit to provide a term loan.

(iii) **Notification by Administrative Agent; Additional Revolving Credit Lenders.** The Administrative Agent shall notify the Borrower and each Revolving Credit Lender of the Revolving Credit Lenders’ responses to each request made hereunder. To achieve the full amount of a requested increase and subject to the approval of the Administrative Agent, the L/C Issuer and the Swing Line Lender (which approvals shall not be unreasonably withheld), the Borrower may also invite additional Eligible Assignees to become Lenders pursuant to a joinder agreement in form and substance satisfactory to the Administrative Agent and its counsel.

(iv) **Effective Date and Allocations.** If the Aggregate Revolving Credit Commitments are increased or term loan commitments are established in accordance with this Section 2.15(a), the Administrative Agent and the Borrower shall determine the effective date (the “Increase Effective Date”) and the final allocation of such increase. The Administrative Agent shall promptly notify the Borrower and the Lenders of the final allocation of such increase and the Increase Effective Date.

(v) **Conditions to Effectiveness of Revolving Credit Increase or Term Loan Request.** As a condition precedent to such increase, (I) the Borrower shall deliver to the Administrative Agent a certificate of each Loan Party dated as of the Increase Effective Date (in sufficient copies for each Lender) signed by a Responsible Officer of such Loan Party (x) certifying and attaching the resolutions adopted by such Loan Party approving or consenting to such increase, and (y) in the case of the Borrower, certifying that, before and after giving effect to such increase, (A) the representations and warranties contained in Article V and the other Loan Documents are true and correct in all material respects on and as of the Increase Effective Date, except that (x) if a qualifier relating to materiality, Material Adverse Effect or a similar concept applies, such representation and warranty shall be required to be true and correct in all respects, (y) to the extent that such representations and warranties

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specifically refer to an earlier date, in which case they are true and correct as of such earlier date, and (z) for purposes of this Section 2.14, the representations and warranties contained in subsections (a) and (b) of Section 5.05 shall be deemed to refer to the most recent statements furnished pursuant to subsections (a) and (b), respectively, of Section 6.01, and (B) no Default exists; provided, that with respect to Revolving Credit Increases or Term Loan Requests the proceeds of which are intended to and shall be used to finance substantially contemporaneously a Permitted Acquisition or any other Acquisition permitted by Section 7.02 which is not conditioned on the availability of, or on obtaining, financing hereunder (such an Acquisition, a “Limited Condition Acquisition”), (i) the representation and warranty in Section 5.07 shall be deemed to expressly relate to the date on which the related acquisition agreement is executed and becomes effective, (ii) no Default or Event of Default under Section 8.01(a) or Section 8.01(f) would exist as of the date of consummation of such Permitted Acquisition and (iii) the Consolidated Net Leverage Ratio may, at Borrower’s election, be tested on the date on which the related acquisition agreement is executed and becomes effective, calculated on a pro forma basis assuming such Limited Condition Acquisition and other pro forma events in connection therewith have been consummated, and (ii) (x) upon the reasonable request of any Lender made at least five (5) days prior to the Increase Effective Date, the Borrower shall have provided to such Lender, and such Lender shall be reasonably satisfied with, the documentation and other information so requested in connection with applicable “know your customer” and anti-money-laundering rules and regulations, including, without limitation, the Act, and (y) at least ten (10) days prior to the Increase Effective Date, any Loan Party that qualifies as a “legal entity customer” under the Beneficial Ownership Regulation shall have delivered, to each Lender that so requests, a Beneficial Ownership Certification in relation to such Loan Party. With respect to any Revolving Credit Increase, the Borrower shall prepay any Revolving Credit Loans outstanding on the Increase Effective Date (and pay any additional amounts required pursuant to Section 3.05) to the extent necessary to keep the outstanding Revolving Credit Loans ratable with any revised Applicable Revolving Credit Percentages arising from any nonratable increase in the Revolving Credit Commitments under this Section.

(vi) **Conflicting Provisions.** This Section shall supersede any provisions in Section 2.13 or 10.01 to the contrary.

### 2.15 Cash Collateral.

(a) **Certain Credit Support Events.** If (i) the L/C Issuer has honored any full or partial drawing request under any Letter of Credit and such drawing has resulted in an L/C Borrowing, (ii) as of the Letter of Credit Expiration Date, any L/C Obligation for any reason remains outstanding, (iii) the Borrower shall be required to provide Cash Collateral pursuant to Section 8.02(e), or (iv) there shall exist a Defaulting Lender, the Borrower shall immediately (in the
case of clause (iii) above) or within one Business Day (in all other cases) following any request by the Administrative Agent or the L/C Issuer, provide Cash Collateral in an amount not less than the applicable Minimum Collateral Amount (determined in the case of Cash Collateral provided pursuant to clause (iv) above, after giving effect to Section 2.16(a)(iv) and any Cash Collateral provided by the Defaulting Lender).

(b) Grant of Security Interest. The Borrower, and to the extent provided by any Defaulting Lender, such Defaulting Lender, hereby grants to (and subjects to the control of) the Administrative Agent, for the benefit of the Administrative Agent, the L/C Issuer and the Lenders, and agrees to maintain, a first priority security interest in all such cash, deposit accounts and all balances therein, and all other property so provided as collateral pursuant hereto, and in all proceeds of the foregoing, all as security for the obligations to which such Cash Collateral may be applied pursuant to Section 2.15(c). If at any time the Administrative Agent determines that Cash Collateral is subject to any right or claim of any Person other than the Administrative Agent or the L/C Issuer as herein provided, or that the total amount of such Cash Collateral is less than the Minimum Collateral Amount, the Borrower will, promptly upon demand by the Administrative Agent, pay or provide to the Administrative Agent additional Cash Collateral in an amount sufficient to eliminate such deficiency. All Cash Collateral (other than credit support not constituting funds subject to deposit) shall be maintained in blocked, non-interest bearing deposit accounts at Bank of America. The Borrower shall pay on demand therefor from time to time all customary account opening, activity and other administrative fees and charges in connection with the maintenance and disbursement of Cash Collateral.

(c) Application. Notwithstanding anything to the contrary contained in this Agreement, Cash Collateral provided under any of this Section 2.15 or Sections 2.03, 2.04, 2.05, 2.16 or 8.02 in respect of Letters of Credit shall be held and applied to the satisfaction of the specific L/C Obligations, obligations to fund participations therein (including, as to Cash Collateral provided by a Revolving Credit Lender that is a Defaulting Lender, any interest accrued on such obligation) and other obligations for which the Cash Collateral was so provided, prior to any other application of such property as may otherwise be provided for herein.

(d) Release. Cash Collateral (or the appropriate portion thereof) provided to reduce Fronting Exposure or to secure other
obligations shall be released promptly following (i) the elimination of the applicable Fronting Exposure or other obligations giving rise thereto (including by the termination of Defaulting Lender status of the applicable Revolving Credit Lender (or, as appropriate, its assignee following compliance with Section 10.06(b)(vi))) or (ii) the determination by the Administrative Agent and the L/C Issuer that there exists excess Cash Collateral; provided, however, (x) any such release shall be without prejudice to, and any disbursement or other transfer of Cash Collateral shall be and remain subject to, any other Lien conferred under the Loan Documents and the other applicable provisions of the Loan Documents, and (y) the Person providing Cash Collateral and the L/C Issuer may agree that Cash Collateral shall not be released but instead held to support future anticipated Fronting Exposure or other obligations.

2.16 Defaulting Lenders.

(a) Adjustments. Notwithstanding anything to the contrary contained in this Agreement, if any Lender becomes a Defaulting Lender, then, until such time as that Lender is no longer a Defaulting Lender, to the extent permitted by applicable Law:

(i) Waivers and Amendments. Such Defaulting Lender’s right to approve or disapprove any amendment, waiver or consent with respect to this Agreement shall be restricted as set forth in the definition of “Required Lenders” and Section 10.01.

(ii) Defaulting Lender Waterfall. Any payment of principal, interest, fees or other amounts received by the Administrative Agent for the account of such Defaulting Lender (whether voluntary or mandatory, at maturity, pursuant to Article VIII or otherwise) or received by the Administrative Agent from a Defaulting Lender pursuant to Section 10.08 shall be applied at such time or times as may be determined by the Administrative Agent as follows: first, to the payment of any amounts owing by such Defaulting Lender to the Administrative Agent hereunder; second, if such Defaulting Lender is a Revolving Credit Lender, to the payment on a pro rata basis of any amounts owing by such Defaulting Lender to the L/C Issuer or Swing Line Lender hereunder; third, if such Defaulting Lender is a Revolving Credit Lender, to Cash Collateralize the L/C Issuer’s Fronting Exposure with respect to such Defaulting Lender in accordance with Section 2.15; fourth, as the Borrower may request (so long as no Default or Event of Default exists), to the funding of any Loan in respect of which such Defaulting Lender has failed to fund its portion thereof as required by this Agreement, as determined by the Administrative Agent; fifth, if so determined by the Administrative Agent and the Borrower, to be held in a deposit account and released pro rata in order to (x) satisfy such Defaulting Lender’s potential future funding obligations with respect to Loans under this Agreement and (y) if...
such Defaulting Lender is a Revolving Credit Lender, Cash Collateralize the L/C Issuer’s future Fronting Exposure with respect to such Defaulting Lender with respect to future Letters of Credit issued under this Agreement, in accordance with Section 2.15; sixth, in the case of a Defaulting Lender under any Facility, to the payment of any amounts owing to the other Lenders under such Facility (in the case of the Revolving Credit Facility, including the L/C Issuer or Swing Line Lender as a result of any judgment of a court of competent jurisdiction obtained by any Lender, the L/C Issuer or the Swing Line Lender) against such Defaulting Lender as a result of such Defaulting Lender’s breach of its obligations under this Agreement; seventh, so long as no Default or Event of Default exists, to the payment of any amounts owing to the Borrower as a result of any judgment of a court of competent jurisdiction obtained by the Borrower against such Defaulting Lender as a result of such Defaulting Lender's breach of its obligations under this Agreement; and eighth, to such Defaulting Lender or as otherwise directed by a court of competent jurisdiction; provided that if (x) such payment is a payment of the principal amount of any Loans or L/C Borrowings in respect of which such Defaulting Lender has not fully funded its appropriate share, and (y) such Loans were made or the related Letters of Credit were issued at a time when the conditions set forth in Section 4.02 were satisfied or waived, such payment shall be applied solely to pay the Loans of, and L/C Obligations owed to, all Non-Defaulting Lenders under the applicable Facility on a pro rata basis (and ratable among all applicable Facilities computed in accordance with the Defaulting Lenders’ respective funding deficiencies) prior to being applied to the payment of any Loans of, or L/C Obligations owed to, such Defaulting Lender under the applicable Facility until such time as all Loans and funded and unfunded participations in L/C Obligations and Swing Line Loans are held by the Lenders pro rata in accordance with the Commitments hereunder without giving effect to Section 2.16(a)(iv). Any payments, prepayments or other amounts paid or payable to a Defaulting Lender that are applied (or held) to pay amounts owed by a Defaulting Lender or to post Cash Collateral pursuant to this Section 2.16(a)(ii) shall be deemed paid to and redirected by such Defaulting Lender, and each Lender irrevocably consents hereto.

(iii) Certain Fees.

(A) No Defaulting Lender shall be entitled to receive any fee payable under Section 2.09(a) for any period during which that Lender is a Defaulting Lender (and the Borrower shall not be required to pay any such fee that otherwise would have been required to have been paid to that Defaulting Lender).

(B) Each Defaulting Lender which is a Revolving Credit Lender shall be entitled to receive Letter of Credit Fees for any period during which that Lender is a Defaulting Lender only to the extent allocable to its Applicable Revolving Credit Percentage of the stated amount of Letters of Credit for which it has provided Cash Collateral pursuant to Section 2.16.
(C) With respect to any Letter of Credit Fee not required to be paid to any Defaulting Lender pursuant to clause (A) or (B) above, the Borrower shall (x) pay to each Non-Defaulting Lender which is a Revolving Credit Lender that portion of any such fee otherwise payable to such Defaulting Lender with respect to such Defaulting Lender’s participation in L/C Obligations or Swing Line Loans that has been reallocated to such Non-Defaulting Lender pursuant to clause (iv) below, (y) pay to the L/C Issuer and Swing Line Lender, as applicable, the amount of any such fee otherwise payable to such Defaulting Lender to the extent allocable to such L/C Issuer’s or Swing Line Lender’s Fronting Exposure to such Defaulting Lender, and (z) not be required to pay the remaining amount of any such fee.

(iv) Reallocation of Applicable Revolving Credit Percentages to Reduce Fronting Exposure. All or any part of such Defaulting Lender’s participation in L/C Obligations and Swing Line Loans shall be reallocated among the Non-Defaulting Lenders which are Revolving Credit Lenders in accordance with their respective Applicable Revolving Credit Percentages (calculated without regard to such Defaulting Lender’s Revolving Credit Commitment) but only to the extent that (x) the conditions set forth in Section 4.02 are satisfied at the time of such reallocation (and, unless the Borrower shall have otherwise notified the Administrative Agent at such time, the Borrower shall be deemed to have represented and warranted that such conditions are satisfied at such time), and (y) such reallocation does not cause the aggregate Revolving Credit Exposure of any Non-Defaulting Lender to exceed such Non-Defaulting Lender’s Revolving Credit Commitment. Subject to Section 10.21, no reallocation hereunder shall constitute a waiver or release of any claim of any party hereunder against a Defaulting Lender arising from that Lender having become a Defaulting Lender, including any claim of a Non-Defaulting Lender as a result of such Non-Defaulting Lender’s increased exposure following such reallocation.

(v) Cash Collateral, Repayment of Swing Line Loans. If the reallocation described in clause (a)(iv) above cannot, or can only partially, be effected, the Borrower shall, without prejudice to any right or remedy available to it hereunder or under applicable Law, (x) first, prepay Swing Line Loans in an amount equal to the Swing Line Lender’s Fronting Exposure and (y) second, Cash Collateralize the L/C Issuer’s Fronting Exposure in accordance with the procedures set forth in Section 2.15.

(b) Defaulting Lender Cure. If the Borrower, the Administrative Agent and, in the case that a Defaulting Lender is a Revolving Credit Lender, the Swing Line Lender and the L/C Issuer, agree in writing that a Lender is no longer a Defaulting Lender, the Administrative Agent will so notify the parties hereto, whereupon as of the effective date specified in such notice and subject to any conditions set forth therein (which may include arrangements with
respect to any Cash Collateral), that Lender will, to the extent applicable, purchase at par that portion of outstanding Revolving Credit Loans of the other Lenders or take such other actions as the Administrative Agent may determine to be necessary to cause the Revolving Credit Loans and funded and unfunded participations in Letters of Credit and Swing Line Loans to be held on a pro rata basis by the Lenders in accordance with their Applicable Percentages (without giving effect to Section 2.16(a)(iv)), whereupon such Lender will cease to be a Defaulting Lender; provided that no adjustments will be made retroactively with respect to fees accrued or payments made by or on behalf of the Borrower while that Lender was a Defaulting Lender; and provided, further, that except to the extent otherwise expressly agreed by the affected parties, no change hereunder from Defaulting Lender to Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender’s having been a Defaulting Lender.

2.17 Inability to Determine Rates. Notwithstanding anything to the contrary in this Agreement or any other Loan Documents, if the Administrative Agent reasonably determines (which determination shall be conclusive absent manifest error), or the Borrower or Required Lenders notify the Administrative Agent (with, in the case of the Required Lenders, a copy to Borrower) that the Borrower or Required Lenders (as applicable) have determined, that:

(a) adequate and reasonable means do not exist for ascertaining LIBOR for any requested Interest Period, including, without limitation, because the LIBOR Screen Rate is not available or published on a current basis and such circumstances are unlikely to be temporary; or

(b) the administrator of the LIBOR Screen Rate or a Governmental Authority having jurisdiction over the Administrative Agent has made a public statement identifying a specific date after which LIBOR or the LIBOR Screen Rate shall no longer be made available, or used for determining the interest rate of loans (such specific date, the “Scheduled Unavailability Date”), or

(c) syndicated loans currently being executed, or that include language similar to that contained in this Section 2.17, are being executed or amended (as applicable) to incorporate or adopt a new benchmark interest rate to replace LIBOR;

then, reasonably promptly after such determination by the Administrative Agent or receipt by the Administrative Agent of such notice, as applicable, the Administrative Agent and the Borrower may amend this Agreement to replace LIBOR with an alternate benchmark rate (including any mathematical or other adjustments to the benchmark (if any) incorporated therein) giving due consideration to any evolving or then existing convention for similar U.S. dollar denominated syndicated credit facilities for such alternative benchmarks (any such proposed rate, a “LIBOR Successor Rate”), together with any proposed LIBOR Successor Rate Conforming Changes and any such amendment shall become effective at 5:00 p.m. (New York time) on the fifth Business Day after the Administrative Agent shall have posted such proposed amendment to all Lenders and the Borrower unless, prior to such time, Lenders comprising the Required Lenders have delivered
to the Administrative Agent written notice that such Required Lenders do not accept such amendment.

If no LIBOR Successor Rate has been determined and the circumstances under clause (a) above exist or the Scheduled Unavailability Date has occurred (as applicable), the Administrative Agent will promptly so notify the Borrower and each Lender. Thereafter, (x) the obligation of the Lenders to make or maintain Eurodollar Rate Loans shall be suspended, (to the extent of the affected Eurodollar Rate Loans or Interest Periods), and (y) the Eurodollar Rate component shall no longer be utilized in determining the Base Rate. Upon receipt of such notice, the Borrower may revoke any pending request for a Borrowing of, conversion to or continuation of Eurodollar Rate Loans (to the extent of the affected Eurodollar Rate Loans or Interest Periods) or, failing that, will be deemed to have converted such request into a request for a Committed Borrowing of Base Rate Loans (subject to the foregoing clause (y)) in the amount specified therein.

Notwithstanding anything else herein, any definition of LIBOR Successor Rate shall provide that in no event shall such LIBOR Successor Rate be less than zero for purposes of this Agreement.

ARTICLE III. TAXES, YIELD PROTECTION AND ILLEGALITY

3.01 Taxes.

(a) Payments Free of Taxes; Obligation to Withhold; Payments on Account of Taxes.

(i) Any and all payments by or on account of any obligation of any Loan Party under any Loan Document shall be made without deduction or withholding for any Taxes, except as required by applicable Laws. If any applicable Laws (as determined in the good faith discretion of the Administrative Agent) require the deduction or withholding of any Tax from any such payment by the Administrative Agent or a Loan Party, then the Administrative Agent or such Loan Party shall be entitled to make such deduction or withholding, upon the basis of the information and documentation to be delivered pursuant to subsection (e) below.

(ii) If any Loan Party or the Administrative Agent shall be required by the Code to withhold or deduct any Taxes, including both United States Federal backup withholding and withholding taxes, from any payment, then (A) the Administrative Agent shall withhold or make such deductions as are determined by the Administrative Agent to be required based upon the information and documentation it has received pursuant to subsection (e) below, (B) the Administrative Agent shall timely pay the full amount withheld or deducted to the relevant Governmental Authority in accordance with the Code, and (C) to the extent that the withholding or deduction is made on account of Indemnified Taxes, the sum payable by the applicable Loan Party shall be increased as necessary so that after any required withholding or the making of all required deductions (including deductions applicable to additional sums payable under this Section 3.01) the
applicable Recipient receives an amount equal to the sum it would have received had no such withholding or deduction been made.

(iii) If any Loan Party or the Administrative Agent shall be required by any applicable Laws other than the Code to withhold or deduct any Taxes from any payment, then (A) such Loan Party or the Administrative Agent, as required by such Laws, shall withhold or make such deductions as are determined by it to be required based upon the information and documentation it has received pursuant to subsection (e) below, (B) such Loan Party or the Administrative Agent, to the extent required by such Laws, shall timely pay the full amount withheld or deducted to the relevant Governmental Authority in accordance with such Laws, and (C) to the extent that the withholding or deduction is made on account of Indemnified Taxes, the sum payable by the applicable Loan Party shall be increased as necessary so that after any required withholding or the making of all required deductions (including deductions applicable to additional sums payable under this Section 3.01) the applicable Recipient receives an amount equal to the sum it would have received had no such withholding or deduction been made.

(b) Payment of Other Taxes by the Borrower. Without limiting the provisions of subsection (a) above, the Borrower shall timely pay to the relevant Governmental Authority in accordance with applicable law, or at the option of the Administrative Agent timely reimburse it for the payment of, any Other Taxes.

c) Tax Indemnifications. (i) The Borrower shall, and does hereby, indemnify each Recipient, and shall make payment in respect thereof within thirty (30) days after demand therefor, for the full amount of any Indemnified Taxes (including Indemnified Taxes imposed or asserted on or attributable to amounts payable under this Section 3.01) payable or paid by such Recipient or required to be withheld or deducted from a payment to such Recipient, and any penalties, interest and reasonable expenses arising therefrom or with respect thereto, whether or not such Indemnified Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to the Borrower by a Lender or the L/C Issuer (with a copy to the Administrative Agent), or by the Administrative Agent on its own behalf or on behalf of a Lender or the L/C Issuer, shall be conclusive absent manifest error. The Borrower shall, and does hereby, indemnify the Administrative Agent, and shall make payment in respect thereof within thirty (30) days after demand therefor, for any amount which a Lender or the L/C Issuer for any reason fails to pay indefeasibly to the Administrative Agent as required pursuant to Section 3.01(c)(ii) below.
(i) Each Lender and the L/C Issuer shall, and does hereby, severally indemnify, and shall make payment in respect thereof within 10 days after demand therefor, (x) the Administrative Agent against any Indemnified Taxes attributable to such Lender or the L/C Issuer (but only to the extent that the Borrower has not already indemnified the Administrative Agent for such Indemnified Taxes and without limiting the obligation of the Borrower to do so), (y) the Administrative Agent and the Borrower, as applicable, against any Taxes attributable to such Lender’s failure to comply with the provisions of Section 10.06(d) relating to the maintenance of a Participant Register and (z) the Administrative Agent and the Borrower, as applicable, against any Excluded Taxes attributable to such Lender or the L/C Issuer, in each case, that are payable or paid by the Administrative Agent or the Borrower in connection with any Loan Document, and any reasonable expenses arising therefrom or with respect thereto, whether or not such Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to any Lender by the Administrative Agent shall be conclusive absent manifest error. Each Lender and the L/C Issuer hereby authorizes the Administrative Agent to set off and apply any and all amounts at any time owing to such Lender or the L/C Issuer, as the case may be, under this Agreement or any other Loan Document against any amount due to the Administrative Agent under this clause (ii).

(d) Evidence of Payments. Upon request by the Borrower or the Administrative Agent, as the case may be, after any payment of Taxes by the Borrower or by the Administrative Agent to a Governmental Authority as provided in this Section 3.01, the Borrower shall deliver to the Administrative Agent or the Administrative Agent shall deliver to the Borrower, as the case may be, the original or a certified copy of a receipt issued by such Governmental Authority evidencing such payment, a copy of any return required by Laws to report such payment or other evidence of such payment reasonably satisfactory to the Borrower or the Administrative Agent, as the case may be.
(c) **Status of Lenders; Tax Documentation.**

(i) Any Lender that is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document shall deliver to the Borrower and the Administrative Agent, at the time or times reasonably requested by the Borrower or the Administrative Agent, such properly completed and executed documentation reasonably requested by the Borrower or the Administrative Agent as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, any Lender, if reasonably requested by the Borrower or the Administrative Agent, shall deliver such other documentation prescribed by applicable law or reasonably requested by the Borrower or the Administrative Agent as will enable the Borrower or the Administrative Agent to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Notwithstanding anything to the contrary in the preceding two sentences, the completion, execution and submission of such documentation (other than such documentation set forth in Section 3.01(e)(ii)(A), (ii)(B) and (ii)(D) below) shall not be required if in the Lender’s reasonable judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender.

(ii) Without limiting the generality of the foregoing, in the event that the Borrower is a U.S. Person,

(A) any Lender that is a U.S. Person shall deliver to the Borrower and the Administrative Agent on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower or the Administrative Agent), executed copies of IRS Form W-9 certifying that such Lender is exempt from U.S. federal backup withholding tax;

(B) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Borrower and the Administrative Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower or the Administrative Agent), whichever of the following is applicable:

(I) in the case of a Foreign Lender claiming the benefits of an income tax treaty to which the United States is a party (x) with respect to payments of interest under any Loan Document, executed copies of IRS Form W-8BEN establishing an exemption from, or reduction of, U.S. federal withholding tax.
withholding Tax pursuant to the “interest” article of such tax treaty and (y) with respect to any other applicable payments under any Loan Document, IRS Form W-8BEN establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the “business profits” or “other income” article of such tax treaty;

(II) executed originals of IRS Form W-8ECI;

(III) in the case of a Foreign Lender claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (x) a certificate substantially in the form of Exhibit I-1 to the effect that such Foreign Lender is not a “bank” within the meaning of Section 881(c)(3)(A) of the Code, a “10 percent shareholder” of the Borrower within the meaning of Section 881(c)(3)(B) of the Code, or a “controlled foreign corporation” described in Section 881(c)(3)(C) of the Code (a “U.S. Tax Compliance Certificate”) and (y) executed copies of IRS Form W-8BEN; or

(IV) to the extent a Foreign Lender is not the beneficial owner, executed originals of IRS Form W-8IMY, accompanied by IRS Form W-8ECI, IRS Form W-8BEN, a U.S. Tax Compliance Certificate substantially in the form of Exhibit I-2 or Exhibit I-3, IRS Form W-9, and/or other certification documents from each beneficial owner, as applicable; provided that if the Foreign Lender is a partnership and one or more direct or indirect partners of such Foreign Lender are claiming the portfolio interest
exemption, such Foreign Lender may provide a U.S. Tax Compliance Certificate substantially in the form of Exhibit I-4 on behalf of each such direct and indirect partner;

(C) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Borrower and the Administrative Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower or the Administrative Agent), executed copies of any other form prescribed by applicable law as a basis for claiming exemption from or a reduction in U.S. federal withholding Tax, duly completed, together with such supplementary documentation as may be prescribed by applicable law to permit the Borrower or the Administrative Agent to determine the withholding or deduction required to be made; and

(D) if a payment made to a Lender under any Loan Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to the Borrower and the Administrative Agent at the time or times prescribed by law and at such time or times reasonably requested by the Borrower or the Administrative Agent such documentation prescribed by applicable law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by the Borrower or the Administrative Agent as may be necessary for the Borrower and the Administrative Agent to comply with their obligations under FATCA and to determine that such Lender has complied with such Lender’s obligations under FATCA or to determine the amount to deduct and withhold from such payment. Solely for purposes of this clause (D), “FATCA” shall include any amendments made to FATCA after the date of this Agreement.

(iii) Each Lender agrees that if any form or certification it previously delivered pursuant to this Section 3.01 expires or becomes obsolete or inaccurate in any respect, it shall update such form or certification or promptly notify the Borrower and the Administrative Agent in writing of its legal inability to do so.

(f) Treatment of Certain Refunds. Unless required by applicable Laws, at no time shall the Administrative Agent have any obligation to file for or otherwise pursue on behalf of a Lender or the L/C Issuer, or have any obligation to pay to any Lender or the L/C Issuer, any refund of Taxes withheld or deducted from funds paid for the account of such Lender or the L/C Issuer, as the case may be. If any Recipient determines, in its sole discretion exercised in good faith, that it has received a refund of any Taxes as to which it has been
indemnified by the Borrower or with respect to which the Borrower has paid additional amounts pursuant to this Section 3.01, it shall pay to the Borrower an amount equal to such refund (but only to the extent of indemnity payments made, or additional amounts paid, by the Borrower under this Section 3.01 with respect to the Taxes giving rise to such refund), net of all out-of-pocket expenses (including Taxes) incurred by such Recipient, and without interest (other than any interest paid by the relevant Governmental Authority with respect to such refund), provided that the Borrower, upon the request of the Recipient, agrees to repay the amount paid over to the Borrower (plus any penalties, interest or other charges imposed by the relevant Governmental Authority) to the Recipient in the event the Recipient is required to repay such refund to such Governmental Authority. Notwithstanding anything to the contrary in this subsection, in no event will the applicable Recipient be required to pay any amount to the Borrower pursuant to this subsection the payment of which would place the Recipient in a less favorable net after-Tax position than such Recipient would have been in if the Tax subject to indemnification and giving rise to such refund had not been deducted, withheld or otherwise imposed and the indemnification payments or additional amounts with respect to such Tax had never been paid. This subsection shall not be construed to require any Recipient to make available its tax returns (or any other information relating to its taxes that it deems confidential) to the Borrower or any other Person.

(g) Survival. Each party’s obligations under this Section 3.01 shall survive the resignation or replacement of the Administrative Agent or any assignee of rights by, or the replacement of, a Lender or the L/C Issuer, the termination of the Commitments and the repayment, satisfaction or discharge of all other Obligations.

3.02 Illegality. If any Lender determines that any Law has made it unlawful, or that any Governmental Authority has asserted that it is unlawful, for any Lender or its Lending Office to make, maintain or fund Loans whose interest is determined by reference to the Eurodollar Rate, or to determine or charge interest rates based upon the Eurodollar Rate, or any Governmental Authority has imposed material restrictions on the authority of such Lender to purchase or sell, or to take deposits of, Dollars or any Alternative Currency in the London interbank market, then, on notice thereof by such Lender to the Borrower through the Administrative Agent, (i) any obligation of such Lender to make or continue Eurodollar Rate Loans in the affected currency or currencies or, in the case of Eurodollar Rate Loans in Dollars, to convert Base Rate Loans to Eurodollar Rate Loans shall be suspended, and (ii) if such notice asserts the illegality of such Lender making or maintaining Base Rate Loans the interest rate on which is determined by reference to the
Eurodollar Rate component of the Base Rate, the interest rate on which Base Rate Loans of such Lender shall, if necessary to avoid such illegality, be determined by the Administrative Agent without reference to the Eurodollar Rate component of the Base Rate, in each case until such Lender notifies the Administrative Agent and the Borrower that the circumstances giving rise to such determination no longer exist. Upon receipt of such notice, (x) the Borrower shall, upon demand from such Lender (with a copy to the Administrative Agent), prepay or, if applicable and such Loans are denominated in Dollars, convert all Eurodollar Rate Loans of such Lender to Base Rate Loans (the interest rate on which Base Rate Loans of such Lender shall, if necessary to avoid such illegality, be determined by the Administrative Agent without reference to the Eurodollar Rate component of the Base Rate), either on the last day of the Interest Period therefor, if such Lender may lawfully continue to maintain such Eurodollar Rate Loans to such day, or immediately, if such Lender may not lawfully continue to maintain such Eurodollar Rate Loans and (y) if such notice asserts the illegality of such Lender determining or charging interest rates based upon the Eurodollar Rate, the Administrative Agent shall during the period of such suspension compute the Base Rate applicable to such Lender without reference to the Eurodollar Rate component thereof until the Administrative Agent is advised in writing by such Lender that it is no longer illegal for such Lender to determine or charge interest rates based upon the Eurodollar Rate. Upon any such prepayment or conversion, the Borrower shall also pay accrued interest on the amount so prepaid or converted.

3.03 Inability to Determine Rates.

(a) If in connection with any request for a Eurodollar Rate Loan or a conversion to or continuation thereof, (i) the Administrative Agent determines that (IA) deposits (whether in Dollars or an Alternative Currency) are not being offered to banks in the London interbank eurodollar market for such currency for the applicable amount and Interest Period of such Eurodollar Rate Loan, or (iiB) (x) adequate and reasonable means do not exist for determining the Eurodollar Rate for any requested Interest Period with respect to a proposed Eurodollar Rate Loan or in connection with an existing or proposed Base Rate Loan (whether denominated in Dollars or an Alternative Currency) and (y) the circumstances described in Section 3.03(c)(i) do not apply (in each case with respect to this clause (a)(i) above, “Impacted Loans”), or (bii) the Administrative Agent or the Required Lenders determine that for any reason the Eurodollar Rate for any requested Interest Period with respect to a proposed Eurodollar Rate Loan does not adequately and fairly reflect the cost to such Lenders of funding such Eurodollar Rate Loan, the Administrative Agent will promptly so notify the Borrower and each Lender. Thereafter, (x) the obligation of the Lenders to make or maintain Eurodollar Rate Loans in the affected currency or
currencies shall be suspended; (to the extent of the affected Eurodollar Rate Loans or Interest Periods), and (y) in the event of a determination described in the preceding sentence with respect to the Eurodollar Rate component of the Base Rate, the utilization of the Eurodollar Rate component in determining the Base Rate shall be suspended, in each case until the Administrative Agent (or, in the case of a determination by the Required Lenders described in clause (ii) of Section 3.03(a), until the Administrative Agent upon the instruction of the Required Lenders) revokes such notice. Upon receipt of such notice, the Borrower may revoke any pending request for a Borrowing of, conversion to or continuation of Eurodollar Rate Loans in the affected currency or currencies (to the extent of the affected Eurodollar Rate Loans or Interest Periods) or, failing that, (A) with respect to a pending request for a Borrowing denominated in Dollars, will be deemed to have converted such request into a request for a Committed Revolving Credit Borrowing of Base Rate Loans (subject to the foregoing clause (y)) in the amount specified therein, and (B) with respect to a pending request denominated in any Alternative Currency, at the election of the Borrower, (1) such request shall be converted into a request for a Revolving Credit Borrowing of Base Rate Loans denominated in Dollars (subject to the foregoing clause (y)) in the Dollar Equivalent specified therein (and in the case of any outstanding Eurodollar Rate Loans, regardless of whether such request is made, such Loans will automatically be deemed to be converted to Base Rate Loans denominated in Dollars in the Dollar Equivalent of such Loans at the end of the applicable Interest Period), or (2) the Borrower shall repay such Eurodollar Loans (to the extent outstanding) in full at the end of the applicable Interest Period; provided, however, that if no such election is made by the Borrower within three (3) Business Days after receipt of such notice, the Borrower shall be deemed to have elected clause (1) above.

(b) Notwithstanding the foregoing, if the Administrative Agent has made the determination described in clauses (a) clause (i) or (a) (ii) of this section of Section 3.03(a), the Administrative Agent, in consultation with the Borrower and the affected Lenders, may establish an alternative interest rate for the Impacted Loans, in which case, such alternative rate of interest shall apply with respect to the Impacted Loans until (1) the Administrative Agent revokes the notice delivered with respect to the Impacted Loans under clause (a) of the first sentence of this section, (2) the Administrative Agent or the Required Lenders notify the Administrative Agent and the Borrower that such alternative interest rate does not adequately and fairly reflect the cost to such Lenders of funding the Impacted Loans, or (3) any Lender determines that any Law has made it unlawful, or

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that any Governmental Authority has asserted that it is unlawful, for such Lender or its applicable Lending Office to make, maintain or fund Loans whose interest is determined by reference to such alternative rate of interest or to determine or charge interest rates based upon such rate or any Governmental Authority has imposed material restrictions on the authority of such Lender to do any of the foregoing and provides the Administrative Agent and the Borrower written notice thereof.

(c) Notwithstanding anything to the contrary in this Agreement or any other Loan Documents, if the Administrative Agent determines (which determination shall be conclusive absent manifest error), or the Borrower or Required Lenders notify the Administrative Agent (with, in the case of the Required Lenders, a copy to the Borrower) that the Borrower or Required Lenders (as applicable) have determined that:

(i) adequate and reasonable means do not exist for ascertaining LIBOR for any requested Interest Period, including, without limitation, because the LIBOR Screen Rate is not available or published on a current basis and such circumstances are unlikely to be temporary; or

(ii) the administrator of the LIBOR Screen Rate or a Governmental Authority having jurisdiction over the Administrative Agent has made a public statement identifying a specific date after which LIBOR or the LIBOR Screen Rate shall no longer be made available, or used for determining the interest rate of loans, provided that, at the time of such statement, there is no successor administrator that is satisfactory to the Administrative Agent that will continue to provide LIBOR after such specific date (such specific date, the “Scheduled Unavailability Date”); or

(iii) syndicated loans currently being executed, or that include language similar to that contained in this Section, are being executed or amended (as applicable) to incorporate or adopt a new benchmark interest rate to replace LIBOR;

then, reasonably promptly after such determination by the Administrative Agent or receipt by the Administrative Agent of such notice, as applicable, the Administrative Agent and the Borrower may amend this Agreement solely for the purpose of replacing LIBOR in accordance with this Section 3.03 with (x) for Loans denominated in Dollars, one or more SOFR-Based Rates or (y) another alternate benchmark rate giving due consideration to any evolving or then existing convention for similar Dollar (or, with respect to the benchmark of another applicable currency, such applicable currency) denominated syndicated credit facilities for such alternative benchmarks and, in each case, including any mathematical or other adjustments to such benchmark giving due consideration to any evolving or then existing convention for similar Dollar (or, with respect to the benchmark of another applicable currency, such applicable currency) denominated syndicated credit facilities for such benchmarks, which adjustment or method for calculating such adjustment shall be published.
on an information service as selected by the Administrative Agent from time to time in its reasonable discretion and may be periodically updated (the “Adjustment;” and any such proposed rate, a “LIBOR Successor Rate”), and any such amendment shall become effective at 5:00 p.m. on the fifth Business Day after the Administrative Agent shall have posted such proposed amendment to all Lenders and the Borrower unless, prior to such time, Lenders comprising the Required Lenders have delivered to the Administrative Agent written notice that such Required Lenders (A) in the case of an amendment to replace LIBOR with a rate described in clause (x), object to the Adjustment; or (B) in the case of an amendment to replace LIBOR with a rate described in clause (y), object to such amendment; provided that for the avoidance of doubt, in the case of clause (A), the Required Lenders shall not be entitled to object to any SOFR-Based Rate contained in any such amendment. Such LIBOR Successor Rate shall be applied in a manner consistent with market practice; provided that to the extent such market practice is not administratively feasible for the Administrative Agent, such LIBOR Successor Rate shall be applied in a manner as otherwise reasonably determined by the Administrative Agent.

If no LIBOR Successor Rate has been determined and the circumstances under clause (i) above exist or the Scheduled Unavailability Date has occurred (as applicable), the Administrative Agent will promptly so notify the Borrower and each Lender. Thereafter, (x) the obligation of the Lenders to make or maintain Eurodollar Rate Loans shall be suspended (to the extent of the affected Eurodollar Rate Loans or Interest Periods), and (y) the Eurodollar Rate component shall no longer be utilized in determining the Base Rate.

Upon receipt of such notice, the Borrower may revoke any pending request for a Borrowing of, conversion to or continuation of Eurodollar Rate Loans in the affected currency or currencies (to the extent of the affected Eurodollar Rate Loans or Interest Periods) or, failing that, (A) with respect to a pending request for Loans denominated in Dollars, the Borrower will be deemed to have converted such request into a request for a Revolving Credit Borrowing of Base Rate Loans (subject to the foregoing clause (y)) in the amount specified therein and (B) with respect to Loans denominated in any Alternative Currency, at the election of the Borrower, (1) such request shall be converted into a request for a Revolving Credit Borrowing of Base Rate Loans denominated in Dollars (subject to the foregoing clause (y)) in the Dollar Equivalent of the amount specified therein (and, in the case of any outstanding Eurodollar Rate Loans, regardless of whether such request is made, such Loans will automatically be deemed converted to Base Rate Loans denominated in Dollars in the Dollar Equivalent of such Loans at the end of the applicable Interest Period) or (2) the Borrower shall repay such Eurodollar Rate Loans (to the extent outstanding) in full at the end of the applicable Interest Period; provided, however, that if no such election is made by the Borrower within three (3) Business Days after receipt of such notice, the Borrower shall be deemed to have elected clause (1) above.

Notwithstanding anything else herein, any definition of LIBOR Successor Rate shall provide that in no event shall such LIBOR Successor Rate be less than zero for purposes of this Agreement.

In connection with the implementation of a LIBOR Successor Rate, the Administrative Agent will have the right to make LIBOR Successor Rate Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan Document, any amendments implementing such LIBOR Successor Rate Conforming Changes will become effective without any further action or consent of any other party to this Agreement; provided that, with respect to any such amendment effected, the Administrative Agent shall post each such amendment implementing such LIBOR Successor Rate Conforming Changes to the Lenders reasonably promptly after such amendment becomes effective.

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3.04 Increased Costs; Reserves on Eurodollar Rate Loans.

(a) Increased Costs Generally. If any Change in Law shall:

(i) impose, modify or deem applicable any reserve, special deposit, compulsory loan, insurance charge or similar requirement against assets of, deposits with or for the account of, or credit extended or participated in by, any Lender (except any reserve requirement contemplated by Section 3.04(e)) or the L/C Issuer;

(ii) subject any Recipient to any Taxes (other than (A) Indemnified Taxes, (B) Taxes described in clauses (b) through (d) of the definition of Excluded Taxes and (C) Connection Income Taxes) on its loans, loan principal, letters of credit, commitments, or other obligations, or its deposits, reserves, other liabilities or capital attributable thereto; or

(iii) impose on any Lender or the L/C Issuer or the London interbank market any other condition, cost or expense affecting this Agreement or Eurodollar Rate Loans made by such Lender or any Letter of Credit or participation therein;

and the result of any of the foregoing shall be to increase the cost to such Lender of making, converting to, continuing or maintaining any Loan the interest on which is determined by reference to the Eurodollar Rate (or of maintaining its obligation to make any such Loan), or to increase the cost to such Lender or the L/C Issuer of participating in, issuing or maintaining any Letter of Credit (or of maintaining its obligation to participate in or to issue any Letter of Credit), or to reduce the amount of any sum received or receivable by such Lender or the L/C Issuer hereunder (whether of principal, interest or any other amount) then, upon request of such Lender or the L/C Issuer, the Borrower will pay to such Lender or the L/C Issuer, as the case may be, such additional amount or amounts as will compensate such Lender or the L/C Issuer, as the case may be, for such additional costs incurred or reduction suffered.

(b) Capital Requirements. If any Lender or the L/C Issuer determines that any Change in Law affecting such Lender or the L/C Issuer or any Lending Office of such Lender or such Lender’s or the L/C Issuer’s holding company, if any, regarding capital or liquidity requirements has or would have the effect of reducing the rate of return on such Lender’s or the L/C Issuer’s capital or on the capital of such Lender’s or the L/C Issuer’s holding company, if any, as a consequence of this Agreement, the Commitments of such Lender or the Loans made by, or participations in Letters of Credit or Swing Line Loans held by, such Lender, or the Letters of Credit issued by the L/C Issuer, to a level below that which such Lender or the L/C Issuer or such Lender’s or the L/C Issuer’s holding company could have achieved but for such Change in Law (taking into consideration such Lender’s or the L/C Issuer’s policies and the policies of such Lender’s or the L/C Issuer’s holding company with respect to capital adequacy), then from time to time the Borrower will pay to such
Lender or the L/C Issuer, as the case may be, such additional amount or amounts as will compensate such Lender or the L/C Issuer or such Lender’s or the L/C Issuer’s holding company for any such reduction suffered.

(c) **Certificates for Reimbursement.** A certificate of a Lender or the L/C Issuer setting forth the amount or amounts necessary to compensate such Lender or the L/C Issuer or its holding company, as the case may be, as specified in subsection (a) or (b) of this Section and delivered to the Borrower shall be conclusive absent manifest error. The Borrower shall pay such Lender or the L/C Issuer, as the case may be, the amount shown as due on any such certificate within 10 days after receipt thereof.

(d) **Delay in Requests.** Failure or delay on the part of any Lender or the L/C Issuer to demand compensation pursuant to the foregoing provisions of this Section 3.04 shall not constitute a waiver of such Lender’s or the L/C Issuer’s right to demand such compensation, provided that the Borrower shall not be required to compensate a Lender or the L/C Issuer pursuant to the foregoing provisions of this Section for any increased costs incurred or reductions suffered more than nine months prior to the date that such Lender or the L/C Issuer, as the case may be, notifies the Borrower of the Change in Law giving rise to such increased costs or reductions and of such Lender’s or the L/C Issuer’s intention to claim compensation therefor (except that, if the Change in Law giving rise to such increased costs or reductions is retroactive, then the nine-month period referred to above shall be extended to include the period of retroactive effect thereof).

(e) **Reserves on Eurodollar Rate Loans.** The Borrower shall pay to each Lender, as long as such Lender shall be required to maintain reserves with respect to liabilities or assets consisting of or including Eurocurrency funds or deposits (currently known as “Eurocurrency liabilities”), additional interest on the unpaid principal amount of each Eurodollar Rate Loan equal to the actual costs of such reserves allocated to such Loan by such Lender (as determined by such Lender in good faith, which determination shall be conclusive), which shall be due and payable on each date on which interest is payable on such Loan, provided the Borrower shall have received at least 10 days’ prior notice (with a copy to the Administrative Agent) of such additional interest from such Lender. If a Lender fails to give notice 10 days prior to the relevant Interest Payment Date, such additional interest shall be due and payable 10 days from receipt of such notice.
3.05 **Compensation for Losses.** Upon demand of any Lender (with a copy to the Administrative Agent) from time to time, the Borrower shall promptly compensate such Lender for and hold such Lender harmless from any actual and direct loss, cost or expense incurred by it as a result of:

(a) any continuation, conversion, payment or prepayment of any Loan other than a Base Rate Loan on a day other than the last day of the Interest Period for such Loan (whether voluntary, mandatory, automatic, by reason of acceleration, or otherwise);

(b) any failure by the Borrower (for a reason other than the failure of such Lender to make a Loan) to prepay, borrow, continue or convert any Loan other than a Base Rate Loan on the date or in the amount notified by the Borrower;

(c) any failure by the Borrower to make payment of any Loan or drawing under any Letter of Credit (or interest due thereon) denominated in an Alternative Currency on its scheduled due date or any payment thereof in a different currency; or

(d) any assignment of a Eurodollar Rate Loan on a day other than the last day of the Interest Period therefor as a result of a request by the Borrower pursuant to Section 10.13;

excluding any loss of anticipated profits but including any foreign exchange losses and any loss or expense arising from the liquidation or reemployment of funds obtained by it to maintain such Loan or from fees payable to terminate the deposits from which such funds were obtained or from the performance of any foreign exchange contract. The Borrower shall also pay any customary administrative fees charged by such Lender in connection with the foregoing.

For purposes of calculating amounts payable by the Borrower to the Lenders under this Section 3.05, each Lender shall be deemed to have funded each Eurodollar Rate Loan made by it at the Eurodollar Rate for such Loan by a matching deposit or other borrowing in the London interbank eurodollar market for such currency for a comparable amount and for a comparable period, whether or not such Eurodollar Rate Loan was in fact so funded.

3.06 **Mitigation Obligations; Replacement of Lenders.**

(a) **Designation of a Different Lending Office.** If any Lender requests compensation under Section 3.04, or requires the Borrower to pay any Indemnified Taxes or additional amounts to any Lender, the L/C Issuer, or any Governmental Authority for the account of any Lender or the L/C Issuer pursuant to Section 3.01, or if any Lender gives a notice pursuant to Section 3.02, then at the request of the Borrower such Lender or the L/C Issuer shall, as applicable, use reasonable efforts to designate a different Lending
Office for funding or booking its Loans hereunder or to assign its rights and obligations hereunder to another of its offices, branches or affiliates, if, in the judgment of such Lender or the L/C Issuer, such designation or assignment (i) would eliminate or reduce amounts payable pursuant to Section 3.01 or 3.04, as the case may be, in the future, or eliminate the need for the notice pursuant to Section 3.02, as applicable, and (ii) in each case, would not subject such Lender or the L/C Issuer, as the case may be, to any unreimbursed cost or expense and would not otherwise be disadvantageous to such Lender or the L/C Issuer, as the case may be. The Borrower hereby agrees to pay all reasonable costs and expenses incurred by any Lender or the L/C Issuer in connection with any such designation or assignment.

(b) **Replacement of Lenders.** If any Lender requests compensation under Section 3.04, or if the Borrower is required to pay any Indemnified Taxes or additional amounts to any Lender or any Governmental Authority for the account of any Lender pursuant to Section 3.01 and, in each case, such Lender has declined or is unable to designate a different lending office in accordance with Section 3.06(a), the Borrower may replace such Lender in accordance with Section 10.13.

**3.07 Survival.** All of the Borrower’s obligations under this Article III shall survive termination of the Aggregate Commitments, repayment of all other Obligations hereunder, and resignation of the Administrative Agent.

**ARTICLE IV. CONDITIONS PRECEDENT TO CREDIT EXTENSIONS**

**4.01 Conditions of Initial Credit Extension.** The obligation of the L/C Issuer and each Lender to make its initial Credit Extension hereunder is subject to satisfaction of the following conditions precedent:

(a) The Administrative Agent’s receipt of the following, each of which shall be originals or telecopies (followed promptly by originals) unless otherwise specified, each properly executed by a Responsible Officer of the signing Loan Party, each dated the Closing Date (or, in the case of certificates of governmental officials, a recent date before the Closing Date) and each in form and substance satisfactory to the Administrative Agent and each of the Lenders:

(i) executed counterparts of this Agreement and the Guaranty, sufficient in number for distribution to the Administrative Agent, each Lender and the Borrower;
(ii) a Note executed by the Borrower in favor of each Lender requesting a Note;

(iii) [reserved]

(iv) such certificates of resolutions or other action, incumbency certificates and/or other certificates of Responsible Officers of each Loan Party as the Administrative Agent may require evidencing the identity, authority and capacity of each Responsible Officer thereof authorized to act as a Responsible Officer in connection with this Agreement and the other Loan Documents to which such Loan Party is a party;

(v) such documents and certifications as the Administrative Agent may reasonably require to evidence that each Loan Party is duly organized or formed, and that each of the Borrower and each Guarantor is validly existing, in good standing and qualified to engage in business in each jurisdiction where its ownership, lease or operation of properties or the conduct of its business requires such qualification, except to the extent that failure to do so could not reasonably be expected to have a Material Adverse Effect;

(vi) a favorable opinion of DLA Piper, counsel to the Loan Parties, addressed to the Administrative Agent and each Lender, as to such matters concerning the Loan Parties and the Loan Documents as the Required Lenders may reasonably request;

(vii) a certificate of a Responsible Officer of each Loan Party either (A) attaching copies of all consents, licenses and approvals required in connection with the execution, delivery and performance by such Loan Party and the validity against such Loan Party of the Loan Documents to which it is a party, and such consents, licenses and approvals shall be in full force and effect, or (B) stating that no such consents, licenses or approvals are so required;

(viii) a certificate signed by a Responsible Officer of the Borrower certifying (A) that the conditions specified in Sections 4.02(a) and (b) have been satisfied, (B) that there has been no event or circumstance since the date of the Audited Financial Statements that has had or could be reasonably expected to have, either individually or in the aggregate, a Material Adverse Effect and (C) a calculation of the Consolidated Net Leverage Ratio as of the last day of the fiscal quarter of the Borrower most recently ended prior to the Closing Date;

(ix) [reserved];

(x) evidence that the Existing Credit Agreement (and all commitments thereunder) has been or concurrently with the Closing Date is being terminated (and each Lender hereunder which was a “Lender” as defined in the Existing Credit
Agreement waives the requirement under Section 2.06 of the Existing Credit Agreement for five Business Days prior notice of the termination thereof; and

(xi) such other assurances, certificates, documents, consents or opinions as the Administrative Agent, the L/C Issuer, the Swing Line Lender or the Required Lenders reasonably may require.

(b) Any fees required to be paid on or before the Closing Date shall have been paid.

(c) Unless waived by the Administrative Agent, the Borrower shall have paid all reasonable fees, charges and disbursements of counsel to the Administrative Agent (directly to such counsel if requested by the Administrative Agent) to the extent invoiced prior to or on the Closing Date, plus such additional amounts of such fees, charges and disbursements as shall constitute its reasonable estimate of such fees, charges and disbursements incurred or to be incurred by it through the closing proceedings (provided that such estimate shall not thereafter preclude a final settling of accounts between the Borrower and the Administrative Agent).

Without limiting the generality of the provisions of the last paragraph of Section 9.03, for purposes of determining compliance with the conditions specified in this Section 4.01, each Lender that has signed this Agreement shall be deemed to have consented to, approved or accepted or to be satisfied with, each document or other matter required thereunder to be consented to or approved by or acceptable or satisfactory to a Lender unless the Administrative Agent shall have received notice from such Lender prior to the proposed Closing Date specifying its objection thereto.

4.02 Conditions to all Credit Extensions. The obligation of each Lender to honor any Request for Credit Extension (other than a Loan Notice requesting only a conversion of Loans to the other Type, or a continuation of Eurodollar Rate Loans) is subject to the following conditions precedent:

(a) The representations and warranties of the Borrower and each other Loan Party contained in Article V or any other Loan Document, or which are contained in any document furnished at any time under or in connection herewith or therewith, shall be true and correct in all material respects on and as of the date of such Credit Extension, except that (w) if a qualifier relating to materiality, Material Adverse Effect or a similar concept applies, such representation and warranty shall be required to be true and correct in all respects, (x) to the extent such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct in all material respects as of such earlier date, and (y) for purposes of this Section 4.02, the representations and warranties contained in subsections (a) and (b) of Section 5.05 shall be deemed

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to refer to the most recent statements furnished pursuant to subsections (a) and (b), respectively, of Section 6.01.

(b) No Default shall exist, or would result from such proposed Credit Extension or from the application of the proceeds thereof.

(c) The Administrative Agent and, if applicable, the L/C Issuer or the Swing Line Lender shall have received a Request for Credit Extension in accordance with the requirements hereof.

(d) **In the case of a Credit Extension to be denominated in an Alternative Currency, there shall not have occurred any change in national or international financial, political or economic conditions or currency exchange rates or exchange controls which in the reasonable opinion of the Administrative Agent, the Required Lenders (in the case of any Loans to be denominated in an Alternative Currency) or the L/C Issuer (in the case of any Letter of Credit to be denominated in an Alternative Currency) would make it impracticable for such Credit Extension to be denominated in the relevant Alternative Currency.**

Each Request for Credit Extension (other than a Loan Notice requesting only a conversion of Loans to the other Type or a continuation of Eurodollar Rate Loans) submitted by the Borrower shall be deemed to be a representation and warranty that the conditions specified in Sections 4.02(a) and (b) have been satisfied on and as of the date of the applicable Credit Extension.

**ARTICLE V. REPRESENTATIONS AND WARRANTIES**

The Borrower represents and warrants to the Administrative Agent and the Lenders that:

**5.01 Existence, Qualification and Power.** Each Loan Party (a) is duly organized or formed, validly existing and, as applicable, in good standing (or the equivalent under local law or regulations) under the Laws of the jurisdiction of its incorporation or organization, (b) has all requisite power and authority and all requisite governmental licenses, authorizations, consents and approvals to (i) own or lease its assets and carry on its business and (ii) execute, deliver and perform its obligations under the Loan Documents to which it is a party, and (c) is duly qualified and is licensed and, as applicable, in good standing under the Laws of each jurisdiction where its ownership, lease or operation of properties or the conduct of its business requires such qualification or license; except in each case referred to in clause (b)(i) or (c), to the extent that failure to do so could not reasonably be expected to have a Material Adverse Effect.
5.02 Authorization; No Contravention. The execution, delivery and performance by each Loan Party of each Loan Document to which such Person is party, have been duly authorized by all necessary corporate or other organizational action, and do not and will not (a) contravene the terms of any of such Person’s Organization Documents; (b) conflict with or result in any breach or contravention of, or the creation of any Lien (other than any Lien created under the Loan Documents) under, or require any payment to be made under (i) any material Contractual Obligation to which such Person is a party or affecting such Person or the properties of such Person or any of its Subsidiaries (other than conflicts, breaches and contraventions that could not reasonably be expected to have a Material Adverse Effect) or (ii) any material order, injunction, writ or decree of any Governmental Authority or any arbitral award to which such Person or its property is subject; or (c) violate any material Law. Each Loan Party and each Subsidiary thereof is in compliance with all material Contractual Obligations referred to in clause (b)(i), except to the extent that failure to do so could not reasonably be expected to have a Material Adverse Effect.

5.03 Governmental Authorization; Other Consents. No approval, consent, exemption, authorization, or other action by, or notice to, or filing with, any Governmental Authority or any other Person is necessary or required in connection with the execution, delivery or performance by, or enforcement against, any Loan Party of this Agreement or any other Loan Document other than (a) those that have already been obtained and are in full force and effect, and (b) those approvals, consents, exemptions, authorizations, actions, notices or filings the failure of which to obtain, take, give or make could not be reasonably expected to have a Material Adverse Effect.

5.04 Binding Effect. This Agreement has been, and each other Loan Document, when delivered hereunder, will have been, duly executed and delivered by each Loan Party that is party thereto. This Agreement constitutes, and each other Loan Document when so delivered will constitute, a legal, valid and binding obligation of such Loan Party that is a party thereto, enforceable against such Loan Party that is party thereto in accordance with its terms, except as may be limited by bankruptcy, insolvency, reorganization, moratorium, Debtor Relief Laws or similar laws relating to or limiting creditors’ rights generally or by equitable principles relating to enforceability (whether enforcement is sought by proceedings in equity or at law).

5.05 Financial Statements; No Material Adverse Effect.

(a) The Audited Financial Statements (i) were prepared in accordance with GAAP consistently applied throughout the period covered thereby, except as otherwise expressly noted therein; (ii) fairly present the financial condition of the Borrower and its Subsidiaries as of the date thereof and their results of operations for
the period covered thereby in accordance with GAAP consistently applied throughout the period covered thereby, except as otherwise expressly noted therein; and (iii) to the extent required by GAAP, show all material indebtedness and other liabilities, direct or contingent, of the Borrower and its Subsidiaries as of the date thereof, including liabilities for taxes, material commitments and Indebtedness.

(b) The unaudited consolidated balance sheets of the Borrower and its Subsidiaries dated December 29, 2017, September 30, 2019, and the related consolidated statements of income or operations, shareholders’ equity and cash flows for the fiscal quarter ended on that date (i) were prepared in accordance with GAAP consistently applied throughout the period covered thereby, except as otherwise expressly noted therein, and (ii) fairly present the financial condition of the Borrower and its Subsidiaries as of the date thereof and their results of operations for the period covered thereby, subject, in the case of clauses (i) and (ii), to the absence of footnotes and to normal year-end audit adjustments.

(c) Since the date of the Audited Financial Statements, September 28, 2018, there has been no event or circumstance, either individually or in the aggregate, that has had or could reasonably be expected to have a Material Adverse Effect.

5.06 Litigation. There are no actions, suits, proceedings, claims or disputes pending or, to the knowledge of the Borrower after due and diligent investigation, threatened in writing or contemplated, at law, in equity, in arbitration or before any Governmental Authority, by or against the Borrower or any of its Subsidiaries or against any of their properties or revenues that (a) purport to affect or pertain to this Agreement or any other Loan Document, or any of the transactions contemplated hereby, or (b) except as specifically disclosed in Schedule 5.06, either individually or in the aggregate would reasonably be expected to have a Material Adverse Effect.

5.07 No Default. No Default has occurred and is continuing or would result from the consummation of the transactions contemplated by this Agreement or any other Loan Document.

5.08 Ownership of Property; Liens. Each of the Borrower and each Subsidiary has good record and marketable title in fee simple (or the equivalent under local law or regulations) to, or valid leasehold interests in, all real property necessary or used in the ordinary conduct of its business, except for such defects in title as could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The property of the Borrower and its Subsidiaries is subject to no Liens, other than Liens permitted by Section 7.01.
5.09 **Regulatory Compliance.** The Borrower and its Subsidiaries conduct in the ordinary course of business a review of the effect of (i) existing Environmental Laws and claims alleging potential liability or responsibility for violation of any Environmental Law and (ii) existing FDA Regulations, on their respective businesses, operations and properties, and as a result thereof the Borrower has reasonably concluded that, except as specifically disclosed in Schedule 5.09, such Environmental Laws and claims and FDA Regulations could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

5.10 **Insurance.** The properties of the Loan Parties are insured with financially sound and reputable insurance companies not Affiliates of the Borrower, in such amounts (after giving effect to any self-insurance compatible with the following standards), with such deductibles and covering such risks as are customarily carried by companies engaged in similar businesses and owning similar properties in localities where the Borrower or the applicable Subsidiary operates.

5.11 **Taxes.** The Borrower and its Subsidiaries have filed (or obtained appropriate extensions in respect of) all Federal, state and other material tax returns and reports required to be filed, and have paid (or obtained appropriate extensions in respect of) all Federal, state and other material taxes, assessments, fees and other governmental charges levied or imposed upon them or their properties, income or assets otherwise due and payable, except those which are being contested in good faith by appropriate proceedings diligently conducted and for which adequate reserves have been provided in accordance with GAAP. To Borrower’s knowledge, there is no proposed tax assessment against the Borrower or any Subsidiary that would, if made, have a Material Adverse Effect.

5.12 **ERISA Compliance.**

(a) To the best knowledge of the Borrower, each Plan is in compliance in all material respects with the applicable provisions of ERISA, the Code and other Federal or state laws except in such instances in which the failure to comply therewith would not reasonably be expected to have a Material Adverse Effect. With respect to each Pension Plan that is intended to be a qualified plan under Section 401(a) of the Code, at least one of the following applies: (i) such Pension Plan received a favorable determination letter from the Internal Revenue Service to the effect that the form of such Plan is qualified under Section 401(a) of the Code and the trust related thereto and has been determined by the Internal Revenue Service to be exempt from federal income tax under Section 501(a) of the Code, (ii) an application for such a letter is currently being processed by the Internal Revenue Service, or such Plan has time remaining in which to apply to the Internal Revenue Service for such a letter prior to the expiration of the requisite period under applicable Treasury
regulations or Internal Revenue Service pronouncements in which to apply for such letter and to make any amendments necessary to obtain a favorable determination, or (iii) such Pension Plan has been established under or operates as a prototype or volume submitter plan with respect to which the Internal Revenue Service has issued an opinion letter to the plan sponsor on which the employer can rely. To the best knowledge of the Borrower, nothing has occurred that would prevent or cause the loss of such tax-qualified status.

(b) There are no pending or, to the best knowledge of the Borrower, threatened claims, actions or lawsuits, or action by any Governmental Authority, with respect to any Plan that would reasonably be expected to have a Material Adverse Effect. There has been no prohibited transaction or violation of the fiduciary responsibility rules with respect to any Plan that has resulted or would reasonably be expected to result in a Material Adverse Effect.

(c) Except as would not reasonably be expected to result in a Material Adverse Effect, (i) no ERISA Event has occurred, and neither the Borrower nor any ERISA Affiliate is aware of any fact, event or circumstance that could reasonably be expected to constitute or result in an ERISA Event with respect to any Pension Plan; (ii) the Borrower and each ERISA Affiliate has met all applicable requirements under the Pension Funding Rules in respect of each Pension Plan, and no waiver of the minimum funding standards under the Pension Funding Rules has been applied for or obtained; (iii) as of the most recent valuation date for any Pension Plan, the funding target attainment percentage (as defined in Section 430(d)(2) of the Code) is 60% or higher and neither the Borrower nor any ERISA Affiliate knows of any facts or circumstances that would reasonably be expected to cause the funding target attainment percentage for any such plan to drop below 60% as of the most recent valuation date; (iv) neither the Borrower nor any ERISA Affiliate has incurred any liability to the PBGC other than for the payment of premiums, and there are no premium payments which have become due that are unpaid; (v) neither the Borrower nor any ERISA Affiliate has engaged in a transaction that could be subject to Section 4069 or Section 4212(c) of ERISA; and (vi) no Pension Plan has been terminated by the plan administrator thereof nor by the PBGC, and no event or circumstance has occurred or exists that would reasonably be expected to cause the PBGC to institute proceedings under Title IV of ERISA to terminate any Pension Plan.

(d) With respect to each scheme or arrangement mandated by a government other than the United States (a “Foreign Government
Scheme or Arrangement”) and with respect to each employee benefit plan maintained or contributed to by any Loan Party or any Subsidiary of any Loan Party that is not subject to United States law (a “Foreign Plan”):

(i) any employer and employee contributions required by law or by the terms of any Foreign Government Scheme or Arrangement or any Foreign Plan have been made, or, if applicable, accrued, in accordance with normal accounting practices;

(ii) the fair market value of the assets of each funded Foreign Plan, the liability of each insurer for any Foreign Plan funded through insurance or the book reserve established for any Foreign Plan, together with any accrued contributions, is sufficient to procure or provide for the accrued benefit obligations, as of the date hereof, with respect to all current and former participants in such Foreign Plan according to the actuarial assumptions and valuations most recently used to account for such obligations in accordance with applicable generally accepted accounting principles; and

(iii) each Foreign Plan required to be registered has been registered and has been maintained in good standing with applicable regulatory authorities.

(e) The Borrower represents and warrants as of the Closing Date that the Borrower is not and will not be using “plan assets” (within the meaning of 29 CFR § 2510.3-101, as modified by Section 3(42) of ERISA) of one or more Benefit Plans in connection with the Loans, the Letters of Credit or the Commitments.

5.13 Subsidiaries; Equity Interests. As of the Closing Date, the Borrower has no Subsidiaries other than those specifically disclosed in Part (a) of Schedule 5.13, all of the outstanding Equity Interests in such Subsidiaries have been validly issued, are owned by the Borrower or its Subsidiaries (as so indicated) free and clear of all Liens other than Permitted Liens. The Borrower has no equity investments in any other corporation or entity other than those specifically disclosed in Part (b) of Schedule 5.13. Part (a) of such Schedule further specifies or identifies (i) all Significant Subsidiaries as of the Closing Date and (ii) all Material Subsidiaries as of the Closing Date. All of the outstanding Equity Interests in the Borrower have been validly issued and are fully paid and nonassessable.

5.14 Margin Regulations; Investment Company Act.

(a) The Borrower is not engaged and will not engage, principally or as one of its important activities, in the business of purchasing or carrying margin stock (within the meaning of Regulation U issued by the FRB), or extending credit for the purpose of purchasing or carrying margin stock. Following the application
of the proceeds of each Borrowing or drawing under each Letter of Credit, not more than 25% of the value of the assets (either of the Borrower only or of the Borrower and its Subsidiaries on a consolidated basis) subject to the provisions of Section 7.01 or Section 7.05 or subject to any restriction contained in any agreement or instrument between the Borrower and any Lender or any Affiliate of any Lender relating to Indebtedness and within the scope of Section 8.01(e) will be margin stock.

(b) None of the Borrower, any Person Controlling the Borrower, or any Subsidiary is or is required to be registered as an “investment company” under the Investment Company Act of 1940.

5.15 Disclosure.

(a) The Borrower has disclosed to the Administrative Agent and the Lenders all material agreements, instruments and corporate or other restrictions to which it or any of its Subsidiaries is subject, and all other matters known to it, that, individually or in the aggregate, could reasonably be expected to result in a Material Adverse Effect. No report, financial statement, certificate or other information furnished (whether in writing or orally) by or on behalf of any Loan Party to the Administrative Agent or any Lender in connection with the transactions contemplated hereby and the negotiation of this Agreement or delivered hereunder or under any other Loan Document (in each case, as modified or supplemented by other information so furnished) contains to the Borrower’s knowledge any material misstatement of fact or omits to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that, with respect to projected financial information, the Borrower represents only that such information was prepared in good faith based upon assumptions believed to be reasonable at the time (it being understood by us that the such projected financial information is not to be viewed as facts and that actual results during the period or periods covered may differ from projected results and that such differences may be material).

(b) As of the Second Amendment Effective Date, the information included in the Beneficial Ownership Certification, if applicable, is true and correct in all respects.

5.16 Compliance with Laws. Each Loan Party and each Subsidiary thereof is in compliance in all material respects with the requirements of all Laws and all orders, writs, injunctions and decrees applicable to it or to its properties, except in such instances in which (a) such requirement of Law or order, writ,
injunction or decree is being contested in good faith by appropriate proceedings diligently conducted or (b) the failure to comply therewith, either individually or in the aggregate, could not reasonably be expected to have a Material Adverse Effect.

5.17 Solvency. Each Loan Party is, individually and together with its Subsidiaries on a consolidated basis, Solvent.

5.18 Labor Matters. There are no collective bargaining agreements or Multiemployer Plans covering the employees of the Borrower or any of its Domestic Subsidiaries or such other Subsidiaries located in the United States as of the Closing Date.

5.19 Taxpayer Identification Number. The Borrower’s true and correct U.S. taxpayer identification number is set forth on Schedule 10.02.

5.20 Intellectual Property; Licenses, Etc. Except as disclosed in Schedule 5.20, to the Borrower’s knowledge, the Borrower and its Subsidiaries own, or possess the right to use, all of the trademarks, service marks, trade names, copyrights, patents, patent rights, franchises, licenses and other intellectual property rights (collectively, “IP Rights”) that are reasonably necessary for the operation of the business of the Borrower and its Subsidiaries, taken as a whole, except as would not reasonably be expected to have Material Adverse Effect (collectively, the “Material IP Rights”). Except as disclosed in Schedule 5.20, no claim or litigation regarding any of the Material IP Rights is pending or, to the Borrower’s knowledge, threatened, which, either individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect.

5.21 [Reserved].

5.22 OFAC. No Loan Party, nor, to the knowledge of any Loan Party, any Related Party, (i) is currently the subject of any Sanctions, (ii) is located, organized or residing in any Designated Jurisdiction, or (iii) is or has been (within the previous five (5) years) engaged in any prohibited transaction with any Person who is now or was then the subject of Sanctions or who is located, organized or residing in any Designated Jurisdiction. No Loan, nor the proceeds from any Loan, has been used, directly or indirectly, to lend, contribute, provide or has otherwise made available to fund any prohibited activity or business in any Designated Jurisdiction or to fund any prohibited activity or business of any Person located, organized or residing in any Designated Jurisdiction or who is the subject of any Sanctions, or in any other manner that will result in any violation by any Person (including any Lender, any Lead Arranger, the Administrative Agent, the L/C Issuer or the Swing Line Lender) of Sanctions. The Borrower and its Subsidiaries have conducted their businesses in compliance with applicable Sanctions and have instituted and maintained policies and procedures designed to promote and achieve compliance with applicable Sanctions.
5.23 **Anti-Corruption Laws.** The Borrower and its Subsidiaries have conducted their businesses in compliance with the United States Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010, and other similar anti-corruption legislation in other jurisdictions and have instituted and maintained policies and procedures designed to promote and achieve compliance with such laws.

5.24 **EEA Financial Institutions.** No Loan Party is an EEA Financial Institution.

**ARTICLE VI. AFFIRMATIVE COVENANTS**

So long as any Lender shall have any Commitment hereunder, any Loan or other Obligation hereunder shall remain unpaid or unsatisfied (other than contingent indemnification obligations), or any Letter of Credit shall remain outstanding, the Borrower shall, and shall (except in the case of the covenants set forth in Sections 6.01, 6.02 and 6.03) cause each Significant Subsidiary to:

6.01 **Financial Statements.** Deliver to the Administrative Agent for further delivery to each Lender, in form and detail reasonably satisfactory to the Administrative Agent and the Required Lenders:

(a) as soon as available, but in any event within 90 days after the end of each fiscal year of the Borrower (or if earlier, 15 days after the date required to be filed with the SEC) (commencing with the fiscal year ended September 28, 2018), a consolidated balance sheet of the Borrower and its Subsidiaries as at the end of such fiscal year, and the related consolidated statements of income or operations, changes in shareholders’ equity, and cash flows for such fiscal year, setting forth in each case in comparative form the figures for the previous fiscal year, all in reasonable detail and prepared in accordance with GAAP, such consolidated statements to be audited and accompanied by a report and opinion of an independent certified public accountant of nationally recognized standing reasonably acceptable to the Required Lenders, which report and opinion shall be prepared in accordance with generally accepted auditing standards and applicable Securities Laws and shall not be subject to any “going concern” or like qualification or exception or any qualification or exception as to the scope of such audit; and

(b) as soon as available, but in any event within 45 days after the end of each of the first three fiscal quarters of each fiscal year of the Borrower (commencing with the fiscal quarter ending December 29, 2017), a consolidated balance sheet of the Borrower and its Subsidiaries as at the end of such fiscal quarter, the related consolidated statements of income or operations for such fiscal quarter and for the portion of the Borrower’s fiscal year then ended, and the related consolidated statements of changes in shareholders’
equity, and cash flows for such fiscal quarter and for the portion of the Borrower’s fiscal year then ended, setting forth in each case in comparative form, as applicable, the figures for the corresponding fiscal quarter of the previous fiscal year and the corresponding portion of the previous fiscal year, all in reasonable detail, such consolidated statements to be certified by the chief executive officer, chief financial officer, treasurer or controller of the Borrower as fairly presenting in all material respects the financial condition, results of operations, shareholders’ equity and cash flows of the Borrower and its Subsidiaries in accordance with GAAP, subject only to normal year-end audit adjustments and the absence of footnotes.

As to any information contained in materials furnished pursuant to Section 6.02(d), the Borrower shall not be separately required to furnish such information under subsection (a) or (b) above, but the foregoing shall not be in derogation of the obligation of the Borrower to furnish the information and materials described in subsections (a) and (b) above at the times specified therein.

6.02 Certificates; Other Information. Deliver to the Administrative Agent for further delivery to each Lender, in form and detail reasonably satisfactory to the Administrative Agent and the Required Lenders:

(a) three (i) concurrently with 3) Business Days after the delivery of the financial statements referred to in Sections 6.01(a) and (b) and (ii) promptly (and in any event no later two (2) Business Days) upon the consummation of the Sirtex Acquisition, a duly completed Compliance Certificate signed by the chief executive officer, chief financial officer, treasurer or controller of the Borrower (which delivery may, unless the Administrative Agent, or a Lender requests executed originals, be by electronic communication including fax or e-mail and shall be deemed to be an original authentic counterpart thereof for all purposes);

(b) promptly after any request by the Administrative Agent or any Lender, copies of any detailed audit reports, management letters or recommendations submitted to the board of directors (or the audit committee of the board of directors) of the Borrower by independent accountants in connection with the accounts or books of the Borrower or any Subsidiary, or any audit of any of them;

(c) promptly after the same are available, copies of each annual report, proxy or financial statement or other report or communication sent to the stockholders of the Borrower, and copies of all annual, regular, periodic and special reports and registration statements which the Borrower may file or be required to file with the SEC under Section 13 or 15(d) of the Securities Exchange Act of
1934, and not otherwise required to be delivered to the Administrative Agent pursuant hereto;

(d) promptly, and in any event within ten Business Days after receipt thereof by any Loan Party or any Subsidiary thereof, copies of each notice or other correspondence received from the SEC (or comparable agency in any applicable non-U.S. jurisdiction) concerning any investigation or possible investigation or other inquiry by such agency regarding financial or other operational results of any Loan Party or any Subsidiary thereof; and

(e) promptly following any request therefore, provide information and documentation reasonably requested by the Administrative Agent or any Lender for purposes of compliance with applicable “know your customer” and anti-money-laundering rules and regulations, including, without limitation, the Act and the Beneficial Ownership Regulation; and

(f) promptly, such additional information regarding the business, financial or corporate affairs of the Borrower or any Subsidiary, or compliance with the terms of the Loan Documents, as the Administrative Agent or any Lender may from time to time reasonably request (it being understood and agreed that, notwithstanding anything to the contrary in this Agreement, none of the Borrower or any Subsidiary will be required to disclose, permit the inspection, examination or making copies or abstracts of, or discussion of, any document, information or other matter requested under this Section 6.02 that (x) constitutes non-financial trade secrets or non-financial proprietary information, (y) in respect of which disclosure to the Administrative Agent or any Lender (or their respective representatives or contractors) is prohibited by Law, or (z) is subject to a third-party confidentiality agreement.

Documents required to be delivered pursuant to Section 6.01(a) or (b) or Section 6.02(c) or (d) (to the extent any such documents are included in materials otherwise filed with the SEC) may be delivered electronically and if so delivered, shall be deemed to have been delivered on the date (i) on which the Borrower posts such documents, or provides a link thereto on the Borrower’s website on the Internet at the website address listed on Schedule 10.02; or (ii) on which such documents are posted on the Borrower’s behalf on an Internet or intranet website, if any, to which each Lender and the Administrative Agent have access (whether a commercial, third-party website or whether sponsored by the Administrative Agent); provided that: (i) the Borrower shall deliver paper copies of such documents to the Administrative Agent or any Lender upon its request to the Borrower to deliver such paper copies until a written request to cease delivering paper copies is given by the Administrative Agent or such Lender and (ii) if requested by the Administrative Agent or any Lender (through the Administrative Agent), the Borrower shall notify the Administrative Agent or any such Lender (by facsimile or electronic mail) of the posting of any such documents (if the Administrative Agent has not posted such documents on the Borrower’s behalf) and provide to the Administrative Agent by electronic mail electronic versions (i.e., soft copies) of such documents. The Administrative Agent shall have no obligation to request the delivery of or to maintain paper copies of the documents referred to above, and in any event shall have no responsibility to monitor compliance by the Borrower with any such request by a Lender for delivery,
and each Lender shall be solely responsible for requesting delivery to it or maintaining its copies of such documents.

The Borrower hereby acknowledges that (a) the Administrative Agent and/or the Lead Arrangers may, but shall not be obligated to, make available to the Lenders and the L/C Issuer materials or information provided by or on behalf of the Borrower hereunder (collectively, “Borrower Materials”) by posting the Borrower Materials on Debt Domain, IntraLinks, Syndtrak or another similar electronic system (the “Platform”) and (b) certain of the Lenders (each, a “Public Lender”) may have personnel who do not wish to receive material non-public information with respect to the Borrower or its Affiliates, or the respective securities of any of the foregoing, and who may be engaged in investment and other market-related activities with respect to such Persons’ securities. The Borrower hereby agrees that it will use commercially reasonable efforts to identify that portion of the Borrower Materials that are to be made available to Public Lenders and that all such Borrower Materials shall be clearly and conspicuously marked “PUBLIC” which, at a minimum, shall mean that the word “PUBLIC” shall appear prominently on the first page thereof; (x) by marking Borrower Materials “PUBLIC,” the Borrower shall be deemed to have authorized the Administrative Agent, the Lead Arrangers, the L/C Issuer and the Lenders to treat such Borrower Materials as not containing any material non-public information with respect to the Borrower or its securities for purposes of United States Federal and state securities laws (provided, however, that to the extent such Borrower Materials constitute Information, they shall be treated as set forth in Section 10.07); (y) all Borrower Materials marked “PUBLIC” are permitted to be made available through a portion of the Platform designated “Public Side Information;” and (z) the Administrative Agent and the Lead Arrangers shall be entitled to treat any Borrower Materials that are not marked “PUBLIC” as being suitable only for posting on a portion of the Platform not designated “Public Side Information.” For the avoidance of doubt, it is acknowledged and agreed that, as of the Closing Date, none of the Lenders is a Public Lender.

Notwithstanding the foregoing, the Borrower shall be under no obligation to mark any Borrower Materials “PUBLIC.”

6.03 Notices. Promptly after knowledge thereof by a Responsible Officer of the Borrower notify the Administrative Agent for further delivery to each Lender:

(a) of the occurrence of any Default;

(b) of any matter (other than general economic trends) that has resulted or could reasonably be expected to result in a Material Adverse Effect, as determined by the Borrower in good faith;

(c) of the occurrence of any ERISA Event which reasonably could be expected to result in liability in excess of the Threshold Amount; and

(d) of any material change in accounting policies or financial reporting practices by the Borrower or any Subsidiary,
including any determination by the Borrower referred to in Section 2.10(b).

Each notice pursuant to this Section 6.03 shall be accompanied by a statement of a Responsible Officer of the Borrower setting forth details of the occurrence referred to therein and stating what action the Borrower has taken and proposes to take with respect thereto. Each notice pursuant to Section 6.03(a) shall describe with particularity any and all provisions of this Agreement and any other Loan Document that have been breached.

6.04 Payment of Obligations. Pay and discharge as the same shall become due and payable, (a) all material tax liabilities, assessments and governmental charges or levies upon it or its properties or assets, unless (i) the same are being contested in good faith by appropriate proceedings diligently conducted, (ii) adequate reserves in accordance with GAAP are being maintained by the Borrower or such Subsidiary, and (iii) failure to make such payment pending such contest could not reasonably be expected to result in a Material Adverse Effect; (b) all lawful claims which, if unpaid, would by law become a Lien upon its property (other than inchoate Liens permitted under Section 7.01) unless (i) the same are being contested in good faith by appropriate proceedings diligently conducted, (ii) adequate reserves in accordance with GAAP are being maintained by the Borrower or such Subsidiary, and (iii) failure to make such payment pending such contest could not reasonably be expected to result in a Material Adverse Effect; and (c) all Indebtedness (other than Indebtedness the non-payment of which would not violate Section 8.01(e)), as and when due and payable, but subject to any subordination provisions contained in any instrument or agreement evidencing such Indebtedness.

6.05 Preservation of Existence, Etc. (a) Preserve, renew and maintain in full force and effect its legal existence and good standing (to the extent applicable under local law or regulation) under the Laws of the jurisdiction of its organization except in a transaction permitted by Section 7.04 or 7.05; (b) take all reasonable action to maintain all rights, privileges, permits, licenses and franchises necessary or desirable in the normal conduct of its business, except to the extent that failure to do so could not reasonably be expected to have a Material Adverse Effect; and (c) other than in connection with a Disposition permitted under Section 7.05, preserve or renew all of its registered patents, trademarks, trade names and service marks, the non-preservation of which could reasonably be expected to have a Material Adverse Effect. Notwithstanding the foregoing, this Section 6.05 shall not prohibit the Borrower or any Subsidiary from reorganizing in another state of the United States or changing its entity form so long as (x) in the case of any Loan Party, such Loan Party has provided at least thirty (30) days prior written notice to the Administrative Agent and such reorganization or change is not materially adverse to the Lenders or (y) in the case of any Subsidiary that is not a Loan Party, the Borrower provides written notice to the Administrative Agent within thirty (30) days after such reorganization or change shall have taken effect.
6.06 **Maintenance of Properties.** (a) Maintain, preserve and protect all of its material properties and equipment necessary in the operation of its business in good working order and condition, ordinary wear and tear and Involuntary Dispositions excepted and (b) use the standard of care typical in the industry in the operation and maintenance of its facilities and (c) make all necessary repairs thereto and renewals and replacements thereof that the Loan Parties in their reasonable business judgment deem necessary; in each case except where the failure to do so could not reasonably be expected to have a Material Adverse Effect.

6.07 **Maintenance of Insurance.** Maintain with financially sound and reputable insurance companies not Affiliates of the Borrower, insurance with respect to its properties and business against loss or damage of the kinds customarily insured against by Persons engaged in the same or similar business, of such types and in such amounts (after giving effect to any self-insurance compatible with the following standards) as are customarily carried under similar circumstances by such other Persons.

6.08 [Reserved].

6.09 **Compliance with Laws.** Comply in all material respects with the requirements of all Laws and all orders, writs, injunctions and decrees applicable to it or to its business or property, except in such instances in which (a) such requirement of Law or order, writ, injunction or decree is being contested in good faith by appropriate proceedings diligently conducted; or (b) the failure to comply therewith could not reasonably be expected to have a Material Adverse Effect.

6.10 **Books and Records.** (a) With respect to the Borrower and its Domestic Subsidiaries, maintain proper books of record and account, in which full, true and correct entries in all material respects in conformity with GAAP consistently applied, as in effect from time to time, shall be made of all financial transactions and matters involving the assets and business of the Borrower or such Subsidiary, as the case may be; and (b) with respect to Foreign Subsidiaries, maintain such books of record and account in material conformity with all applicable rules generally applied in the relevant jurisdiction and, as the case may be, all applicable requirements of any Governmental Authority having regulatory jurisdiction over the Borrower or such Subsidiary, as the case may be.

6.11 **Inspection Rights.** Permit representatives and independent contractors of the Administrative Agent to visit and inspect any of its properties (provided that with respect to any leased property, such inspection shall not violate the terms of the applicable lease), to examine its corporate, financial and operating records, and make copies thereof or abstracts therefrom, and to discuss its affairs, finances and accounts with its directors, officers, and independent public accountants, all at such reasonable times during normal business hours and as often as may be reasonably desired, upon reasonable advance notice to the Borrower; provided, however, that (i) the Borrower shall not be obligated to reimburse the
expenses associated with more than one visit and inspection per calendar year (subject to clause (ii) below), (ii) when an Event of Default exists the Administrative Agent or any Lender (or any of their respective representatives or independent contractors) may do any of the foregoing at the expense of the Borrower at any time during normal business hours and without advance notice and (iii) the Administrative Agent and the Lenders will (so long as no Event of Default exists) use commercially reasonable efforts to give the Borrower the opportunity to participate in any discussions with the Borrower’s accountants.

6.12 Use of Proceeds. Use the proceeds of the Credit Extensions (i) for working capital, capital expenditures, (ii) to refinance all outstanding Indebtedness under the Existing Credit Agreement, (iii) to pay the consideration for the Sirtex Acquisition, (iv) to finance (x) certain permitted open market repurchases of the Borrower’s common stock and (y) Acquisitions permitted hereunder and (v) for other general corporate purposes not in contravention of any Law or of any Loan Document.

6.13 Compliance with FDA Regulations and Environmental Laws. The Borrower will, and will cause each of its Subsidiaries to, comply in all material respects with, all applicable FDA Regulations and Environmental Laws, except where the failure to so comply could not reasonably expect to result in a Material Adverse Effect, and obtain and comply in all material respects with, and maintain, any and all licenses, approvals, notifications, registrations or permits required by applicable FDA Regulations and Environmental Laws except where the failure to so comply, obtain and maintain could not reasonably be expected to result in a Material Adverse Effect.

6.14 Covenant to Guarantee Obligations. On each Guarantor Assessment Date, the Borrower shall determine whether there exists any new or additional Material Subsidiaries, and if so, the Borrower shall promptly notify the Administrative Agent of such fact and promptly thereafter (and in any event, within thirty (30) days or such other period as the Administrative Agent may approve in its sole discretion):

(i) unless such Material Subsidiary is unable to execute a Guaranty Joinder Agreement (or in the case of the first such Material Subsidiary to become a Loan Party, the Guaranty), without contravening local law and without causing any non-de minimis adverse tax effect as to the Borrower (and the Borrower provides a certificate to such effect), cause such Material Subsidiary to deliver to the Administrative Agent the Guaranty or a Guaranty Joinder Agreement, as applicable, duly executed by such Material Subsidiary (but subject to the limitations on the amounts guarantied set forth in the form of Guaranty attached hereto); and

(ii) if such Material Subsidiary is required to deliver a Guaranty or Guaranty Joinder Agreement under clause (i) above, also deliver to the Administrative Agent documents of the types referred to in clauses (iv) and (v) of
Section 4.01(a) as to such Material Subsidiary and, if requested by the Administrative Agent, favorable customary opinions of counsel to such Material Subsidiary (which shall cover, among other things, the legality, validity, binding effect and enforceability of the documentation referred to in this Section 6.14), all in form, content and scope reasonably satisfactory to the Administrative Agent;

Notwithstanding anything to the contrary herein, (a) no Foreign Subsidiary or Foreign Subsidiary Holding Company shall be required to become a Guarantor or Loan Party or grant Liens on any of its property; and (b) neither the Borrower nor any Subsidiary shall be required to pledge any Equity Interests.

(b) If the Borrower shall determine on any Guarantor Assessment Date in respect of any Subsidiary that is, at such time, a Guarantor, that such Subsidiary is no longer a Material Subsidiary, the Borrower may deliver to the Administrative Agent a request for a release of such Subsidiary from the Guaranty, accompanied by a certificate to such effect and certifying as to the absence of any Default or Event of Default, whereupon the Administrative Agent shall execute such documents and instruments of release as shall be reasonably satisfactory to the parties, confirming the release of such Subsidiary from the Guaranty required hereunder.

6.15 Further Assurances. Promptly upon request, from time to time, by the Administrative Agent, or any Lender through the Administrative Agent, (a) correct any material defect or error that may be discovered in any Loan Document or in the execution, acknowledgment, filing or recordation thereof, and (b) do, execute, acknowledge, deliver record, re-record, file, re-file, register and re-register any and all such further acts, deeds, financing statements and continuation thereof, termination statements, certificates, assurances and other instruments as the Administrative Agent, or any Lender through the Administrative Agent, may reasonably require from time to time in order to (i) carry out more effectively the purposes of this Agreement and any other Loan Documents, and (ii) assure, convey, grant, assign, transfer, preserve, protect and confirm more effectively unto the Secured Parties the rights granted or now or hereafter intended to be granted to the Secured Parties under any Loan Document or under any other instrument executed in connection with any Loan Document to which any Loan Party or any of its Subsidiaries is or is to be a party, and cause each of its Subsidiaries to do so.

ARTICLE VII. NEGATIVE COVENANTS

So long as any Lender shall have any Commitment hereunder, any Loan or other Obligation hereunder shall remain unpaid or unsatisfied (other than contingent indemnification Obligations), or any Letter of Credit shall remain outstanding, the Borrower shall not, nor shall it permit any Significant Subsidiary to, directly or indirectly:
7.01 **Liens.** Create, incur, assume or suffer to exist any Lien upon any of its property, assets or revenues, whether now owned or hereafter acquired, other than the following (“Permitted Liens”):

(a) Liens pursuant to any Loan Document;

(b) Liens existing on the date hereof and listed on Schedule 7.01 and any renewals or extensions thereof, provided that (i) the property covered thereby is not changed, (ii) the amount secured or benefited thereby is not increased except as contemplated by Section 7.03(b), (iii) the direct or any contingent obligor with respect thereto is not changed, and (iv) any renewal or extension of the obligations secured or benefited thereby is permitted by Section 7.03(b);

(c) Liens for taxes not yet due or which are being contested in good faith and by appropriate proceedings diligently conducted, if adequate reserves with respect thereto are maintained on the books of the applicable Person in accordance with GAAP;

(d) carriers’, warehousemen’s, mechanics’, materialmen’s, landlord’s, repairmen’s or other like Liens arising in the ordinary course of business which are not overdue for a period of more than 90 days or which are being contested in good faith and by appropriate proceedings diligently conducted, if adequate reserves with respect thereto are maintained on the books of the applicable Person;

(e) pledges or deposits in the ordinary course of business in connection with workers’ compensation, unemployment insurance and other social security legislation, other than any Lien imposed by ERISA;

(f) deposits to secure the performance of bids, trade contracts and leases (other than Indebtedness), statutory obligations, surety and appeal bonds, performance bonds and other obligations of a like nature incurred in the ordinary course of business;

(g) easements, rights-of-way, restrictions and other similar encumbrances affecting real property which, in the aggregate, are not substantial in amount, and which do not in any case materially detract from the value of the property subject thereto or materially interfere with the ordinary conduct of the business of the applicable Person;
(h) Liens securing judgments for the payment of money not constituting an Event of Default under Section 8.01(h);

(i) Liens on assets securing purchase money Indebtedness and capital leases in respect of such assets;

(j) Interests of lessors under operating leases;

(k) Liens consisting of leases or subleases of tangible property granted to others not interfering in any material respect with the business of the Borrower and its Subsidiaries, taken as a whole, and licenses and sublicenses of IP Rights permitted under Section 7.05(f);

(l) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods;

(m) Liens on cash collateral securing reimbursement obligations to issuing banks under letters of credit otherwise permitted hereunder;

(n) Liens on assets acquired in any Investment not prohibited hereunder to the extent such Liens were in existence at the time of acquisition and not incurred in anticipation thereof;

(o) Liens upon such accounts and the financial assets therein in favor of other financial institutions arising in connection with Borrower’s or any Subsidiary’s deposit or securities accounts held at such institutions and not securing Indebtedness;

(p) Liens on earnest money deposits required under a letter of intent or purchase agreement in connection with Acquisitions and other transactions otherwise permitted hereunder;

(q) Liens on assets representing part of the proceeds of a sale or other disposition of property otherwise permitted hereunder, to secure post closing obligations to the buyer in connection with such sale or other disposition;

(r) Liens on cash representing proceeds from the issuance of Indebtedness solely for the purpose of making interest payments in connection with such Indebtedness;

(s) Liens on insurance proceeds securing the payment of financed insurance premiums;
(t) (A) Liens that are contractual rights of setoff relating to purchase orders entered into with customers of such Person in the ordinary course of its business and (B) Liens on goods the purchase price of which is financed by a documentary letter of credit issued for the account of the Borrower or any of its Subsidiaries, provided that such Lien secures only the obligations of the Borrower or such Subsidiaries in respect of such letter of credit to the extent permitted hereunder;

(u) Liens on any assets or Equity Interests of a Foreign Subsidiary of the Borrower securing Indebtedness of such Foreign Subsidiary permitted hereunder;

(v) any security interest or set-off arrangements entered into by any Foreign Subsidiary in the ordinary course of its banking arrangements which arise from the general banking conditions;

(w) Liens on cash collateral or other assets with an aggregate value not to exceed $200,000,000 securing obligations in respect of amounts paid or payable under performance, payment, stay, appeal or surety bonds, or similar instruments; and

(x) other Liens on assets securing Indebtedness not in excess of the Threshold Amount in the aggregate at any time outstanding.

7.02 Investments. Make any Investments after the Closing Date, except the following (each a “Permitted Investment”):

(a) Investments held by the Borrower or such Subsidiary in the form of cash equivalents, or short-term marketable securities and other Investments permitted by the Borrower’s board-approved investment policy in effect from time to time;

(b) advances to officers, directors and employees of the Borrower and Subsidiaries in an aggregate amount not to exceed $2,000,000 at any time outstanding, for travel, entertainment, relocation and analogous ordinary business purposes;

(c) (i) Investments of the Borrower in any Guarantor and Investments of any Guarantor in the Borrower or in another Guarantor; and (ii) Investments by Subsidiaries that are not Guarantors in other Subsidiaries or the Borrower;

(d) Investments consisting of extensions of credit in the nature of accounts receivable, prepaid royalties or notes receivable
arising from the grant of trade credit in the ordinary course of business, and Investments received in satisfaction or partial satisfaction thereof from financially troubled account debtors to the extent reasonably necessary in order to prevent or limit loss and Investments received in compromise or resolution of litigation, arbitration or other disputes;

(c) Guarantees permitted by Section 7.03;

(f) Acquisitions by the Borrower or any of its wholly-owned Subsidiaries, provided that, after giving pro forma effect to any such Acquisition and any Borrowings made in connection therewith (including any term loan or Revolving Credit Increase made available pursuant to Section 2.14), (i) the Consolidated Net Leverage Ratio would not be greater than 0.25 to 1.00 less than the then applicable maximum Consolidated Net Leverage Ratio as of the end of the latest fiscal quarter for which internal financial statements are available and (ii) the aggregate principal amount of Revolving Credit Loans available to be borrowed under Section 2.01 hereof shall be at least $25,000,000 and (iii) the Sirtex Acquisition;

(g) Investments acquired in exchange for any other Investments in connection with or as a result of a bankruptcy, workout, reorganization or recapitalization;

(h) Investments consisting of deposits, prepayments and other credits to suppliers made in the ordinary course of business of the Borrower and its Subsidiaries consistent with reasonable past practices;

(i) guaranties in the ordinary course of business and consistent with past practice of obligations owed to or of landlords, suppliers, licensors and licensees of the Borrower and its Subsidiaries or otherwise permitted hereunder;

(j) to the extent constituting an Investment, the Borrower and its Subsidiaries may (i) endorse negotiable instruments held for collection in the ordinary course of business or (ii) make lease, utility and other similar deposits in the ordinary course of business; and

(k) so long as immediately before and after giving effect to any such Investment, no Event of Default has occurred and is continuing, other Investments by the Borrower or any Subsidiary consisting of or in the nature of a transfer or other disposition of Equity Interests of one or more Foreign Subsidiaries of the Borrower to one or more other Subsidiaries of the Borrower;
(l) Investments held by Persons whose Equity Interests or assets are acquired in an Acquisition permitted hereunder after the Closing Date to the extent that such Investments were not made in contemplation of or in connection with such Acquisition and were in existence on the date of such Acquisition;

(m) Investments arising out of the receipt by Borrower or its Subsidiaries of promissory notes and other non-cash consideration for Permitted Dispositions;

(n) (i) third-party trade receivables, (ii) intercompany trade receivables among Loan Parties, (iii) intercompany payables resulting from unreimbursed costs related to the allocation of shared employees and services, so long as such transactions in the ordinary course of such Person’s business, and (iv) intercompany receivables among any Loan Party and any of their Subsidiaries recorded as intercompany journal entries in connection with transfer pricing, cost-sharing and similar arrangements, so long as such transactions are cashless and in each case incurred in the ordinary course of such Person’s business; and

(o) other Investments (including joint ventures and loan fundings and commitments), other than Acquisitions, provided that, the aggregate amount of all such Investments together during the term of this Agreement commencing from the Second Amendment Effective Date does not exceed $500,000,000.

7.03 Subsidiary Guarantees. Create, incur, assume or suffer to exist any Guarantees issued by Subsidiaries, except:

(a) the Guaranty;

(b) Guarantees outstanding on the date hereof and listed on Schedule 7.03;

(c) Guarantees issued by a Subsidiary other than a Domestic Subsidiary or a First Tier Foreign Subsidiary with respect to Indebtedness or other obligations of any other Subsidiary;

(d) Guarantees of First Tier Foreign Subsidiaries in respect of ordinary course real estate lease, vendor and other ordinary course transactions not constituting financings and entered into by Subsidiaries of any such First Tier Foreign Subsidiary; and

(e) Indebtedness arising from any refinancings, refundings, renewals or extensions of item (b) and (c) above; provided
that the amount of such Indebtedness is not increased at the time of such refinancing, refunding, renewal or extension except by an amount equal to a reasonable premium or other reasonable amount paid, and fees and expenses reasonably incurred, in connection therewith and by an amount equal to any existing commitments unutilized thereunder.

7.04 Fundamental Changes. Merge, dissolve, liquidate, consolidate with or into another Person, or Dispose of (whether in one transaction or in a series of transactions) all or substantially all of its assets (whether now owned or hereafter acquired) to or in favor of any Person, except that, so long as no Default exists or would result therefrom:

(a) any Subsidiary may merge or consolidate with (i) the Borrower, provided that the Borrower shall be the continuing or surviving Person, or (ii) any one or more other Subsidiaries, provided that when any Guarantor is merging with another Subsidiary, a Guarantor shall be the continuing or surviving Person;

(b) the Borrower and Subsidiaries of Borrower may merge or consolidate with any Person as necessary to consummate Acquisitions permitted hereunder; provided that if Borrower is party to transaction, Borrower shall be the surviving Person;

(c) any Subsidiary may Dispose of all or substantially all of its assets (upon voluntary liquidation or otherwise) to the Borrower or to another Subsidiary; provided that if the transferor in such a transaction is a Guarantor, then the transferee must either be the Borrower or a Guarantor;

(d) Dispositions of all or substantially all of the assets of any Subsidiary (other than a Guarantor) not otherwise permitted under this Section 7.04 shall be permitted; provided that (i) at the time of such Disposition, no Default shall exist or would result from such Disposition, (ii) the combined book value of all property and assets Disposed of in reliance of this clause (d) (combined with any Dispositions made pursuant to clause (j) of Section 7.05) while this Agreement is in effect commencing from the Second Amendment Effective Date shall not exceed $300,000,000 in the aggregate, and (iii) after giving effect to such Disposition, the Borrower is in compliance, on a projected pro forma basis, with Section 7.11 for the subsequent four fiscal quarters;

7.05 Dispositions. Make any Disposition or enter into any agreement to make any Disposition, except the following (each a “Permitted Disposition”):


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(a) Dispositions of surplus, obsolete or worn out property, whether now owned or hereafter acquired, in the ordinary course of business;

(b) Dispositions of inventory in the ordinary course of business;

(c) Dispositions of equipment or real property to the extent that (i) such property is exchanged for credit against the purchase price of similar replacement property or (ii) the proceeds of such Disposition are reasonably promptly applied to the purchase price of such replacement property;

(d) Dispositions of property by any Subsidiary to any Loan Party or to a wholly-owned Subsidiary; provided that if the transferor of such property is a Guarantor, the transferee thereof must either be the Borrower or a Guarantor;

(e) Dispositions permitted by Section 7.04 and Dispositions consisting of Permitted Liens or Permitted Investments;

(f) (i) licenses and sublicenses of IP Rights in the ordinary course of business, (ii) licenses and cross-licenses of IP Rights in connection with settlements of intellectual property-related disputes with third parties; (iii) customary licenses and cross-licenses of IP Rights acquired in an Acquisition that are granted back to the seller, and (iv) the abandonment, permitted lapse, cancellation, termination and/or cessation of IP Rights that are, in the reasonable judgment of the Borrower, no longer economically practicable, commercially desirable to maintain or useful, in each case, in the conduct of business of the Borrower and its Subsidiaries taken as a whole;

(g) sales or discounting of delinquent accounts in the ordinary course of business;

(h) any Involuntary Disposition;

(i) the transfer of amounts by the Borrower to or from one of its investment or deposit accounts maintained with any Lead Arranger, Bank of America or any Lender, as the case may be, to another of its investment or deposit accounts maintained with any Lead Arranger, Bank of America or any Lender, as the case may be; and

(j) Dispositions by the Borrower and its Subsidiaries not otherwise permitted under this Section 7.05; provided that (i) at the
time of such Disposition, no Default shall exist or would result from such Disposition, (ii) the combined book value of all property and assets Disposed of in reliance of this clause (i) (combined with any Dispositions made pursuant to clause (d) of Section 7.04) commencing from the Second Amendment Effective Date shall not exceed $300,000,000 in the aggregate, and (iii) after giving effect to such Disposition, the Borrower is in compliance, on a projected pro forma basis, with Section 7.11 for the subsequent four fiscal quarters; provided, however, that any Disposition pursuant to subsections (a), (b), (c), (g), (i) and (j) shall be for fair value.

7.06 Restricted Payments. Declare or make, directly or indirectly, any Restricted Payment, or incur any obligation (contingent or otherwise) to do so, except that, so long as no Default shall have occurred and be continuing at the time of any action described below or would result therefrom:

(a) each Subsidiary may make Restricted Payments to the Borrower, the Guarantors and any other Person that owns an Equity Interest in such Subsidiary, ratably according to their respective holdings of the type of Equity Interest in respect of which such Restricted Payment is being made;

(b) the Borrower and each Subsidiary may declare and make dividend payments or other distributions payable solely in the common stock or other common Equity Interests of such Person;

(c) the Borrower and each Subsidiary may purchase, redeem or otherwise acquire Equity Interests issued by it with the proceeds received from the substantially concurrent issue of new shares of its common stock or other common Equity Interests;

(d) the Borrower may make Accelerated Share Repurchases; and

(e) the Borrower may declare or pay cash dividends to its stockholders and purchase, redeem or otherwise acquire for cash Equity Interests issued by it, provided, that after giving effect to such declaration, payment, purchase, redemption or acquisition, the Borrower is in compliance, on a projected pro forma basis, with Section 7.11 for the subsequent four fiscal quarters.

7.07 Change in Nature of Business. Engage in any material line of business substantially different from those lines of business conducted by the Borrower and its Subsidiaries on the date hereof or any business reasonably related or incidental thereto.
7.08 **Transactions with Affiliates.** Enter into any transaction of any kind with any Affiliate of the Borrower, whether or not in the ordinary course of business, other than on fair and reasonable terms substantially as favorable to the Borrower or such Subsidiary as would be obtainable by the Borrower or such Subsidiary at the time in a comparable arm’s length transaction with a Person other than an Affiliate, provided that the foregoing restriction shall not apply to transactions between or among the Borrower and any of its wholly-owned Subsidiaries or between and among any wholly-owned Subsidiaries.

7.09 **Burdensome Agreements.** (i) enter into any Contractual Obligation (other than this Agreement or any other Loan Document) that (a) limits the ability (I) of any Subsidiary to make Restricted Payments to the Borrower or any Guarantor or to otherwise transfer property to the Borrower or any Guarantor, (II) of any Subsidiary to Guarantee the Indebtedness of the Borrower or (III) of any Domestic Subsidiary to pledge the Equity Interest of any First Tier Foreign Subsidiary, or (b) requires the pledge of any Equity Interest of any Domestic Subsidiary or any First Tier Foreign Subsidiary, or (ii) grant a pledge of any of the Equity Interest of any Domestic Subsidiary or any First Tier Foreign Subsidiary other than Permitted Liens (except to the Administrative Agent for the benefit of the Secured Parties).

7.10 **Use of Proceeds.** Use the proceeds of any Credit Extension, whether directly or indirectly, and whether immediately, incidentally or ultimately, to purchase or carry margin stock (within the meaning of Regulation U of the FRB) or to extend credit to others for the purpose of purchasing or carrying margin stock or to refund indebtedness originally incurred for such purpose.

7.11 **Financial Covenants.**

(a) **Consolidated Net Leverage Ratio.** Permit the Consolidated Net Leverage Ratio as of the last day of any fiscal quarter of the Borrower to be greater than 3.50 to 1.00; provided, however, that notwithstanding the foregoing, following an Acquisition permitted hereunder by the Borrower, and following the delivery of an Acquisition Leverage Ratio Notice, the Borrower shall have the ability, not more than twice during the term of this Agreement, to increase the Consolidated Net Leverage Ratio to be less than or equal to (i) 4.00 to 1.00 with respect to the fiscal quarter during which such Acquisition occurs and the next three (3) succeeding fiscal quarters thereafter, (ii) stepping down to 3.75 to 1.00 for the next three (3) succeeding full fiscal quarters and (iii) further stepping down to 3.50 to 1.00 thereafter.

7.12 **Amendment or Modification of Organization Documents.** Amend, modify or change in any manner any term or provision of any Loan Party’s Organization Documents in any manner materially adverse to the interests of any Secured Party.
7.13 **Accounting Changes.** Make any change in accounting policies or reporting practices, except as required by GAAP or as may be required by applicable Law or, in the case of any change to fiscal quarter or fiscal year end date methodology after the Closing Date, without prompt notice thereof to the Administrative Agent.

7.14 [Reserved].

7.15 **Sanctions.** Directly or indirectly, use the proceeds of any Credit Extension, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other individual or entity, to fund any prohibited activities of or business with any individual or entity, or in any Designated Jurisdiction, that, at the time of such funding, is the subject of Sanctions, or in any other manner that will result in a violation by any individual or entity (including any individual or entity participating in the transaction, whether as Lender, Arranger, Administrative Agent, L/C Issuer, Swing Line Lender, or otherwise) of Sanctions.

7.16 **Anti-Corruption Laws.** Directly or indirectly use the proceeds of any Credit Extension for any purpose which would breach the United States Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010, and other similar anti-corruption legislation in other jurisdictions.

**ARTICLE VIII. EVENTS OF DEFAULT AND REMEDIES**

8.01 **Events of Default.** Any of the following shall constitute an Event of Default:

(a) **Non-Payment.** The Borrower or any other Loan Party fails to pay (i) when and as required to be paid herein, and in the currency required hereunder, any amount of principal of any Loan or any L/C Obligation, or (ii) within three Business Days after the same becomes due, any interest on any Loan or on any L/C Obligation, or any fee due hereunder, or (iii) within five Business Days after the same becomes due, any other amount payable hereunder or under any other Loan Document; or

(b) **Specific Covenants.** The Borrower fails to perform or observe any term, covenant or agreement contained in any of Section 6.01, 6.02, 6.03, 6.05, 6.10, 6.11, 6.12, 6.14 or Article VII, or any Guarantor fails to perform or observe any similar material term, covenant or agreement contained in the Guaranty; or

(c) **Other Defaults.** Any Loan Party fails to perform or observe any other covenant or agreement (not specified in subsection (a) or (b) above) contained in any Loan Document on its part to be performed or observed and such failure continues for 45 days after the earlier of the date on which (i) a Responsible Officer of any Loan Party becomes aware of such failure and (ii) notice thereof shall have
been given to any Loan Party by the Administrative Agent or any Lender; or

(d) **Representations and Warranties.** Any representation, warranty, certification or statement of fact made or deemed made by or on behalf of the Borrower or any other Loan Party herein, in any other Loan Document, or in any document delivered in connection herewith or therewith shall be incorrect or misleading in any material respect (except, if a qualifier relating to materiality, Material Adverse Effect or a similar concept applies, such representation, warranty, certification or statement of fact was incorrect or misleading in any respect when made or deemed made) when made or deemed made; or

(e) **Cross-Default.** (i) Any Loan Party or any Significant Subsidiary (A) fails to make any payment when due (whether by scheduled maturity, required prepayment, acceleration, demand, or otherwise) in respect of any Indebtedness or Guarantee (other than Indebtedness hereunder and Indebtedness under Swap Contracts) having an aggregate principal amount (including undrawn committed or available amounts and including amounts owing to all creditors under any combined or syndicated credit arrangement) of more than the Threshold Amount, or (B) fails to observe or perform any other agreement or condition relating to any such Indebtedness or Guarantee or contained in any instrument or agreement evidencing, securing or relating thereto, or any other event occurs, the effect of which default or other event is to cause, or to permit the holder or holders of such Indebtedness or the beneficiary or beneficiaries of such Guarantee (or a trustee or agent on behalf of such holder or holders or beneficiary or beneficiaries) to cause, with the giving of notice if required, such Indebtedness to be demanded or to become due or to be repurchased, prepaid, defeased or redeemed (automatically or otherwise), or an offer to repurchase, prepay, defease or redeem such Indebtedness to be made, prior to its stated maturity, or such Guarantee to become payable or cash collateral in respect thereof to be demanded; provided that this clause (B) shall not apply to Indebtedness due as a result of a voluntary sale or transfer of assets not prohibited by the applicable agreement or instrument; or (ii) there occurs under any Swap Contract an Early Termination Date (as defined in such Swap Contract) resulting from (A) any event of default under such Swap Contract as to which any Loan Party or any Significant Subsidiary is the Defaulting Party (as defined in such Swap Contract) or (B) any Termination Event (as so defined) under such Swap Contract as to which any Loan Party or any Significant Subsidiary is an Affected Party (as so defined) and, in either event,
the Swap Termination Value owed by such Loan Party or such Significant Subsidiary as a result thereof is greater than the Threshold Amount; provided, that, an Event of Default under this clause (e) shall not be deemed to have occurred if the applicable event or condition giving rise to such Event of Default has been waived or rescinded in writing by the holders of such Indebtedness within five (5) Business Days of the occurrence of such event or condition; or

(f) **Insolvency Proceedings, Etc.** Any Loan Party or any Significant Subsidiary institutes or consents to the institution of any proceeding under any Debtor Relief Law, or makes an assignment for the benefit of creditors; or applies for or consents to the appointment of any receiver, trustee, custodian, conservator, liquidator, rehabilitator or similar officer for it or for all or any material part of its property; or any receiver, trustee, custodian, conservator, liquidator, rehabilitator or similar officer is appointed without the application or consent of such Person and the appointment continues undischarged or unstayed for 60 calendar days without being dismissed; or any proceeding under any Debtor Relief Law relating to any such Person or to all or any material part of its property is instituted without the consent of such Person and continues undischarged or unstayed for 60 calendar days, or an order for relief is entered in any such proceeding; or

(g) **Inability to Pay Debts; Attachment.** (i) Any Loan Party or any Significant Subsidiary becomes unable or admits in writing its inability or fails generally to pay its debts as they become due, subject to any applicable grace periods, or (ii) any writ or warrant of attachment or execution or similar process is issued or levied against all or any material part of the property of any such Person and is not released, vacated or fully bonded within 45 days after its issue or levy; or

(h) **Judgments.** Except as set forth on Schedule 8.01(h), there is entered against any Loan Party or any Significant Subsidiary (i) one or more final judgments or orders for the payment of money in an aggregate amount (as to all such judgments or orders) exceeding the Threshold Amount (to the extent not covered by independent third-party insurance or commercial surety as to which the insurer or surety does not dispute coverage), or (ii) any one or more non-monetary final judgments that have, or could reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect and, in either case, (A) enforcement proceedings are commenced by any creditor upon such judgment or order, or (B) there is a period of 20 consecutive days during which a stay of enforcement of such
judgment, by reason of a pending appeal or otherwise, is not in effect; or

(i) **ERISA.** (i) An ERISA Event occurs with respect to a Pension Plan or Multiemployer Plan which has resulted or could reasonably be expected to result in liability of the Borrower under Title IV of ERISA to the Pension Plan, Multiemployer Plan or the PBGC in an aggregate amount in excess of the Threshold Amount, or (ii) the Borrower or any ERISA Affiliate fails to pay when due, after the expiration of any applicable grace period, any installment payment with respect to its withdrawal liability under Section 4201 of ERISA under a Multiemployer Plan in an aggregate amount in excess of the Threshold Amount; or

(j) **Invalidity of Loan Documents.** Any Loan Document, at any time after its execution and delivery and for any reason other than as expressly permitted hereunder or thereunder or satisfaction in full of all the Obligations (other than contingent indemnification obligations that survive the termination of this Agreement), ceases to be in full force and effect; or any Loan Party or any other Person contests in any manner the validity or enforceability of any Loan Document; or any Loan Party denies that it has any or further liability or obligation under any Loan Document, or purports to revoke, terminate or rescind any Loan Document; or

(k) **[Reserved].**

(l) **Change of Control.** There occurs any Change of Control with respect to the Borrower.

### 8.02 Remedies Upon Event of Default

If any Event of Default occurs and is continuing, the Administrative Agent shall, at the request of, or may, with the consent of, the Required Lenders, take any or all of the following actions:

(a) declare the commitment of each Lender to make Loans and any obligation of the L/C Issuer to make L/C Credit Extensions to be terminated, whereupon such commitments and obligation shall be terminated;

(b) declare the unpaid principal amount of all outstanding Loans, all interest accrued and unpaid thereon, and all other amounts owing or payable hereunder or under any other Loan Document to be immediately due and payable, without presentment, demand, protest or other notice of any kind, all of which are hereby expressly waived by the Borrower;

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(c) require that the Borrower Cash Collateralize the L/C Obligations (in an amount equal to the Minimum Collateral Amount with respect thereto); and

(d) exercise on behalf of itself, the Lenders and the L/C Issuer all rights and remedies available to it, the Lenders and the L/C Issuer under the Loan Documents;

provided, however, that upon the occurrence of an actual or deemed entry of an order for relief with respect to the Borrower under the Bankruptcy Code of the United States, the obligation of each Lender to make Loans and any obligation of the L/C Issuer to make L/C Credit Extensions shall automatically terminate, the unpaid principal amount of all outstanding Loans and all interest and other amounts as aforesaid shall automatically become due and payable, and the obligation of the Borrower to Cash Collateralize the L/C Obligations as aforesaid shall automatically become effective, in each case without further act of the Administrative Agent or any Lender.

8.03 Application of Funds. After the exercise of remedies provided for in Section 8.02 (or after the Loans have automatically become immediately due and payable and the L/C Obligations have automatically been required to be Cash Collateralized as set forth in the proviso to Section 8.02), any amounts received on account of the Secured Obligations shall, subject to the provisions of Sections 2.15 and 2.16, be applied by the Administrative Agent in the following order:

First, to payment of that portion of the Secured Obligations constituting fees, indemnities, expenses and other amounts (including fees, charges and disbursements of counsel to the Administrative Agent and amounts payable under Article III) payable to the Administrative Agent in its capacity as such;

Second, to payment of that portion of the Secured Obligations constituting fees, indemnities and other amounts (other than principal, interest and Letter of Credit Fees) payable to the Lenders and the L/C Issuer (including fees, charges and disbursements of counsel to the respective Lenders and the L/C Issuer arising under the Loan Documents and amounts payable under Article III), ratably among them in proportion to the respective amounts described in this clause Second payable to them;

Third, to payment of that portion of the Secured Obligations constituting accrued and unpaid Letter of Credit Fees and interest on the Loans, L/C Borrowings and other Secured Obligations arising under the Loan Documents and amounts payable under Article III, ratably among the Lenders and the L/C Issuer in proportion to the respective amounts described in this clause Third payable to them;

Fourth, to payment of that portion of the Secured Obligations constituting unpaid principal of the Loans, L/C Borrowings and Secured Obligations then owing under Secured Hedge Agreements and Secured Cash Management Agreements, ratably among the Lenders, the L/C Issuer, the Hedge Banks and the Cash Management Banks in proportion to the respective amounts described in this clause Fourth held by them;
Fifth, to the Administrative Agent for the account of the L/C Issuer, to Cash Collateralize that portion of L/C Obligations comprised of the aggregate undrawn amount of Letters of Credit to the extent not otherwise Cash Collateralized by the Borrower pursuant to Sections 2.03 and 2.15; and

Last, the balance, if any, after all of the Secured Obligations (other than indemnities and other similar contingent obligations surviving the termination of this Agreement for which no claim has been made and which are unknown and not calculable at the time of termination) have been indefeasibly paid in full, to the Borrower or as otherwise required by Law; provided that Excluded Swap Obligations with respect to any Loan Party shall not be paid with amounts received from such Loan Party or its assets, but appropriate adjustments shall be made with respect to payments from other Loan Parties to preserve the allocation to Secured Obligations otherwise set forth above in this Section.

Subject to Sections 2.03(c) and 2.15, amounts used to Cash Collateralize the aggregate undrawn amount of Letters of Credit pursuant to clause Fifth above shall be applied to satisfy drawings under such Letters of Credit as they occur. If any amount remains on deposit as Cash Collateral after all Letters of Credit have either been fully drawn or expired, such remaining amount shall be applied to the other Secured Obligations, if any, in the order set forth above.

Notwithstanding the foregoing, Secured Obligations arising under Secured Cash Management Agreements and Secured Hedge Agreements shall be excluded from the application described above if the Administrative Agent has not received a Secured Party Designation Notice, together with such supporting documentation as the Administrative Agent may request, from the applicable Cash Management Bank or Hedge Bank, as the case may be. Each Cash Management Bank or Hedge Bank not a party to this Agreement that has given the notice contemplated by the preceding sentence shall, by such notice, be deemed to have acknowledged and accepted the appointment of the Administrative Agent pursuant to the terms of Article IX for itself and its Affiliates as if a “Lender” party hereto.

**ARTICLE IX. ADMINISTRATIVE AGENT**

9.01 Appointment and Authority. Each of the Lenders (including in its capacities as a potential Cash Management Bank and a potential Hedge Bank) and the L/C Issuer hereby irrevocably appoints Bank of America to act on its behalf as the Administrative Agent hereunder and under the other Loan Documents and authorizes the Administrative Agent to take such actions on its behalf and to exercise such powers as are delegated to the Administrative Agent by the terms hereof or thereof, together with such actions and powers as are reasonably incidental thereto. The provisions of this Article are solely for the benefit of the Administrative Agent, the Lenders and the L/C Issuer, and neither the Borrower nor any other Loan Party shall have rights as a third party beneficiary of any of such provisions. It is understood and agreed that the use of the term “agent” herein or in any other Loan Documents (or any other similar term) with reference to the Administrative Agent is not intended to connote any fiduciary or other implied (or express) obligations arising under agency doctrine of any applicable Law. Instead such term is used as a matter of
market custom, and is intended to create or reflect only an administrative relationship between contracting parties. Each of the Lenders acknowledge that the provisions in the Existing Credit Agreement regarding “Secured Cash Management Agreements” and “Secured Hedge Agreements” are now covered by the provisions regarding Secured Cash Management Agreements and Secured Hedge Agreements hereunder. Each of the Lenders acknowledge and agree that the extensions of credit made hereunder are commercial loans and letters of credit and not investments in a business enterprise or securities.

9.02 Rights as a Lender. The Person serving as the Administrative Agent hereunder shall have the same rights and powers in its capacity as a Lender as any other Lender and may exercise the same as though it were not the Administrative Agent and the term “Lender” or “Lenders” shall, unless otherwise expressly indicated or unless the context otherwise requires, include the Person serving as the Administrative Agent hereunder in its individual capacity. Such Person and its Affiliates may accept deposits from, lend money to, own securities of, act as the financial advisor or in any other advisory capacity for and generally engage in any kind of business with the Borrower or any Subsidiary or other Affiliate thereof as if such Person were not the Administrative Agent hereunder and without any duty to account therefor to the Lenders.

9.03 Exculpatory Provisions. The Administrative Agent shall not have any duties or obligations except those expressly set forth herein and in the other Loan Documents, and its duties hereunder shall be administrative in nature. Without limiting the generality of the foregoing, the Administrative Agent:

(a) shall not be subject to any fiduciary or other implied duties, regardless of whether a Default has occurred and is continuing;

(b) shall not have any duty to take any discretionary action or exercise any discretionary powers, except discretionary rights and powers expressly contemplated hereby or by the other Loan Documents that the Administrative Agent is required to exercise as directed in writing by the Required Lenders (or such other number or percentage of the Lenders as shall be expressly provided for herein or in the other Loan Documents), provided that the Administrative Agent shall not be required to take any action that, in its opinion or the opinion of its counsel, may expose the Administrative Agent to liability or that is contrary to any Loan Document or applicable law, including the avoidance of doubt any action that may be in violation of the automatic stay under any Debtor Relief Law or that may effect a forfeiture, modification or termination of property of a Defaulting Lender in violation of any Debtor Relief Law;

(c) shall not, except as expressly set forth herein and in the other Loan Documents, have any duty to disclose, and shall not be liable for the failure to disclose, any information relating to the Borrower or any of its Affiliates that is communicated to or obtained by the Person serving as the Administrative Agent or any of its Affiliates in any capacity; and
(d) shall not be responsible or have any liability for, or have any duty to ascertain, inquire into, monitor or enforce, compliance with the provisions hereof relating to Disqualified Institutions. Without limiting the generality of the foregoing, the Administrative Agent shall not (x) be obligated to ascertain, monitor or inquire as to whether any Lender or Participant or prospective Lender or Participant is a Disqualified Institution or (y) have any liability with respect to or arising out of any assignment or participation of Loans, or disclosure of confidential information, to any Disqualified Institution.

The Administrative Agent shall not be liable for any action taken or not taken by it (i) with the consent or at the request of the Required Lenders (or such other number or percentage of the Lenders as shall be necessary, or as the Administrative Agent shall believe in good faith shall be necessary, under the circumstances as provided in Sections 10.01 and 8.02) or (ii) in the absence of its own gross negligence or willful misconduct as determined by a court of competent jurisdiction by final and nonappealable judgment. The Administrative Agent shall be deemed not to have knowledge of any Default unless and until notice describing such Default is given in writing to the Administrative Agent by the Borrower, a Lender or the L/C Issuer.

The Administrative Agent shall not be responsible for or have any duty to ascertain or inquire into (i) any statement, warranty or representation made in or in connection with this Agreement or any other Loan Document, (ii) the contents of any certificate, report or other document delivered hereunder or thereunder or in connection herewith or therewith, (iii) the performance or observance of any of the covenants, agreements or other terms or conditions set forth herein or therein or the occurrence of any Default, (iv) the validity, enforceability, effectiveness or genuineness of this Agreement, any other Loan Document or any other agreement, or instrument or document, (v) the value or the sufficiency of any collateral, or (vi) the satisfaction of any condition set forth in Article IV or elsewhere herein, other than to confirm receipt of items expressly required to be delivered to the Administrative Agent.

9.04 Reliance by Administrative Agent. The Administrative Agent shall be entitled to rely upon, and shall not incur any liability for relying upon, any notice, request, certificate, consent, statement, instrument, document or other writing (including any electronic message, Internet or intranet website posting or other distribution) believed by it to be genuine and to have been signed, sent or otherwise authenticated by the proper Person. The Administrative Agent also may rely upon any statement made to it orally or by telephone and believed by it to have been made by the proper Person, and shall not incur any liability for relying thereon. In determining compliance with any condition hereunder to the making of a Loan, or the issuance, extension, renewal or increase of a Letter of Credit, that by its terms must be fulfilled to the satisfaction of a Lender or the L/C Issuer, the Administrative Agent may presume that such condition is satisfactory to such Lender or the L/C Issuer unless the Administrative Agent shall have received notice to the contrary from such Lender or the L/C Issuer prior to the making of such Loan or the issuance of such Letter of Credit. The Administrative Agent may consult with legal counsel (who may be counsel for the Borrower), independent accountants and other experts
selected by it, and shall not be liable for any action taken or not taken by it in accordance with the advice of any such counsel, accountants or experts.

9.05 Delegation of Duties. The Administrative Agent may perform any and all of its duties and exercise its rights and powers hereunder or under any other Loan Document by or through any one or more sub-agents appointed by the Administrative Agent. The Administrative Agent and any such sub-agent may perform any and all of its duties and exercise its rights and powers by or through their respective Related Parties. The exculpatory provisions of this Article shall apply to any such sub-agent and to the Related Parties of the Administrative Agent and any such sub-agent, and shall apply to their respective activities in connection with the syndication of the credit facilities provided for herein as well as activities as Administrative Agent. The Administrative Agent shall not be responsible for the negligence or misconduct of any sub-agents except to the extent that a court of competent jurisdiction determines in a final and non-appealable judgment that the Administrative Agent acted with gross negligence or willful misconduct in the selection of such sub-agents.

9.06 Resignation of Administrative Agent.

(a) The Administrative Agent may at any time give notice of its resignation to the Lenders, the L/C Issuer and the Borrower. Upon receipt of any such notice of resignation, the Required Lenders shall have the right, in consultation with the Borrower, to appoint a successor, which shall be a bank with an office in the United States, or an Affiliate of any such bank with an office in the United States. If no such successor shall have been so appointed by the Required Lenders and shall have accepted such appointment within 30 days after the retiring Administrative Agent gives notice of its resignation (or such earlier day as shall be agreed by the Required Lenders) (the “Resignation Effective Date”), then the retiring Administrative Agent may (but shall not be obligated to) on behalf of the Lenders and the L/C Issuer, appoint a successor Administrative Agent meeting the qualifications set forth above. Whether or not a successor has been appointed, such resignation shall become effective in accordance with such notice on the Resignation Effective Date.

(b) If the Person serving as Administrative Agent is a Defaulting Lender pursuant to clause (d) of the definition thereof, the Required Lenders may, to the extent permitted by applicable law, by notice in writing to the Borrower and such Person remove such Person as Administrative Agent and, in consultation with the Borrower, appoint a successor. If no such successor shall have been so appointed by the Required Lenders and shall have accepted such appointment within 30 days (or such earlier day as shall be agreed by the Required
Lenders) (the “Removal Effective Date”), then such removal shall nonetheless become effective in accordance with such notice on the Removal Effective Date.

(c) With effect from the Resignation Effective Date or the Removal Effective Date (as applicable) (1) the retiring or removed Administrative Agent shall be discharged from its duties and obligations hereunder and under the other Loan Documents (except that in the case of any collateral security held by the Administrative Agent on behalf of the Lenders or the L/C Issuer under any of the Loan Documents, the retiring or removed Administrative Agent shall continue to hold such collateral security until such time as a successor Administrative Agent is appointed) and (2) except for any indemnity payments or other amounts then owed to the retiring or removed Administrative Agent, all payments, communications and determinations provided to be made by, to or through the Administrative Agent shall instead be made by or to each Lender and the L/C Issuer directly, until such time, if any, as the Required Lenders appoint a successor Administrative Agent as provided for above. Upon the acceptance of a successor’s appointment as Administrative Agent hereunder, such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring (or removed) Administrative Agent (other than as provided in Section 3.01(g) and other than any rights to indemnity payments or other amounts owed to the retiring or removed Administrative Agent as of the Resignation Effective Date or the Removal Effective Date, as applicable), and the retiring or removed Administrative Agent shall be discharged from all of its duties and obligations hereunder or under the other Loan Documents (if not already discharged therefrom as provided above in this Section). The fees payable by the Borrower to a successor Administrative Agent shall be the same as those payable to its predecessor unless otherwise agreed between the Borrower and such successor. After the retiring or removed Administrative Agent’s resignation or removal hereunder and under the other Loan Documents, the provisions of this Article and Section 10.04 shall continue in effect for the benefit of such retiring or removed Administrative Agent, its sub-agents and their respective Related Parties in respect of any actions taken or omitted to be taken by any of them while the retiring or removed Administrative Agent was acting as Administrative Agent.

(d) Any resignation by Bank of America as Administrative Agent pursuant to this Section shall also constitute its resignation as L/C Issuer and Swing Line Lender. If Bank of America resigns as an L/C Issuer, it shall retain all the rights, powers,
privileges and duties of the L/C Issuer hereunder with respect to all Letters of Credit outstanding as of the effective date of its resignation as L/C Issuer and all L/C Obligations with respect thereto, including the right to require the Lenders to make Base Rate Loans or fund risk participations in Unreimbursed Amounts pursuant to Section 2.03(c). If Bank of America resigns as Swing Line Lender, it shall retain all the rights of the Swing Line Lender provided for hereunder with respect to Swing Line Loans made by it and outstanding as of the effective date of such resignation, including the right to require the Lenders to make Base Rate Loans or fund risk participations in outstanding Swing Line Loans pursuant to Section 2.04(c). Upon the appointment by the Borrower of a successor L/C Issuer or Swing Line Lender hereunder (which successor shall in all cases be a Lender other than a Defaulting Lender), (a) such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring L/C Issuer or Swing Line Lender, as applicable, (b) the retiring L/C Issuer and Swing Line Lender shall be discharged from all of their respective duties and obligations hereunder or under the other Loan Documents, and (c) the successor L/C Issuer shall issue letters of credit in substitution for the Letters of Credit, if any, outstanding at the time of such succession or make other arrangements satisfactory to Bank of America to effectively assume the obligations of Bank of America with respect to such Letters of Credit.

9.07 Non-Reliance on Administrative Agent, the Lead Arrangers and Other Lenders. Each Lender and the L/C Issuer acknowledges that none of the Administrative Agent nor any Lead Arranger has made any representation or warranty to it, and that no act by the Administrative Agent or any Lead Arranger hereafter taken, including any consent to, and acceptance of any assignment or review of the affairs of any Loan Party of any Affiliate thereof, shall be deemed to constitute any representation or warranty by the Administrative Agent or any Lead Arranger to any Lender or the L/C Issuer as to any matter, including whether the Administrative Agent or any Lead Arranger have disclosed material information in their (or their Related Parties’) possession. Each Lender and the L/C Issuer represents to the Administrative Agent and the Lead Arrangers that it has, independently and without reliance upon the Administrative Agent, any Lead Arranger or any other Lender or any of their Related Parties and based on such documents and information as it has deemed appropriate, made its own credit analysis and appraisal of, and investigation into, the business, prospects, operations, property, financial and other condition and creditworthiness of the Loan Parties and their Subsidiaries, and all applicable bank or other regulatory Laws relating to the transactions contemplated hereby, and made its own decision to enter into this Agreement and to extend credit to the Borrower hereunder. Each Lender and the L/C Issuer also acknowledges that it will, independently and without reliance
upon the Administrative Agent, any Lead Arranger or any other Lender or any of their Related Parties and based on such documents and information as it shall from time to time deem appropriate, continue to make its own credit analysis, appraisals and decisions in taking or not taking action under or based upon this Agreement, any other Loan Document or any related agreement or any document furnished hereunder or thereunder, and to make such investigations as it deems necessary to inform itself as to the business, prospects, operations, property, financial and other condition and creditworthiness of the Loan Parties. Each Lender and the L/C Issuer represents and warrants that (i) the Loan Documents set forth the terms of a commercial lending facility and (ii) it is engaged in making, acquiring or holding commercial loans in the ordinary course and is entering into this Agreement as a Lender or L/C Issuer for the purpose of making, acquiring or holding commercial loans and providing other facilities set forth herein as may be applicable to such Lender or L/C Issuer, and not for the purpose of purchasing, acquiring or holding any other type of financial instrument, and each Lender the L/C Issuer agrees not to assert a claim in contravention of the foregoing. Each Lender and the L/C Issuer represents and warrants that it is sophisticated with respect to decisions to make, acquire and/or hold commercial loans and to provide other facilities set forth herein, as may be applicable to such Lender or the L/C Issuer, and not for the purpose of purchasing, acquiring or holding any other type of financial instrument, and each Lender the L/C Issuer agrees not to assert a claim in contravention of the foregoing. Each Lender and the L/C Issuer represents and warrants that it is experienced in making, acquiring or holding such commercial loans or to provide such other facilities.

9.08 No Other Duties, Etc. Anything herein to the contrary notwithstanding, none of the Bookrunners, the Lead Arrangers, the Syndication Agents or the Documentation Agents listed on the cover page hereof shall have any powers, duties or responsibilities under this Agreement or any of the other Loan Documents, except in its capacity, as applicable, as the Administrative Agent, a Lender or the L/C Issuer hereunder.

9.09 Administrative Agent May File Proofs of Claim. In case of the pendency of any proceeding under any Debtor Relief Law or any other judicial proceeding relative to any Loan Party, the Administrative Agent (irrespective of whether the principal of any Loan or L/C Obligation shall then be due and payable as herein expressed or by declaration or otherwise and irrespective of whether the Administrative Agent shall have made any demand on the Borrower) shall be entitled and empowered, by intervention in such proceeding or otherwise

(a) to file and prove a claim for the whole amount of the principal and interest owing and unpaid in respect of the Loans, L/C Obligations and all other Secured Obligations that are owing and unpaid and to file such other documents as may be necessary or advisable in order to have the claims of the Lenders, the L/C Issuer and the Administrative Agent (including any claim for the reasonable compensation, expenses, disbursements and advances of the Lenders, the L/C Issuer and the Administrative Agent and their respective agents and counsel and all other amounts due the Lenders, the L/C Issuer and the
Administrative Agent under Sections 2.03(h) and (i), 2.09 and 10.04) allowed in such judicial proceeding; and
(b) to collect and receive any monies or other property payable or deliverable on any such claims and to distribute the same;
and any custodian, receiver, assignee, trustee, liquidator, sequestrator or other similar official in any such judicial proceeding is hereby authorized by each Lender and the L/C Issuer to make such payments to the Administrative Agent and, in the event that the Administrative Agent shall consent to the making of such payments directly to the Lenders and the L/C Issuer, to pay to the Administrative Agent any amount due for the reasonable compensation, expenses, disbursements and advances of the Administrative Agent and its agents and counsel, and any other amounts due the Administrative Agent under Sections 2.09 and 10.04.
Nothing contained herein shall be deemed to authorize the Administrative Agent to authorize or consent to or accept or adopt on behalf of any Lender or the L/C Issuer any plan of reorganization, arrangement, adjustment or composition affecting the Secured Obligations or the rights of any Lender or the L/C Issuer to authorize the Administrative Agent to vote in respect of the claim of any Lender or the L/C Issuer in any such proceeding.

9.10 Collateral and Guaranty Matters. Each of the Lenders (including in its capacities as a potential Cash Management Bank and a potential Hedge Bank) and the L/C Issuer irrevocably authorize the Administrative Agent, at its option and in its discretion,
(a) to release any Lien on any property granted to or held by the Administrative Agent under any Loan Document (i) upon the Facility Termination Date, (ii) that is sold or otherwise disposed of or to be sold or otherwise disposed of as part of or in connection with any sale or other disposition permitted hereunder or under any other Loan Document, or (iii) if approved, authorized or ratified in writing in accordance with Section 10.01;
(b) to subordinate any Lien on any property granted to or held by the Administrative Agent under any Loan Document to the holder of any Lien on such property that is permitted by Section 7.01(x); and
(c) to release any Guarantor from its obligations under the Guaranty if such Person ceases to be a Material Subsidiary or a Subsidiary as a result of a transaction permitted under the Loan Documents.
Upon request by the Administrative Agent at any time, the Required Lenders will confirm in writing the Administrative Agent’s authority to release or subordinate its interest in particular types or items of property, or to release any Guarantor from its obligations under the Guaranty pursuant to this Section 9.10. In each case as specified in this Section 9.10, the Administrative Agent will, at the Borrower’s expense, execute and deliver to the applicable Loan Party such documents as such Loan Party may reasonably request to subordinate its interest in such item, or to release such Guarantor from its obligations under the Guaranty, in each case in accordance with the terms of the Loan Documents and this Section 9.10.

9.11 Secured Cash Management Agreements and Secured Hedge Agreements. Except as otherwise expressly set forth herein, no Cash Management Bank or Hedge Bank that obtains the benefit of the provisions of Section 8.03, the Guaranty or any collateral by virtue of the provisions hereof or of the Guaranty shall have any right to notice of any action or to consent to, direct or object to any action.

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hereunder or under any other Loan Document or otherwise in respect of any collateral (including the release or impairment of such collateral) (or to notice of or to consent to any amendment, waiver or modification of the provisions hereof or of the Guaranty) other than in its capacity as a Lender, the L/C Issuer or the Administrative Agent and, in such case, only to the extent expressly provided in the Loan Documents. Notwithstanding any other provision of this Article IX to the contrary, the Administrative Agent shall not be required to verify the payment of, or that other satisfactory arrangements have been made with respect to, Secured Obligations arising under Secured Cash Management Agreements and Secured Hedge Agreements unless the Administrative Agent has received a Secured Party Designation Notice of such Secured Obligations, together with such supporting documentation as the Administrative Agent may request, from the applicable Cash Management Bank or Hedge Bank, as the case may be. The Administrative Agent shall not be required to verify the payment of, or that other satisfactory arrangements have been made with respect to, Secured Obligations arising under Secured Cash Management Agreements and Secured Hedge Agreements, in the case of a Facility Termination Date.

9.12 Certain ERISA Matters.

(a) Each Lender (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent, the Arranger, and each other Lead Arranger and their respective Affiliates, and not, for the avoidance of doubt, to or for the benefit of the Borrower or any other Loan Party, that at least one of the following is and will be true:

(i) such Lender is not using “plan assets” (within the meaning of 29 CFR § 2510.3-101, as modified by Section 3(42) of ERISA or otherwise) of one or more Benefit Plans in connection with respect to such Lender’s entrance into, participation in, administration of and performance of the Loans, the Letters of Credit or, the Commitments or this Agreement,

(ii) the transaction exemption set forth in one or more PTEs, such as PTE 84-14 (a class exemption for certain transactions determined by independent qualified professional asset managers), PTE 95-60 (a class exemption for certain transactions involving insurance company general accounts), PTE 90-1 (a class exemption for certain transactions involving insurance company pooled separate accounts), PTE 91-38 (a class exemption for certain transactions involving bank collective investment funds) or PTE 96-23 (a class exemption for certain transactions determined by in-house asset managers), is applicable with respect to such Lender’s entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement,
(iii) (A) such Lender is an investment fund managed by a “Qualified Professional Asset Manager” (within the meaning of Part VI of PTE 84-14), (B) such Qualified Professional Asset Manager made the investment decision on behalf of such Lender to enter into, participate in, administer and perform the Loans, the Letters of Credit, the Commitments and this Agreement, (C) the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement satisfies the requirements of sub-sections (b) through (g) of Part I of PTE 84-14 and (D) to the best knowledge of such Lender, the requirements of subsection (a) of Part I of PTE 84-14 are satisfied with respect to such Lender’s entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement, or

(iv) such other representation, warranty and covenant as may be agreed in writing between the Administrative Agent, in its sole discretion, and such Lender.

(b) In addition, unless either (1) sub-clause (i) in the immediately preceding clause (a) is true with respect to a Lender or (2) a Lender has not provided another representation, warranty and covenant as provided in accordance with sub-clause (iv) in the immediately preceding clause (a), such Lender further (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent, the Arranger, and each other Lead Arranger and their respective Affiliates, and not, for the avoidance of doubt, to or for the benefit of the Borrower or any other Loan Party, that:

(i) none of the Administrative Agent, the Arranger, or any other Lead Arranger or any of their respective Affiliates is a fiduciary with respect to the assets of such Lender (including in connection with the reservation or exercise of any rights by the Administrative Agent under this Agreement, any Loan Document or any documents related hereto or thereto);

(ii) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement is independent (within the meaning of 29 CFR § 2510.3-21) and is a bank, an insurance carrier, an investment adviser.

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a broker-dealer or other person that holds, or has under management or control, total assets of at least $50 million, in each case as described in 29 CFR § 2510.3-21(e)(1)(i)(A)-(E);

(iii) — the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement is capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies (including in respect of the Obligations);

(iv) — the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement is a fiduciary under ERISA or the Code, or both, with respect to the Loans, the Letters of Credit, the Commitments and this Agreement and is responsible for exercising independent judgment in evaluating the transactions hereunder, and

(v) — no fee or other compensation is being paid directly to the Administrative Agent, the Arranger or any other Lead Arranger or any their respective Affiliates for investment advice (as opposed to other services) in connection with the Loans, the Letters of Credit, the Commitments or this Agreement.

(c) — The Administrative Agent, the Arranger and each other Lead Arranger hereby informs the Lenders that each such Person is not undertaking to provide impartial investment advice, or to give advice in a fiduciary capacity, in connection with the transactions contemplated hereby, and that such Person has a financial interest in the transactions contemplated hereby in that such Person or an Affiliate thereof (i) may receive interest or other payments with respect to the Loans, the Letters of Credit, the Commitments and this Agreement, (ii) may recognize a gain if it extended the Loans, the Letters of Credit or the Commitments for an amount less than the amount being paid for an interest in the Loans, the Letters of Credit or the Commitments by such Lender or (iii) may receive fees or other payments in connection with the transactions contemplated hereby, the Loan Documents or otherwise, including structuring fees, commitment fees, arrangement fees, facility fees, upfront fees, underwriting fees, ticking fees, agency fees, administrative agent or collateral agent fees, utilization fees, minimum usage fees, letter of credit fees, fronting fees, deal-away or alternate transaction fees, amendment fees, processing fees, term out premiums, banker’s acceptance fees, breakage or other early termination fees or fees similar to the foregoing.

ARTICLE X. MISCELLANEOUS

10.01 Amendments, Etc. No amendment or waiver of any provision of this Agreement or any other Loan Document, and no consent to any departure by the Borrower or any other Loan Party therefrom, shall be effective unless in writing signed by the Required Lenders and the Borrower or the applicable Loan Party, as the case may be, and acknowledged by the Administrative Agent, and each such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given; provided, however, that (x) the Administrative Agent and the Borrower may, with the consent of the other, amend, modify or supplement this
Agreement and any other Loan Document to cure any ambiguity, typographical error, defect or inconsistency if such amendment, modification or supplement does not adversely affect the rights of any Agent, any Lender or any L/C Issuer (such amendment, modification or supplement to be posted to all Lenders and the Borrower promptly following the effectiveness thereof), and (y) no such amendment, waiver or consent shall:

(a) (i) waive any condition set forth in Section 4.01(a) without the written consent of each Lender; or (ii) waive any condition set forth in Section 4.02 as to any Credit Extension under the Revolving Credit Facility without the written consent of the Required Lenders;

(b) extend or increase the Commitment of any Lender (or reinstate any Commitment terminated pursuant to Section 8.02) without the written consent of such Lender whose Commitment is being extended or increased (it being understood and agreed that a waiver of any condition precedent set forth in Section 4.02 or of any Default is not considered an extension or increase in Commitments of any Lender);

(c) postpone any date fixed by this Agreement or any other Loan Document for any payment of principal, interest, fees or other amounts due to the Lenders (or any of them) hereunder or under any other Loan Document without the written consent of each Lender entitled to receive such payment;

(d) reduce the principal of, or the rate of interest specified herein on, any Loan or L/C Borrowing, or (subject to clause (iv) of the second proviso to this Section 10.01) any fees or other amounts payable hereunder or under any other Loan Document without the written consent of each Lender entitled to receive such payment; provided, however, that only the consent of the Required Lenders shall be necessary (i) to amend the definition of “Default Rate” or to waive any obligation of the Borrower to pay interest or Letter of Credit Fees at the Default Rate or (ii) to amend any financial covenant hereunder (or any defined term used therein) even if the effect of such amendment would be to reduce the rate of interest on any Loan or L/C Borrowing or to reduce any fee payable hereunder;

(e) change Section 8.03 in a manner that would alter the pro rata sharing of payments or the pro rata reduction of commitments required thereby without the written consent of each Lender;

(f) amend Section 1.06 or the definition of “Alternative Currency” without the written consent of each Lender;
(g) change any provision of this Section or the definition of “Required Lenders” or any other provision hereof specifying the number or percentage of Lenders required to amend, waive or otherwise modify any rights hereunder or make any determination or grant any consent hereunder, without the written consent of each Lender;

(h) [reserved];

(i) except in connection with a Permitted Disposition or a transaction permitted by Section 7.04, release a Guarantor from the Guaranty or all or substantially all of the value of the Guaranty without the written consent of each Lender, except to the extent the release of any Guarantor is permitted pursuant to Section 9.10 (in which case such release may be made by the Administrative Agent acting alone); or

(j) impose any greater restriction on the ability of any Lender under a Facility to assign any of its rights or obligations hereunder without the written consent of the Required Lenders under such Facility;

and, provided further, that (i) no amendment, waiver or consent shall, unless in writing and signed by the L/C Issuer in addition to the Lenders required above, affect the rights or duties of the L/C Issuer under this Agreement or any Issuer Document relating to any Letter of Credit issued or to be issued by it; (ii) no amendment, waiver or consent shall, unless in writing and signed by the Swing Line Lender in addition to the Lenders required above, affect the rights or duties of the Swing Line Lender under this Agreement; (iii) no amendment, waiver or consent shall, unless in writing and signed by the Administrative Agent in addition to the Lenders required above, affect the rights or duties of the Administrative Agent under this Agreement or any other Loan Document; and the Fee Letter may be amended, or rights or privileges thereunder waived, in a writing executed only by the parties thereto. Notwithstanding anything to the contrary herein, no Defaulting Lender shall have any right to approve or disapprove any amendment, waiver or consent hereunder (and any amendment, waiver or consent which by its terms requires the consent of all Lenders or each affected Lender or all Lenders or each affected Lender under a Facility may be effected with the consent of the applicable Lenders other than Defaulting Lenders), except that (x) the Commitment of any Defaulting Lender may not be increased or extended without the consent of such Lender and (y) any waiver, amendment or modification requiring the consent of all Lenders or each affected Lender or all Lenders or each affected Lender under a Facility that by its terms affects any Defaulting Lender disproportionately adversely relative to other affected Lenders shall require the consent of such Defaulting Lender.

10.02 Notices; Effectiveness; Electronic Communication.

(a) Notices Generally. Except in the case of notices and other communications expressly permitted to be given by telephone

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(and except as provided in subsection (b) below), all notices and other communications provided for herein shall be in writing and shall be delivered by hand or overnight courier service, mailed by certified or registered mail or sent by facsimile or electronic mail as follows, and all notices and other communications expressly permitted hereunder to be given by telephone shall be made to the applicable telephone number, as follows:

(i) if to the Borrower, the Administrative Agent, the L/C Issuer or the Swing Line Lender, to the address, facsimile number, electronic mail address or telephone number specified for such Person on Schedule 10.02; and

(ii) if to any other Lender, to the address, facsimile number, electronic mail address or telephone number specified in its Administrative Questionnaire (including, as appropriate, notices delivered solely to the Person designated by a Lender on its Administrative Questionnaire then in effect for the delivery of notices that may contain material non-public information relating to the Borrower).

Notices and other communications sent by hand or overnight courier service, or mailed by certified or registered mail, shall be deemed to have been given when received; notices and other communications sent by facsimile shall be deemed to have been given when sent (except that, if not given during normal business hours for the recipient, shall be deemed to have been given at the opening of business on the next Business Day for the recipient). Notices and other communications delivered through electronic communications to the extent provided in subsection (b) below, shall be effective as provided in such subsection (b).

(b) Electronic Communications. Notices and other communications to the Lenders and the L/C Issuer hereunder may be delivered or furnished by electronic communication (including e-mail, FpML messaging, and Internet or intranet websites) pursuant to procedures approved by the Administrative Agent, provided that the foregoing shall not apply to notices to any Lender or the L/C Issuer pursuant to Article II if such Lender or the L/C Issuer, as applicable, has notified the Administrative Agent that it is incapable of receiving notices under such Article by electronic communication. The Administrative Agent, the Swing Line Lender, the L/C Issuer or the Borrower may each, in its discretion, agree to accept notices and other communications to it hereunder by electronic communications pursuant to procedures approved by it, provided that approval of such procedures may be limited to particular notices or communications.

Unless the Administrative Agent otherwise prescribes, (i) notices and other communications sent to an e-mail address shall be deemed received upon the sender’s receipt of an acknowledgement from the intended recipient (such as by the “return receipt requested” function, as available, return e-mail or other written acknowledgement), and (ii) notices or communications posted to an Internet or intranet website shall be deemed received upon the deemed receipt by the intended recipient at

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its e-mail address as described in the foregoing clause (i) of notification that such notice or communication is available and identifying the website address therefor; provided that, for both clauses (i) and (ii), if such notice, email or other communication is not sent during the normal business hours of the recipient, such notice, email or communication shall be deemed to have been sent at the opening of business on the next business day for the recipient.

(c) The Platform. THE PLATFORM IS PROVIDED “AS IS” AND “AS AVAILABLE.” THE AGENT PARTIES (AS DEFINED BELOW) DO NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE BORROWER MATERIALS OR THE ADEQUACY OF THE PLATFORM, AND EXPRESSLY DISCLAIM LIABILITY FOR ERRORS IN OR OMISSIONS FROM THE BORROWER MATERIALS. NO WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF THIRD PARTY RIGHTS OR FREEDOM FROM VIRUSES OR OTHER CODE DEFECTS, IS MADE BY ANY AGENT PARTY IN CONNECTION WITH THE BORROWER MATERIALS OR THE PLATFORM. In no event shall the Administrative Agent or any of its Related Parties (collectively, the “Agent Parties”) have any liability to the Borrower, any Lender, the L/C Issuer or any other Person for losses, claims, damages, liabilities or expenses of any kind (whether in tort, contract or otherwise) arising out of the Borrower’s, any Loan Party’s or the Administrative Agent’s transmission of Borrower Materials or notices through the Platform, any other electronic platform or electronic messaging service, or through the Internet.

(d) Change of Address, Etc. Each of the Borrower, the Administrative Agent, the L/C Issuer and the Swing Line Lender may change its address, facsimile or telephone number for notices and other communications hereunder by notice to the other parties hereto. Each other Lender may change its address, facsimile or telephone number for notices and other communications hereunder by notice to the Borrower, the Administrative Agent, the L/C Issuer and the Swing Line Lender. In addition, each Lender agrees to notify the Administrative Agent from time to time to ensure that the Administrative Agent has on record (i) an effective address, contact name, telephone number, facsimile number and electronic mail address to which notices and other communications may be sent and (ii) accurate wire instructions for such Lender. Furthermore, each Public Lender agrees to cause at least one individual at or on behalf of such Public Lender to at all times have selected the “Private Side Information” or similar designation on the content declaration screen.
of the Platform in order to enable such Public Lender or its delegate, in accordance with such Public Lender’s compliance procedures and applicable Law, including United States Federal and state securities Laws, to make reference to Borrower Materials that are not made available through the “Public Side Information” portion of the Platform and that may contain material non-public information with respect to the Borrower or its securities for purposes of United States Federal or state securities laws.

(e) Reliance by Administrative Agent, L/C Issuer and Lenders. The Administrative Agent, the L/C Issuer and the Lenders shall be entitled to rely and act upon any notices (including telephonic or electronic Loan Notices, Letter of Credit Applications and Swing Line Loan Notices) purportedly given by or on behalf of the Borrower even if (i) such notices were not made in a manner specified herein, were incomplete or were not preceded or followed by any other form of notice specified herein, or (ii) the terms thereof, as understood by the recipient, varied from any confirmation thereof. The Borrower shall indemnify the Administrative Agent, the L/C Issuer, each Lender and the Related Parties of each of them from all losses, costs, expenses and liabilities resulting from the reliance by such Person on each notice purportedly given by or on behalf of the Borrower. All telephonic notices to and other telephonic communications with the Administrative Agent may be recorded by the Administrative Agent, and each of the parties hereto hereby consents to such recording.

10.03 No Waiver; Cumulative Remedies; Enforcement. No failure by any Lender, the L/C Issuer or the Administrative Agent to exercise, and no delay by any such Person in exercising, any right, remedy, power or privilege hereunder or under any other Loan Document shall operate as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder or under any other Loan Document preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege. The rights, remedies, powers and privileges herein provided, and provided under each other Loan Document, are cumulative and not exclusive of any rights, remedies, powers and privileges provided by law.

Notwithstanding anything to the contrary contained herein or in any other Loan Document, the authority to enforce rights and remedies hereunder and under the other Loan Documents against the Loan Parties or any of them shall be vested exclusively in, and all actions and proceedings at law in connection with such enforcement shall be instituted and maintained exclusively by, the Administrative Agent in accordance with Section 8.02 for the benefit of all the Lenders and the L/C Issuer; provided, however, that the foregoing shall not prohibit (a) the Administrative Agent from exercising on its own behalf the rights and remedies that inure to its benefit (solely in its capacity as Administrative Agent) hereunder and under the other Loan Documents, (b) the L/C Issuer or the
Swing Line Lender from exercising the rights and remedies that inure to its benefit (solely in its capacity as L/C Issuer or Swing Line Lender, as the case may be) hereunder and under the other Loan Documents, (c) any Lender from exercising setoff rights in accordance with Section 10.08 (subject to the terms of Section 2.13), or (d) any Lender from filing proofs of claim or appearing and filing pleadings on its own behalf during the pendency of a proceeding relative to any Loan Party under any Debtor Relief Law; and provided, further, that if at any time there is no Person acting as Administrative Agent hereunder and under the other Loan Documents, then (i) the Required Lenders shall have the rights otherwise ascribed to the Administrative Agent pursuant to Section 8.02 and (ii) in addition to the matters set forth in clauses (b), (c) and (d) of the preceding proviso and subject to Section 2.13, any Lender may, with the consent of the Required Lenders, enforce any rights and remedies available to it and as authorized by the Required Lenders.

10.04 Expenses; Indemnity; Damage Waiver.

(a) Costs and Expenses. The Borrower shall pay (i) all reasonable documented out-of-pocket expenses incurred by the Administrative Agent and its Affiliates and the Lenders (including the reasonable documented fees, charges and disbursements of counsel, one primary external counsel, any necessary local counsel, and, in the case of a conflict of interest, one additional conflict of interest counsel in each applicable jurisdiction for the Administrative Agent and each Lender), in connection with (A) the syndication of the credit facilities provided for herein, the preparation, negotiation, execution, delivery and administration of this Agreement and the other Loan Documents, provided that the Borrower’s liability for such reasonable documented fees, charges and disbursements of counsel for the Administrative Agent shall not exceed $125,000, or (B) any amendments, modifications or waivers of the provisions hereof or thereof (whether or not the transactions contemplated hereby or thereby shall be consummated), (ii) all reasonable documented out-of-pocket expenses incurred by the L/C Issuer in connection with the issuance, amendment, renewal or extension of any Letter of Credit or any demand for payment thereunder and (iii) all documented out-of-pocket expenses incurred by the Administrative Agent, any Lender or the L/C Issuer (including the fees, charges and disbursements of counsel, one primary external counsel, any necessary local counsel, and, in the case of a conflict of interest, one additional conflict of interest counsel in each applicable jurisdiction for the Administrative Agent, any Lender or the L/C Issuer), in connection with the enforcement or protection of its rights (A) in connection with this Agreement and the other Loan Documents, including its rights under this Section, or (B) in connection with the Loans made or Letters of Credit issued hereunder, including all such out-of-pocket expenses incurred during any workout, restructuring or negotiations in respect of such Loans or Letters of Credit.

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(b) **Indemnification by the Borrower.** The Borrower shall indemnify the Administrative Agent (and any sub-agent thereof), each Lender, each Lead Arranger and the L/C Issuer, and each Related Party of any of the foregoing Persons (each such Person being called an “Indemnitee”) against, and hold each Indemnitee harmless from, any and all losses, claims, damages, liabilities and related expenses (including the reasonable fees, charges and disbursements of one primary external counsel, any necessary local counsel, and, in the case of a conflict of interest, one additional conflict of interest counsel in each applicable jurisdiction for any Indemnitee), incurred by any Indemnitee or asserted against any Indemnitee by any Person (including the Borrower or any other Loan Party) other than such Indemnitee and its Related Parties arising out of, in connection with, or as a result of (i) the execution or delivery of this Agreement, any other Loan Document or any agreement or instrument contemplated hereby or thereunder, the performance by the parties hereto of their respective obligations hereunder or thereunder, the consummation of the transactions contemplated hereby or thereunder, or, in the case of the Administrative Agent (and any sub-agent thereof) and its Related Parties only, the administration of this Agreement and the other Loan Documents (including in respect of any matters addressed in Section 3.01), (ii) any Loan or Letter of Credit or the use or proposed use of the proceeds therefrom (including any refusal by the L/C Issuer to honor a demand for payment under a Letter of Credit if the documents presented in connection with such demand do not strictly comply with the terms of such Letter of Credit), (iii) any actual or alleged presence or release of Hazardous Materials on or from any property owned or operated by the Borrower or any of its Subsidiaries, or any Environmental Liability related in any way to the Borrower or any of its Subsidiaries, or (iv) any actual or prospective claim, litigation, investigation or proceeding relating to any of the foregoing, whether based on contract, tort or any other theory, whether brought by a third party or by the Borrower or any other Loan Party, and regardless of whether any Indemnitee is a party thereto; provided that such indemnity shall not, as to any Indemnitee, be available to the extent that such losses, claims, damages, liabilities or related expenses (x) are determined by a court of competent jurisdiction by final and nonappealable judgment to have resulted from the gross negligence or willful misconduct of such Indemnitee or (y) result from a claim brought by the Borrower or any other Loan Party against an Indemnitee for breach in bad faith of such Indemnitee’s obligations hereunder or under any other Loan Document, if the Borrower or such Loan Party has obtained a final and nonappealable judgment in its favor on such claim as determined by a court of competent jurisdiction. Without limiting the provisions
of Section 3.01(c), this Section 10.04(b) shall not apply with respect to Taxes other than any Taxes that represent losses, claims, damages, etc. arising from any non-Tax claim.

(c) Reimbursement by Lenders. To the extent that the Borrower for any reason fails to indefeasibly pay any amount required under subsection (a) or (b) of this Section to be paid by it to the Administrative Agent (or any sub-agent thereof), the L/C Issuer, the Swing Line Lender or any Related Party of any of the foregoing, each Lender severally agrees to pay to the Administrative Agent (or any such sub-agent), the L/C Issuer, the Swing Line Lender or such Related Party, as the case may be, such Lender’s pro rata share (determined as of the time that the applicable unreimbursed expense or indemnity payment is sought based on each Lender’s share of the Total Credit Exposure at such time) of such unpaid amount (including any such unpaid amount in respect of a claim asserted by such Lender), such payment to be made severally among them based on such Lenders’ Applicable Percentage (determined as of the time that the applicable unreimbursed expense or indemnity payment is sought), provided, further that, the unreimbursed expense or indemnified loss, claim, damage, liability or related expense, as the case may be, was incurred by or asserted against the Administrative Agent (or any such sub-agent), the L/C Issuer or the Swing Line Lender in its capacity as such, or against any Related Party of any of the foregoing acting for the Administrative Agent (or any such sub-agent), the L/C Issuer or the Swing Line Lender in connection with such capacity. The obligations of the Lenders under this subsection (c) are subject to the provisions of Section 2.12(d).

(d) Waiver of Consequential Damages, Etc. To the fullest extent permitted by applicable law, the Borrower shall not assert, and hereby waives, and acknowledges that no other Person shall have, any claim against any Indemnitee, on any theory of liability, for special, indirect, consequential or punitive damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of, this Agreement, any other Loan Document or any agreement or instrument contemplated hereby, the transactions contemplated hereby or thereby, any Loan or Letter of Credit or the use of the proceeds thereof. No Indemnitee referred to in subsection (b) above shall be liable for any damages arising from the use by unintended recipients of any information or other materials distributed to such unintended recipients by such Indemnitee through telecommunications, electronic or other information transmission systems in connection with this Agreement or the other Loan Documents or the transactions contemplated hereby or thereby other
than for direct or actual damages resulting from the gross negligence or willful misconduct of such Indemnitee as determined by a final and nonappealable judgment of a court of competent jurisdiction.

(e) **Payments.** All amounts due under this Section shall be payable not later than ten Business Days after demand therefor.

(f) **Survival.** The agreements in this Section and the indemnity provisions of Section 10.02(e) shall survive the resignation of the Administrative Agent, the L/C Issuer and the Swing Line Lender, the replacement of any Lender, the termination of the Aggregate Commitments and the repayment, satisfaction or discharge of all the other Obligations.

10.05 **Payments Set Aside.** To the extent that any payment by or on behalf of the Borrower is made to the Administrative Agent, the L/C Issuer or any Lender, or the Administrative Agent, the L/C Issuer or any Lender exercises its right of setoff, and such payment or the proceeds of such setoff or any part thereof is subsequently invalidated, declared to be fraudulent or preferential, set aside or required (including pursuant to any settlement entered into by the Administrative Agent, the L/C Issuer or such Lender in its discretion) to be repaid to a trustee, receiver or any other party, in connection with any proceeding under any Debtor Relief Law or otherwise, then (a) to the extent of such recovery, the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such setoff had not occurred, and (b) each Lender and the L/C Issuer severally agrees to pay to the Administrative Agent upon demand its applicable share (without duplication) of any amount so recovered from or repaid by the Administrative Agent, plus interest thereon from the date of such demand to the date such payment is made at a rate per annum equal to the applicable **Federal Funds Overnight Rate** from time to time in effect, **in the applicable currency of such recovery or payment.** The obligations of the Lenders and the L/C Issuer under clause (b) of the preceding sentence shall survive the payment in full of the Obligations and the termination of this Agreement.

10.06 **Successors and Assigns.**

(a) **Successors and Assigns Generally.** The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns permitted hereby, except that the Borrower may not assign or otherwise transfer any of its rights or obligations hereunder without the prior written consent of the Administrative Agent and each Lender and no Lender may assign or otherwise transfer any of its rights or obligations hereunder except (i) to an assignee in accordance with the provisions of subsection (b) of this Section, (ii) by way of participation in accordance with the provisions of subsection (d) of this Section, or
(iii) by way of pledge or assignment of a security interest subject to the restrictions of subsection (f) of this Section (and any other attempted assignment or transfer by any party hereto shall be null and void). Nothing in this Agreement, expressed or implied, shall be construed to confer upon any Person (other than the parties hereto, their respective successors and assigns permitted hereby, Participants to the extent provided in subsection (d) of this Section and, to the extent expressly contemplated hereby, the Related Parties of each of the Administrative Agent, the L/C Issuer and the Lenders) any legal or equitable right, remedy or claim under or by reason of this Agreement.

(b) Assignments by Lenders. Any Lender may at any time assign to one or more assignees all or a portion of its rights and obligations under this Agreement (including all or a portion of its Commitment and the Loans (including for purposes of this subsection (b), participations in L/C Obligations and in Swing Line Loans) at the time owing to it); provided that (in each case with respect to any Facility) any such assignment shall be subject to the following conditions:

(i) Minimum Amounts.

(A) in the case of an assignment of the entire remaining amount of the assigning Lender’s Commitment under any Facility and/or the Loans at the time owing to it with respect to any Facility or contemporaneous assignments to related Approved Funds that equal at least the amount specified in paragraph (b)(i)(B) of this Section in the aggregate or in the case of an assignment to a Lender, an Affiliate of a Lender or an Approved Fund, no minimum amount need be assigned; and

(B) in any case not described in subsection (b)(i)(A) of this Section, the aggregate amount of the Commitment (which for this purpose includes Loans outstanding thereunder) or, if the applicable Commitment is not then in effect, the principal outstanding balance of the Loans of the assigning Lender subject to each such assignment, determined as of the date the Assignment and Assumption with respect to such assignment is delivered to the Administrative Agent or, if “Trade Date” is specified in the Assignment and Assumption, as of the Trade Date, shall not be less than $10,000,000, in the case of any assignment in respect of the Revolving Credit Facility, unless each of the Administrative Agent and, so long as no Event of Default under Sections 8.01(a) or (f) has occurred and is continuing, the Borrower otherwise consents (each such consent not to be unreasonably withheld or delayed).

(ii) Proportionate Amounts. Each partial assignment shall be made as an assignment of a proportionate part of all the assigning Lender’s rights and
obligations under this Agreement with respect to the Loans or the Commitment assigned, except that this clause (ii) shall not apply to the Swing Line Lender’s rights and obligations in respect of Swing Line Loans;

(iii) Required Consents. No consent shall be required for any assignment except to the extent required by subsection (b)(i)(B) of this Section and, in addition:

(A) the consent of the Borrower (such consent not to be unreasonably withheld or delayed) shall be required unless (1) an Event of Default has occurred and is continuing at the time of such assignment or (2) such assignment is to a Lender, an Affiliate of a Lender or an Approved Fund; provided that the Borrower shall be deemed to have consented to any such assignment unless it shall object thereto by written notice to the Administrative Agent within ten (10) Business Days after having received notice thereof;

(B) the consent of the Administrative Agent (such consent not to be unreasonably withheld or delayed) shall be required for assignments in respect of any Revolving Credit Commitment if such assignment is to a Person that is not a Revolving Credit Lender, an Affiliate of such Lender or an Approved Fund with respect to such Lender; and

(C) the consent of the L/C Issuer and the Swing Line Lender shall be required for any assignment in respect of the Revolving Credit Facility (such consents not to be unreasonably withheld or delayed).

(iv) Assignment and Assumption. The parties to each assignment shall execute and deliver to the Administrative Agent an Assignment and Assumption, together with a processing and recordation fee in the amount of $3,500, provided, however, that the Administrative Agent may, in its sole discretion, elect to waive such processing and recordation fee in the case of any assignment. The assignee, if it is not a Lender, shall deliver to the Administrative Agent an Administrative Questionnaire.

(v) No Assignment to Certain Persons. No such assignment shall be made (A) to the Borrower or any of the Borrower’s Affiliates or Subsidiaries, (B) to any Defaulting Lender or any of its Subsidiaries, or any Person who, upon becoming a Lender hereunder, would constitute any of the foregoing Persons described in this clause (B), or (C) to a natural Person (or to a holding company, investment vehicle or trust for, or owned and operated for the primary benefit of one or more natural Persons).

(vi) Certain Additional Payments. In connection with any assignment of rights and obligations of any Defaulting Lender hereunder, no such assignment shall be effective unless and until, in addition to the other conditions thereto set forth herein, the parties to the assignment shall make such additional payments to the
Administrative Agent in an aggregate amount sufficient, upon distribution thereof as appropriate (which may be outright payment, purchases by the assignee of participations or sub participations, or other compensating actions, including funding, with the consent of the Borrower and the Administrative Agent, the applicable pro rata share of Loans previously requested but not funded by the Defaulting Lender, to each of which the applicable assignee and assignor hereby irrevocably consent), to (x) pay and satisfy in full all payment liabilities then owed by such Defaulting Lender to the Administrative Agent, the L/C Issuer or any Lender hereunder (and interest accrued thereon) and (y) acquire (and fund as appropriate) its full pro rata share of all Loans and participations in Letters of Credit and Swing Line Loans in accordance with its Applicable Percentage. Notwithstanding the foregoing, in the event that any assignment of rights and obligations of any Defaulting Lender hereunder shall become effective under applicable Law without compliance with the provisions of this paragraph, then the assignee of such interest shall be deemed to be a Defaulting Lender for all purposes of this Agreement until such compliance occurs.

Subject to acceptance and recording thereof by the Administrative Agent pursuant to subsection (c) of this Section, from and after the effective date specified in each Assignment and Assumption, the assignee thereunder shall be a party to this Agreement and, to the extent of the interest assigned by such Assignment and Assumption, have the rights and obligations of a Lender under this Agreement, and the assigning Lender thereunder shall, to the extent of the interest assigned by such Assignment and Assumption, be released from its obligations under this Agreement (and, in the case of an Assignment and Assumption covering all of the assigning Lender’s rights and obligations under this Agreement, such Lender shall cease to be a party hereto) but shall continue to be entitled to the benefits of Sections 3.01, 3.04, 3.05, and 10.04 with respect to facts and circumstances occurring prior to the effective date of such assignment; provided, that except to the extent otherwise expressly agreed by the affected parties, no assignment by a Defaulting Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender’s having been a Defaulting Lender. Upon request, the Borrower (at its expense) shall execute and deliver a Note to the assignee Lender. Any assignment or transfer by a Lender of rights or obligations under this Agreement that does not comply with this subsection shall be treated for purposes of this Agreement as a sale by such Lender of a participation in such rights and obligations in accordance with subsection (d) of this Section.

(c) Register. The Administrative Agent, acting solely for this purpose as a non-fiduciary agent of the Borrower (and such agency being solely for tax purposes), shall maintain at the Administrative Agent’s Office a copy of each Assignment and Assumption delivered to it (or the equivalent thereof in electronic form) and a register for the recordation of the names and addresses of the Lenders, and the Commitments of, and principal amounts (and stated interest) of the Loans and L/C Obligations owing to, each Lender pursuant to the terms hereof from time to time (the “Register”). The entries in the Register shall be conclusive absence
manifest error, and the Borrower, the Administrative Agent and the Lenders shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement. The Register shall be available for inspection by the Borrower and any Lender, at any reasonable time and from time to time upon reasonable prior notice.

(d) **Participations.** Any Lender may at any time, without the consent of, or notice to, the Borrower, the Administrative Agent, the L/C Issuer or the Swing Line Lender, sell participations to any Person (other than a natural Person, or a holding company, investment vehicle or trust, or owned and operated for the primary benefit of one or more natural Persons, a Defaulting Lender or the Borrower or any of the Borrower’s Affiliates or Subsidiaries) (each, a “Participant”) in all or a portion of such Lender’s rights and/or obligations under this Agreement (including all or a portion of its Commitment and/or the Loans (including such Lender’s participations in L/C Obligations and/or Swing Line Loans) owing to it); **provided** that (i) such Lender’s obligations under this Agreement shall remain unchanged, (ii) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations and (iii) the Borrower, the Administrative Agent, the Lenders and the L/C Issuer shall continue to deal solely and directly with such Lender in connection with such Lender’s rights and obligations under this Agreement. For the avoidance of doubt, each Lender shall be responsible for the indemnity under Section 10.04(c) without regard to the existence of any participation.

Any agreement or instrument pursuant to which a Lender sells such a participation shall provide that such Lender shall retain the sole right to enforce this Agreement and to approve any amendment, modification or waiver of any provision of this Agreement; **provided** that such agreement or instrument may provide that such Lender will not, without the consent of the Participant, agree to any amendment, waiver or other modification described in the first proviso to Section 10.01 that affects such Participant. The Borrower agrees that each Participant shall be entitled to the benefits of Sections 3.01, 3.04 and 3.05 to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to subsection (b) of this Section (it being understood that the documentation required under Section 3.01(e) shall be delivered to the Lender who sells the participation) to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to paragraph (b) of this Section; **provided** that such Participant (A) agrees to be subject to the provisions of Sections 3.06 and 10.13 as if it were an assignee under paragraph (b) of this Section and (B) shall not be entitled to receive any greater payment under Sections 3.01 or 3.04, with respect to any participation, than the Lender from whom it acquired the applicable participation would have been entitled to receive, except to the extent such entitlement to receive a greater payment results from a Change in Law that occurs after the Participant acquired the applicable participation. Each Lender that sells a participation agrees, at the Borrower’s request and expense, to use reasonable
efforts to cooperate with the Borrower to effectuate the provisions of Section 3.06 with respect to any Participant. To the extent permitted by law, each Participant also shall be entitled to the benefits of Section 10.08 as though it were a Lender; provided that such Participant agrees to be subject to Section 2.13 as though it were a Lender. Each Lender that sells a participation shall, acting solely for this purpose as a nonfiduciary agent of the Borrower, maintain a register on which it enters the name and address of each Participant and the principal amounts (and stated interest) of each Participant’s interest in the Loans or other obligations under the Loan Documents (the “Participant Register”); provided that no Lender shall have any obligation to disclose all or any portion of the Participant Register (including the identity of any Participant or any information relating to a Participant’s interest in any commitments, loans, letters of credit or other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103-1(c) of the United States Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each Person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary. For the avoidance of doubt, the Administrative Agent (in its capacity as Administrative Agent) shall have no responsibility for maintaining a Participant Register.

(c) Certain Pledges. Any Lender may at any time pledge or assign a security interest in all or any portion of its rights under this Agreement (including under its Note, if any) to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank; provided that no such pledge or assignment shall release such Lender from any of its obligations hereunder or substitute any such pledgee or assignee for such Lender as a party hereto.

(f) Resignation as L/C Issuer or Swing Line Lender after Assignment. Notwithstanding anything to the contrary contained herein, if at any time Bank of America assigns all of its Commitment and Loans pursuant to subsection (b) above, Bank of America may, (i) upon 30 days’ notice to the Borrower and the Lenders, resign as L/C Issuer and/or (ii) upon 30 days’ notice to the Borrower, resign as Swing Line Lender. In the event of any such resignation as L/C Issuer or Swing Line Lender, the Borrower shall be entitled to appoint from among the Lenders a successor L/C Issuer or Swing Line Lender hereunder; provided, however, that no failure by the Borrower to appoint any such successor shall affect the resignation of Bank of America as L/C Issuer or Swing Line Lender, as the case may be. If Bank of America resigns as L/C Issuer, it shall retain all the rights, powers, privileges and duties of the L/C Issuer hereunder with respect to all Letters of Credit outstanding as of the effective date of its resignation as L/C Issuer and all L/C Obligations with respect thereto (including the right to require the Lenders to make Base Rate Loans or fund risk participations in Unreimbursed Amounts pursuant to Section 2.03(c)). If Bank of America resigns as Swing Line Lender, it shall retain all the rights of the Swing Line Lender provided for hereunder with respect to Swing Line Loans made by it and outstanding as of the effective date of such resignation, including the right to require the Lenders to make Base Rate Loans or fund risk participations in outstanding Swing Line Loans pursuant to Section 2.04(c). Upon the appointment
of a successor L/C Issuer and/or Swing Line Lender, (a) such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring L/C Issuer or Swing Line Lender, as the case may be, and (b) the successor L/C Issuer shall issue letters of credit in substitution for the Letters of Credit, if any, outstanding at the time of such succession or make other arrangements satisfactory to Bank of America to effectively assume the obligations of Bank of America with respect to such Letters of Credit.

(a) **Disqualified Institutions.** (i) No assignment or, to the extent the Competitor List has been posted on the Platform for all Lenders, participation shall be made to any Person that was a Disqualified Institution as of the date (the “Trade Date”) on which the assigning Lender entered into a binding agreement to sell and assign or participate in all or a portion of its rights and obligations under this Agreement to such Person (unless the Borrower has consented to such assignment in writing in its sole and absolute discretion, in which case such Person will not be considered a Disqualified Institution for the purpose of such assignment or participation). For the avoidance of doubt, with respect to any assignee or participant that becomes a Disqualified Institution after the applicable Trade Date (including as a result of the delivery of a notice pursuant to, and/or the expiration of the notice period referred to in, the definition of “Disqualified Institution”), (x) such assignee shall not retroactively be disqualified from becoming a Lender and (y) the execution by the Borrower of an Assignment and Assumption with respect to such assignee will not by itself result in such assignee no longer being considered a Disqualified Institution. Any assignment in violation of this clause (f)(i) shall not be void, but the other provisions of this clause shall apply.

(ii) If any assignment is made to any Disqualified Institution without the Borrower’s prior written consent in violation of clause (i) above, or if any Person becomes a Disqualified Institution after the applicable Trade Date, the Borrower may, at its sole expense and effort, upon notice to the applicable Disqualified Institution and the Administrative Agent, (A) terminate any Commitment of such Disqualified Institution and repay all obligations of the Borrower owing to such Disqualified Institution in connection with such Commitment, and/or (B) require such Disqualified Institution to assign, without recourse (in accordance with and subject to the restrictions contained in this Section 10.06), all of its interest, rights and obligations under this Agreement and related Loan Documents to one or more Eligible Assignees at the lesser of (x) the principal amount thereof and (y) the amount that such Disqualified Institution paid to acquire such interests, rights and obligations, in each case plus accrued interest, accrued fees and all other amounts (other than principal amounts) payable to it hereunder and other Loan Documents; provided that (1) the Borrower shall have paid to the Administrative Agent the assignment fee (if any) specified in Section 10.06(b), (2) such assignment does not conflict with Applicable Laws, (3) the Borrower shall not use the proceeds from any Loans to prepay term loans held by Disqualified Institutions, and (4) the Borrower shall not use the proceeds from any Revolving Credit.
Loans to terminate any Commitment of any Disqualified Institution or repay obligations of the Borrower owing to such Disqualified Institution in connection with such Commitment.

(iii) Notwithstanding anything to the contrary contained in this Agreement, Disqualified Institutions (A) will not (x) have the right to receive information, reports or other materials provided to Lenders by the Borrower, the Administrative Agent or any other Lender, (y) attend or participate in meetings attended by the Lenders and the Administrative Agent, or (z) access any electronic site established for the Lenders or confidential communications from counsel to or financial advisors of the Administrative Agent or the Lenders and (B) (x) for purposes of any consent to any amendment, waiver or modification of, or any action under, and for the purpose of any direction to the Administrative Agent or any Lender to undertake any action (or refrain from taking any action) under this Agreement or any other Loan Document, each Disqualified Institution will be deemed to have consented in the same proportion as the Lenders that are not Disqualified Institutions consented to such matter, and (y) for purposes of voting on any plan of reorganization or plan of liquidation pursuant to any Debtor Relief Laws (a “Plan”), each Disqualified Institution party hereto hereby agrees (1) not to vote on such Plan, (2) if such Disqualified Institution does vote on such Plan notwithstanding the restriction in the foregoing clause (1), such vote will be deemed not to be in good faith and shall be “designated” pursuant to Section 1126(e) of the Bankruptcy Code (or any similar provision in any other Debtor Relief Laws), and such vote shall not be counted in determining whether the applicable class has accepted or rejected such Plan in accordance with Section 1126(c) of the Bankruptcy Code (or any similar provision in any other Debtor Relief Laws) and (3) not to contest any request by any party for a determination by the Bankruptcy Court (or other applicable court of competent jurisdiction) effectuating the foregoing clause (2).

(iv) The Administrative Agent shall have the right, and the Borrower hereby expressly authorizes the Administrative Agent, to (A) post the list of Disqualified Institutions provided by the Borrower and any updates thereto from time to time (collectively, the “Disqualified Institution List”) on the Platform, including that portion of the Platform that is designated for “public side” Lenders and/or (B) provide the Disqualified Institution List to each Lender requesting the same.

10.07 Treatment of Certain Information; Confidentiality. Each of the Administrative Agent, the Lenders and the L/C Issuer agrees to maintain the confidentiality of the Information (as defined below), except that Information may be disclosed (a) to its Affiliates and to its Related Parties (it being understood that the Persons to whom such disclosure is made will be informed of the confidential nature of such Information and instructed to keep such Information confidential), (b) to the extent required or requested by any regulatory authority purporting to have jurisdiction over such Person or its Related Parties (including any self-regulatory authority, such as the National Association of Insurance Commissioners), (c) to the extent required by applicable laws or regulations or by any subpoena or similar legal process, (d) to any other party hereto, (e) in connection with the exercise of any
remedies hereunder or under any other Loan Document or any action or proceeding relating to this Agreement or any other Loan Document or the enforcement of rights hereunder or thereunder, (f) subject to an agreement containing provisions substantially the same as those of this Section, to (i) any assignee of or Participant in, or any prospective assignee of or Participant in, any of its rights and obligations under this Agreement or any Eligible Assignee invited to be a Lender pursuant to Section 2.14(a)(iii) or 2.14(b)(iii) or (ii) any actual or prospective party (or its Related Parties) to any swap, derivative or other transaction under which payments are to be made by reference to the Borrower and its obligations, this Agreement or payments hereunder (it being understood that the Disqualified Institution List may be disclosed to any assignee or Participant, and, in each case, their financing source, or prospective assignee or Participant, in reliance on this clause (f)), (g) on a confidential basis to (i) any rating agency in connection with rating the Borrower or its Subsidiaries or the credit facilities provided hereunder or (ii) the CUSIP Service Bureau or any similar agency in connection with the issuance and monitoring of CUSIP numbers or other market identifiers with respect to the credit facilities provided hereunder, (h) with the consent of the Borrower or (i) to the extent such Information (x) becomes publicly available other than as a result of a breach of this Section or (y) becomes available to the Administrative Agent, any Lender, the L/C Issuer or any of their respective Affiliates on a nonconfidential basis from a source other than the Borrower. For purposes of this Section, “Information” means all information received from the Borrower or any Subsidiary relating to the Borrower or any Subsidiary or any of their respective businesses, other than any such information that is available to the Administrative Agent, any Lender or the L/C Issuer on a nonconfidential basis prior to disclosure by the Borrower or any Subsidiary, provided that, in the case of information received from the Borrower or any Subsidiary after the date hereof, such information is clearly identified at the time of delivery as confidential. Any Person required to maintain the confidentiality of Information as provided in this Section shall be considered to have complied with its obligation to do so if such Person has exercised the same degree of care to maintain the confidentiality of such Information as such Person would accord to its own confidential information.

Each of the Administrative Agent, the Lenders and the L/C Issuer acknowledges that (a) the Information may include material non-public information concerning the Borrower or a Subsidiary, as the case may be, (b) it has developed compliance procedures regarding the use of material non-public information and (c) it will handle such material non-public information in accordance with applicable Law, including United States Federal and state securities Laws.

10.08 Right of Setoff. If an Event of Default shall have occurred and be continuing, each Lender, the L/C Issuer and each of their respective Affiliates is hereby authorized at any time and from time to time, to the fullest extent permitted by applicable law, to set off and apply any and all deposits (general or special, time or demand, provisional or final, in whatever currency) at any time held and other obligations (in whatever currency) at any time owing by such Lender, the L/C Issuer
or any such Affiliate to or for the credit or the account of the Borrower or any other Loan Party against any and all of the obligations of the Borrower or such Loan Party now or hereafter existing under this Agreement or any other Loan Document to such Lender or the L/C Issuer or their respective Affiliates, irrespective of whether or not such Lender, L/C Issuer or Affiliate shall have made any demand under this Agreement or any other Loan Document and although such obligations of the Borrower or such Loan Party may be contingent or unmatured or are owed to a branch, office or Affiliate of such Lender or the L/C Issuer different from the branch, office or Affiliate holding such deposit or obligated on such indebtedness; provided, that in the event that any Defaulting Lender shall exercise any such right of setoff, (x) all amounts so set off shall be paid over immediately to the Administrative Agent for further application in accordance with the provisions of Section 2.16 and, pending such payment, shall be segregated by such Defaulting Lender from its other funds and deemed held in trust for the benefit of the Administrative Agent, the L/C Issuer and the Lenders, and (y) the Defaulting Lender shall provide promptly to the Administrative Agent a statement describing in reasonable detail the Secured Obligations owing to such Defaulting Lender as to which it exercised such right of setoff. The rights of each Lender, the L/C Issuer and their respective Affiliates under this Section are in addition to other rights and remedies (including other rights of setoff) that such Lender, the L/C Issuer or their respective Affiliates may have. Each Lender and the L/C Issuer agrees to notify the Borrower and the Administrative Agent promptly after any such setoff and application, provided that the failure to give such notice shall not affect the validity of such setoff and application.

10.09 Interest Rate Limitation. Notwithstanding anything to the contrary contained in any Loan Document, the interest paid or agreed to be paid under the Loan Documents shall not exceed the maximum rate of non-usurious interest permitted by applicable Law (the “Maximum Rate”). If the Administrative Agent or any Lender shall receive interest in an amount that exceeds the Maximum Rate, the excess interest shall be applied to the principal of the Loans or, if it exceeds such unpaid principal, refunded to the Borrower. In determining whether the interest contracted for, charged, or received by the Administrative Agent or a Lender exceeds the Maximum Rate, such Person may, to the extent permitted by applicable Law, (a) characterize any payment that is not principal as an expense, fee, or premium rather than interest, (b) exclude voluntary prepayments and the effects thereof, and (c) amortize, prorate, allocate, and spread in equal or unequal parts the total amount of interest throughout the contemplated term of the Obligations hereunder.

10.10 Counterparts; Integration; Effectiveness. This Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. This Agreement, the other Loan Documents, and any separate letter agreements with respect to fees payable to the Administrative Agent or the L/C Issuer, constitute the entire contract among the parties relating to the subject matter hereof and supersede any and all previous agreements and
understandings, oral or written, relating to the subject matter hereof. Except as provided in Section 4.01, this Agreement shall become effective when it shall have been executed by the Administrative Agent and when the Administrative Agent shall have received counterparts hereof that, when taken together, bear the signatures of each of the other parties hereto. Delivery of an executed counterpart of a signature page of this Agreement by facsimile or other electronic imaging means (e.g. “pdf” or “tif”) shall be effective as delivery of a manually executed counterpart of this Agreement.

10.11 Survival of Representations and Warranties. All representations and warranties made hereunder and in any other Loan Document or other document delivered pursuant hereto or thereto or in connection herewith or therewith shall survive the execution and delivery hereof and thereof. Such representations and warranties have been or will be relied upon by the Administrative Agent and each Lender, regardless of any investigation made by the Administrative Agent or any Lender or on their behalf and notwithstanding that the Administrative Agent or any Lender may have had notice or knowledge of any Default at the time of any Credit Extension, and shall continue in full force and effect as long as any Loan or any other Obligation hereunder shall remain unpaid or unsatisfied or any Letter of Credit shall remain outstanding.

10.12 Severability. If any provision of this Agreement or the other Loan Documents is held to be illegal, invalid or unenforceable, (a) the legality, validity and enforceability of the remaining provisions of this Agreement and the other Loan Documents shall not be affected or impaired thereby and (b) the parties shall endeavor in good faith negotiations to replace the illegal, invalid or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the illegal, invalid or unenforceable provisions. The invalidity of a provision in a particular jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction. Without limiting the foregoing provisions of this Section 10.12, if and to the extent that the enforceability of any provisions in this Agreement relating to Defaulting Lenders shall be limited by Debtor Relief Laws, as determined in good faith by the Administrative Agent, the L/C Issuer or the Swing Line Lender, as applicable, then such provisions shall be deemed to be in effect only to the extent not so limited.

10.13 Replacement of Lenders. If the Borrower is entitled to replace a Lender pursuant to the provisions of Section 3.06 or if any Lender is a Defaulting Lender or a Non-Consenting Lender, then the Borrower may, at its sole expense and effort, upon notice to such Lender and the Administrative Agent, require such Lender to assign and delegate, without recourse (in accordance with and subject to the restrictions contained in, and consents required by, Section 10.06), all of its interests, rights (other than its existing rights to payments pursuant to Sections 3.01 and 3.04) and obligations under this Agreement and the related Loan Documents to an Eligible
Assignee that shall assume such obligations (which assignee may be another Lender, if a Lender accepts such assignment), provided that:

(a) the Borrower shall have paid to the Administrative Agent the assignment fee (if any) specified in Section 10.06(b);

(b) such Lender shall have received payment of an amount equal to the outstanding principal of its Loans and L/C Advances, accrued interest thereon, accrued fees and all other amounts payable to it hereunder and under the other Loan Documents (including any amounts under Section 3.05) from the assignee (to the extent of such outstanding principal and accrued interest and fees) or the Borrower (in the case of all other amounts);

(c) in the case of any such assignment resulting from a claim for compensation under Section 3.04 or payments required to be made pursuant to Section 3.01, such assignment will result in a reduction in such compensation or payments thereafter;

(d) such assignment does not conflict with applicable Laws; and

(e) in the case of an assignment resulting from a Lender becoming a Non-Consenting Lender, the applicable assignee shall have consented to the applicable amendment, waiver or consent.

A Lender shall not be required to make any such assignment or delegation if, prior thereto, as a result of a waiver by such Lender or otherwise, the circumstances entitling the Borrower to require such assignment and delegation cease to apply.

10.14 Governing Law; Jurisdiction; Etc.

(a) GOVERNING LAW. THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSE OF ACTION (WHETHER IN CONTRACT OR TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT (EXCEPT, AS TO ANY OTHER LOAN DOCUMENT, AS EXPRESSLY SET FORTH THEREIN) AND THE TRANSACTIONS CONTEMPLATED HEREBY AND THEREBY SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK, IN ACCORDANCE WITH SECTION 5-1401 OF THE GENERAL OBLIGATION LAW OF THE STATE OF NEW YORK.
(b) **SUBMISSION TO JURISDICTION.** THE BORROWER AND EACH OTHER LOAN PARTY IRREVOCABLY AND UNCONDITIONALLY AGREES THAT IT WILL NOT COMMENCE ANY ACTION, LITIGATION OR PROCEEDING OF ANY KIND OR DESCRIPTION, WHETHER IN LAW OR EQUITY, WHETHER IN CONTRACT OR IN TORT OR OTHERWISE, AGAINST THE ADMINISTRATIVE AGENT, ANY LENDER, THE L/C ISSUER, OR ANY RELATED PARTY OF THE FOREGOING IN ANY WAY RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT OR THE TRANSACTIONS RELATING HERETO OR THERETO, IN ANY FORUM OTHER THAN THE COURTS OF THE STATE OF NEW YORK SITTING IN NEW YORK COUNTY AND OF THE UNITED STATES DISTRICT COURT OF THE SOUTHERN DISTRICT OF NEW YORK, AND ANY APPELLATE COURT FROM ANY THEREOF, AND EACH OF THE PARTIES HERETO IRREVOCABLY AND UNCONDITIONALLY SUBMITS TO THE JURISDICTION OF SUCH COURTS AND AGREES THAT ALL CLAIMS IN RESPECT OF ANY SUCH ACTION, LITIGATION OR PROCEEDING MAY BE HEARD AND DETERMINED IN SUCH NEW YORK STATE COURT OR, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN SUCH FEDERAL COURT. EACH OF THE PARTIES HERETO AGREES THAT A FINAL JUDGMENT IN ANY SUCH ACTION, LITIGATION OR PROCEEDING SHALL BE CONCLUSIVE AND MAY BE ENFORCED IN OTHER JURISDICTIONS BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY LAW. NOTHING IN THIS AGREEMENT OR IN ANY OTHER LOAN DOCUMENT SHALL AFFECT ANY RIGHT THAT THE ADMINISTRATIVE AGENT, ANY LENDER OR THE L/C ISSUER MAY OTHERWISE HAVE TO BRING ANY ACTION OR PROCEEDING RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT AGAINST THE BORROWER OR ANY OTHER LOAN PARTY OR ITS PROPERTIES IN THE COURTS OF ANY JURISDICTION.

(c) **WAIVER OF VENUE.** THE BORROWER AND EACH OTHER LOAN PARTY IRREVOCABLY AND UNCONDITIONALLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT IN ANY COURT REFERRED TO IN PARAGRAPH (b) OF THIS SECTION. EACH OF THE PARTIES HERETO
HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE DEFENSE OF AN INCONVENIENT FORUM TO THE MAINTENANCE OF SUCH ACTION OR PROCEEDING IN ANY SUCH COURT.

(d) SERVICE OF PROCESS. EACH PARTY HERETO IRREVOCABLY CONSENTS TO SERVICE OF PROCESS IN THE MANNER PROVIDED FOR NOTICES IN SECTION 10.02. NOTHING IN THIS AGREEMENT WILL AFFECT THE RIGHT OF ANY PARTY HERETO TO SERVE PROCESS IN ANY OTHER MANNER PERMITTED BY APPLICABLE LAW.

10.15 Waiver of Jury Trial. EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (a) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PERSON HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PERSON WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (b) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.

10.16 No Advisory or Fiduciary Responsibility. In connection with all aspects of each transaction contemplated hereby (including in connection with any amendment, waiver or other modification hereof or of any other Loan Document), the Borrower and each other Loan Party acknowledges and agrees, and acknowledges its Affiliates’ understanding, that: (i) (A) the arranging and other services regarding this Agreement provided by the Administrative Agent, the Arranger, the other Lead Arrangers and the Lenders are arm’s-length commercial transactions between the Borrower, each other Loan Party and their respective Affiliates, on the one hand, and the Administrative Agent, the Arranger, the other Lead Arrangers and the Lenders, on the other hand, (B) each of the Borrower and the other Loan Parties has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate, and (C) the Borrower and each other Loan Party is capable of evaluating, and understands and accepts, the terms, risks and conditions of the transactions contemplated hereby and by the other Loan Documents; (ii) (A) the Administrative Agent, the Arranger, each other Lead Arranger and each Lender is and has been acting solely as a principal and, except as expressly agreed in writing by the relevant parties, has not been, is not, and will not be acting as an advisor,
agent or fiduciary for the Borrower, any other Loan Party or any of their respective Affiliates, or any other Person and (B) neither the Administrative Agent, the Arranger, any other Lead Arranger nor any Lender has any obligation to the Borrower, any other Loan Party or any of their respective Affiliates with respect to the transactions contemplated hereby except those obligations expressly set forth herein and in the other Loan Documents; and (iii) the Administrative Agent, the Arranger, the other Lead Arrangers and the Lenders and their respective Affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Borrower, the other Loan Parties and their respective Affiliates, and neither the Administrative Agent, the Arranger, any other Lead Arranger nor any Lender has any obligation to disclose any of such interests to the Borrower, any other Loan Party or any of their respective Affiliates. To the fullest extent permitted by law, each of the Borrower and each other Loan Party hereby agrees not to assert any claims that it may have against the Administrative Agent, the Arranger, any other Lead Arranger or any Lender with respect to any breach or alleged breach of agency or fiduciary duty in connection with any aspect of any transaction contemplated hereby.

10.17 Electronic Execution of Assignments and Certain Other Documents. The words “execution,” “execute”, “signed,” “signature,” and words of like import in or related to any document to be signed in connection with this Agreement and the transactions contemplated hereby (including, without limitation, Assignment and Assumptions, amendments or other Loan Notices, Swing Line Loan Notices, waivers and consents) shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Administrative Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act; provided that notwithstanding anything contained herein to the contrary the Administrative Agent is under no obligation to agree to accept electronic signatures in any form or in any format unless expressly agreed to by the Administrative Agent pursuant to procedures approved by it.

10.18 USA PATRIOT Act. Each Lender that is subject to the Act (as hereinafter defined) and the Administrative Agent (for itself and not on behalf of any Lender) hereby notifies the Borrower that pursuant to the requirements of the USA PATRIOT Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)) (the “Act”), it is required to obtain, verify and record information that identifies the Borrower, which information includes the name and address of the Borrower and other information that will allow such Lender or the Administrative Agent, as applicable, to identify the Borrower in accordance with the Act. The Borrower shall, promptly following a request by the Administrative Agent or any Lender, provide
all documentation and other information that the Administrative Agent or such Lender requests in order to comply with its ongoing obligations under applicable “know your customer” and anti-money laundering rules and regulations, including the Act.

10.19 Judgment Currency. If, for the purposes of obtaining judgment in any court, it is necessary to convert a sum due hereunder or any other Loan Document in one currency into another currency, the rate of exchange used shall be that at which in accordance with normal banking procedures the Administrative Agent could purchase the first currency with such other currency on the Business Day preceding that on which final judgment is given. The obligation of each Borrower in respect of any such sum due from it to the Administrative Agent or any Lender hereunder or under the other Loan Documents shall, notwithstanding any judgment in a currency (the “Judgment Currency”) other than that in which such sum is denominated in accordance with the applicable provisions of this Agreement (the “Agreement Currency”), be discharged only to the extent that on the Business Day following receipt by the Administrative Agent or such Lender, as the case may be, of any sum adjudged to be so due in the Judgment Currency, the Administrative Agent or such Lender, as the case may be, may in accordance with normal banking procedures purchase the Agreement Currency with the Judgment Currency. If the amount of the Agreement Currency so purchased is less than the sum originally due to the Administrative Agent or any Lender from any Borrower in the Agreement Currency, such Borrower agrees, as a separate obligation and notwithstanding any such judgment, to indemnify the Administrative Agent or such Lender, as the case may be, against such loss. If the amount of the Agreement Currency so purchased is greater than the sum originally due to the Administrative Agent or any Lender in such currency, the Administrative Agent or such Lender, as the case may be, agrees to return the amount of any excess to such Borrower (or to any other Person who may be entitled thereto under applicable Law).

10.20 Keepwell. Each Loan Party that is a Qualified ECP Guarantor at the time the Guaranty or the grant of the security interest under the Loan Documents, in each case, by any Specified Loan Party, becomes effective with respect to any Swap Obligation, hereby jointly and severally, absolutely, unconditionally and irrevocably undertakes to provide such funds or other support to each Specified Loan Party with respect to such Swap Obligation as may be needed by such Specified Loan Party from time to time to honor all of its obligations under its Guaranty and the other Loan Documents in respect of such Swap Obligation (but, in each case, only up to the maximum amount of such liability that can be hereby incurred without rendering such Qualified ECP Guarantor’s obligations and undertakings under this Section 10.20 voidable under applicable law relating to fraudulent conveyance or fraudulent transfer, and not for any greater amount). The obligations and undertakings of each Qualified ECP Guarantor under this Section shall remain in full force and effect until the Facility Termination Date. Each Qualified ECP Guarantor intends this Section to constitute, and this Section shall be deemed to
10.21 Acknowledgement and Consent to Bail-In of EEA Financial Institutions. Solely to the extent any Lender or L/C Issuer that is an EEA Financial Institution is a party to this Agreement and notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any Lender or L/C Issuer that is an EEA Financial Institution arising under any Loan Document, to the extent such liability is unsecured, may be subject to the write-down and conversion powers of an EEA Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

(a) the application of any Write-Down and Conversion Powers by an EEA Resolution Authority to any such liabilities arising hereunder which may be payable to it by any Lender or L/C Issuer that is an EEA Financial Institution; and

(b) the effects of any Bail-In Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such EEA Financial Institution, its parent undertaking, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Loan Document; or

(iii) the variation of the terms of such liability in connection with the exercise of the write-down and conversion powers of any EEA Resolution Authority.

10.22 Acknowledgement Regarding Any Supported QFCs. To the extent that the Loan Documents provide support, through a guarantee or otherwise, for any Swap Contract or any other agreement or instrument that is a QFC (such support, “QFC Credit Support”, and each such QFC, a “Supported QFC”), the parties acknowledge and agree as follows with respect to the resolution power of the Federal Deposit Insurance Corporation under the Federal Deposit Insurance Act and Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act (together with the regulations promulgated thereunder, the “U.S. Special Resolution Regimes”) in respect of such Supported QFC and QFC Credit Support (with the provisions below notwithstanding that the Loan Documents and any Supported QFC may in fact be stated to be governed by the laws of the State of New York and/or of the United States or any other state of the United States):

In the event a Covered Entity that is party to a Supported QFC (each, a “Covered Party”) becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer of such
Supported QFC and the benefit of such QFC Credit Support (and any interest and obligation in or under such Supported QFC and such QFC Credit Support, and any rights in property securing such Supported QFC or such QFC Credit Support) from such Covered Party will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if the Supported QFC and such QFC Credit Support (and any such interest, obligation and rights in property) were governed by the laws of the United States or a state of the United States. In the event a Covered Party or a BHC Act Affiliate of a Covered Party becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under the Loan Documents that might otherwise apply to such Supported QFC or any QFC Credit Support that may be exercised against such Covered Party are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if the Supported QFC and the Loan Documents were governed by the laws of the United States or a state of the United States. Without limitation of the foregoing, it is understood and agreed that rights and remedies of the parties with respect to a Defaulting Lender shall in no event affect the rights of any Covered Party with respect to a Supported QFC or any QFC Credit Support.

As used in this Section 10.19, the following terms have the following meanings:

“BHC Act Affiliate” of a party means an “affiliate” (as such term is defined under, and interpreted in accordance with, 12 U.S.C. 1841(k)) of such party.

“Covered Entity” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

“Default Right” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

“QFC” has the meaning assigned to the term “qualified financial contract” in, and shall be interpreted in accordance with, 12 U.S.C. 5390(c)(8)(D).
IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the date first above written.

VARIAN MEDICAL SYSTEMS, INC.

By:
Name: Franco N. Palomba
Title: Senior Vice President,
Finance and Treasurer
BANK OF AMERICA, N.A., as
Administrative Agent

By:
Name:  Maurice Washington
Title:  Vice President
BANK OF AMERICA, N.A., as a Lender, L/C Issuer and Swing Line Lender

By: Sebastian Lurie
Name: Sebastian Lurie
Title: Senior Vice President

-3-
[blank], as a Lender

By: ___
Name: ___
Title: ___
[___________], as a Lender and L/C Issuer

By:
Name:
Title:

-6-
[____________], as a Lender

By:
Name:
Title:

-7-
**VARIAN MEDICAL SYSTEMS, INC.**

**LIST OF SUBSIDIARIES**

<table>
<thead>
<tr>
<th>Name</th>
<th>State or Other Jurisdiction of Incorporation</th>
</tr>
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<tbody>
<tr>
<td>CyberHeart, Inc.</td>
<td>DE, USA</td>
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<tr>
<td>D3 Oncology Inc.</td>
<td>DE, USA</td>
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<tr>
<td>Endocare, Inc.</td>
<td>DE, USA</td>
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<tr>
<td>Mansfield Insurance Company</td>
<td>VT, USA</td>
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<tr>
<td>Mobius Medical Systems Holdings, LLC</td>
<td>TX, USA</td>
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<tr>
<td>Mobius Medical Systems, LP</td>
<td>TX, USA</td>
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<tr>
<td>Page Mill Corporation</td>
<td>MA, USA</td>
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<tr>
<td>Varian BioSynergy, Inc.</td>
<td>DE, USA</td>
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<tr>
<td>Varian Medical Systems Africa Holdings, Inc.</td>
<td>DE, USA</td>
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<tr>
<td>Varian Medical Systems Canada Holdings, Inc.</td>
<td>DE, USA</td>
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<tr>
<td>Varian Medical Systems India Pvt. Ltd.</td>
<td>DE, USA</td>
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<tr>
<td>Varian Medical Systems International Holdings, Inc.</td>
<td>DE, USA</td>
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<tr>
<td>Varian Medical Systems Latin America, Ltd.</td>
<td>DE, USA</td>
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<td>Varian Medical Systems Netherlands Holdings, Inc.</td>
<td>DE, USA</td>
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<td>Varian Medical Systems Pacific, Inc.</td>
<td>DE, USA</td>
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<tr>
<td>American Institute of Pathology and Laboratory Sciences Private Limited</td>
<td>India</td>
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<tr>
<td>Artmed Healthcare Private Limited</td>
<td>India</td>
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<tr>
<td>Cancer Treatment Services Hyderabad Private Limited</td>
<td>India</td>
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<tr>
<td>CTSI (Mauritius) Limited</td>
<td>Mauritius</td>
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<tr>
<td>Fang Chi Health Management Co., Ltd.</td>
<td>Taiwan</td>
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<tr>
<td>Hangzhou Alicon Pharmaceutical Technology Co. Ltd.</td>
<td>China</td>
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<tr>
<td>Hong Tai Health Management Co., Ltd.</td>
<td>Taiwan</td>
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<td>Monarch Capital, Limited</td>
<td>Cayman Islands</td>
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<tr>
<td>New Century Health Care Corporation</td>
<td>Taiwan</td>
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<td>Scion Medical Technologies (Shanghai) Ltd.</td>
<td>China</td>
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<tr>
<td>(a/k/a Scion Medical Equipment Co. Ltd.)</td>
<td>Hong Kong</td>
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<tr>
<td>Scion Medical Limited</td>
<td>Cayman Islands</td>
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<tr>
<td>Talent Choice Investment Limited</td>
<td>South Africa</td>
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<tr>
<td>Varian Medical Systems Africa (Pty) Ltd.</td>
<td>Algeria</td>
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<tr>
<td>Varian Medical Systems Algeria SpA</td>
<td>Saudi Arabia</td>
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<tr>
<td>Varian Medical Systems Arabia Commercial Limited</td>
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<td>Varian Medical Systems Australasia Pty Ltd.</td>
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<td>Varian Medical Systems (China) Co. Ltd.</td>
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<td>Varian Medical Systems Deutschland G.m.b.H.</td>
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<td>Varian Medical Systems Finland OY</td>
<td>Finland</td>
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<td>Varian Medical Systems France</td>
<td>France</td>
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<tr>
<td>Varian Medical Systems Gesellschaft m.b.H.</td>
<td>Austria</td>
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</tbody>
</table>
CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-221763) and Form S-8 (No. 333-223143, No. 333-220078, No. 333-188693, No. 333-168444, No. 333-168443, No. 333-146176, No. 333-130001, No. 333-152903, No. 333-123778, No. 333-57010, and No. 333-161307) of Varian Medical Systems, Inc. of our report dated November 25, 2019 relating to the consolidated financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

San Jose, California
November 25, 2019
I, Dow R. Wilson, certify that:

1. I have reviewed this Annual Report on Form 10-K of Varian Medical Systems, Inc. (the “registrant”);

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Dated: November 25, 2019

/s/

Dow R. Wilson

President

and Chief Executive Officer
CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Gary E. Bischoping, Jr., certify that:

1. I have reviewed this Annual Report on Form 10-K of Varian Medical Systems, Inc. (the “registrant”);

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Dated: November 25, 2019

/s/ Gary E. Bischoping, Jr.

Gary E. Bischoping, Jr.
Senior Vice President, Finance and
Chief Financial Officer
In connection with the accompanying Annual Report of Varian Medical Systems, Inc. (the “Company”), on Form 10-K for the year ended September 27, 2019 (the “Report”), I, Dow R. Wilson, President and Chief Executive Officer of the Company, hereby certify pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002 that:

(1) the Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 25, 2019

/s/ Dow R. Wilson

Dow R. Wilson
President
and Chief Executive Officer
CERTIFICATION
PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the accompanying Annual Report of Varian Medical Systems, Inc. (the “Company”), on Form 10-K for the year ended September 27, 2019 (the “Report”), I, Gary E. Bischoping Jr., Senior Vice President, Finance and Chief Financial Officer of the Company, hereby certify pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002 that:

(1) the Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 25, 2019

/s/ Gary E. Bischoping, Jr.
Gary E. Bischoping, Jr.
Senior Vice President, Finance and
Chief Financial Officer