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 October 2, 2020

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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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 April 3, 2020, 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 April 3, 2020) was $6,905,810,423. At November 13, 2020, the number of shares of the Registrant's common stock outstanding was 91,355,469.

DOCUMENTS INCORPORATED BY REFERENCE

Definitive Proxy Statement for the Company's 2021 Annual Meeting of Stockholders — Part III of this Form 10-K

VARIAN MEDICAL SYSTEMS, INC.

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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: the impact of the COVID-19 pandemic on our business, including but not limited to, the impact on our workforce, operations, supply chain, demand for our products and services, our financial results and condition; and the value of our assets; our ability to successfully manage the challenges associated with the COVID-19 pandemic; expected savings from restructuring activities; growth strategies; industry or market segment outlook; economic and market conditions; domestic and global trends; development, market acceptance of or transition to new products, technologies, solutions or services; growth drivers; future orders, revenues, operating expenses, tax rate, cash flows, backlog, earnings growth or other financial results; expected capital expenditures; new and potential future tariffs and exclusions therefrom (and extensions thereof) or cross-border trade restrictions; currency fluctuation, changes in political, regulatory, safety or economic conditions; the occurrence of any event, change or other circumstances that could give rise to the termination of the Agreement and Plan of Merger, dated as of August 2, 2020 (the "Merger Agreement") by and among VMS, Siemens Healthineers Holding I GmbH, a company organized under the laws of Germany ("Siemens Healthineers"), Falcon Sub Inc., a Delaware corporation and a direct wholly-owned subsidiary of Siemens Healthineers ("Merger Sub"), and, with respect to certain provisions, Siemens Medical Solutions USA, Inc., a Delaware corporation (the "Guarantor"), pursuant to which, on the terms and subject to the conditions set forth therein, Merger Sub will be merged with and into VMS (the "Merger"); the failure to obtain certain required regulatory approvals or the failure to satisfy any of the other closing conditions to the completion of the Merger; risks related to disruption of management's attention from the Company's ongoing business operations due to the Merger; the effect of the announcement of the Merger on the ability of the Company to retain and hire key personnel and maintain relationships with its customers, suppliers, distributors and others with whom it does business, or on its operating results and business generally; the ability to meet expectations regarding the timing and completion of the Merger; risks associated with Merger-related litigation; 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. We 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.

Proposed Acquisition by Siemens Healthineers

On August 2, 2020, VMS, Siemens Healthineers, Merger Sub, and, with respect to certain provisions, the Guarantor, entered into the Merger Agreement, pursuant to which, on the terms and subject to the conditions set forth therein, Merger Sub will be merged with and into VMS, with VMS surviving the Merger as a wholly owned subsidiary of Siemens Healthineers. Under the terms of the Merger Agreement, which has been unanimously approved by VMS' Board of Directors, Siemens Healthineers will acquire all outstanding shares of VMS for $177.50 per share in cash, in a transaction valued at approximately $16.4 billion on a fully diluted basis. The Merger is expected to close in the first half of calendar year 2021, subject to receipt of specified regulatory approvals and other customary closing conditions. On October 15, 2020, VMS' stockholders approved and adopted the Merger Agreement. Under the terms of the Merger Agreement, if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances, a termination fee of $450.0 million in cash may be payable by VMS to Siemens Healthineers. The Merger Agreement also provides that a reverse termination fee of $450.0 million or $925.0 million in cash may be payable by Siemens Healthineers to VMS if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances.

COVID-19 Impact

The COVID-19 pandemic has impacted our day-to-day operations and the operations of the vast majority of our customers, suppliers and distributors globally. The COVID-19 response by hospitals and healthcare professionals has placed a severe strain on healthcare systems. Many of our hospital customers have been prioritizing their efforts on their COVID-19 response and have diverted focus and resources away from their normal operations and restricted access to their sites in efforts to contain the spread of the virus. The global nature of the pandemic has resulted in authorities implementing numerous measures designed to contain the virus, including travel bans and restrictions, border closures, quarantines, shelter-in-place orders, business limitations and shutdowns. The prioritization of COVID-19 treatment and containment has presented us with unique operational challenges, including delays in capital equipment purchasing decisions by customers, obstacles to our ability to market, deliver, install and service our products, and disruptions and delays in our logistics and supply chain. We refer you to “Management’s Discussion and Analysis of Financial Position and Results of Operations” for a more detailed discussion of the potential impact of the COVID-19 pandemic and associated economic disruptions, and the actual operational and financial impacts that we have experienced to date.

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”), artificial intelligence ("AI") based Adaptive Radiotherapy ("ART") and brachytherapy, as well as associated quality assurance equipment.

Our hardware products include linear accelerators, brachytherapy afterloaders, treatment accessories, AI-powered adaptive delivery systems and quality assurance products. 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.

We have expanded our service offerings as a result of our acquisition of Cancer Treatment Services International ("CTSI") 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 offerings 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 13 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"), Alicon Pharmaceutical Sci & Tec Co., Ltd ("Alicon") and Scion Medical Device Co., Ltd ("Scion") in June 2019 and Boston Scientific's embolic microspheres business that included both bland and drug-eluting embolic microspheres in August 2019. Our Interventional Solutions business offers products for interventional oncology and interventional radiology 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 global oncology and radiology markets through a direct sales force 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, ART, brachytherapy and proton therapy. We offer a series of complimentary software and hardware solutions to provide these treatment modalities. Our solutions are purposefully designed to provide value in a variety of clinical and economic settings around the globe.

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 often in more than 40 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 conformed 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 a full spectrum of both malignant and benign disorders, such as: 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 around the world. 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 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 shorter 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 in the U.S. 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 often incorporates advanced image-guidance to focus 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"). We have been investing resources for pre-clinical research in a new treatment methodology that uses proton beams to deliver the physician prescribed dose at ultra-high dose rates in a small number of fractions. This new treatment paradigm is called FLASH therapy and clinical trials are being initiated with support from clinical experts around the globe.

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 a peer-reviewed publication in the International Journal of Radiation Oncology Biology and Physics in 2019, 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. Technological 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 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 2019, radiotherapy is required in more than half of new cancer patients, particularly in low- and middle-income countries, and it is estimated that more than 12,000 additional treatment machines will be required by 2030 in these countries alone. 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 2030; therefore, we anticipate an increase in demand for Varian's technology enabled services offered by CTSI.

The ever-increasing incidences of cancer and, subject to the potential impact of COVID-19, 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 (e.g. cryoablation, microwave ablation, and radiofrequency ablation), embolization devices (bland microspheres or particles, drug-eluting 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 cancers.

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 products, 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 $2.9 billion by 2024, within the overall interventional radiology market. The primary users of ablation and embolization products are interventional radiologists and oncologists for the treatment of various cancerous solid tumors and non-cancerous conditions. 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 the 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, ART 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 radiation from within the patient; 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 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 positioned for the more price sensitive emerging markets, and is 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 FDA 510(k) clearance in February 2020. 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 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® 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 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 the 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 VariSource™ 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 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.

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 is designed to help 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. We list the member companies and associated products for the Varian Interoperability Program publicly on our website: https://www.varian.com/why-varian/interoperability.

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 focuses 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 13 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. The funding environment for large capital projects, such as proton therapy projects, remains challenging and volatile.

At the end of fiscal year 2020, our proton therapy systems are in operation at thirteen centers, which have a total of 40 operational rooms. During fiscal years 2020, 2019 and 2018, we recorded four, four and two 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 and interventional radiology 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, which are radioactive beads used in selective internal radiation therapy.

Ablation Products

Our CRYOCARE® ablation systems, acquired as part of the Endocare acquisition, are treatment systems designed to simplify cryotherapy and to meet physician needs. Our cryoablation systems are used by customers primarily to treat liver, lung, kidney, and prostate cancer.

Our microwave ablation device, also acquired through the Endocare acquisition, features the MICROTHERMX® ("MTX") generator and its 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 generate up to 180W (60W per channel/antenna) for optimized power delivery. The SynchroWave® antennas are designed to work in combination 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 and Scion acquisitions, 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 embolic microspheres business acquired from Boston Scientific were the Embozene®, Oncozene®, and Tandem® microsphere products. The Tandem microsphere product is only offered outside of the United States. The 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 2020, 2019 and 2018, 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 new models for radiotherapy and radiosurgery, such as the alternative payment model pilot program for radiation oncology released by the Centers for Medicare and Medicaid Innovation Center in September of 2020, which is scheduled to start on July 1, 2021. 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 global Oncology Systems sales group 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 be consistent 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. The funding environment for large capital projects, such as proton therapy projects remains challenging and volatile.

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, medical science liaisons 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 2020 was $3.4 billion, of which we expect to recognize approximately 29% to 35% as revenues in fiscal year 2021. Our backlog at the end of fiscal year 2019, was $3.4 billion, of which approximately $1.0 billion was recognized as revenues in fiscal year 2020. Our Oncology Systems backlog represented 93% of the total backlog at the end of both fiscal year 2020 and 2019.

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 2020, 2019 and 2018, our backlog adjustments were a net reduction of $262.3 million, $136.6 million and $152.8 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 system” 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 system” 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, Elekta AB, MIM Software Inc., 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 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, multiple competitors and considerable pricing pressure. Our ability to compete successfully depends, in part, on our ability to lower our product costs, and deliver technically superior, clinically proven products that enable more precise, cost-effective, high quality clinical care. 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 interventional oncology and interventional radiology.

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; Crawley, United Kingdom and Jundiai, Brazil. 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 products) that we acquired from Boston Scientific in August 2019 are currently manufactured by Boston Scientific in their United States and European facilities under a transition manufacturing agreement while we build-out a microspheres manufacturing facility in Austin, Texas.

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, advanced in-room imaging, 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 deliver our innovation roadmap.

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, clinical education and medical education, 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, 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 and related software 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, an existing currently marketed medical device obtain either 510(k) premarket notification clearance or premarket approval ("PMA") before it can market or sell the product in the United States. We do not currently manufacture any Class III medical devices, which require PMA. Certain of our products, such as 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 typically require 510(k) clearance, while most of our other products are either exempt from 510(k) clearance or are not regulated by the FDA as medical devices.

To secure clearance of a 510(k), we must show that the product requiring a 510(k) is "substantially equivalent" to another medical device of the same classification (referred to as the "predicate device") as to all salient features including labeling, technological characteristics, and intended use. The predicate device can be another Varian device or that of another medical device manufacturer. In some situations, FDA may require clinical studies be conducted to support a 510(k) clearance.

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.

Modifications or enhancements to a 510(k) 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, or packaging, may also require a new 510(k) clearance or, if sufficiently different from a prior legally-marketed device, may require PMA approval prior to marketing.

Under current FDA 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 that also may be sold under a 510(k) or, if applicable, is exempt from the need for a 510(k). 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 a PMA. If FDA does reclassify the proposed product in response to a de novo request, the agency may require a premarket notification submission - or 510(k) - or may eliminate the need for a 510(k) submission altogether, depending on how the FDA views the risk associated with the proposed changed product.

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 seek to 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 those situations where FDA requires a device manufacturer to perform clinical studies, either to support a 510(k) or when a PMA is required, the manufacturer usually will need to obtain prior approval from FDA of an investigational device exemption ("IDE") before it can enroll subjects in the clinical study. Conducting a clinical study under an IDE requires detailed attention by the study sponsor to an array of statutory and regulatory requirements. These include developing a detailed protocol that governs the conduct of the study, obtaining approval from an Institutional Review Board ("IRB") for each site at which subjects are to be enrolled in the study, compliance with Good Clinical Practice ("GCP") requirements, ensuring informed consent is obtained from participating subjects, and careful controls over data to ensure both the integrity of the data collected in the study and to appropriately protect patient privacy. Varian is currently enrolling subjects for a 10-subject study involving ultra-high dose rate (FLASH) therapy under an FDA-approved IDE and is in the planning stages for a potential clinical study involving cardiac radioablation.

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, if valid, 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, 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, which provides AdvaMed members 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. 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. A number of states in the United States have passed or introduced bills, which, if passed, impose operational requirements on U.S. companies similar to the requirements reflected in the General Data Protection Regulation (“GDPR”) in the European Union ("EU"). In addition, For example, the California Consumer Privacy Act of 2018 (“CCPA”), which came into effect on January 1, 2020, which requires covered companies that process personal 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 private right 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 EU's GDPR, CCPA and similar privacy laws and regulations may be substantial as 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 compliance 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 September 2020, CMS released the Centers for Medicare and Medicaid Innovation Center's Radiation Oncology Alternative Payment Model Final Rule (the "RO Model"). The RO Model is intended to test whether an episodic 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. The RO Model is scheduled to go into effect in July 2021, and end in December 2025, and includes 30% of Medicare radiotherapy episodes.

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 of the U.S. Department of Health & Human Services 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 servicing 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, 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 EU Commission published a new Medical Device Regulation in 2017, providing a three-year transition period which in 2020 was extended with one additional year until May 2021, at which time, the existing Directives will be repealed. The Medical Device Regulation will change multiple aspects of the existing regulatory framework, such as different/higher medical device classification, 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 medical device industry in EEA.

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 "shonin," 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 will require type testing by a local authorized Test Lab, and for certain products, such as Proton Systems, local clinical trials, which can be time-consuming and can result in delays to our ability to market or sell our products in the country in question. 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 serve 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 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 products and 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 bodies or others, significant fines, could negatively impact our reputation and may otherwise adversely impact our business, financial condition and operating results.

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.

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 related investigations and enforcement efforts. Any violation of these laws by us or our agents or distributors could create substantial liability for us, subject our officers and directors to personal liability, and cause a loss of reputation in the market.

Transparency International's 2019 Corruption Perceptions Index measured the degree to which public sector corruption is perceived to exist around the world and found that approximately sixty-seven 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 October 2, 2020, we owned 629 patents issued in the United States and 484 patents issued throughout the rest of the world, and had 501 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 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.

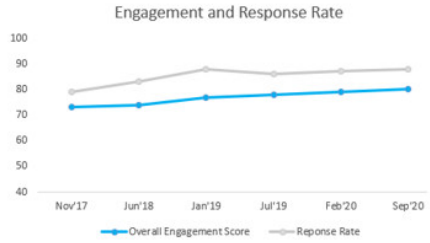
We participated in the Office of the U.S. Trade Representative ("USTR") process to seek product-specific exclusions from the U.S. tariffs on Chinese imports. To date, USTR has granted tariff exclusions for four products: certain radiotherapy systems manufactured in China, as well as three key components 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 was ultimately not granted. In 2019,

USTR granted a one-year extension to our exclusion for radiotherapy systems through December 28, 2020. Two additional component exclusion extensions, for multi-leaf collimators and certain printed circuit board assemblies, have been granted through December 31, 2020. One additional exclusion request, for tungsten shielding, was not extended and expired on September 19, 2020.

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 and valid through September 16, 2020. We requested and subsequently received a one year extension for this exclusion. We utilize a monthly exclusion program to further mitigate the tariffs on other items.

Human Capital

- At Varian, we view our employees as one of our most valuable assets and as of October 2, 2020, we had 10,613 employees, in 43 countries, dedicated in the fight against cancer.
- We apply a systemic approach to our culture and people strategy and strive to align performance with pay and recognition.
- We leverage a talent system that begins with Varian's overall business strategy to ground us in understanding what is important, how we are doing and what to prioritize and improve.
- Throughout the employee life cycle and our talent processes, we emphasize:

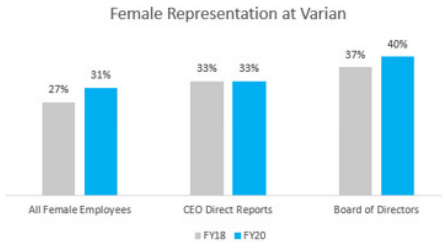


Employee Engagement

At Varian, we conduct bi-annual employee engagement surveys. Through continued investment in talent processes and acting on employee feedback, we have seen our employee engagement scores increase seven points since November 2017 (73 → 80). The score of 80 puts us at world class levels of engagement and we now join the top 20% of companies at this level.

Diversity, Inclusion & Belonging

We have been purposeful in our continued efforts to hire, develop and retain diverse talent as well as in our efforts to create an inclusive culture. Our goals are to equip senior leaders with quarterly dashboards and discuss action plans to prioritize representation across the organization, continue to listen and learn from our employees through diversity panels and build inclusive leadership and employee behaviors. We further emphasize diversity through all our talent processes. In fiscal year 2020, our Diversity, Inclusion and Belonging index score, which measures employee sentiment across these dimensions, increased from 75 to 78. Currently, females make up 31% of our workforce; two years ago, females made up 27% of our workforce. Furthermore, gender diversity is particularly higher at our board (40%) and executive leadership level (33%).



Employee Wellbeing and Resilience

Employee safety and wellbeing is of paramount importance to us in any year and was of particular focus in our fiscal year 2020 in light of COVID-19. In response to the pandemic, we provided personal protective equipment to our frontline employees, implemented new safety protocols, and established a governance structure to ensure timely communication and decision making. We provided productivity and collaboration tools and resources for employees working remotely, including training and toolkits to help leaders effectively lead and manage remote teams. In addition, we enhanced and promoted programs to support our employees' physical, financial and mental wellbeing. For example, we provided emergency pay to employees who were unable to work due to the pandemic impact, ensured healthcare access for COVID-19 testing and treatment, implemented virtual fitness classes, and significantly expanded employee assistance and mindfulness programs to help employees and their families manage anxiety, stress, sleep and overall wellbeing. We are providing resources and training to help employees build

resilience. Internal surveys show that employees who attend resilience training sessions experience a better sense of wellbeing and satisfaction than those not attending these sessions.

Building Strong Leaders

Leaders are critical to ensuring employees are engaged and positioned to perform at their best. For these reasons, we have invested in developing our leadership capabilities. We have implemented leadership programs both for experienced and new managers. For those teams where new managers have attended trainings, we see up to four points higher engagement in our surveys. We also include questions intended to measure Leadership Effectiveness in our engagement surveys. Scores from these questions are aggregated into a Leadership Effectiveness Index ("LINDEX"). For new managers that attend training, their subordinates reported up to four points higher LINDEX scores, indicating they feel their managers help them prioritize work, and provide feedback and recognition that helps them to grow and feel engaged.

Information About Our Executive Officers

The biographical summaries of our executive officers, as of November 1, 2020, are as follows:

Name	Age	Position
Dow R. Wilson	61	Chief Executive Officer
Christopher A. Toth	41	President and Chief Operating Officer
Kolleen T. Kennedy	61	President, Proton Solutions and Chief Growth Officer
J. Michael Bruff	51	Senior Vice President, Chief Financial Officer
Kevin O'Reilly	51	Senior Vice President and President, Oncology Systems
Michael Hutchinson	49	Senior Vice President, Chief Legal Officer and Corporate Secretary

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.

Christopher A. Toth was appointed President and Chief Operating Officer in October 2020. Mr. Toth served as President of Oncology Systems from October 2018 to October 2020. 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.

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.

J. Michael Bruff was appointed Chief Financial Officer in December 2019. Prior to this appointment, Mr. Bruff served as Senior Vice President, Finance and Investor Relations between February 2018 and December 2019 and served as Vice President of Investor Relations between August 2017 and February 2018. 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 product business unit 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.

Kevin O'Reilly was appointed Senior Vice President and President, Varian Oncology Systems in October 2020. Prior to this appointment, he served as Senior Vice President, Global Operations, between April 2019 and October 2020, as interim President of EMEIA between April 2020 and October 2020, President, Asia Pacific between February 2016 and April 2019, VP Strategy and Business Development between 2014 and 2016, Senior Director, Product Marketing between 2012 and 2014, and as Senior Director, Services Marketing and Global Publications between 2009 and 2012. Prior to joining Varian, Mr. O'Reilly held executive positions at RPO, Inc., and Photon Dynamics. He holds a BS in Electronic Engineering from Technological University Dublin.

Michael Hutchinson was appointed Senior Vice President, Chief Legal Officer and Corporate Secretary in June 2020. Prior to joining the Company, Mr. Hutchinson was with Stryker for 12 years, where he served as Vice President and Advisor to the Chairman and CEO from 2019 to 2020, General Counsel, Vice President and Chief Legal Officer from 2013 to 2019 and Deputy General Counsel, Chief Legal Counsel Orthopaedics Group between 2008 and 2013. Prior to joining Stryker, Mr. Hutchinson worked for several law firms and as an in-house attorney in the Washington, D.C. area. Mr. Hutchinson holds a J.D. degree from The George Washington University Law School and a B.A. degree from Clark University.

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.

Risk Factor Summary

- The Merger is subject to the satisfaction of closing conditions in the Merger Agreement.
- Failure to complete the Merger could materially adversely affect our business operations, financial results and stock price.
- We will be subject to various uncertainties while the Merger is pending that may cause disruption and may make it more difficult to maintain relationships with employees, customers, suppliers and distributors.

- We are subject to certain restrictions in the Merger Agreement that may hinder operations pending the consummation of the Merger.
- If the Merger Agreement is terminated, we may, under certain circumstances, be obligated to pay a termination fee to Siemens Healthineers.
- Our business and results of operations have been adversely affected, and our business, results of operations, cash flow and financial condition may in the future be materially adversely affected by the COVID-19 pandemic and any associated economic disruptions.
- 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.
- 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 interoperability of radiation oncology treatment products is becoming increasingly important, and sales of our products could fall if we fail to establish interoperability.
- Disruption of our critical information systems or material cyberattacks or security breaches of our products may adversely affect our business and customer relations.
- We may offer extended payment terms to certain customers, which could adversely affect our financial results.
- Economic, political, foreign currency, security and other risks associated with international sales and operations could adversely affect our sales or operations.
- Tariffs or cross-border trade restrictions could increase the cost of our products.
- Consolidation among our oncology systems customers could adversely affect our sales of oncology products.
- Our business will suffer if we are unable to provide the significant education and training required for the healthcare market to accept our products.
- We may not realize expected benefits from acquisitions of or investments in businesses, products or technologies and our efforts to integrate acquired businesses may not be successful.
- Acquiring or implementing new business lines or offering new products and services may subject us to additional risks.
- Losing distributors may harm our revenues in some territories.
- The results of studies and clinical trials are highly uncertain.
- Our credit facility restricts certain activities, and failure to comply with this agreement may adversely affect our business, liquidity and financial position.
- Our operations are vulnerable to interruption or loss due to natural or other disasters, power loss, strikes and other events beyond our control.
- Product defects or misuse may result in material product liability or professional errors and omissions claims, litigation, investigation by regulatory authorities or product recalls.
- We are subject to certain risks related to the separation of our former imaging components business into Varex Imaging Corporation.
- We may face delays in the installation of our software products, which could have a material adverse effect on our operating results.
- 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.
- Coding errors in our software and cloud offerings could adversely affect our results of operations.

- We may not be successful in transitioning our customer base to software solutions deployed via cloud and software-as-a-service ("SaaS") solutions.
- 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.
- 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.
- 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.
- Our Proton Solutions business has not been profitable historically, its financial results may be unpredictable and if our proton customers are unsuccessful, our financial results will be adversely affected.
- Our Proton Solutions business may subject us to increased liability.
- 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 performance of the cancer centers that we operate depends on our ability to recruit and retain quality physicians, qualified nurses and medical support staff and we face competition for staffing.
- Our cancer centers face competition for patients from other cancer centers, hospitals and health care providers.
- 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.
- We may be subject to liabilities from claims brought against our cancer centers and third-party customers of our AmPath business.
- Any inability to obtain supplies of important components could restrict the manufacture of products, cause delays in delivery, or significantly increase our costs.
- 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.
- Our financial results may suffer if we are not able to match our manufacturing capacity with demand for our products.
- Disruptions at our logistics providers may adversely impact our business.
- 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.
- Healthcare reform legislation, including The Affordable Care Act and state-level legislation, may adversely affect our business.
- Changes to radiation oncology, reimbursements, and insurance deductibles and administration may affect demand for our products.
- 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.
- Environmental laws impose compliance costs on our business and can result in liability.
- Protecting our intellectual property can be costly and we may not be able to maintain licensed rights.
- 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.
- 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.
- Unfavorable results of legal proceedings could adversely affect our financial results.
- Our business may suffer if we are not able to hire and retain qualified personnel.

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

RISKS RELATING TO PROPOSED ACQUISITION BY SIEMENS HEALTHINEERS

The Merger is subject to the satisfaction of closing conditions in the Merger Agreement.

The Merger Agreement contains a number of customary conditions to complete the Merger, including, (i) the adoption of the Merger Agreement by the affirmative vote of the holders of at least a majority of the outstanding shares of VMS common stock entitled to vote, which was received on October 15, 2020, (ii) the expiration or termination of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, which expired October 22, 2020 at 11:59 p.m. Eastern Time, (iii) the receipt of specified regulatory approvals, (iv) the receipt of the approval of the Committee on Foreign Investment in the United States, (v) the absence of any newly enacted law, injunction or order prohibiting the Merger, (vi) the accuracy of the representations and warranties contained in the Merger Agreement (generally subject to a material adverse effect qualification), (vii) compliance in all material respects with the covenants and agreements in the Merger Agreement and (viii) absence of a Company Material Adverse Effect (as defined in the Merger Agreement) on the Company since the date of the Merger Agreement that is continuing. We can provide no assurance that all required approvals will be obtained or that all closing conditions will be satisfied, and, if all required approvals are obtained and the closing conditions are satisfied, we can provide no assurance as to the terms, conditions and timing of such approvals or the timing of the completion of the Merger. Any delay in completing the Merger could cause us not to realize some or all of the benefits that we expect to achieve if the Merger is successfully completed within its expected timeframe.

Failure to complete the Merger could materially adversely affect our business operations, financial results and stock price.

If the Merger is not completed, our stockholders will not receive any payment for their shares in connection with the Merger. Instead, VMS will remain an independent public company, and the shares will continue to be traded on the New York Stock Exchange. Our ongoing business may be materially adversely affected, and we would be subject to a number of risks, including the following:

- we may experience negative reactions from the financial markets, including negative impacts on our stock price, and it is uncertain when, if ever, the price of the shares would return to the prices at which the shares currently trade;
- we may experience negative publicity, which could have an adverse effect on our ongoing operations including, but not limited to, retaining and attracting employees, customers, suppliers and distributors;
- we will still be required to pay certain significant costs relating to the Merger, such as legal, accounting, financial advisor, printing and other professional services fees, which may relate to activities that we would not have undertaken other than to complete the Merger;
- we may be required to pay a cash termination fee as required under the Merger Agreement;
- the Merger Agreement places certain restrictions on the conduct of our business, which may have delayed or prevented us from undertaking business opportunities that, absent the Merger Agreement, we may have pursued;
- matters relating to the Merger require substantial commitments of time and resources by our management, which could result in the distraction of management from ongoing business operations and refraining from pursuing other opportunities that could have been beneficial to us; and we have and may continue to incur additional costs in connection with the defense or settlement of any stockholder litigation in connection with the Merger, which may adversely affect our ability to complete the Merger.

If the Merger is not consummated, the risks described above may materialize and they may have a material adverse effect on our business operations, financial results and stock price, especially to the extent that the current market price of our common stock reflects an assumption that the Merger will be completed.

We will be subject to various uncertainties while the Merger is pending that may cause disruption and may make it more difficult to maintain relationships with employees, customers, suppliers and distributors.

Uncertainty about the effect of the Merger on employees, customers, suppliers and distributors may have an adverse effect on us. These uncertainties may impair our ability to attract, retain and motivate key personnel until the Merger is completed, and

could cause customers, suppliers, distributors and others that deal with us to attempt to change existing business relationships with us. Retention and motivation of certain employees may be challenging while the Merger is pending, as certain employees may experience uncertainty about their future roles. If key employees depart, our business could be harmed. In addition, there could be distractions to or disruptions for our employees and management associated with obtaining the required approvals to close the Merger. Our customers, suppliers and distributors may experience uncertainty with the Merger, including with respect to current or future business relationships following the Merger. Our business relationships may be subject to disruption as customers, suppliers, distributors and others may attempt to negotiate changes in existing business relationships or consider entering into business relationships with parties other than with us. These disruptions could have an adverse effect on our business operations and financial results. The risks, and adverse effects, of such disruptions could be exacerbated by a delay in completion of the Merger or termination of the Merger Agreement.

We are subject to certain restrictions in the Merger Agreement that may hinder operations pending the consummation of the Merger.

Whether or not the Merger is completed, the pending Merger may disrupt our current plans and operations, which could have an adverse effect on our business operations and financial results. The Merger Agreement generally requires us to use commercially reasonable efforts to operate our business in all material respects in the ordinary course pending completion of the Merger and not to engage in specified types of actions during this period, in each case subject to certain exceptions. These restrictions could be in place for an extended period of time if the consummation of the Merger is delayed, which may delay or prevent us from undertaking business opportunities that, absent the Merger Agreement, we might have pursued, or effectively respond to competitive pressures or industry developments. For these and other reasons, the pendency of the Merger could adversely affect our business operations and financial results.

If the Merger Agreement is terminated, we may, under certain circumstances, be obligated to pay a termination fee to Siemens Healthineers. These costs could require us to use cash that would have otherwise been available for other uses.

If the Merger is not completed, in certain circumstances, we could be required to pay a termination fee of $450 million to Siemens Healthineers. If the Merger Agreement is terminated, the termination fee we may be required to pay, if any, under the Merger Agreement may require us to use available cash that would have otherwise been available for general corporate purposes or other uses. The payment of a termination fee may also have an adverse impact on our financial condition and could affect the structure, pricing and terms proposed by a third party seeking to acquire or merge with us or deter such third party from making a competing acquisition proposal. Further, a failed transaction may result in negative publicity and a negative impression of us in the investment community. For these and other reasons, termination of the Merger Agreement could materially adversely affect our business operations and financial results, which in turn would materially and adversely affect the price of our common stock.

RISKS RELATING TO COVID-19

Our business and results of operations have been adversely affected, and our business, results of operations, cash flow and financial condition may in the future be materially adversely affected by the COVID-19 pandemic and any associated economic disruptions.

We are subject to risks associated with public health threats and epidemics, including the global COVID-19 pandemic. The COVID-19 pandemic has adversely impacted nearly all aspects of our business and markets globally, including our workforce and operations and the operations of our customers, suppliers, distributors and business partners, and has created significant volatility, uncertainty and economic disruption to healthcare activity globally. While we are unable to predict the extent to which the COVID-19 pandemic may have a material adverse effect on our business, results of operations, cash flow and financial condition, we may experience a broad range of operational and financial impacts, including:

- Increased fluctuations in our operating results, including quarterly gross orders, revenues, margins, and cash flows and resulting volatility in our stock price;
- Significant volatility or reductions in demand for our products or services, or delays in the timing of orders;
- Impacts to the normal operations of our customers which may impact our ability to market, sell, deliver, install and service our products and systems, and increase customer payment, credit and insolvency risk;

- Limitations on our business operations resulting from shelter-in-place orders and other travel restrictions implemented to contain the pandemic and the timing of relaxation of such containment measures across geographies;
- Increased risks related to the health and safety of our employees and associated employment-related disputes and retention issues;
- Disruptions to our manufacturing operations and distribution and supply chains;
- Distraction of management time and attention;
- Potential disproportionate adverse impacts, including political, social and economic impacts, in the emerging markets in which we operate, which could increase security risks for our personnel and harm our business and operating results in such markets;
- Increased volatility of foreign currency exchange rates, which may impact demand for our products and services;
- Increased risk of cybersecurity attacks and security breaches by bad actors seeking to exploit the crisis;
- Delays to acquisition plans, increased risks to the operations and financial condition of newly acquired businesses, and increased costs or delays to integration of newly acquired businesses;
- The impact of any reprioritization of capital allocations on our ability to achieve our strategic objectives over the medium and long-term;
- Write downs or impairments to our loans to proton centers, investments in third parties, goodwill or intangible assets from recently acquired businesses, accounts receivable, or other assets;
- Potential liquidity constraints and credit impacts;
- Delays in obtaining regulatory clearances and approvals to market our products or delays to clinical trial activity;
- Local or global recessions caused by the COVID-19 pandemic, which may result in hospitals reducing or curtailing capital or overall spending.

In addition, a lack of coordinated COVID-19 response by the U.S. government could result in significant increases to the duration and severity of the pandemic in the United States and could have a corresponding negative impact on our business. The extent to which the COVID-19 global pandemic and measures taken in response to it will impact our business, results of operations and cash flows and financial condition will depend on future developments, which are highly uncertain and are difficult to predict; these developments include, but are not limited to, the duration and spread of the pandemic, its severity, the actions to contain the virus or address its impact, U.S. and foreign government actions to respond to the reduction in global economic activity, and how quickly and to what extent normal economic and operating conditions can resume.

We refer you to “Management’s Discussion and Analysis of Financial Position and Results of Operations” for a more detailed discussion of the potential impact of the COVID-19 pandemic and associated economic disruptions, and the actual operational and financial impacts that we have experienced to date.

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 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 Interventional Solutions business offers products for interventional oncology procedures and treatments, including cryoablation, microwave ablation and embolization The success of our Interventional 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 markets for interventional solutions products are relatively new, still developing and consist of 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 solutions markets 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 system" 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 system" 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 October 2, 2020, customer contracts with remaining terms of more than one year amounted to approximately 6% 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 56%, 57%, and 55% of our total revenues during fiscal years 2020, 2019 and 2018, 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 strained or worsening relations between the United States and China or other countries;
- changes in the political, regulatory, safety or economic conditions in a country or region, including as a result of the United Kingdom's (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, and our ability to obtain or renew exemptions from tariffs;
- 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.

On July 6, 2018, the Trump Administration imposed 25% tariffs on a variety of imports from China, including Varian's radiotherapy systems manufactured in China and certain components imported into the U.S. for our manufacturing and service activities. The Administration subsequently imposed tariffs on two additional lists of products from China; the first of these additional lists involves 25% tariffs and the second list imposes 25% tariffs. We expect our imports into the U.S. will continue to be impacted less by these two additional tariff lists than by the initial tariff list.

China responded to the multiple U.S. tariff lists by announcing several lists of products from the U.S. that are subject to additional tariffs upon import to China. The first round of Chinese retaliatory tariffs went into effect on July 6, 2018. Our products are not impacted by these tariffs. Our exports of U.S. manufactured radiotherapy systems to China are impacted by the second Chinese list, implemented on August 23, 2018, which is subject to a 25% tariff. A third group of items, including certain of our manufacturing inputs and services, is subject to 5 to 10% tariffs, which went into effect on September 24, 2018. In September 2019, the Chinese government granted a tariff exclusion for medical linear accelerators, including our radiotherapy systems, which has been extended through September 16, 2021. Any tariffs imposed by the United States and China that include Varian technology could increase the cost of our products and adversely impact the competitiveness of our products and/or our operational results in the future.

We continue to participate in the Office of the U.S. Trade Representative ("USTR") process to consider and extend product-specific exclusions from these tariffs. On December 21, 2018, USTR announced its approval of our request to exclude certain radiotherapy systems manufactured in China, and this decision has been extended through December 28, 2020. Two additional component exclusions, for multi-leaf collimators and certain printed circuit board assemblies, have been granted through December 31, 2020. One additional exclusion request, for tungsten shielding, was not extended and expired on September 19, 2020. We continue to advocate for consideration of extensions beyond the current expiration dates, but there can be no assurance we will be successful.

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, instead of on a rollforward basis. 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 other than the U.S. Dollar, 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.

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.

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.

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 a pandemic could have or in the case of the recent COVID-19 pandemic, has had and could continue to 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 United Kingdom's exit from the European Union may negatively impact our operations.

The United Kingdom's ("U.K") exit from the European Union on January 31, 2020, commonly referred to as Brexit, has caused, and may continue to cause, uncertainty in the global markets. Political and regulatory responses to the withdrawal are still developing, and we are in the process of assessing the impact that the withdrawal may have on our business as more information becomes available. 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 2020, and we cannot predict the future implications of Brexit. 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 some 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. 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 October 2, 2020, we had $118.6 million of loans outstanding, including accrued interest, available-for-sale securities, notes receivable and short-term senior secured debt, net of impairment reserves, 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") and in the second quarter of fiscal year 2020 we recorded an impairment of loans receivable from CPTC of $40.5 million. 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.

Our Proton Solutions business has not been profitable historically, its financial results 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 or 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 thirteen multi-disciplinary cancer centers and one specialty hospital in India, and one multi-disciplinary cancer center in Sri Lanka, as of October 2, 2020 (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, which are in various planning or development 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.

The performance of the cancer centers that we operate 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.

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. Further, in July 2020, the Court of Justice of the European Union released a decision in the Schrems II case (Data Protection Commission v. Facebook Ireland, Schrems), declaring the EU-US Privacy Shield invalid and calling into question data transfers carried out under the European Commission’s Standard Contractual Clauses. As a result of the decision, we may face additional scrutiny from EU regulators in relation to the transfer of personal data from the EU to the US. Noncompliance with the GDPR can trigger fines of up to the greater of €20 million or 4% of global annual revenues.

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, rejection of data generated in 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.

Healthcare reform legislation including The Affordable Care Act and state-level legislation may adversely affect our business.

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. 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. 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 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 September of 2020, CMS released the Centers for Medicare and Medicaid Innovation Center's Radiation Oncology (RO) Alternative Payment Model Final Rule. The RO Model is intended to test an episodic payment structure across a cohort of U.S. hospitals and freestanding cancer centers which would reduce Medicare expenditures, while preserving or enhancing the quality of care. The RO Model effective date is January 1, 2021 and will end December 31, 2025 and includes 30% of Medicare radiotherapy episodes. On October 21, 2020, CMS announced that it intends to delay the RO Model start date to July 1, 2021. Any significant cuts in reimbursement rates or changes in reimbursement methodology or administration for radiotherapy, radiosurgery, proton therapy or brachytherapy, as a result of the RO Model 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 partners, 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 2019 Corruption Perceptions Index found that approximately sixty-seven 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 have been subject to, and in the future expect to conduct or be subject to, internal investigations or 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 as well as reputational harm, 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 by third parties will be sufficiently broad to protect our technology position against competitors. We also have agreements with third parties that license to us certain patented or proprietary technologies. In some cases, our 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. 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, which could adversely impact our business.

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 pandemics, such as the recent COVID-19 pandemic;
- 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.

GENERAL RISKS

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. While it is not possible to predict the outcome of patent litigation and difficult to make a reasonable estimate of loss or range of losses, it is possible that the results of such litigation could require us to pay significant monetary damages and/or royalty payments. 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.

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 business. 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.

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.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

As of October 2, 2020, we owned and leased a total of approximately 2.9 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

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.

PART II

Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

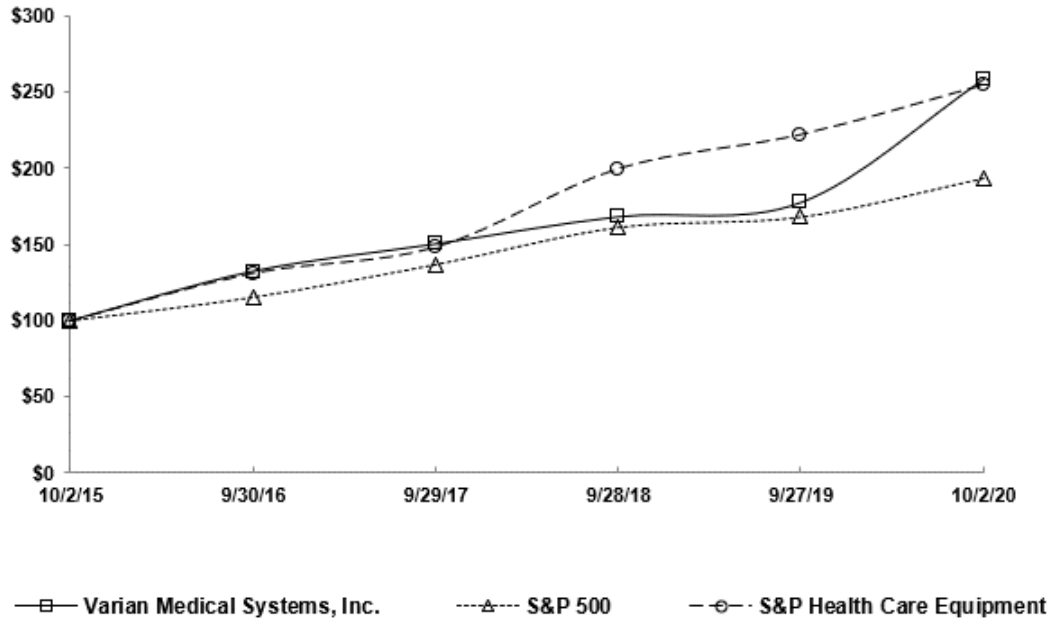
VMS common stock is traded on the New York Stock Exchange ("NYSE") under the symbol "VAR." As of November 13, 2020, there were 1,591 holders of record of VMS common stock.

PERFORMANCE GRAPH

This graph shows the total return on VMS common stock and certain indices from October 2, 2015, until the last day of fiscal year 2020.

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 October 2, 2015 in stock or index, including reinvestment of dividends. Indexes are calculated based on our fiscal year-end.

	10/2/2015	9/30/2016	9/29/2017	9/28/2018	9/27/2019	10/2/2020
Varian Medical Systems, Inc.	100.00	132.37	150.28	168.10	177.46	258.22
S&P 500	100.00	115.43	136.91	161.43	168.30	193.80
S&P Health Care Equipment	100.00	131.15	148.22	199.64	222.06	254.65

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

We did not repurchase shares of common stock during the fourth quarter of fiscal year 2020. At the beginning of our third quarter of fiscal year 2020, as a precautionary measure due to the COVID-19 pandemic, we paused our 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 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 our share repurchase programs have been retired. As of October 2, 2020, approximately 1.6 million shares of VMS common stock remained available for repurchase under the November 2016 authorization. Our share repurchases do not include shares of VMS common stock that were withheld by VMS in satisfaction of tax withholding obligations upon the vesting of restricted stock units 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:	**Fiscal Years [1]**				
(In millions, except per share amounts)	**2020**	**2019**	**2018**	**2017**	**2016**
Revenues	$ 3,168.2	$ 3,225.1	$ 2,919.1	$ 2,619.3	$ 2,593.7
Earnings from continuing operations before taxes [2]	358.3	420.8	452.1	303.1	432.4
Taxes on earnings [3]	88.9	128.6	301.8	77.1	110.1
Net earnings from continuing operations	269.4	292.2	150.3	226.0	322.3
Net (loss) earnings from discontinued operations	—	—	—	(6.8)	77.4
Net earnings	269.4	292.2	150.3	219.2	399.7
Less: Net earnings attributable to noncontrolling interests	0.2	0.3	0.4	0.7	0.4
Net earnings attributable to Varian	$ 269.2	$ 291.9	$ 149.9	$ 218.5	$ 399.3
Net earnings (loss) per share - basic					
Continuing operations	$ 2.96	$ 3.21	$ 1.64	$ 2.44	$ 3.38
Discontinued operations	—	—	—	(0.08)	0.81
Net earnings per share - basic	$ 2.96	$ 3.21	$ 1.64	$ 2.36	$ 4.19
Net earnings (loss) per share – diluted					
Continuing operations	$ 2.94	$ 3.18	$ 1.62	$ 2.42	$ 3.36
Discontinued operations	—	—	—	(0.07)	0.80
Net earnings per share - diluted	$ 2.94	$ 3.18	$ 1.62	$ 2.35	$ 4.16
Financial Position at Fiscal Year End: [4]					
Working capital [5]	$ 748.8	$ 511.4	$ 848.7	$ 651.7	$ 1,053.0
Total assets [5]	$ 4,462.2	$ 4,101.7	$ 3,252.7	$ 3,294.4	$ 3,948.1
Short-term borrowings	$ 355.0	$ 410.0	$ —	$ 350.0	$ 329.6
Long-term debt (including current maturities)	$ —	$ —	$ —	$ —	$ 336.3
Total equity	$ 2,084.8	$ 1,777.6	$ 1,588.7	$ 1,521.9	$ 1,797.9

(1) Our fiscal years as reported are the 52- or 53-weeks periods ending on the Friday nearest September 30. Fiscal year 2020 was a 53- week period. Fiscal years 2019, 2018, 2017 and 2016 were 52-week periods.

(2) In fiscal year 2020, earnings from continuing operations before taxes includes a $40.5 million impairment of loans receivable from the California Proton Treatment Center, $18.7 million in restructuring charges, $17.8 million in impairments to our Maryland Proton Treatment Center and Alabama Proton Treatment Center securities, and $41.9 million in net gains on our equity investments. In fiscal year 2019, earnings from continuing operations before taxes includes a $22.0 million gain on the sale of an equity investment, 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 2016 through 2018, the financial position at year end includes Varex, which is presented as discontinued operations for all periods presented.

(5) See Note 2, "Business Combinations," for impact from our acquisitions to total assets in fiscal year 2019.

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. We 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.

Proposed Acquisition by Siemens Healthineers

On August 2, 2020, VMS, Siemens Healthineers, Merger Sub, and, with respect to certain provisions, the Guarantor, entered into the Merger Agreement, pursuant to which, on the terms and subject to the conditions set forth therein, Merger Sub will be merged with and into VMS, with VMS surviving the Merger as a wholly owned subsidiary of Siemens Healthineers. Under the terms of the Merger Agreement, which has been unanimously approved by VMS' Board of Directors, Siemens Healthineers will acquire all outstanding shares of VMS for $177.50 per share in cash, in a transaction valued at approximately $16.4 billion on a fully diluted basis. The Merger is expected to close in the first half of calendar year 2021, subject to receipt of specified regulatory approvals and other customary closing conditions. On October 15, 2020, VMS' stockholders approved and adopted the Merger Agreement. Under the terms of the Merger Agreement, if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances, a termination fee of $450.0 million in cash may be payable by VMS to Siemens Healthineers. The Merger Agreement also provides that a reverse termination fee of $450.0 million or $925.0 million in cash may be payable by Siemens Healthineers to VMS if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances.

COVID-19 Impact

The COVID-19 pandemic has impacted our day-to-day operations and the operations of the vast majority of our customers, suppliers and distributors globally. The COVID-19 response by hospitals and healthcare professionals has placed a severe strain on healthcare systems. Many of our hospital customers have prioritized their efforts on their COVID-19 response and have diverted focus and resources away from their normal operations and restricted access to their sites in efforts to contain the spread of the virus. The global nature of the pandemic has resulted in authorities implementing numerous measures designed to

contain the virus, including travel bans and restrictions, border closures, quarantines, shelter-in-place orders, business limitations and shutdowns. The prioritization of COVID-19 treatment and containment have presented us with unique operational challenges, including delays in capital equipment purchasing decisions by customers, obstacles to our ability to market, deliver, install and service our products, and disruptions and delays in our logistics and supply chain.

Revenues and Orders Trends

The impact of COVID-19 on our operations has varied by region, with mixed impacts based on the geographical spread, stage of containment, and recurrence of the pandemic in each region. Our operations in China were impacted first, beginning early in the second quarter of our fiscal year 2020, followed by other parts of our Asia Pacific geography, with our EMEA and Americas geographies experiencing the initial impacts of the pandemic late in the second quarter of our fiscal year 2020. Our second quarter revenues were trending higher than the comparable second quarter fiscal 2019 period, until March 2020 when we started to experience a decline in hardware product revenues in our EMEA and Americas geographies due to the spread of COVID-19. In the third quarter of our fiscal year 2020, these trends in declining revenues continued across all of our geographies, both in comparison to the second quarter of our fiscal year 2020 and in comparison to our third quarter of fiscal 2019, with the exception of revenues from the China region, which increased with respect to both comparison periods, driven by recovery from COVID-19 in China which began at the end of the second quarter of our fiscal year 2020. In the fourth quarter of our fiscal year 2020, we experienced improvement in revenues in comparison to the third quarter of our fiscal year 2020 in all three geographies, although our total revenues decreased by 3% in comparison to the fourth quarter of our fiscal year 2019. The sequential improvement in revenues was driven primarily by fourth quarter seasonality and to some extent by recovery in our Americas and EMEA geographies and continued recovery in China and other Asia Pacific countries.

We have experienced adverse impacts to revenues for both our hardware and software products, primarily resulting from customer capital constraints, site access challenges and delays to pre-installation activities. We have experienced minimal impact to our services revenues and expect that our services revenues will continue to be reasonably insulated from COVID-19 given the long-term nature of the underlying contracts and our current installed base; however, installation and commissioning service revenues linked to hardware installation have trended downward, consistent with delays to hardware installations. If treatment volumes decline materially and impact hospitals' operating costs, it may impact our service contract renewals, pricing and service revenues.

We have experienced similar trends in orders as we have in revenues. We began to experience delays in orders, primarily for capital equipment, during the second quarter of our fiscal year 2020. Orders continued to decline across most regions during the third quarter of our fiscal year 2020, with our EMEA geography experiencing the most severe negative impact to orders and our Americas geography also experiencing significant negative impacts. However, in the third quarter of our fiscal year 2020 our APAC geography experienced an increase in orders both in comparison to the second quarter of our fiscal year 2020, driven by recovery in China, and in comparison to the third quarter of our fiscal year 2019, driven by recovery in Southeast Asia and Korea. In the fourth quarter of our fiscal year 2020, we experienced significant improvement in orders compared to the third quarter of our fiscal year 2020 in all three geographies, as our customers began to resume capital purchasing activity, although our total gross orders decreased by 8% in comparison to the fourth quarter of our fiscal year 2019.

We are not able to accurately predict the full impact that COVID-19 will have on our future results of operations, financial condition, liquidity and cash flows due to numerous uncertainties, including the duration and severity of the pandemic and the extent and effectiveness of containment measures imposed in different geographies. To the extent lockdown measures restrict access to customer sites and delay vault construction it could have an adverse impact on our revenues during our fiscal year 2021. In addition, a lack of coordinated COVID-19 response by the U.S. government could result in significant increases to the duration and severity of the pandemic in the United States. We expect that customer financial constraints, foreign currency headwinds, and uncertainty around the pandemic may lead our customers to defer capital equipment purchases during our fiscal year 2021.

We believe that we will experience improvement in both our revenues and orders over the course of our fiscal year 2021 to the extent COVID-19 impacts to our operations continue to decrease as the pandemic is controlled. We believe that our existing orders backlog, together with recurring services revenues, should soften the impact of order delays on our revenues. Based on regional machine utilization trends, during the fourth quarter of our fiscal year 2020 radiation therapy treatment volume levels had been returning to historical averages in certain regions that experienced recovery from the pandemic, which we would expect to have a corresponding positive impact on hospital operating budgets; however, recently announced lockdown measures in response to resurgence of the pandemic in several countries could negatively impact utilization trends. We expect to continue to experience some logistical, manufacturing and shipment delays, and some increased logistics-related costs for so long as COVID-19 related travel and customer site access restrictions remain in place.

General Increase in Risks

While we believe that orders trends and our revenues will return to historical norms over time as the pandemic is controlled, if the COVID-19 pandemic proliferates for an extended period, capital expenditure delays could be prolonged and have a material impact on revenues and orders well into our fiscal year 2021. Capital markets and worldwide economies have been significantly impacted by the COVID-19 pandemic, and on June 8, 2020, the National Bureau of Economic Research announced that the United States was in recession. An extended economic recession in the United States or elsewhere could have a material adverse effect on our business over the longer term if hospitals reduce or curtail capital and overall spending. Some of our hospital customers may decide to no longer purchase our products or services, and certain of our customers, suppliers and distributors may become insolvent.

For additional information on risk factors that could impact our results, please refer to "Risk Factors" in Part I, Item 1A of this Form 10-K.

Our Response

Since the outbreak of the pandemic, our focus has been on keeping our employees safe, supporting our customers and their patients, and ensuring supply chain stability and business continuity.

- Our employees are crucial to our mission, and we have taken the following actions to ensure their safety and well-being.
    - We have instituted work-from-home policies and workplace safety measures and protocols, including strict site access guidelines and ensuring the availability of personal protective equipment. To support the health and well-being of our employees, customers, distributors, partners and communities, as of October 2, 2020, approximately 54% of our employees are working remotely, whereas typically only 15% of our employees, such as field service employees, work remotely.
    - We have implemented new programs aimed at educating our employees on how to operate in virtual, social-distancing environments.
    - During our second quarter of fiscal 2020, we closed our manufacturing facility in Beijing for approximately four weeks and placed our U.S. manufacturing and logistics facilities, including our Palo Alto manufacturing facility, in critical operations mode for approximately three weeks. Since May 2020, all of our manufacturing facilities have been fully operational. We have implemented stringent safety protocols at all of our manufacturing facilities, including rigorous health and safety training for all manufacturing employees and the institution of new workplace spacing requirements.
- Our customers are facing unique challenges, and we are taking actions to support their priorities. Among other efforts, we are taking actions to ensure that all of our customers can continue to deliver radiation therapy, a non-elective procedure, to their patients, and we are actively deploying remote tools across our training, installation and field service teams to ensure continued access to our products and solutions.
- Despite certain logistical and manufacturing challenges, to date, we have been successful in our efforts to secure and stabilize our global supply chain, and we are actively coordinating with our suppliers and distributors to maintain adequate inventory to fulfill our customer commitments.
- We have a solid balance sheet, as of October 2, 2020, with approximately $1.6 billion in accessible liquidity, including approximately $766 million in cash and cash equivalents and approximately $845 million available under our $1.2 billion revolving credit facility. To date, we have not experienced a significant decline in customer credit quality or a significant increase in requests for changes or extension of payment terms as a result of COVID-19, although we will continue to closely monitor these metrics going forward. While our capital allocation priorities remain unchanged, as a precautionary measure we have paused our share buybacks to preserve liquidity and are focused on reducing costs to bolster our financial flexibility in light of the broad range of potential outcomes over the foreseeable future. In our third and fourth quarter of fiscal year 2020, we implemented several cost cutting measures designed to preserve liquidity, including a reduction in force that impacted approximately 3% of our work force, a temporary reduction in certain employee benefits, and requiring our employees to take mandatory paid personal leave days during a set week in each of the third quarter and fourth quarters of our fiscal year 2020 and in the first quarter of our fiscal year 2021.

Despite the challenges that we are facing due to the COVID-19 pandemic, we remain confident that the actions that we are taking to manage such challenges, combined with our strong liquidity, position us well to navigate through the current economic environment and continue to execute on our long-term value creation strategy.

Highlights from fiscal year 2020

Financial Summary

(Dollars in millions, except per share amounts)	Fiscal Years 2020	2019	Change
Gross Orders	$ 3,435.3	$ 3,568.8	*(4)%*
Oncology Systems	3,253.6	3,397.6	*(4)%*
Proton Solutions	132.4	151.8	*(13)%*
Other	49.3	19.4	*154 %*
Backlog	$ 3,394.9	$ 3,390.1	*— %*
Revenues	$ 3,168.2	$ 3,225.1	*(2)%*
Oncology Systems	2,997.8	3,061.8	*(2)%*
Proton Solutions	121.1	143.9	*(16)%*
Other	49.3	19.4	*154 %*
Gross margin as a percentage of revenues	43.5 %	42.5 %	*100 bps*
Effective tax rate	24.8 %	30.6 %	
Net earnings attributable to Varian	$ 269.2	$ 291.9	*(8)%*
Diluted net earnings per share	$ 2.94	$ 3.18	*(7)%*
Net cash provided by operating activities	$ 484.1	$ 371.8	*30 %*
Number of shares repurchased	0.6	1.4	*(53)%*
Total cost of shares repurchased	$ 86.2	$ 166.7	*(48)%*

n/m = not meaningful

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 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 was ultimately not granted. In 2019, USTR granted a one-year extension to our exclusion for radiotherapy systems through December 28, 2020. Two additional component exclusion extensions, for multi-leaf collimators and certain printed circuit board assemblies, have been granted through December 31, 2020. One additional exclusion request, for tungsten shielding, was not extended and expired on September 19, 2020.

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 and valid through September 16, 2020. We requested and subsequently received a one year extension for this exclusion. We utilize a monthly exclusion program to further mitigate the tariffs on other items. In the aggregate, these tariffs will be referred to as "U.S./China tariffs."

Impairment Charges. In the second half of fiscal year 2020, our Maryland Proton Treatment Center ("MPTC") Series B-1 and B-2 bonds (collectively "MPTC" bonds) and the Alabama Proton Treatment Center ("APTC") securities were determined to be

other-than-temporarily impaired due to a decrease in trade prices of comparable bonds. We believed that it was more likely than not that we will not recover the losses before these bonds are sold, so we incurred impairment charges of $16.9 million on our MPTC bonds and $0.9 million on our APTC securities. In the second quarter, we recorded a $40.5 million impairment charge related to our California Proton Therapy Center ("CPTC") term loan ("Term Loan") due to material negative impacts to CPTC's operating plan, including declines in current and projected patient volume and delays in partnership with a significant clinical partner primarily driven by the impact of COVID-19. The impairment charges are included in impairment and restructuring charges in the Consolidated Statements of Earnings. See Note 15, "Proton Solutions Loans and Investment," of the Notes to the Consolidated Financial Statements for further information.

Restructuring Charges. In the third quarter of fiscal year 2020, we implemented a global workforce reduction, as part of our plan to enhance operational performance through productivity initiatives, in response to the impact of the COVID-19 pandemic. We incurred $18.7 million in restructuring charges, which primarily consisted of employee-related expenses, in fiscal year 2020. The Company paid $12.0 million related to these charges in fiscal year 2020, and the remaining balance of $6.7 million is expected to be paid in fiscal year 2021. As of October 2, 2020, we do expect to incur additional restructuring charges under this plan; however, these costs are not expected to be material. The restructuring charges are included in impairment and restructuring charges in the Consolidated Statements of Earnings.

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 $11.7 million and a $1.6 million unfavorable impact on total revenues and Oncology Systems gross orders, respectively, in fiscal year 2020 compared to fiscal year 2019. We expect that fluctuations of non-U.S. Dollar currencies against the U.S. Dollar may continue to cause variability in our financial performance.

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, artificial intelligence based Adaptive 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.

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 13 multi-disciplinary cancer centers and one specialty hospital in India and one multi-disciplinary cancer center in Sri Lanka. We also expect 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 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.

Subject to the potential impact of COVID-19, we believe international markets will be our fastest growing markets. The radiation oncology market in North America is largely characterized by the 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 released by the Centers for Medicare and Medicaid Innovation Center in September of 2020, which is scheduled to start on July 1, 2021. 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 as they recover from the COVID-19 pandemic.

Global demand for oncology equipment varies by geography and size of cancer burden. The number of new cancer cases diagnosed annually is projected to increase from approximately 18 million in 2018 to almost 25 million by 2030. Markets such as North America, developed Europe and Japan are primarily replacement markets with growth consistent with the aging cycle of the installed base and the aging of populations. Emerging markets such as Brazil, Russia, India, China and Africa have large gaps in access to care and are expected to grow faster to address this gap. Variations in spend on oncology equipment will occur over time based on economic factors in individual countries.

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. The funding environment for large capital projects, such as proton therapy projects, remains challenging and volatile. 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 October 2, 2020, we had a total of $118.6 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 Investment," 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 and interventional radiology 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 global oncology and radiology markets through a direct sales force and a network of distributors.

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, contract 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, point in time patient services, 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 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 using the Black-Scholes option-pricing model and adjust the value according to the contingent market condition specified in the terms of those awards. 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.

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 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. We evaluate 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. 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 October 2, 2020, we have two reporting units with goodwill: Oncology Systems and Interventional Solutions, with balances of $454.7 million and $169.2 million, respectively. Due to certain indicators identified related to our Interventional Solutions reporting unit in the second quarter of fiscal year 2020, including a significant decrease in near term revenue projections due to COVID-19, we identified a triggering event and performed an interim impairment test on $164.3 million of goodwill in our Interventional Solutions reporting unit, within the Other reportable operating segment. The fair value of the Interventional Solutions' reporting unit was in excess of its carrying value by approximately $20 million, or 7%. Management believes the methodology and significant assumptions, revenue growth rates, operating margins, and weighted-average cost of capital used to calculate the fair value to be reasonable as of April 3, 2020. Management also performed the annual goodwill impairment assessment on its Interventional Solutions reporting unit, within the Other reportable operating segment, during the

fourth quarter of fiscal year 2020. Management determined that the fair value of the Interventional Solutions reporting unit was in excess of its carrying value by approximately $72 million, or 27%. Management believes the methodology and assumptions used to calculate the fair value to be reasonable as of July 3, 2020. However, the Interventional Solutions reporting unit could be at risk for a future goodwill impairment if there are adjustments to certain assumptions used in the fair value calculation, including revenue growth rates, operating margins, WACC and/or working capital requirements. Given the uncertain impact of COVID-19 and/or other market factors on our business, our cash flow projections for this business could decrease in the future, which could lead to an impairment of goodwill.

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, India, 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 2020 was the 53-week period ended October 2, 2020, fiscal year 2019 was the 52-week period ended September 27, 2019, and fiscal year 2018 was the 52-week period ended September 28, 2018.

Discussion of Results of Operations for Fiscal Years 2020 and 2019

A discussion regarding our financial condition and results of operations for fiscal 2020 compared to fiscal 2019 is presented below. A discussion regarding our financial condition and results of operations for fiscal 2019 compared to fiscal 2018 can be found under Item 7 in our Annual Report on Form 10-K for the fiscal year ended September 27, 2019, filed with the SEC on November 25, 2019, which is available on the SEC's website at www.sec.gov and our Investor Relations website at investors.varian.com.

Total Revenues

Revenues by sales classification	Fiscal Years				
(Dollars in millions)	2020	Percent Change	2019	Percent Change	2018
Product	$ 1,587.8	(11)%	$ 1,784.1	14 %	$ 1,569.9
Service	1,580.4	10 %	1,441.0	7 %	1,349.2
Total Revenues	$ 3,168.2	(2)%	$ 3,225.1	10 %	$ 2,919.1
Product as a percentage of total revenues	*50 %*		*55 %*		*54 %*
Service as a percentage of total revenues	*50 %*		*45 %*		*46 %*

Total product revenues decreased in fiscal year 2020 over fiscal year 2019, mostly driven by a decline in hardware product revenues from Oncology Systems due to customer capital constraints, site access challenges and delays to pre-installation activities resulting from COVID-19 and, to a lesser extent, a decrease in product revenues from Proton Solutions, partially offset by an increase in revenues from the Other category.

Total service revenues increased in fiscal year 2020 over fiscal year 2019, primarily due to an increase in service revenues from Oncology Systems, which included an increase of approximately $47 million in service revenues from CTSI and an increase of approximately $16 million in service revenues from Proton Solutions. Total service revenues in Oncology Systems were

negatively impacted by a decline in installation and commissioning services related to delays in hardware installations due to the COVID-19 pandemic. Fiscal year 2020 included approximately $19 million in additional service revenues due to fiscal year 2020 being a 53-week period.

Revenues by region (Dollars in millions)	Fiscal Years						
	2020	Percent Change	Constant Currency	2019	Percent Change	Constant Currency	2018
Americas	$ 1,534.7	— %	1 %	$ 1,527.4	6 %	7 %	$ 1,436.9
EMEA	1,000.1	(7)%	(6)%	1,073.4	14 %	19 %	942.8
APAC	633.4	1 %	1 %	624.3	16 %	17 %	539.4
Total Revenues	$ 3,168.2	(2)%	(1)%	$ 3,225.1	10 %	12 %	$ 2,919.1
North America [1]	$ 1,448.0	2 %	2 %	$ 1,425.1	6 %	6 %	$ 1,347.2
International	1,720.2	(4)%	(4)%	1,800.0	15 %	18 %	1,571.9
Total Revenues	$ 3,168.2	(2)%	(1)%	$ 3,225.1	10 %	12 %	$ 2,919.1
North America as a percentage of total revenues	*46 %*			*44 %*			*47 %*
International as a percentage of total revenues	*54 %*			*56 %*			*53 %*

[1] North America primarily includes the United States and Canada.

Revenues across all regions were negatively impacted by a decline in hardware product revenues from Oncology Systems due to site access challenges and delays to pre-installation activities resulting from COVID-19.

The Americas region revenues were flat in fiscal year 2020 over fiscal year 2019, primarily due to an increase in revenues from the Other category, mostly offset by decreases in revenues from Proton Solutions and Oncology Systems. The EMEA region revenues decreased in fiscal year 2020, over fiscal year 2019, primarily due to the decrease in revenues from Oncology Systems and, to a lesser extent, a decrease in revenues from Proton Solutions. The EMEA region revenues from Oncology Systems in fiscal year 2020 include an increase of approximately $34 million in service revenues from CTSI. The APAC region revenues increased in fiscal year 2020, over fiscal year 2019, primarily due to an increase in revenues from the Other Category, partially offset by a decrease in revenues from Oncology Systems.

Oncology Systems Revenues

Revenues by sales classification (Dollars in millions)	Fiscal Years						
	2020	Percent Change	Constant Currency	2019	Percent Change	Constant Currency	2018
Product	$ 1,455.3	(11)%	(11)%	$ 1,642.4	15 %	17 %	$ 1,431.0
Service	1,542.5	9 %	9 %	1,419.4	6 %	8 %	1,339.2
Total Oncology Systems Revenues	$ 2,997.8	(2)%	(2)%	$ 3,061.8	11 %	13 %	$ 2,770.2
Product as a percentage of Oncology Systems revenues	*49 %*			*54 %*			*52 %*
Service as a percentage of Oncology Systems revenues	*51 %*			*46 %*			*48 %*
Oncology Systems revenues as a percentage of total revenues	*95 %*			*95 %*			*95 %*

Oncology Systems product revenues in fiscal year 2020, decreased over fiscal year 2019, driven by a decline in hardware product revenues due to COVID-19 related delays, including site access restrictions and delays to customer installation readiness in second half of fiscal year 2020.

Oncology Systems service revenues, which include performance obligations for installation, training and warranty, increased in fiscal year 2020, over fiscal year 2019, primarily due to the ongoing customer adoption of service contracts as the warranty periods on our systems expire and an increase in the number of customers as the installed base of our products continues to grow. Oncology Systems service revenues were negatively impacted by a decline in installation and commissioning services

related to delays in hardware installations due to the COVID-19 pandemic. In fiscal year 2020, Oncology Systems service revenues also included an increase of approximately $47 million in service revenues from CTSI and approximately $19 million in additional service revenues due to fiscal year 2020 being a 53-week period.

Revenues by geographical region (Dollars in millions)	Fiscal Years 2020	Percent Change	Constant Currency	2019	Percent Change	Constant Currency	2018
Americas	$ 1,449.7	— %	— %	$ 1,451.3	7 %	8 %	$ 1,351.3
EMEA	942.1	(6)%	(5)%	1,000.9	13 %	18 %	883.2
APAC	606.0	(1)%	(1)%	609.6	14 %	15 %	535.7
Total Oncology Systems Revenues	$ 2,997.8	(2)%	(2)%	$ 3,061.8	11 %	13 %	$ 2,770.2
North America	$ 1,362.9	1 %	1 %	$ 1,349.2	7 %	7 %	$ 1,261.6
International	1,634.9	(5)%	(4)%	1,712.6	14 %	17 %	1,508.6
Total Oncology Systems Revenues	$ 2,997.8	(2)%	(2)%	3,061.8	11 %	13 %	2,770.2
North America as a percentage of total Oncology Systems revenues	*45 %*			*44 %*			*46 %*
International as a percentage of total Oncology Systems revenues	*55 %*			*56 %*			*54 %*

Oncology Systems revenues decreased across all regions, in fiscal year 2020, driven by a decline in hardware product revenues due to COVID-19 related delays, including site access restrictions and delays to customer installation readiness in the second half of fiscal year 2020. Service revenues increased across all regions, but were also negatively impacted in the second half of fiscal year 2020 by a decline in installation and commissioning services related to delays in hardware installations due to the COVID-19 pandemic.

The Americas Oncology Systems revenues decreased in fiscal year 2020 over fiscal year 2019, primarily due to a decrease in revenues from hardware products, partially offset by an increase in revenues from services. EMEA Oncology Systems revenues decreased in fiscal year 2020 over fiscal year 2019, primarily due to a decrease in revenues from hardware products, partially offset by an increase in revenues from services. In fiscal year 2020, EMEA Oncology Systems revenues from services included an increase of approximately $34 million in revenues from CTSI. APAC Oncology Systems revenues decreased in fiscal year 2020 over fiscal year 2019, primarily due to a decrease in revenues from software licenses and, to a lesser extent, a decrease in revenues from hardware products, partially offset by an increase in revenues from services.

Variations of higher and lower revenues between the North America and international regions are impacted by regional factors influencing our gross orders, which include the impact of COVID-19, government spending, philanthropy/donations, timing of replacement or new site expansions, economic and political instability in some countries, uncertainty created by U.S. health care policy, such as the possibility for bundled reimbursement payments and accountable care organizations, 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

Revenues by sales classification (Dollars in millions)	Fiscal Years 2020	Percent Change	2019	Percent Change	2018
Product	$ 83.2	(32)%	$ 122.3	(12)%	$ 138.9
Service	37.9	76 %	21.6	116 %	10.0
Total Proton Solutions revenues	$ 121.1	(16)%	$ 143.9	(3)%	$ 148.9
Proton Solutions revenues as a percentage of total revenues	*4 %*		*5 %*		*5 %*

Proton Solutions revenues decreased in fiscal year 2020 over fiscal year 2019, primarily due to the timing of project completion and stage of progress, partially due to COVID-19, and fewer orders in fiscal year 2018 and the first half of fiscal year 2019. This was partially offset by an increase in service revenues resulting from the increase in proton centers transitioning to service contracts.

Other

Revenues from the Other category increased $29.9 million in fiscal year 2020 over fiscal year 2019, primarily due to fiscal year 2020 consisting of a full year of revenues compared to four months of revenues in fiscal year 2019. Revenues from the Other category are related to our Interventional Solutions business and are reported as product revenues.

Gross Margin

	Fiscal Years				
Dollars by segment	**2020**	**Percent Change**	**2019**	**Percent Change**	**2018**
(Dollars in millions)					
Oncology Systems	$ 1,340.7	(1)%	$ 1,349.4	8 %	$ 1,253.2
Proton Solutions	1.8	(90)%	17.7	(13)%	20.4
Other	34.7	n/m	3.2	n/m	—
Gross margin	$ 1,377.2	— %	$ 1,370.3	8 %	$ 1,273.6
Percentage by segment					
Oncology Systems	*44.7 %*		*44.1 %*		*45.2 %*
Proton Solutions	*1.5 %*		*12.3 %*		*13.7 %*
Other	*70.4 %*		*16.3 %*		*— %*
Total Company	*43.5 %*		*42.5 %*		*43.6 %*
Percentage by sales classification					
Total Company - Product	*33.5 %*		*34.4 %*		*34.7 %*
Total Company - Service	*53.5 %*		*52.5 %*		*54.0 %*
Oncology Systems - Product	*35.5 %*		*36.7 %*		*36.5 %*
Oncology Systems - Service	*53.4 %*		*52.6 %*		*54.6 %*

n/m = not meaningful

Oncology Systems product gross margin percentage decreased in fiscal year 2020 over fiscal year 2019, primarily due to manufacturing overhead under absorption due to the COVID-19 pandemic, as well as a geographical mix shift to emerging markets. In fiscal year 2019, 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 increased in fiscal year 2020 compared to fiscal year 2019, primarily due to lower variable service costs due to COVID-19 in the second half of fiscal year 2020 and additional service revenues due to fiscal year 2020 being a 53-week period, partially offset by an increase in service revenues from CTSI, which have a lower margin than our traditional services.

Proton Solutions gross margin percentage decreased in fiscal year 2020 compared to fiscal year 2019, primarily due to the mix of projects and increased project costs, partially offset by an increase in service revenues.

Other category gross margin percentage increased in fiscal year 2020 compared to fiscal year 2019, primarily due to the amortization of the inventory step-up after the acquisition of Endocare and Alicon in the prior fiscal year.

Research and Development

	Fiscal Years				
(Dollars in millions)	**2020**	**Percent Change**	**2019**	**Percent Change**	**2018**
Research and development	$ 280.6	13 %	$ 247.6	6 %	$ 233.9
As a percentage of total revenues	9 %		8 %		8 %

Research and development expenses increased $33.0 million in fiscal year 2020 over fiscal year 2019, primarily due to an increase in investments in software, flash technology, adaptive radiotherapy and other strategic programs.

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

(Dollars in millions)	Fiscal Years 2020	Percent Change	2019	Percent Change	2018
Selling, general and administrative	$ 671.8	8 %	$ 623.1	15 %	$ 543.5
Impairment and restructuring charges	$ 77.0	52 %	$ 50.6	126 %	$ 22.4
Acquisition-related expenses and in-process R&D	$ 24.6	(61)%	$ 62.8	73 %	$ 36.4
Selling, general and administrative as a percentage of total revenues	*21 %*		*19 %*		*19 %*
Impairment and restructuring charges as a percentage of total revenues	*2 %*		*2 %*		*1 %*
Acquisition-related expenses and in-process R&D as a percentage of total revenues	*1 %*		*2 %*		*1 %*

n/m = not meaningful

Selling, general and administrative expenses increased $48.7 million in fiscal year 2020 over fiscal year 2019, primarily due to increases in our operations to support growth, including an increase in sales and marketing headcount related to our acquisitions in the second half of fiscal year 2019, and investments in product management for treatment planning in Oncology Systems, partially offset by cost-saving measures that were put in place in the second half of fiscal year 2020 due to the COVID-19 pandemic. Selling, general and administrative expenses in fiscal year 2020 over fiscal year 2019, also include an increase of approximately $13 million in litigation and legal costs, and an increase of approximately $12 million in amortization expenses for intangible assets that were primarily related to our fiscal year 2019 acquisitions.

Impairment and restructuring charges in fiscal year 2020 were due to a $40.5 million impairment to the CPTC Term Loan, $18.7 million in restructuring charges and a $17.8 million impairment to our MPTC bonds and APTC securities. The $40.5 million impairment charge to the CPTC Term Loan was due to CPTC suffering material negative impacts to its operating plan, including declines in current and projected patient volume and delays in partnership with a significant clinical partner, during March and April 2020 as a result of the COVID-19 pandemic. The $18.7 million in restructuring charges were due to a global workforce reduction, as part of our plan to enhance operational performance through productivity initiatives in response to the impact of the COVID-19 pandemic. The $17.8 million impairment to our MPTC bonds and APTC securities was due to a decrease in trade prices of comparable bonds and we believed that it was more likely than not that we would not recover the losses before these bonds and securities are sold. See Note 15, "Proton Solutions Loans and Investment," of the Notes to the Consolidated Financial Statements for more information about our CPTC Term Loan, MPTC bonds and APTC securities. Impairment charges in fiscal year 2019 were primarily due to a $50.5 million goodwill impairment charge to the Proton Solutions reporting unit.

Acquisition-related expenses and in-process R&D in fiscal year 2020 were primarily due to transactions costs related to our acquisitions and advisory fees related to the proposed acquisition by Siemens Healthineers. Acquisition-related expenses and in-process R&D in fiscal year 2019 was 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.

Other Income, Net

(Dollars in millions)	Fiscal Years 2020	Percent Change	2019	Percent Change	2018
Interest income	$ 10.4	(32)%	$ 15.1	(12)%	$ 17.3
Interest expense	$ (14.0)	59 %	$ (8.8)	31 %	$ (6.8)
Other income, net	$ 38.7	37 %	$ 28.3	n/m	$ 4.2

n/m = not meaningful

Interest income decreased in fiscal year 2020 over fiscal year 2019, primarily due to a decrease in interest income from loans to our Proton Solutions customers, our available-for-sale securities, and income generated from our cash balances due to a decrease in interest rates. Interest expense increased in fiscal year 2020 over fiscal year 2019, primarily due to an increase in

borrowings from our Credit Facility in fiscal year 2020. Other income, net, in fiscal year 2020, primarily includes $41.9 million in net gains that was mostly due to increases in the fair value of our equity investments, partially offset by $5.5 million in foreign exchange losses. Other income, net, in fiscal year 2019 primarily includes a $22.0 million gain on the sale of an equity investment.

	Fiscal Years				
(Dollars in millions)	2020	Percent Change	2019	Percent Change	2018
Taxes on earnings	$ 88.9	(31.0)%	$ 128.6	(57.0)%	$ 301.8
Effective tax rate	*24.8 %*		*30.6 %*		*66.8 %*

Our effective tax rate decreased in fiscal year 2020 over fiscal year 2019, primarily because the prior period included a goodwill impairment charge and an in-process research and development expense, neither of which generated a tax benefit for the Company. This decrease was partially offset by an unfavorable shift in the geographic mix of earnings in fiscal year 2020.

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

	Fiscal Years				
	2020	Percent Change	2019	Percent Change	2018
Total net earnings per diluted share	$ 2.94	(7)%	$ 3.18	96 %	$ 1.62

Net earnings per diluted share decreased in fiscal year 2020 over fiscal year 2019, primarily due to higher operating expenses, partially offset by gains on equity investments and a decrease in the effective tax rate in fiscal year 2020.

Gross Orders

Total Gross Orders (by segment)	Fiscal Years				
(Dollars in millions)	2020	Percent Change	2019	Percent Change	2018
Oncology Systems	$ 3,253.6	(4)%	$ 3,397.6	9 %	$ 3,113.9
Proton Solutions	132.4	(13)%	151.8	163 %	57.7
Other	49.3	154 %	19.4	— %	—
Total Gross Orders	$ 3,435.3	(4)%	$ 3,568.8	13 %	$ 3,171.6

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 is 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, all of which was impacted by COVID-19. 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

Gross Orders by region	Fiscal Years						
(Dollars in millions)	2020	Percent Change	Constant Currency	2019	Percent Change	Constant Currency	2018
Americas	$ 1,498.7	(7)%	(7)%	$ 1,618.4	7 %	7 %	$ 1,509.5
EMEA	1,066.5	(6)%	(6)%	1,128.6	12 %	16 %	1,009.6
APAC	688.4	6 %	6 %	650.6	9 %	11 %	594.8
Total Oncology Systems Gross Orders	$ 3,253.6	(4)%	(4)%	$ 3,397.6	9 %	11 %	$ 3,113.9
North America	$ 1,407.7	(7)%	(7)%	$ 1,508.9	8 %	8 %	$ 1,396.9
International	1,845.9	(2)%	(2)%	1,888.7	10 %	13 %	1,717.0
Total Oncology Systems Gross Orders	$ 3,253.6	(4)%	(4)%	$ 3,397.6	9 %	11 %	$ 3,113.9

Oncology Systems gross orders were negatively impacted across our Americas and EMEA regions in fiscal year 2020 which was mostly driven by a decline in hardware and product orders due to the COVID-19 pandemic in the second half of fiscal year 2020.

The Americas Oncology Systems gross orders decreased in fiscal year 2020 over fiscal year 2019, primarily due to a decrease in hardware product orders, partially offset by an increase in service orders. EMEA Oncology Systems gross orders decreased in fiscal year 2020 over fiscal year 2019, primarily due to a decrease in hardware product orders and, to a lesser extent, a decrease in software product orders, partially offset by an increase in service orders from CTSI. APAC Oncology Systems gross orders increased in fiscal year 2020 over fiscal year 2019, primarily due to an increase in service orders, and to lesser extent, increases in hardware and software product orders.

The trailing 12 months' growth in gross orders for Oncology Systems at the end of October 2, 2020, and at the end of the three previous fiscal quarters were:

	Trailing 12 months ended			
	October 2, 2020	July 3, 2020	April 3, 2020	January 3, 2020
Americas	(7)%	2%	4%	6%
EMEA	(6)%	(1)%	9%	11%
APAC	6%	(1)%	(2)%	6%
North America	(7)%	2%	3%	6%
International	(2)%	(1)%	5%	9%
Total Oncology Systems Gross Orders	(4)%	1%	5%	8%

Consistent with the historical pattern, we expect that Oncology Systems gross orders will continue to experience regional fluctuations. We expect that that customer financial constraints, foreign currency headwinds, and uncertainty around the COVID-19 pandemic may lead our customers to defer capital equipment purchases for a significant portion of fiscal year 2021, which will have an adverse effect on Oncology Systems gross orders in fiscal year 2021. 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 decreased $19.4 million in fiscal year 2020 over fiscal year 2019, mostly due to a smaller order size of proton therapy systems in fiscal year 2020 compared to the prior year period. The decrease in gross orders for proton therapy systems was partially offset by an increase in service orders.

Other Category Gross Orders

The Other category gross orders increased $29.9 million in fiscal year 2020 over fiscal year 2019, primarily due to fiscal year 2020 consisting of a full year of gross orders compared to four months of gross orders in fiscal year 2019. Gross orders from the Other category are related to our Interventional Solutions business.

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 October 2, 2020, total company backlog was $3.4 billion, which was flat compared to the backlog at September 27, 2019. At October 2, 2020, our Oncology Systems backlog was flat compared to the backlog at September 27, 2019, which reflected an increase of 6% from our international regions, offset by a decrease of 6% from our North America regions. Proton Solutions backlog was approximately $233 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 $262.3 million and $136.6 million in fiscal years 2020 and 2019, 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:

(In millions)	October 2, 2020	September 27, 2019	Increase (Decrease)
Cash and cash equivalents	$ 766.1	$ 531.4	$ 234.7
Restricted cash	19.7	12.7	7.0
Total cash, cash equivalents, and restricted cash	$ 785.8	$ 544.1	$ 241.7

The increase in cash, cash equivalents and restricted cash in fiscal year 2020 compared to fiscal year 2019 was primarily due to $484.1 million in cash provided by operating activities, $76.0 million in cash provided by stock option exercises and employee stock purchases and $9.2 million in proceeds from the sale of an equity investment, partially offset by $86.2 million used for the repurchase of shares of VMS common stock, $84.3 million used for purchases of property, plant and equipment, $55.0 million in debt repayments, net of borrowings, under our credit facility agreements, $36.2 million used for acquisitions, $26.3 million used for the purchase of equity investments, and $12.8 million used for tax withholdings on vesting of equity awards.

At October 2, 2020, we had approximately $277 million, or 36%, of cash and cash equivalents in the United States, which includes approximately $148 million in money market funds, and approximately $489 million, or 64%, 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 October 2, 2020, most of our cash and cash equivalents that were held abroad were in U.S. Dollars and were 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

(In millions)	Fiscal Years 2020	2019	2018
Net cash flow provided by (used in):			
Operating activities	$ 484.1	$ 371.8	$ 454.9
Investing activities	(140.3)	(631.7)	(174.7)
Financing activities	(93.1)	279.2	(487.0)
Effects of exchange rate changes on cash and cash equivalents	(9.0)	8.4	4.7
Net increase (decrease) in cash and cash equivalents	$ 241.7	$ 27.7	$ (202.1)

Our primary cash inflows and outflows for fiscal years 2020 and 2019 were as follows:

We generated net cash from operating activities of $484.1 million in fiscal year 2020, compared to $371.8 million in fiscal year 2019. The $112.3 million increase in net cash from operating activities during fiscal year 2020 compared to fiscal year 2019 was driven by an increase of $164.3 million in the net change from operating assets and liabilities, partially offset by an decrease of $22.8 million in net earnings and an decrease of $29.2 million in non-cash items.

The increase in net cash from changes in operating assets and liabilities in fiscal year 2020 was primarily due to:

- Trade and unbilled receivables decreasing by $35.2 million primarily due to Oncology Systems, which had lower revenues in fiscal year 2020 compared to fiscal year 2019, partially offset by lower collection of receivables in fiscal year 2020;
- Inventory decreasing by $39.8 million from a decrease in raw materials due to changes in the manufacturing plans in Oncology Systems, partially offset by an increase in service parts in Proton Solutions;
- Deferred revenues increasing by $11.2 million primarily due to an increase in billings ahead of revenue recognition;

Partially offset by,

- Accounts payable decreasing by $66.9 million primarily due to the timing of payments; and
- Accrued liabilities and other long-term liabilities decreasing by $12.5 million, primarily due to decreases in accrued compensation, contingent consideration and warranty accruals, partially offset by an increase in restructuring accruals, and the adoption of ASC 842.

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 $140.3 million in fiscal year 2020 compared to $631.7 million in fiscal year 2019. During fiscal year 2020, net cash used for investing activities primarily consisted of $84.3 million for purchases of property, plant and equipment, $36.2 million, net of cash acquired, for acquisitions, and $26.3 million for the purchase of equity investments, partially offset by $9.2 million in proceeds from the sale of an equity investment. During fiscal year 2019, cash used in investing activities primarily included $576.2 million used for acquisitions, $58.0 million for purchases of property, plant and equipment, and $32.8 million for purchases of equity investments, partially offset by $29.9 million received from the sale of an equity investment, and $8.5 million received from the sale of an available-for-sale security.

- Cash flows used by financing activities was $93.1 million in fiscal year 2020 compared to cash flows provided by financing activities of $279.2 million in fiscal year 2019. During fiscal year 2020, net cash used by financing activities

primarily consisted of $86.2 million in cash used for the repurchase of VMS common stock, partially offset by $55.0 million in debt repayments, net of borrowings and $76.0 million in cash proceeds received from stock option exercises and employee stock purchases. During fiscal year 2019, cash provided by financing activities primarily included $410.0 million in net borrowings from our credit facility and $63.4 million in proceeds from the issuance of common stock to employees, partially offset by $166.7 million for the repurchase of VMS common stock, a $16.8 million debt repayment related to an acquisition, and $14.5 million for tax withholdings on vesting of equity awards.

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 3% of revenues in fiscal year 2021.

The following table summarizes our short-term borrowings:

	October 2, 2020		September 27, 2019	
(In millions, except for percentages)	Amount	Weighted-Average Interest Rate	Amount	Weighted-Average Interest Rate
Revolving Credit Facility	$ 355.0	1.18 %	$ 410.0	3.05 %
Total short-term borrowings	$ 355.0		$ 410.0	

See Note 7, "Borrowings," of the Notes to the Consolidated Financial Statements for further information about our Credit Agreement and other borrowing arrangements.

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

		Fiscal Years		
(In millions, except for percentages)	Fourth Quarter of Fiscal Year 2020	2020	2019	2018
Amount outstanding (at end of period)	$ 355.0	$ 355.0	$ 410.0	$ —
Weighted average interest rate (at end of period)	1.18 %	1.18 %	3.05 %	— %
Average amount outstanding (during period)	$ 533.1	$ 525.6	$ 109.8	$ 144.9
Weighted average interest rate (during period)	1.21 %	2.04 %	3.28 %	2.53 %
Maximum month-end amount outstanding during period	$ 545.0	$ 627.5	$ 449.0	$ 340.0

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, we believe that existing cash and cash equivalents, cash to be generated from operations, and current credit facilities will be sufficient to satisfy anticipated commitments for capital expenditures, and other cash requirements for at least the next 12 months.

Total debt as a percentage of total capital was 14.6% at October 2, 2020, compared to 18.8% at September 27, 2019. The ratio of current assets to current liabilities increased to 1.40 to 1 at October 2, 2020, from 1.27 to 1 at September 27, 2019.

Days Sales Outstanding

Our Oncology Systems trade and unbilled receivables days sales outstanding (“DSO”) increased to 110 days at October 2, 2020, from 109 at September 27, 2019. Our accounts receivable 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. Trade and unbilled receivables from our Other category are not material. As of October 2, 2020, approximately 6% of our net trade and unbilled receivables 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:

	Fiscal Years		
(In millions, except per share amounts)	**2020**	**2019**	**2018**
Number of shares	0.6	1.4	1.6
Average repurchase price per share	$ 133.02	$ 121.76	$ 112.63
Total cost	$ 86.2	$ 166.7	$ 181.9

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 October 2, 2020, approximately 1.6 million shares of VMS common stock remained available for repurchase under the November 2016 authorization. At the beginning of our third quarter of fiscal year 2020, due to the COVID-19 pandemic, as a precautionary measure we paused our share repurchase program.

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 October 2, 2020 and the effect such obligations are expected to have on our liquidity and cash flows in future periods:

	Payments Due By Period				
(In millions)	**Fiscal Year 2021**	**Fiscal Years 2022-2023**	**Fiscal Years 2024-2025**	**Beyond**	**Total**
Operating leases [(1)]	$ 31.7	$ 47.8	$ 28.5	$ 56.2	$ 164.2
Finance leases [(1)]	3.8	6.2	2.0	1.1	13.1
Purchase obligations [(2)]	88.9	75.1	31.8	11.6	207.4
Contingent consideration [(3)]	17.4	25.0	0.7	—	43.1
Defined benefit pension plans [(4)]	13.4	—	—	—	13.4
Total [(5)]	$ 155.2	$ 154.1	$ 63.0	$ 68.9	$ 441.2

(1) Operating leases and finance leases include future minimum lease payments under all our non-cancellable operating leases as of October 2, 2020.

(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 October 2, 2020, the remaining defined benefit pension plans were underfunded by $14.0 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 October 2, 2020, our total liability for uncertain tax positions was $48.5 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 October 2, 2020, the

noncurrent portion of the one-time transition tax on unremitted foreign earnings was $122.3 million. See Note 11, "Taxes on Earnings," of the Notes to the Consolidated Financial Statements for more information.

- As of October 2, 2020, we had accrued $4.0 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.

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.

Proposed Acquisition by Siemens Healthineers

In connection with the proposed acquisition by Siemens Healthineers in August 2020, we expect to incur approximately $110 million in advisory fees that are contingent upon closing the pending acquisition by Siemens Healthineers. The Merger is expected to close in the first half of calendar year 2021, subject to receipt of specified regulatory approvals and other customary closing conditions. On October 15, 2020, VMS' stockholders approved and adopted the Merger Agreement. Under the terms of the Merger Agreement, if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances, a termination fee of $450.0 million in cash may be payable by VMS to Siemens Healthineers. The Merger Agreement also provides that a reverse termination fee of $450.0 million or $925.0 million in cash may be payable by Siemens Healthineers to VMS if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances.

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. We intend to defend the suit vigorously. The suit is in the discovery stage, the parties have completed mediation, and a trial date is currently schedule for April 2022. At October 2, 2020, we have accrued $8.5 million representing our best estimate of the loss that may result from this action. The ultimate outcome of this matter is uncertain and may result in a materially different outcome.

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. See 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 October 2, 2020, 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 $184 million as of October 2, 2020.

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.

In fiscal year 2020, the MPTC Series B-1 and B-2 bonds (collectively "MPTC" bonds) and the APTC securities were determined to be other-than-temporarily impaired due to a decrease in trade prices of comparable bonds. We believe that it is more likely than not that we will not recover the losses before these bonds are sold. In fiscal year 2020, we recorded a $16.9 million impairment on our MPTC bonds and a $0.9 million impairment on our APTC securities.

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. Primarily as a result of the COVID-19 pandemic, during March and April 2020, CPTC suffered material negative impacts to its operating plan, including declines in current and projected patient volume and delays in partnership with a significant clinical partner. Therefore, we concluded it was no longer probable that we will collect the amounts owed under the Term Loan and Revolving Loan (collectively "CPTC Loans") when due and recorded a $40.5 million impairment charge in the second quarter of fiscal year 2020.

As of October 2, 2020, we had $11.8 million in carrying value of loans outstanding to CPTC, and $106.8 million in carrying value of notes receivable, including accrued interest to Proton Solutions customers, available-for-sale securities, and short-term senior secured debt. See Note 15, "Proton Solutions Loans and Investment," of the Notes to the 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 October 2, 2020, in our Balance Sheet Hedge program were $459.7 million and $117.5 million, respectively. The notional values of our sold foreign currency forward contracts outstanding as of October 2, 2020, in our Cash Flow Hedge program were $197.6 million. 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 October 2, 2020. The principal amount of cash and cash equivalents in continuing operations at October 2, 2020 totaled $766.1 million with a weighted average interest rate of 0.07%.

Our available-for-sale securities are carried at fair value. At October 2, 2020, our available-for-sale securities, which include accrued interest are as follows:

($ in millions)	Fair Value	Interest Rate
MPTC Series B-1 Bonds	$ 18.9	7.5 %
MPTC Series B-2 Bonds	$ 20.6	8.5 %
APTC securities	$ 5.4	8.5 %

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 October 2, 2020, borrowings under the Revolving Credit Facility totaled $355.0 million with a weighted average interest rate of 1.18%. 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 $3.6 million. See Note 7, "Borrowings," of the Notes to the Consolidated Financial Statements for further information about our Credit Agreement and other borrowing arrangements.

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.

Item 8. Financial Statements and Supplementary Data

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EARNINGS

(In millions, except per share amounts)	Fiscal Years 2020	2019	2018
Revenues:			
Product	$ 1,587.8	$ 1,784.1	$ 1,569.9
Service	1,580.4	1,441.0	1,349.2
Total revenues	3,168.2	3,225.1	2,919.1
Cost of revenues:			
Product	1,055.4	1,169.9	1,024.4
Service	735.6	684.9	621.1
Total cost of revenues	1,791.0	1,854.8	1,645.5
Gross margin	1,377.2	1,370.3	1,273.6
Operating expenses:			
Research and development	280.6	247.6	233.9
Selling, general and administrative	671.8	623.1	543.5
Impairment and restructuring charges	77.0	50.6	22.4
Acquisition-related expenses and in-process research and development	24.6	62.8	36.4
Total operating expenses	1,054.0	984.1	836.2
Operating earnings	323.2	386.2	437.4
Interest income	10.4	15.1	17.3
Interest expense	(14.0)	(8.8)	(6.8)
Other income, net	38.7	28.3	4.2
Earnings before taxes	358.3	420.8	452.1
Taxes on earnings	88.9	128.6	301.8
Net earnings	269.4	292.2	150.3
Less: Net earnings attributable to noncontrolling interests	0.2	0.3	0.4
Net earnings attributable to Varian	$ 269.2	$ 291.9	$ 149.9
Net earnings per share - basic	$ 2.96	$ 3.21	$ 1.64
Net earnings per share - diluted	$ 2.94	$ 3.18	$ 1.62
Shares used in the calculation of net earnings per share:			
Weighted average shares outstanding - basic	90.9	91.0	91.5
Weighted average shares outstanding - diluted	91.5	91.9	92.5

See accompanying notes to the consolidated financial statements.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE EARNINGS

(In millions)	Fiscal Years 2020	2019	2018
Net earnings	$ 269.4	$ 292.2	$ 150.3
Other comprehensive earnings (loss), net of tax:			
Defined benefit pension and post-retirement benefit plans:			
Net gain (loss) arising during the year, net of tax (expense) benefit of $(0.2), $4.5, and $(1.1)	0.3	(27.8)	4.7
Prior service credit (cost) arising during the year, net of tax (expense) benefit of $(2.1), $0.1, and $(0.3)	11.8	(0.7)	1.9
Amortization of prior service cost included in net periodic benefit cost, net of tax benefit of $0.1, $0.1, and $0.2	(0.9)	(0.7)	(1.0)
Amortization, settlement and curtailment of net actuarial loss included in net periodic benefit cost, net of tax (expense) of $(0.6), $(0.4), and $(0.6)	3.6	2.7	3.3
	14.8	(26.5)	8.9
Derivative instruments:			
Change in unrealized gain (loss), net of tax benefit (expense) of $0.1, $(0.7), and $0.3	(0.2)	2.3	(0.6)
Reclassification adjustments, net of tax benefit (expense) of $0.6, $0.0, and $(0.3)	(2.0)	(0.2)	0.6
	(2.2)	2.1	—
Currency translation adjustment	3.8	(12.4)	(5.4)
Other comprehensive earnings (loss)	16.4	(36.8)	3.5
Comprehensive earnings	285.8	255.4	153.8
Less: Comprehensive earnings attributable to noncontrolling interests	0.2	0.3	0.4
Comprehensive earnings attributable to Varian	$ 285.6	$ 255.1	$ 153.4

See accompanying notes to the consolidated financial statements.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(In millions, except par values)	October 2, 2020	September 27, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 766.1	$ 531.4
Trade and unbilled receivables, net of allowance for doubtful accounts of $52.3 at October 2, 2020, and $46.5 at September 27, 2019	1,066.1	1,106.3
Inventories	516.3	551.5
Prepaid expenses and other current assets	254.8	206.2
Total current assets	2,603.3	2,395.4
Property, plant and equipment, net	344.9	311.5
Operating leases right-of-use asset	121.0	—
Goodwill	623.9	612.2
Intangible assets, net	271.3	300.7
Deferred tax assets	81.5	84.7
Other assets	416.3	397.2
Total assets	$ 4,462.2	$ 4,101.7
Liabilities and Equity		
Current liabilities:		
Accounts payable	$ 194.9	$ 248.5
Accrued liabilities	522.4	459.5
Deferred revenues	782.2	766.0
Short-term borrowings	355.0	410.0
Total current liabilities	1,854.5	1,884.0
Long-term lease liabilities	101.1	—
Other long-term liabilities	421.8	440.1
Total liabilities	2,377.4	2,324.1
Commitments and contingencies (Note 9)		
Equity:		
Varian stockholders' equity:		
Preferred stock of $1.0 par value: 1.0 shares authorized; none issued and outstanding	—	—
Common stock of $1 par value: 189.0 shares authorized; 91.2 and 90.8 shares issued and outstanding at October 2, 2020, and at September 27, 2019, respectively	91.2	90.8
Capital in excess of par value	937.0	845.6
Retained earnings	1,133.0	934.0
Accumulated other comprehensive loss	(85.7)	(102.1)
Total Varian stockholders' equity	2,075.5	1,768.3
Noncontrolling interests	9.3	9.3
Total equity	2,084.8	1,777.6
Total liabilities and equity	$ 4,462.2	$ 4,101.7

See accompanying notes to the consolidated financial statements.

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

(In millions)	Fiscal Years 2020	2019	2018
Cash flows from operating activities:			
Net earnings	$ 269.4	$ 292.2	$ 150.3
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Share-based compensation expense	43.9	47.9	45.9
Depreciation	60.6	53.8	52.1
Amortization of intangible assets and inventory step-up	38.3	39.2	20.6
Deferred taxes	26.9	18.9	48.0
Provision to allowance for doubtful accounts	14.5	6.6	4.0
Gain on equity investments, net	(41.5)	(23.8)	—
Impairment charges	58.3	50.6	22.4
Write-off of in-process research and development related to acquisition-related activities	—	20.8	—
Change in fair value of contingent consideration	(0.3)	18.6	—
Other, net	2.4	(0.3)	9.7
Changes in assets and liabilities, net of effects of acquisitions:			
Trade and unbilled receivables	35.2	(111.7)	(76.1)
Inventories	39.8	(106.9)	(16.4)
Prepaid expenses and other assets	4.8	(40.4)	(3.9)
Accounts payable	(66.9)	49.7	21.9
Accrued liabilities and other long-term liabilities	(12.5)	(14.5)	175.6
Deferred revenues	11.2	71.1	0.8
Net cash provided by operating activities	484.1	371.8	454.9
Cash flows from investing activities:			
Purchases of property, plant and equipment	(84.3)	(58.0)	(47.7)
Acquisitions, net of cash acquired	(36.2)	(576.2)	(109.0)
Purchase of equity and notes receivable in privately-held companies	(26.3)	(32.8)	(10.1)
Sale of equity investments	9.2	29.9	—
Sale of available-for-sale securities	—	8.5	15.9
Investment in available-for-sale securities	—	—	(17.8)
Other, net	(2.7)	(3.1)	(6.0)
Net cash used in investing activities	(140.3)	(631.7)	(174.7)
Cash flows from financing activities:			
Repurchases of common stock	(86.2)	(166.7)	(181.9)
Proceeds from issuance of common stock to employees	76.0	63.4	60.7
Tax withholdings on vesting of equity awards	(12.8)	(14.5)	(11.6)
Borrowings under credit facility agreement	110.5	636.5	503.3
Repayments under credit facility agreement	(110.5)	(636.5)	(503.3)
Net borrowings (repayments) under the credit facility agreements with maturities less than 90 days	(55.0)	410.0	(350.0)
Repayment of acquired debt	—	(16.8)	—
Payment of contingent consideration	(14.0)	(1.0)	(0.5)
Other	(1.1)	4.8	(3.7)
Net cash provided by (used in) financing activities	(93.1)	279.2	(487.0)
Effects of exchange rate changes on cash, cash equivalents and restricted cash	(9.0)	8.4	4.7
Net increase (decrease) in cash, cash equivalents and restricted cash	241.7	27.7	(202.1)
Cash, cash equivalents and restricted cash at beginning of period	544.1	516.4	718.5
Cash, cash equivalents and restricted cash at end of period	$ 785.8	$ 544.1	$ 516.4

See accompanying notes to the consolidated financial statements.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY

(In millions)	Common Stock Shares	Common Stock Amount	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Loss	Total Varian Stockholders' Equity	Noncontrolling Interests	Total Equity
Balances at September 29, 2017	91.7	$ 91.7	$ 716.1	$ 778.6	$ (68.8)	$ 1,517.6	$ 4.3	$ 1,521.9
Net earnings	—	—	—	149.9	—	149.9	0.4	150.3
Other comprehensive earnings	—	—	—	—	3.5	3.5	—	3.5
Issuance of common stock	1.2	1.2	59.5	—	—	60.7	—	60.7
Tax withholdings on vesting of equity awards	(0.1)	(0.1)	(11.5)	—	—	(11.6)	—	(11.6)
Share-based compensation expense	—	—	45.9	—	—	45.9	—	45.9
Repurchases of common stock	(1.6)	(1.6)	(32.5)	(147.8)	—	(181.9)	—	(181.9)
Other	—	—	0.6	(0.3)	—	0.3	(0.4)	(0.1)
Balances at September 28, 2018	91.2	91.2	778.1	780.4	(65.3)	1,584.4	4.3	1,588.7
Net earnings	—	—	—	291.9	—	291.9	0.3	292.2
Other comprehensive loss	—	—	—	—	(36.8)	(36.8)	—	(36.8)
Issuance of common stock	1.1	1.1	62.3	—	—	63.4	—	63.4
Tax withholdings on vesting of equity awards	(0.1)	(0.1)	(14.4)	—	—	(14.5)	—	(14.5)
Share-based compensation expense	—	—	47.8	—	—	47.8	—	47.8
Repurchases of common stock	(1.4)	(1.4)	(28.2)	(137.1)	—	(166.7)	—	(166.7)
Acquisition of Cancer Treatment Services International	—	—	—	—	—	—	5.0	5.0
Other	—	—	—	(1.2)	—	(1.2)	(0.3)	(1.5)
Balances at September 27, 2019	90.8	90.8	845.6	934.0	(102.1)	1,768.3	9.3	1,777.6
Net earnings	—	—	—	269.2	—	269.2	0.2	269.4
Other comprehensive earnings	—	—	—	—	16.4	16.4	—	16.4
Issuance of common stock	1.1	1.1	74.9	—	—	76.0	—	76.0
Tax withholdings on vesting of equity awards	(0.1)	(0.1)	(12.7)	—	—	(12.8)	—	(12.8)
Share-based compensation expense	—	—	43.0	—	—	43.0	—	43.0
Repurchases of common stock	(0.6)	(0.6)	(13.8)	(71.8)	—	(86.2)	—	(86.2)
Other	—	—	—	1.6	—	1.6	(0.2)	1.4
Balances at October 2, 2020	91.2	$ 91.2	$ 937.0	$ 1,133.0	$ (85.7)	$ 2,075.5	$ 9.3	$ 2,084.8

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, artificial intelligence based Adaptive 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 13 multi-disciplinary cancer centers and one specialty hospital in India and one multi-disciplinary cancer center in Sri Lanka.

Proposed Acquisition by Siemens Healthineers

On August 2, 2020, VMS, Siemens Healthineers Merger Sub, and, with respect to certain provisions, the Guarantor, entered into the Merger Agreement, pursuant to which, on the terms and subject to the conditions set forth therein, Merger Sub will be merged with and into VMS, with VMS surviving the Merger as a wholly owned subsidiary of Siemens Healthineers. Under the terms of the Merger Agreement, which has been unanimously approved by VMS' Board of Directors, Siemens Healthineers will acquire all outstanding shares of VMS for $177.50 per share in cash, in a transaction valued at approximately $16.4 billion on a fully diluted basis. The Merger is expected to close in the first half of calendar year 2021, subject to receipt of specified regulatory approvals and other customary closing conditions. On October 15, 2020, VMS' stockholders approved and adopted the Merger Agreement. Under the terms of the Merger Agreement, if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances, a termination fee of $450.0 million in cash may be payable by VMS to Siemens Healthineers. The Merger Agreement also provides that a reverse termination fee of $450.0 million or $925.0 million in cash may be payable by Siemens Healthineers to VMS if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances.

Basis of Presentation

The consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States ("GAAP"). The Company is subject to risks and uncertainties as a result of the COVID-19 pandemic and the extent and duration of the future impact on the Company's business is highly uncertain and difficult to predict. The COVID-19 pandemic has adversely impacted, and is likely to further adversely impact, nearly all aspects of the Company’s business and markets, including its workforce and operations and the operations of its customers, suppliers, distributors and business partners. The full extent to which the pandemic will directly or indirectly impact the Company's business, results of operations and financial condition, including but not limited to revenues, gross orders, expenses, manufacturing, research and development costs, reserves and allowances, fair value measurements, asset impairment charges, contingent consideration obligations and the effectiveness of the Company's hedging instruments, will depend on future developments that are highly uncertain and difficult to predict.

The Company has approximately $1.6 billion in accessible liquidity, including approximately $766 million in cash and cash equivalents and approximately $845 million available under its $1.2 billion revolving credit facility. To date, the Company has not experienced a significant decline in customer credit quality or a significant increase in requests for changes or extension of payment terms as a result of COVID-19, although management will continue to closely monitor these metrics going forward. Furthermore, the Company's ability to estimate and make certain judgments may be materially impacted by the uncertainty caused by the pandemic.

Reclassifications

Certain 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 2020 was the 53-week period that ended on October 2, 2020. 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.

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 of Varex and the 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 years 2020 and 2019, the Company consolidated its non-controlling interest in a joint venture included from the acquisition of CTSI. In fiscal year 2018, 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.

Due to the COVID-19 pandemic, the Company is subject to a greater degree of uncertainty than normal in making the judgments and estimates needed to apply its significant accounting policies, such as the impairment of goodwill and intangibles, and the impairment of equity investments, available-for-sale securities and loans receivables. As the COVID-19 pandemic and responsive actions continue to develop, management may make changes to these estimates and judgments, which could result in material impacts to the Company's financial statements in future periods.

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 foreign subsidiaries where 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 — 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 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.

Equity Investments in Privately-Held and Publicly-Traded 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.

The Company also has equity investments in publicly-traded companies. The publicly-traded companies are former privately-held companies that we owned that had an initial public offering, and the Company cannot sell because its shares are under a lock-up period (which is typically 180 days). The Company plans to sell these shares as soon as practicable after the expiration of the lock-up period. The Company adjusts the fair value of these companies using the closing stock price of the publicly-traded company at the end of each fiscal reporting period.

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 non-performance 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 any 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 23 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 2020, 2019 and 2018.

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 2020, 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.

Due to certain indicators identified related to our Interventional Solutions reporting unit in the second quarter of fiscal year 2020, including a significant decrease in near term revenue projections due to COVID-19, Management identified a triggering event and performed an interim impairment test on the $164.3 million of goodwill in its Interventional Solutions reporting unit, within the Other reportable operating segment. The fair value of the Interventional Solutions' reporting unit was in excess of its carrying value by approximately $20 million, or 7%. Management believes the methodology and significant assumptions, revenue growth rates, operating margins, and weighted-average cost of capital used to calculate the fair value to be reasonable as of April 3, 2020. Management also performed the annual goodwill impairment on its Interventional Solutions reporting unit, within the Other reportable operating segment, during the fourth quarter of fiscal year 2020. Management determined that the fair value of the Interventional Solutions' reporting unit was in excess of its carrying value by approximately $72 million, or 27%. Management believes the methodology and assumptions used to calculate the fair value to be reasonable as of July 3, 2020. However, the Interventional Solutions reporting unit could be at risk for a future goodwill impairment if there are adjustments to certain assumptions used in the fair value calculation, including revenue growth rates, operating margins, WACC and/or working capital requirements. Given the uncertain impact of COVID-19 and/or other market factors on our business, our cash flow projections for this business could decrease in the future, which could lead to an impairment of goodwill. In 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.

Leases

The Company determines if an arrangement is or contains a lease at the inception of an arrangement. The Company's operating lease right-of-use ("ROU") assets represents the right to use an underlying asset over the lease term and lease liabilities represent its obligation to make lease payments arising from the lease. ROU assets may also include initial direct costs incurred and prepaid lease payments, less lease incentives. Lease liabilities and their corresponding ROU assets are recognized based on the present value of lease payments over the lease term, discounted using the Company's incremental borrowing rate ("IBR"). The Company recognizes operating leases with lease terms of more than 12 months in operating lease right-of-use assets, accrued liabilities, and long-term lease liabilities on its Consolidated Balance Sheets.

The Company's finance leases primarily represent certain sale and leaseback-sublease arrangements. The Company has entered into sale-leaseback arrangements with a third-party finance company for certain equipment and simultaneously subleased the equipment to certain qualified customers. The Company's leaseback arrangements have been accounted for as finance leases as they meet one or more of the finance lease classification criteria. The Company recognizes finance leases with lease terms of more than 12 months in property, plant, and equipment, net, accrued liabilities, and other long-term liabilities on its Consolidated Balance Sheets.

For purposes of calculating lease liabilities and the corresponding ROU assets, the Company's lease term may include options to extend or terminate the lease when it is reasonably certain that it will exercise that option.

The Company generally does not have adequate information to determine the implicit rate in a lease, therefore the Company uses an estimated IBR. The Company does not maintain a public credit rating and its debt arrangements are unsecured, thus requiring significant judgment to calculate the IBR. The Company uses different data sets to estimate the IBR, including: (i) an estimated indicative credit rating of the Company; (ii) yields on comparable credit rating composite curves; (iii) foreign exchange rates; and (iv) an estimated adjustment for collateral. The Company also applies adjustments to account for

considerations related to (i) tenor and (ii) country credit rating that may not be fully incorporated by the aforementioned data sets.

Certain of the Company's lease arrangements include variable lease payments. Variable lease payments, not dependent on an index or discount rate, are expensed as incurred and are not included within the ROU asset and lease liability calculation. Variable lease payments generally include common area maintenance, utilities, maintenance charges, property taxes, insurance, and contingent rent payments. Certain of the Company's arrangements contain clauses that provide for contingent rent payments based on a percentage of revenue share and/or earnings before interest, taxes, depreciation and amortization.

The Company combines lease and non-lease components as a single lease component for both its operating and finance leases. In addition, the Company does not record operating and finance lease assets and liabilities for short-term leases, which have an initial term of 12 months or less.

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.

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. The Company also recognizes revenues from subscriptions for our software-as-a-service solutions over the term of the subscription.

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 2020, the Company adopted the Financial Accounting Standards Board ("FASB") standard on accounting for leases, "Leases." The new standard is intended to provide enhanced transparency and comparability by requiring lessees to record ROU assets and corresponding lease liabilities on the balance sheet. The Company adopted this standard under the optional transition method, which applies the standard on the effective date, rather than the earliest comparative period presented in the financial statements. The Company elected: (1) the "package of practical expedients," which does not require the Company to reassess its prior conclusions about lease identification, lease classification, and initial direct costs under the new standard; (2) not to separate non-lease components from lease components; and (3) not to recognize ROU assets and lease liabilities for short-term leases. The Company has implemented internal controls and key system functionalities to enable the preparation of financial information. The primary impact for the Company was the balance sheet recognition of ROU assets and lease liabilities for operating leases as a lessee. See Note 9, "Commitments and Contingencies," for more information on the impact of this adoption on the Company's consolidated financial statements.

In the first quarter of fiscal year 2020, the Company adopted FASB guidance that added 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 adopted the amendment prospectively. 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 the first quarter of fiscal year 2020, the Company adopted FASB guidance that allows companies to reclassify disproportionate tax effects in accumulated other comprehensive income caused by the Tax Cuts and Jobs Act to retained earnings. The impact of adopting this amendment on the Company's consolidated financial statements was not material.

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 impact of adopting this amendment on the Company's consolidated financial statements was not material.

Recent Accounting Standards or Updates Not Yet Effective

In December 2019, the FASB issued guidance which simplifies the accounting for income taxes by removing certain exceptions to the current guidance and improving the consistent application of and simplification of other areas of the guidance. 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 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 will become effective for the Company in the first quarter of fiscal year 2021. The Company will adopt this guidance prospectively to all implementation costs incurred after the date of adoption. The Company is still evaluating the impact of the adoption of this guidance on 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 will become effective for the Company beginning in the first quarter of fiscal year 2021. The Company expects the adoption of this guidance will not have an impact to its consolidated financial statements.

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 become effective for the Company beginning in its first quarter of fiscal year 2021. The Company is still evaluating the impact of the adoption of this guidance on its consolidated financial statements.

2. BUSINESS COMBINATIONS

Fiscal Year 2020

During fiscal year 2020, the Company acquired a distributor of radiotherapy equipment, for a purchase price of $32.7 million, which consisted of $25.5 million in cash consideration, $5.8 million of contingent consideration and $1.4 million in other consideration. The purchase price primarily consisted of $13.1 million in goodwill and $12.1 million in finite-lived intangible assets. The Company has included this acquisition in its Oncology Systems business. The goodwill for this acquisition is not deductible for income tax. The purchase accounting from this transaction is not yet finalized.

The Company also completed five other acquisitions which had an aggregate purchase price of $11.5 million. The Company has included these acquisitions in its Oncology Systems business. The purchase accounting from these transactions is not yet finalized.

Measurement Period Adjustments

In fiscal year 2020, the Company recorded measurement period adjustments for its CTSI, Endocare and Alicon acquisitions. The CTSI adjustment primarily included a $5.5 million decrease to goodwill and a corresponding decrease to deferred tax liabilities. The Endocare and Alicon adjustments included a $3.8 million increase to goodwill and a corresponding increase to deferred tax liabilities.

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 has been finalized. 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. In fiscal year 2020, the Company released the $8.2 million of contingent consideration to earnings due to CTSI having lower projected financial performance during the earnout period. The Company also assumed an additional $3.3 million of contingent liability, which is included in the assumed liabilities. The Company paid $1.5 million related to this contingent consideration in fiscal year 2020. 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 has been finalized. The goodwill for this acquisition is not deductible for income tax.

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. 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 $8.8 million increase in the fair value of contingent consideration in fiscal year 2020, in addition to the $18.6 million increase in the fair value of the contingent consideration recorded in fiscal year 2019. The Company paid $39.5 million related to this contingent consideration in fiscal year 2020. The purchase accounting from this transaction has been finalized. The goodwill for this acquisition is not deductible for income tax. These acquisitions are included in the Company's Interventional Solutions business, which is included in the Other category.

The results of operations and the provisional fair values of the assets acquired and liabilities assumed were 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:

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

(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:

(Dollars in millions)	CTSI		Endocare and Alicon		Embolics Microspheres Business	
Type	Fair Value	Weighted Average Estimated Useful Life (In Years)	Fair Value	Weighted Average Estimated Useful Life (In Years)	Fair Value	Weighted Average Estimated Useful Life (In Years)
Technologies	$ 16.0	7.0	$ 58.8	8.1	$ 10.6	12.5
Customer contracts, supplier relationships, and partner relationships [1]	50.9	20.9	4.9	8.0	20.9	15.5
Trade names	44.9	17.7	0.4	1.0	6.3	17.0
Total intangible assets with finite lives	111.8		64.1		37.8	
In-process R&D with indefinite lives	—		12.3		—	
Total intangible assets	$ 111.8		$ 76.4		$ 37.8	

(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 $9.0 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$33.6 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.

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 the current year. 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 2020, 2019 and 2018, the Company incurred acquisition transaction costs of $26.1 million, $23.4 million and $6.7 million, respectively. In fiscal year 2020, acquisition transaction costs included $10.9 million of costs incurred by the Company related to the proposed acquisition by Siemens Healthineers.

3. OTHER FINANCIAL INFORMATION

Contracts with Customers

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

(In millions)	October 2, 2020	September 27, 2019
Unbilled receivables - current	$ 306.2	$ 346.7
Unbilled receivables - long-term [1]	68.6	35.1
Deferred revenues - current	(782.2)	(766.0)
Deferred revenues - long-term [2]	(68.5)	(73.1)
Total net unbilled receivables (deferred revenues)	$ (475.9)	$ (457.3)

[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 2020, unbilled receivables decreased by $7.0 million, primarily due to the timing of triggering billing milestones in Proton Solutions and timing of payments in Oncology Systems, and deferred revenues increased by $11.6 million, primarily due to the contractual timing of billings occurring before the revenues were recognized.

During fiscal year 2020, the Company recognized revenues of $663.1 million, which was included in the deferred revenues balance as of September 27, 2019. During fiscal year 2019, the Company recognized revenues of $619.2 million, which was included in the deferred revenues balance as of September 28, 2018.

Unfulfilled Performance Obligations

The following table represents the Company's unfulfilled performance obligations as of October 2, 2020, and the estimated revenue expected to be recognized in the future related to these unfulfilled performance obligations:

	Fiscal years of revenue recognition			
(In millions)	2021	2022	2023	Thereafter
Unfulfilled performance obligations	$ 2,340.8	$ 1,664.1	$ 713.2	$ 2,244.2

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:

(In millions)	October 2, 2020	September 27, 2019
Cash and cash equivalents	$ 766.1	$ 531.4
Restricted cash - current [1]	10.2	4.2
Restricted cash - long-term [2]	9.5	8.5
Total cash, cash equivalents, and restricted cash	$ 785.8	$ 544.1

[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:

(In millions)	October 2, 2020	September 27, 2019
Raw materials and parts	$ 322.9	$ 376.5
Work-in-process	82.0	71.8
Finished goods	111.4	103.2
Total inventories	$ 516.3	$ 551.5

Prepaid Expenses and Other Current Assets

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

(In millions)	October 2, 2020	September 27, 2019
Prepaid income taxes	$ 50.0	$ 51.1
Prepaid sales taxes	16.9	21.0
Prepaid compensation	16.1	13.7
Advance payments to suppliers	13.8	15.3
Equity investments	34.4	—
California Proton Therapy Center ("CPTC") Loans	11.8	5.3
Other current receivables	49.2	41.9
Other prepaid expenses	62.6	57.9
Total prepaid expenses and other current assets	$ 254.8	$ 206.2

(1) Represents the fair value of equity investments that went public in fiscal year 2020. See Note 4, "Fair Value,", for more information.

Property, Plant and Equipment, net

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

(In millions)	October 2, 2020	September 27, 2019
Land and land improvements	$ 44.4	$ 44.2
Buildings and leasehold improvements	264.1	242.5
Machinery and equipment	490.4	456.2
Construction in progress	49.9	42.9
Finance leases	11.5	—
	860.3	785.8
Accumulated depreciation and amortization	(515.4)	(474.3)
Total property, plant and equipment, net	$ 344.9	$ 311.5

Other Assets

The following table summarizes the Company's other assets:

(In millions)	October 2, 2020	September 27, 2019
Long-term receivables	$ 110.3	$ 74.3
Deferred Compensation Plan ("DCP") assets	82.3	79.0
Equity investments	88.4	64.2
Available-for-sale securities	44.6	58.2
CPTC Term loan	—	44.0
RPTC senior secured debt	25.2	23.5
Other	65.5	54.0
Total other assets	$ 416.3	$ 397.2

Accrued Liabilities

The following table summarizes the Company's accrued liabilities:

(In millions)	October 2, 2020	September 27, 2019
Accrued compensation and benefits	$ 188.4	$ 161.9
DCP liabilities	76.0	75.0
Product warranty	35.4	40.0
Income taxes payable	28.8	39.8
Contingent consideration	17.4	33.0
Lease liabilities	30.6	—
Other	145.8	109.8
Total accrued liabilities	$ 522.4	$ 459.5

Other Long-Term Liabilities

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

(In millions)	October 2, 2020	September 27, 2019
Income taxes payable	$ 170.8	$ 180.3
Deferred revenues	68.5	73.1
Deferred income taxes	101.2	75.3
Contingent consideration	25.7	42.3
Defined benefit pension plans	19.8	31.1
Other	35.8	38.0
Total other long-term liabilities	$ 421.8	$ 440.1

Other Income, Net

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

	Fiscal Years		
(In millions)	2020	2019	2018
Gain on equity investments, net	$ 41.9	$ 23.8	$ —
Foreign currency exchange gain (loss)	(5.5)	4.2	2.6
Other	2.3	0.3	1.6
Total other income, net	$ 38.7	$ 28.3	$ 4.2

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.

Type of Instruments	Fair Value Measurements at October 2, 2020			
	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Balance
(In millions)				
Assets:				
Cash equivalents:				
Money market funds	$ 148.0	$ —	$ —	$ 148.0
Equity investments	—	54.6	—	54.6
Available-for- sale securities:				
MPTC Series B-1 Bonds	—	18.9	—	18.9
MPTC Series B-2 Bonds	—	20.6	—	20.6
APTC securities	—	5.4	—	5.4
Total assets measured at fair value	$ 148.0	$ 99.5	$ —	$ 247.5
Liabilities:				
Derivative liabilities	$ —	$ (0.1)	$ —	$ (0.1)
Contingent consideration	—	—	(43.1)	(43.1)
Total liabilities measured at fair value	$ —	$ (0.1)	$ (43.1)	$ (43.2)

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 equity investment is in a publicly-traded company that is valued at quoted market prices and is subject to a 180-day lock up period. As such, it is classified as Level 2.

The Company's Level 2 available-for-sale securities consist of bonds for the Maryland Proton Therapy Center ("MPTC") and the Alabama Proton Therapy Center (“APTC”). 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. In fiscal year 2020, the MPTC Series B-1 and B-2 bonds (collectively "MPTC" bonds) and the APTC securities were determined to be other-than-temporarily impaired due to a decrease in trade prices of comparable bonds. The Company believed that it is more likely than not that it would not recover the losses before these bonds are sold and as such, the Company recorded impairment charges of $16.9 million on its MPTC bonds and $0.9 million on its APTC securities. The Company's available-for-sale securities are included in other assets on the Company's Consolidated Balance Sheets, except for amounts related to short-term interest receivable. As of October 2, 2020, and September 27, 2019, 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 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, revenue 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 key assumptions 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):

(In millions)	Contingent Consideration
Balance at September 28, 2018	$ (24.4)
Additions	(45.4)
Measurement period adjustment to a business combination in prior year	11.6
Foreign exchange	0.5
Settlements	1.0
Change in fair value recognized in earnings	(18.6)
Balance at September 27, 2019	(75.3)
Additions	(8.9)
Settlements	41.4
Foreign exchange	(0.6)
Change in fair value recognized in earnings	0.3
Balance at October 2, 2020	$ (43.1)

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 October 2, 2020, the fair value of the Term Loan (as defined below) with CPTC approximated its carrying value of $11.8 million. In fiscal year 2020, the Company recorded a $40.5 million impairment charge on its CPTC Loans. 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 $68.2 million and $64.2 million at October 2, 2020 and September 27, 2019, respectively. 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. In fiscal year 2020, the fair value of the Company's equity investments in its privately-held companies increased by $14.5 million, which is included in other income, net, in the Consolidated Statements of Earnings.

Two of the Company's equity investments completed initial public offerings ("IPO's") in fiscal year 2020. The Company's equity investments in these public companies are subject to a 180-day lock-up period from the effective date of their respective IPO's. At October 2, 2020, the Company's carrying value of its equity investments in these publicly-held companies was $54.6 million. These equity investments were transferred from Level 3 into Level 2 because the fair value can be determined using observable market data, but due to the 180-day lock-up period the market is considered inactive. In fiscal year 2020, the fair value of these investments increased by $25.5 million, which is included in other income, net, in the Consolidated Statements of Earnings.

The fair value of the outstanding long-term notes receivable, including accrued interest, approximated their carrying value of $36.7 million and $33.6 million at October 2, 2020 and September 27, 2019, 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 October 2, 2020 and September 27, 2019:

(In millions)	October 2, 2020	September 27, 2019
Trade and unbilled receivables, gross	$ 1,198.1	$ 1,193.5
Allowance for doubtful accounts	(58.3)	(46.5)
Trade and unbilled receivables, net	$ 1,139.8	$ 1,147.0
Short-term	$ 1,066.1	$ 1,106.3
Long-term [1]	$ 73.7	$ 40.7
Long-term notes receivable [1] [2]	$ 36.7	$ 33.6

[1] Included in other assets on the Company's Consolidated Balance Sheets.

[2] 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 October 2, 2020, the allowance for doubtful accounts includes $52.3 million related to short-term receivables and $6.0 million related to long-term unbilled receivables. As of September 27, 2019, 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:

(In millions)	Oncology Systems	Proton Solutions	Other	Total
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 prior year	(2.2)	—	—	(2.2)
Foreign currency translation adjustments	—	(1.0)	—	(1.0)
Balance at September 27, 2019	447.9	—	164.3	612.2
Business combinations	15.7	—	—	15.7
Measurement period adjustment to a business combination in prior year	(5.6)	—	3.8	(1.8)
Foreign currency translation adjustments	(3.3)	—	1.1	(2.2)
Balance at October 2, 2020	$ 454.7	$ —	$ 169.2	$ 623.9

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

Due to certain indicators identified related to the Company's Interventional Solutions reporting unit in the second quarter of fiscal year 2020, including a significant decrease in near term revenue projections due to COVID-19, Management identified a triggering event and performed an interim impairment test on the $164.3 million of goodwill in its Interventional Solutions reporting unit, within the Other reportable operating segment. The fair value of the Interventional Solutions’ reporting unit was in excess of its carrying value by approximately $20 million, or 7%. Management believes the methodology and significant assumptions, revenue growth rates, operating margins, and weighted-average cost of capital used to calculate the fair value to be reasonable as of April 3, 2020. Management also performed the annual goodwill impairment assessment on its Interventional Solutions reporting unit, within the Other reportable operating segment, during the fourth quarter of fiscal year 2020. Management determined that the fair value of the Interventional Solutions’ reporting unit was in excess of its carrying value by

approximately $72 million, or 27%. Management believes the methodology and assumptions used to calculate the fair value to be reasonable as of July 3, 2020. However, the Interventional Solutions reporting unit could be at risk for a future goodwill impairment if there are adjustments to certain assumptions used in the fair value calculation, including revenue growth rates, operating margins, and weighted-average cost of capital and/or working capital requirements. Given the uncertain impact of COVID-19 and/or other market factors on the Company's business, its cash flow projections for this business could decrease in the future, which could lead to an impairment of goodwill.

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, working capital requirements, weighted-average cost of capital, future economic and market conditions, estimation of the long-term rate of growth for the Company's business and determination of appropriate market comparables. Management bases the fair value estimates on assumptions it believes to be reasonable but that are inherently uncertain. Actual future results related to assumed variables could differ from these estimates. In addition, management makes certain judgments and assumptions in allocating assets and liabilities to determine the carrying values for each reporting unit.

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

	October 2, 2020			September 27, 2019		
(In millions)	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Technologies and patents	$ 228.0	$ (110.9)	$ 117.1	$ 226.4	$ (85.9)	$ 140.5
Customer contracts, supplier relationships and partner relationships	128.9	(34.7)	94.2	121.1	(25.7)	95.4
Trade names	53.0	(7.0)	46.0	55.1	(3.0)	52.1
Other	7.8	(6.1)	1.7	6.1	(6.1)	—
Total intangible with finite lives	417.7	(158.7)	259.0	408.7	(120.7)	288.0
In-process R&D with indefinite lives	12.3	—	12.3	12.7	—	12.7
Total intangible assets	$ 430.0	$ (158.7)	$ 271.3	$ 421.4	$ (120.7)	$ 300.7

Amortization expense for intangible assets was $38.2 million, $27.3 million and $20.6 million for fiscal years 2020, 2019 and 2018, respectively.

As of October 2, 2020, the Company estimates that its remaining amortization expense for intangible assets with finite lives will be as follows (in millions):

Fiscal Years	Total
2021	$ 37.3
2022	35.9
2023	34.7
2024	27.0
2025	22.5
Thereafter	101.6
Total remaining amortization	$ 259.0

7. BORROWINGS

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

(In millions, except for percentages)	October 2, 2020 Amount	October 2, 2020 Weighted-Average Interest Rate	September 27, 2019 Amount	September 27, 2019 Weighted-Average Interest Rate
Short-term borrowings:				
Revolving Credit Facility	$ 355.0	1.18 %	$ 410.0	3.05 %
Total short-term borrowings	$ 355.0		$ 410.0	

On November 1, 2019, VMS entered into Amendment No.2 (the "Amendment") to its Credit Agreement dated April 3, 2018, (the "Credit Agreement"), by and among VMS, certain lenders party thereto, and Bank of America, N.A. (“BofA”), as administrative agent, swing line lender and letter of credit issuer. The Amendment extended the maturity date from April 2023 to November 2024. The Amendment reduced the aggregate principal amount available under the Credit Agreement's five-year revolving credit facility (the "Revolving Credit Facility") from $1.8 billion to $1.2 billion, added a $500.0 million sub-limit for multi-currency borrowings, increased the letter of credit sub-limit from $50.0 million to $225.0 million, and reduced the commitment fee. In addition, there is a sub-limit for swing line loans of up to $25.0 million. Under the Revolving Credit Facility, VMS 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. Completion of the Siemens Healthineers acquisition would represent a “Change of Control” as defined in the Credit Agreement, which would result in an Event of Default thereunder. Upon such Event of Default, the lenders could take any or all of the following actions: a) terminating the commitment to lend or issue letters of credit, b) declaring all outstanding principal amounts and accrued and unpaid interest immediately due and payable, c) requiring cash collateral for all issued and outstanding letters of credit and d) exercising other rights and remedies available to them under the loan documents. The Company plans to repay in full and terminate all commitments under the Credit Agreement upon closing of the Siemens Healthineers acquisition.

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 1.000%, 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 12 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 0.100% to 0.225% 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 $1.2 million, $2.3 million and $0.9 million in fiscal years 2020, 2019 and 2018, 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 October 2, 2020, 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 all periods within these consolidated financial statements.

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 2020, the Sumitomo Credit Facility was extended and will expire in February 2021. 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 October 2, 2020, the Company did not have an outstanding principal balance on its Sumitomo Credit Facility.

Total Company interest paid on borrowings was $11.0 million, $3.2 million and $4.6 million in fiscal years 2020, 2019 and 2018, 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.

(In millions)	Balance Sheet Location	October 2, 2020 Fair Value	September 27, 2019 Fair Value
Derivatives designated as hedging instruments:			
Foreign exchange forward contracts	Prepaid expenses and other current assets	$ —	$ 2.8
Foreign exchange forward contracts	Accrued liabilities	(0.1)	—
Total derivatives		$ (0.1)	$ 2.8

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 October 2, 2020, and September 27, 2019, there were no potential effects of rights of set-off 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. The forecasted revenues from 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 may be 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 (expense), 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:

(In millions)	October 2, 2020	September 27, 2019
	Notional Value Sold	
Australian Dollar	$ 19.3	$ —
Euro	117.3	76.5
Japanese Yen	61.0	56.7
	$ 197.6	$ 133.2

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 October 2, 2020, the Company assessment of likelihood of the forecasted cash flow remained highly probable to happen.

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:

(In millions)	Gain (Loss) Recognized in Other Comprehensive Earnings (Loss)		
	Fiscal Years		
	2020	2019	2018
Foreign currency forward contracts	$ (0.3)	$ 3.0	$ (0.9)

As of October 2, 2020, the net unrealized loss on derivatives, before tax, of $0.1 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 Company's total revenues in the Consolidated Statements of Earnings was as follows:

(In millions)	Gain (Loss) Recognized in Earnings (Loss) on Cash Flow Hedging Relationships		
	Twelve Months Ended		
	October 2, 2020	September 27, 2019	September 28, 2018
Total revenues	$ 3,168.2	$ 3,225.1	$ 2,919.1
Gain (loss) on cash flow hedge relationships:			
Foreign exchange contracts:			
Amount gain (loss) reclassified from other comprehensive earnings (loss) into earnings	$ 2.6	$ 0.2	$ (0.9)

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:

(In millions)	October 2, 2020	September 27, 2019
Notional value sold	$ 459.7	$ 385.0
Notional value purchased	$ 117.5	$ 52.3

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.

Location of Gain (Loss) Recognized in Net Earnings on Derivative	Amount of Gain (Loss) Recognized in Net Earnings on Derivative		
	Fiscal Years		
(In millions)	2020	2019	2018
Other (expense) income, net	$ (6.1)	$ 18.1	$ 19.5

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 October 2, 2020, and September 27, 2019, 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 October 2, 2020, 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	
(In millions)	2020	2019
Accrued product warranty, at beginning of period	$ 43.2	$ 44.8
Charged to cost of revenues	58.6	54.2
Actual product warranty expenditures	(62.9)	(55.8)
Accrued product warranty, at end of period	$ 38.9	$ 43.2

The long-term portion of accrued product warranty costs were $3.5 million and $3.2 million at October 2, 2020, and September 27, 2019, respectively and was included in other long-term liabilities on the Consolidated Balance Sheets.

Leases

The Company leases its facilities and certain equipment under operating leases. The Company's operating leases have remaining lease terms ranging from less than one year to 20 years. Facilities primarily include general and administrative office space, and space for manufacturing, research and development, and other services. Equipment primarily includes vehicles and various office equipment. The Company's finance leases primarily relate to its sale and leaseback-subleases arrangements for certain equipment and have remaining lease terms ranging from one year to seven years.

Lease cost for operating leases is recognized on a straight-line basis over the lease term. Lease cost for finance leases is recognized as amortization of the finance lease ROU asset and interest expense on the finance lease liability over the lease term. The Company also has variable lease cost that primarily relate to its operating leases and include common area maintenance, utilities, maintenance charges, property taxes, insurance, and contingent rent.

The following table summarizes the components of the Company's lease cost:

(In millions)	Twelve Months Ended October 2, 2020
Operating lease cost	$ 31.8
Finance lease cost:	
Amortization of right-of-use assets	0.7
Interest on lease liabilities	0.5
Variable lease cost	16.5
Total lease cost	$ 49.5

The following table summarizes the supplemental cash flow information related to the Company's operating leases:

(In millions)	Twelve Months Ended October 2, 2020
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows for leases	$ 33.0

The following table summarizes the supplemental balance sheet information related to the Company's operating and finance leases:

(In millions)	October 2, 2020
Operating leases:	
Operating right-of-use assets	$ 121.0
Accrued liabilities	$ 27.2
Long-term lease liabilities	101.1
Total lease liabilities	$ 128.3
Finance leases:	
Property, plant, and equipment, net	$ 11.5
Accrued liabilities	$ 3.4
Other long-term liabilities	8.7
Total lease liabilities	$ 12.1

The following table summarizes the weighted lease term and discount rate by operating and finance leases:

	October 2, 2020
Weighted average remaining lease term in years	
Operating leases	7.2
Finance leases	4.2
Weighted average discount rate	
Operating leases	5.0 %
Finance leases	3.9 %

As of October 2, 2020, the future minimum lease payments are as follows:

(In millions)	Operating Leases	Finance leases
2021	$ 31.7	$ 3.8
2022	26.3	3.1
2023	21.5	3.1
2024	15.8	1.2
2025	12.7	0.8
Thereafter	56.2	1.1
Total minimum lease payments	$ 164.2	$ 13.1
Less: imputed interest	35.9	1.0
Total lease liability	$ 128.3	$ 12.1

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 determined under the prior accounting guidance of Accounting Standard Codification 840, as follows: $32.5 million, $26.3 million, $20.2 million, $14.5 million, $10.9 million, and $49.9 million, respectively.

Lessor Arrangements

The Company leases some of its equipment to certain customers on operating leases generally over a period of 16 years. As of October 2, 2020, the Company had $26.5 million and $9.1 million included in property, plant and equipment and accumulated depreciation, respectively, related to equipment leased to customers. 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. The Company recorded income on these equipment leases of $9.4 million, $8.8 million and $3.8 million during fiscal years ended October 2, 2020, September 27, 2019 and September 28, 2018, respectively.

Purchase Obligations

At October 2, 2020, 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 2021 through 2025, are as follows: $88.9 million, $50.8 million, $24.3 million, $20.2 million, and $11.6 million respectively.

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 2020, 2019 and 2018, 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 October 2, 2020, 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 $0.5 million to $3.9 million. The time frames over which these cleanup project costs are estimated vary, ranging from one year up to thirty years as of October 2, 2020. Management believes that no amount in that range is more probable of being incurred than any other amount and therefore had accrued $0.5 million for these cleanup projects as of October 2, 2020. 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 October 2, 2020, 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 $3.1 million to $21.3 million. The time frames over which these costs are estimated to be incurred vary, ranging from zero to thirty years as of October 2, 2020. 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 $3.8 million at October 2, 2020. Accordingly, the Company had accrued $3.5 million for these costs as of October 2, 2020, which represented the best estimate discounted at 4%, net of inflation. This accrual is in addition to the $0.5 million described for the Group A Sites.

The table that follows presents information about the Company's liabilities for future environmental costs at October 2, 2020, based on estimates as of that date.

(In millions)	Recurring Costs	Non-Recurring Costs	Total Anticipated Future Costs
Fiscal Years:			
2021	$ 0.5	$ 0.5	$ 1.0
2022	0.3	0.2	0.5
2023	0.3	0.1	0.4
2024	0.3	0.1	0.4
2025	0.4	0.9	1.3
Thereafter	0.4	0.3	0.7
Total costs	$ 2.2	$ 2.1	$ 4.3
Less imputed interest			0.3
Reserve amount			$ 4.0

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 $1.0 million and $1.1 million at October 2, 2020 and September 27, 2019, 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.

Proposed Acquisition by Siemens Healthineers

In connection with the proposed acquisition by Siemens Healthineers in August 2020, the Company expects to incur approximately $110 million in advisory fees that are contingent upon closing the pending acquisition by Siemens Healthineers. The Merger is expected to close in the first half of calendar year 2021, subject to receipt of specified regulatory approvals and other customary closing conditions. On October 15, 2020, VMS' stockholders approved and adopted the Merger Agreement. Under the terms of the Merger Agreement, if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances, a termination fee of $450.0 million in cash may be payable by VMS to Siemens Healthineers. The Merger Agreement also provides that a reverse termination fee of $450.0 million or $925.0 million in cash may be payable by Siemens Healthineers to VMS if the Merger Agreement is terminated by VMS or Siemens Healthineers under certain specified circumstances.

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. The suit is in the discovery stage, the parties have completed mediation, and a trial date is currently schedule for April 2022. At October 2, 2020, the Company has accrued $8.5 million representing its best estimate of the loss that may result from this action. The ultimate outcome of this matter is uncertain and may result in a materially different outcome.

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 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.

Restructuring Charges

2020 Restructuring Plan

In the third quarter of fiscal year 2020, the Company implemented a global workforce reduction, as part of the Company's plan to enhance operational performance through productivity initiatives in response to the impact of the COVID-19 pandemic. The Company incurred $18.7 million in restructuring charges in the fiscal year 2020, which primarily consisted of employee-related

expenses. The Company paid $12.0 million related to these charges in fiscal year 2020, and the remaining balance of $6.7 million is expected to be paid in fiscal year 2021. The Company expects to incur additional restructuring charges under this plan; however, these costs are not expected to be material. The restructuring charges are included in impairment and restructuring charges in the Consolidated Statements of Earnings.

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 50% 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. However, participant contributions are limited to a maximum annual amount as determined by the Internal Revenue Service. The Company matches eligible participant contributions dollar for dollar for the first 6% of eligible base compensation or bonus which is immediately vested. At the beginning of the third quarter of fiscal year 2020, as a precautionary measure due to the COVID-19 pandemic, the Company suspended its matching eligible employee contributions through at least the end of fiscal year 2020.

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 /cash balance, retirement / pension plans for eligible employees in Germany, Japan, Switzerland and the United Kingdom. In India, the Company has statutory gratuity plans in place. 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 $35.8 million, $33.2 million and $30.2 million for fiscal years 2020, 2019 and 2018, 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:

(In millions)	October 2, 2020	September 27, 2019
Change in benefit obligation:		
Benefit obligation - beginning of fiscal year	$ 287.4	$ 225.7
Service cost	12.0	7.2
Interest cost	2.3	3.7
Plan participants' contributions	15.8	12.2
Plan amendments	(13.9)	0.8
Plan settlements	—	(4.2)
Plan combinations	1.6	—
Actuarial (gain) loss	(2.1)	54.5
Foreign currency changes	20.0	(6.4)
Benefit and expense payments	(8.0)	(6.1)
Benefit obligation - end of fiscal year	$ 315.1	$ 287.4
Change in plan assets:		
Plan assets - beginning of fiscal year	$ 257.8	$ 224.7
Employer contributions	10.6	8.7
Actual return on plan assets	6.1	28.5
Plan participants' contributions	15.9	12.2
Plan settlements	—	(4.2)
Foreign currency changes	18.7	(6.2)
Benefit and expense payments	(8.0)	(5.9)
Plan assets - end of fiscal year	$ 301.1	$ 257.8
Funded status	$ (14.0)	$ (29.6)
Amounts recognized within the consolidated balance sheet:		
Other assets	$ 5.8	$ 1.5
Other long-term liabilities	(19.8)	(31.1)
Net amount recognized	$ (14.0)	$ (29.6)

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

(In millions)	October 2, 2020	September 27, 2019
Prior service credit	$ (19.1)	$ (6.2)
Net loss	76.4	81.0
Accumulated other comprehensive loss	$ 57.3	$ 74.8

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:

(In millions)	October 2, 2020	September 27, 2019
Projected benefit obligation	$ 22.8	$ 20.2
Accumulated benefit obligation	$ 20.4	$ 18.4
Fair value of plan assets	$ 13.2	$ 12.4

The accumulated benefit obligation for all defined benefit pension plans was $255.2 million and $232.3 million at October 2, 2020 and September 27, 2019, 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:

	Fiscal Years		
(In millions)	**2020**	**2019**	**2018**
Net Periodic Benefit Costs:			
Service cost	$ 12.0	$ 7.2	$ 7.1
Interest cost	2.3	3.7	3.2
Loss due to settlement	—	0.9	1.0
Expected return on assets	(7.8)	(6.3)	(7.9)
Amortization of prior service cost	(1.0)	(0.9)	(0.7)
Recognized actuarial loss	4.2	2.2	2.9
Net periodic benefit cost	9.7	6.8	5.6
Other Amounts Recognized in Other Comprehensive (Earnings) Loss:			
New prior service cost (credit)	(13.9)	0.8	(2.2)
Net (gain) loss arising during the year	(0.5)	32.3	(5.8)
Amortization of prior service cost	1.0	0.8	0.7
Amortization or settlement of net actuarial loss	(4.2)	(3.1)	(4.0)
Total recognized in other comprehensive (earnings) loss	(17.6)	30.8	(11.3)
Total recognized in net periodic benefit cost and other comprehensive (earnings) loss	$ (7.9)	$ 37.6	$ (5.7)

The amounts in accumulated other comprehensive loss that are expected to be recognized as components of net periodic benefit cost during fiscal year 2021 for the Company's defined benefit pension plans are as follows:

(In millions)	**Total**
Prior service credit	$ (1.9)
Net loss	3.7
Total	$ 1.8

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:

	Fiscal Years		
Net Periodic Benefit Cost	**2020**	**2019**	**2018**
Discount rate	0.63 %	1.69 %	1.40 %
Rate of compensation increase	2.27 %	2.37 %	2.40 %
Expected long-term return on assets	2.90 %	2.85 %	3.66 %

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

Benefit Obligation	**October 2, 2020**	**September 27, 2019**
Discount rate	0.68 %	0.63 %
Rate of compensation increase	2.25 %	2.27 %

The benefit obligation of defined benefit pension plans was measured as of October 2, 2020. The discount rate was adjusted as of October 2, 2020 to a range of 0.20% to 1.70%, 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 October 2, 2020 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 2020, 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 2020 was 23% equities, 49% debt and fixed income assets, 16% 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:

(In millions)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
As of October 2, 2020:				
Investment funds:				
Mutual funds - equities	$ —	$ 41.1	$ —	$ 41.1
Mutual funds - debt	—	139.3	—	139.3
Mutual funds - real estate	—	44.4	—	44.4
Other	—	40.6	—	40.6
Assets held by insurance company:				
Insurance contracts	—	13.3	—	13.3
Other	—	9.3	—	9.3
Cash and cash equivalents	13.1		—	13.1
Total	$ 13.1	$ 288.0	$ —	$ 301.1
As of September 27, 2019:				
Investment funds:				
Mutual funds - equities	$ —	$ 51.9	$ —	$ 51.9
Mutual funds - debt	—	112.5	—	112.5
Hedge funds	—	4.0	—	4.0
Mutual funds - real estate	—	43.9	—	43.9
Other	—	27.1	—	27.1
Assets held by insurance company:				
Insurance contracts	—	13.0	—	13.0
Cash and cash equivalents	1.8	—	—	1.8
Total	$ 1.8	$ 252.4	$ —	$ 254.2

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 2020 and 2019.

Estimated Contributions and Future Benefit Payments

The Company made contributions of $10.6 million to the defined benefit pension plans during fiscal year 2020, compared to $8.7 million in fiscal year 2019 and $9.0 million in fiscal year 2018. The Company expects its total contributions to the defined benefit pension plans for fiscal year 2021 will be approximately $13.4 million.

Estimated future benefit payments to the defined benefit pension plans at October 2, 2020 were as follows:

(In millions)	Future Benefit Payments
Fiscal Years:	
2021	$ 10.2
2022	10.5
2023	10.1
2024	11.8
2025	11.5
Thereafter	62.2
Total	$ 116.3

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 operations were as follows:

	Fiscal Years		
(In millions)	2020	2019	2018
Current provision:			
Federal	$ 4.7	$ 39.0	$ 188.3
State and local	(0.5)	5.2	8.0
Foreign	57.5	69.3	47.9
Total current	61.7	113.5	244.2
Deferred provision (benefit):			
Federal	18.2	4.0	43.7
State and local	0.6	2.8	(3.3)
Foreign	8.4	8.3	17.2
Total deferred	27.2	15.1	57.6
Taxes on earnings	$ 88.9	$ 128.6	$ 301.8

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

	Fiscal Years		
(In millions)	2020	2019	2018
United States	$ 63.8	$ 136.4	$ 168.4
Foreign	294.5	284.4	283.7
Total earnings before taxes	$ 358.3	$ 420.8	$ 452.1

The effective tax rate on continuing operations differs from the U.S. federal statutory tax rate as a result of the following:

	Fiscal Years		
	2020	2019	2018
Federal statutory income tax rate	21.0 %	21.0 %	24.6 %
Impact of U.S. Tax Reform	0.6 %	2.1 %	46.3 %
State and local taxes, net of federal tax benefit	1.3 %	2.6 %	0.5 %
Non-U.S. income taxed at different rates, net	4.5 %	1.5 %	(0.6)%
Foreign-derived intangible income deduction	(1.1)%	(1.4)%	— %
Resolution of tax contingencies due to expiration of statutes of limitation	(2.3)%	(1.8)%	(2.5)%
Excess stock deduction	(2.1)%	(1.6)%	(1.5)%
Goodwill impairment	— %	2.5 %	— %
Change in acquirer's deferred taxes related to purchase accounting	— %	0.7 %	(1.8)%
In-process R&D expense	— %	1.1 %	— %
U.S. minimum tax	2.0 %	0.4 %	— %
Other	0.9 %	3.5 %	1.8 %
Effective tax rate	24.8 %	30.6 %	66.8 %

During fiscal year 2020, the Company's effective tax rate was higher than the U.S. federal statutory rate primarily due to the geographic mix of earnings. During fiscal year 2019, the Company’s effective tax rate was higher than the U.S, federal statutory rate primarily due to a goodwill impairment charge and in-process R&D expenses, neither of which generated a tax benefit for the Company. During fiscal year 2018, the 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 Tax Cuts and Jobs Act (“the Act”).

As a result of finalizing the impact of the Act, the Company recognized a tax expense of $5.4 million in fiscal year ended October 2, 2020. The Company recognized a total tax expense related to the Act of $214.0 million as of September 27, 2019.

In February 2018, the FASB amended its guidance to allow companies to reclassify disproportionate tax effects in accumulated other comprehensive income caused by the Act to retained earnings. In the first quarter of fiscal year 2020, the Company adopted that guidance. The impact of adopting this amendment on the Company's consolidated financial statements was not material.

Significant components of deferred tax assets and liabilities are as follows:

(In millions)	October 2, 2020	September 27, 2019
Deferred Tax Assets:		
Deferred revenues	$ 12.5	$ 21.1
Deferred compensation	24.7	33.9
Product warranty	4.8	5.5
Inventory adjustments	5.4	6.0
Share-based compensation	9.6	12.4
Accruals and reserves	18.9	11.8
Net operating loss carryforwards	157.2	120.7
Lease liability	12.6	—
Other	53.1	38.9
	298.8	250.3
Valuation allowance	(137.9)	(99.7)
Total deferred tax assets	160.9	150.6
Deferred Tax Liabilities:		
Tax-deductible goodwill	(23.6)	(20.7)
Intangibles	(52.2)	(61.7)
Property, plant and equipment	(8.3)	(7.1)
Unremitted earnings of foreign subsidiaries	(58.8)	(34.1)
Leased asset	(11.0)	—
Other	(26.7)	(17.6)
Total deferred tax liabilities	(180.6)	(141.2)
Net deferred tax assets	$ (19.7)	$ 9.4
Reported As:		
Deferred tax assets	$ 81.5	$ 84.7
Deferred tax liabilities	(101.2)	(75.3)
Net deferred tax assets	$ (19.7)	$ 9.4

The Company has federal net operating loss carryforwards of approximately $28.2 million, with $15.6 million expiring between 2021 and 2038. The remaining $12.6 million will be carried forward indefinitely. 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 $10.3 million expiring between 2021 and 2039. The Company has foreign net operating loss carryforwards of $508.1 million, of which $445.8 million are net operating losses with an indefinite life. Of this amount, $23.6 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 $38.2 million in fiscal year 2020.

Income taxes paid were as follows:

	Fiscal Years		
(In millions)	2020	2019	2018
Federal income taxes paid, net	$ 37.5	$ 50.5	$ 10.6
State, income taxes paid, net	(0.1)	11.9	7.2
Foreign income taxes paid, net	59.7	66.1	68.2
Total income taxes paid, net	$ 97.1	$ 128.5	$ 86.0

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:

	Fiscal Years		
(In millions)	2020	2019	2018
Unrecognized tax benefits balance–beginning of fiscal year	$ 49.8	$ 43.5	$ 42.7
Additions based on tax positions related to a prior year	6.5	0.2	1.1
Reductions based on tax positions related to a prior year	(10.8)	(0.8)	(3.0)
Additions based on tax positions related to the current year	6.1	13.2	14.8
Settlements	(2.2)	—	(2.8)
Reductions resulting from the expiration of the applicable statute of limitations	(6.5)	(6.3)	(9.3)
Unrecognized tax benefits balance–end of fiscal year	$ 42.9	$ 49.8	$ 43.5

As of October 2, 2020, the total amount of gross unrecognized tax benefits was $42.9 million. Of this amount, $32.0 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 October 2, 2020, the Company had accrued $6.8 million for the payment of interest and penalties related to unrecognized tax benefits. During fiscal year 2020, a net charge of $0.7 million related to interest and penalties was included in taxes on earnings in 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.

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. During the third quarter of fiscal year 2020, the Company was notified that the IRS intends to commence an examination of its fiscal year 2018. The audit has not yet started, and the Company believes that it has adequately provided for any exposures as a result of the audit. 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 2017. For U.S. states and other foreign tax returns, the Company is generally no longer subject to tax examinations for years prior to 2008.

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 October 2, 2020, approximately 1.6 million shares of VMS common stock remained available for repurchase under the November 2016 authorization. At the beginning of the third quarter of fiscal year 2020, as a precautionary measure due to the COVID-19 pandemic, the Company paused its share repurchase program.

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

	Fiscal Years		
(In millions, except per share amounts)	2020	2019	2018
Number of shares	0.6	1.4	1.6
Average repurchase price per share	$ 133.02	$ 121.76	$ 112.63
Total cost	$ 86.2	$ 166.7	$ 181.9

Other Comprehensive Earnings

The changes in accumulated other comprehensive loss by component and related tax effects are summarized as follows:

(In millions)	Net Unrealized Gains (Losses) Defined Benefit Pension and Post-Retirement Benefit Plans	Net Unrealized Gains (Losses) Cash Flow Hedging Instruments	Cumulative Translation Adjustment	Accumulated Other Comprehensive Loss
Balance at September 29, 2017	$ (44.1)	$ —	$ (24.7)	$ (68.8)
Other comprehensive earnings (loss) before reclassifications	9.0	(0.9)	(5.4)	2.7
Amounts reclassified out of other comprehensive earnings (loss)	1.7	0.9	—	2.6
Tax expense	(1.8)	—	—	(1.8)
Balance at September 28, 2018	(35.2)	—	(30.1)	(65.3)
Other comprehensive earnings (loss) before reclassifications	(32.3)	3.0	(12.4)	(41.7)
Amounts reclassified out of other comprehensive earnings (loss)	1.5	(0.2)	—	1.3
Tax benefit (expense)	4.3	(0.7)	—	3.6
Balance at September 27, 2019	(61.7)	2.1	(42.5)	(102.1)
Other comprehensive earnings (loss) before reclassifications	14.4	(0.3)	3.8	17.9
Amounts reclassified out of other comprehensive earnings (loss)	3.2	(2.6)	—	0.6
Tax benefit (expense)	(2.8)	0.7	—	(2.1)
Balance at October 2, 2020	$ (46.9)	$ (0.1)	$ (38.7)	$ (85.7)

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):

	Fiscal Years			
Comprehensive Earnings (Loss) Components	2020	2019	2018	Line Item in Statements of Earnings
Unrealized loss on defined benefit pension and post-retirement benefit plans	$ (3.2)	$ (1.5)	$ (1.7)	Other income, net
Unrealized earnings (loss) on cash flow hedging instruments	2.6	0.2	(0.9)	Revenues
Total amounts reclassified out of other comprehensive loss	$ (0.6)	$ (1.3)	$ (2.6)	

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:

	Employee Stock Option Plans			Employee Stock Purchase Plans		
	Fiscal Years			Fiscal Years		
	2020	2019	2018	2020	2019	2018
Expected term (in years)	3.74	3.76	3.83	0.50	0.50	0.50
Risk-free interest rate	1.5 %	2.4 %	2.3 %	0.9 %	2.5 %	1.6 %
Expected volatility	24.8 %	23.6 %	19.1 %	35.2 %	22.8 %	25.2 %
Expected dividend	— %	— %	— %	— %	— %	— %
Weighted average fair value at grant date	$29.55	$27.20	$20.88	$29.44	$26.76	$24.56

(1) Excludes the fair value of the market condition based on relative total shareholder return for the performance stock options granted during the period

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. 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:

	Fiscal Years		
(In millions)	2020	2019	2018
Cost of revenues - Product	$ 3.8	$ 2.9	$ 3.1
Cost of revenues - Service	5.6	4.5	4.2
Research and development	6.1	4.7	4.8
Selling, general and administrative	28.4	35.8	34.3
Total share-based compensation expense	$ 43.9	$ 47.9	$ 46.4
Income tax benefit for share-based compensation	$ (7.7)	$ (9.2)	$ (10.5)

The table below summarizes the effect of recording pre-tax share-based compensation expense for equity awards:

	Fiscal Years		
(In millions)	2020	2019	2018
Restricted stock units (1)	$ 26.1	$ 21.1	$ 21.6
Performance units and performance options	2.1	13.6	12.1
Stock options	8.9	8.6	8.5
Employee stock purchase plan	5.9	4.5	4.2
Cash-settled stock appreciation rights	0.9	0.1	—
Total share-based compensation expense	$ 43.9	$ 47.9	$ 46.4

(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:

(In millions, except per share amounts)	Options Outstanding	
	Number of Shares	Weighted Average Exercise Price
Balance at September 27, 2019 (1.2 million options exercisable at a weighted average exercise price of $80.98)	2.2	$ 97.66
Granted	0.4	139.86
Canceled, expired or forfeited	—	119.05
Exercised	(0.7)	84.08
Balance at October 2, 2020	1.9	$ 110.79

The total pre-tax intrinsic value of stock options exercised was $42.3 million, $31.0 million and $28.3 million in fiscal years 2020, 2019 and 2018, respectively. The total fair value of stock options vested was $10.4 million, $9.3 million and $9.6 million in fiscal years 2020, 2019 and 2018, respectively.

The following table summarizes information related to stock options outstanding and exercisable under the Company's employee stock plans at October 2, 2020:

	Options Outstanding				Options Exercisable			
Range of Exercise Prices	Number of Shares	Weighted Average Remaining Contractual Term (in years)	Weighted Average Exercise Price	Aggregate Intrinsic Value[1]	Number of Shares	Weighted Average Remaining Contractual Term (in years)	Weighted Average Exercise Price	Aggregate Intrinsic Value[1]
(In millions, except years and per share amounts)								
$67.12 - $81.97	0.5	2.4	$ 77.92	$ 49.7	0.5	2.4	$ 77.92	$ 49.7
$99.26 - $110.36	0.4	4.6	108.56	21.2	0.1	5.0	107.79	3.7
$112.82 - $118.76	0.4	4.7	115.64	23.8	0.2	4.3	113.47	10.7
$129.97 - $146.91	0.6	5.9	137.26	21.1	0.1	5.4	131.77	4.3
Total	1.9	4.4	$ 110.79	$ 115.8	0.9	3.3	$ 93.83	$ 68.4

(1) 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 $171.93 as of October 2, 2020, the last trading date of fiscal year 2020, 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 October 2, 2020, there was $15.4 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 1.8 years.

As of October 2, 2020, there was $1.9 million of total unrecognized compensation expense related to cash-settled stock appreciation rights granted outside the Company's employee stock plans. This unrecognized compensation expense is expected to be recognized over a weighted average period of 2.1 years.

The activity for restricted stock, restricted stock units, deferred stock units and performance units is summarized as follows:

(In millions, except per share amounts)	Number of Shares	Weighted Average Grant-Date Fair Value
Balance at September 27, 2019	0.7	$ 108.35
Granted	0.4	146.03
Vested	(0.3)	99.00
Canceled or expired	(0.1)	124.71
Balance at October 2, 2020	0.7	$ 133.82

The total grant-date fair value of restricted stock units, deferred stock units and performance units was $54.8 million, $36.9 million and $33.7 million in fiscal years 2020, 2019 and 2018, respectively. The total fair value of restricted stock, restricted stock units, deferred stock units and performance units that vested was $40.9 million, $43.9 million and $36.9 million in fiscal years 2020, 2019 and 2018, respectively.

As of October 2, 2020, unrecognized compensation expense totaling $50.2 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 2.0 years. The Company withheld 0.1 million shares with a fair value of $12.8 million to cover employees' minimum withholding taxes due at vesting and/or settlement of such awards in fiscal year 2020.

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 $18.7 million in fiscal year 2020 and approximately 0.2 million shares for $16.9 million in fiscal year 2019. At October 2, 2020, 4.8 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:

	Fiscal Years		
(In millions, except per share amounts)	**2020**	**2019**	**2018**
Net earnings	$ 269.4	$ 292.2	$ 150.3
Less: Net earnings attributable to noncontrolling interests	0.2	0.3	0.4
Net earnings attributable to Varian	269.2	291.9	149.9
Denominator:			
Weighted average shares outstanding - basic	90.9	91.0	91.5
Dilutive effect of potential common shares	0.6	0.9	1.0
Weighted average shares outstanding - diluted	91.5	91.9	92.5
Net earnings per share attributable to Varian - basic	$ 2.96	$ 3.21	$ 1.64
Net earnings per share attributable to Varian - diluted	$ 2.94	$ 3.18	$ 1.62
Anti-dilutive employee share-based awards, excluded	0.7	0.9	0.7

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"), Georgia Proton Treatment Center and the Delray Radiation Therapy Center.

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:

	October 2, 2020		September 27, 2019	
(In millions)	Balance	Commitment	Balance	Commitment
Notes receivable and secured debt: [1]				
NYPC loan	$ 34.9	$ —	$ 31.8	$ —
RPTC senior secured debt	25.2	—	23.5	—
Proton International LLC loan	1.8	—	1.8	—
	$ 61.9	$ —	$ 57.1	$ —
Available-for-sale Securities: [1]				
MPTC Series B-1 Bonds	$ 18.9	$ —	$ 27.1	$ —
MPTC Series B-2 Bonds	20.6	—	25.1	—
APTC securities	5.4	—	6.6	—
	$ 44.9	$ —	$ 58.8	$ —
CPTC Loans:				
CPTC Loans [2]	$ 11.8	$ —	$ 49.3	$ 1.9

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

(2) Included in prepaid and other current assets on the Company's Consolidated Balance Sheets at October 2, 2020. At September 27, 2019, $5.3 million of the CPTC Loans balance was included in prepaid and other current assets and $44.0 million of the CPTC Loans balance was included in other 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. In fiscal year 2020, the Company determined the APTC securities were other-than-temporarily impaired due to a decrease in trade prices of comparable bonds. The Company believed that it is more likely than not that it would not recover the losses before these securities are sold and as such, it recorded an impairment charge of $0.9 million.

At October 2, 2020, and September 27, 2019, the Company had $6.9 million and $2.1 million in trade and unbilled receivables, respectively, which included $5.7 million and $2.1 million, in long-term unbilled receivables, respectively, 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 in December 2019 the center closed for clinical operations and decommissioning began. 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. The Company has classified its senior secured debt as long-term other assets because it expects the bankruptcy proceedings to be complete in greater than one year.

At October 2, 2020, and September 27, 2019, the Company had $4.2 million and $4.6 million, respectively, in long-term trade receivables, net, from RPTC, which does not include any unbilled receivables.

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 October 2, 2020, the Subordinate Loan is $34.9 million, including accrued interest. In December 2019, the interest rate on the loan was reduced to 10%, effective May 1, 2019. The principal balance and accrued interest on the Subordinate Loan are due in full at maturity in January 2022.

At October 2, 2020 and September 27, 2019, the Company had $20.0 million and $16.6 million, respectively, in trade and unbilled receivables, which included $5.0 million and $6.0 million in unbilled receivables, respectively, 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. In fiscal year 2020, the Company determined the MPTC Series B-1 Bonds and MPTC Series B-2 Bonds were both other-than-temporarily impaired due to a decrease in trade prices of comparable bonds. The Company believed that it is more likely than not that it would not recover the losses before these bonds are sold and as such, it recorded $16.9 million in impairment charges.

As of October 2, 2020 and September 27, 2019, the Company had $0.6 million and zero net trade and unbilled receivables, respectively from MPTC.

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 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 December 6, 2020. The Term Loan is secured by the assets of CPTC.

In addition, the Lenders 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 was $7.2 million, and as of October 2, 2020, the Company has fully funded the Revolving Loan.

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%.

Primarily as a result of the COVID-19 pandemic, during March and April 2020, CPTC suffered material negative impacts to its operating plan, including declines in current and projected patient volume and delays in partnership with a significant clinical

partner. Management evaluates its CPTC Loans for impairment on a quarterly basis under the incurred loss model. Therefore, the Company concluded it was no longer probable that it will collect the amounts owed under the Term Loan and Revolving Loan (collectively "CPTC Loans") when due and recorded a $40.5 million impairment charge to its CPTC Loans using the probability weighted expected return model, utilizing management's assumptions of different outcomes, in the Consolidated Statements of Earnings in the second quarter of fiscal year 2020. Management applied significant judgment with respect to the application of the probability weighted expected return model and the individual expected scenarios. As a result of this impairment charge, the CPTC Loans were written down to their estimated fair value of $10.0 million. As of October 2, 2020, the fair value of the CPTC Loans was $11.8 million.

As of October 2, 2020, and September 27, 2019, the Company had recorded $3.1 million and $2.6 million in trade receivables, net, respectively, from CPTC.

Variable Interest Entities

The Company has determined that, CPTC, 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 no voting rights, has no special 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 entities, which the Company believes are the matters that most significantly affect their economic performance. The Company has concluded that it is not the primary beneficiary of any of these entities. The Company’s exposure to loss as a result of its involvement with CPTC, MM Proton I, LLC and RPTC is limited to the carrying amounts of the above-mentioned assets on its Consolidated Balance Sheets.

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 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 13 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.

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.

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 following table summarizes select operating results information for each reportable segment:

	Fiscal Years		
(In millions)	**2020**	**2019**	**2018**
Revenues			
Oncology Systems	$ 2,997.8	$ 3,061.8	$ 2,770.2
Proton Solutions	121.1	143.9	148.9
Total reportable segments	3,118.9	3,205.7	2,919.1
Other	49.3	19.4	—
Total Company	$ 3,168.2	$ 3,225.1	$ 2,919.1
Earnings from continuing operations before taxes			
Oncology Systems	$ 518.0	$ 555.9	$ 553.4
Proton Solutions	(65.5)	(97.3)	(51.5)
Total reportable segments	452.5	458.6	501.9
Other	(9.6)	(25.8)	—
Unallocated corporate	(119.7)	(46.6)	(64.5)
Operating earnings	323.2	386.2	437.4
Interest income, net	(3.6)	6.3	10.5
Other income, net	38.7	28.3	4.2
Total Company	$ 358.3	$ 420.8	$ 452.1

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

(In millions)	Fiscal Years 2020	2019	2018
Hardware			
Oncology Systems	$ 1,211.0	$ 1,393.6	$ 1,231.5
Proton Solutions	80.9	119.3	135.1
Other	49.3	19.4	—
Total Hardware	1,341.2	1,532.3	1,366.6
Software [1]			
Oncology Systems	596.4	574.0	495.4
Proton Solutions	2.3	3.0	3.8
Total Software	598.7	577.0	499.2
Service			
Oncology Systems	1,190.4	1,094.2	1,043.3
Proton Solutions	37.9	21.6	10.0
Total Service	1,228.3	1,115.8	1,053.3
Total Revenues	$ 3,168.2	$ 3,225.1	$ 2,919.1

(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

(In millions)	Fiscal Years 2020	2019	2018
Americas			
Oncology Systems	$ 1,449.7	$ 1,451.3	$ 1,351.3
Proton Solutions	60.6	70.0	85.6
Other	24.4	6.1	—
Total Americas	1,534.7	1,527.4	1,436.9
EMEA			
Oncology Systems	942.1	1,000.9	883.2
Proton Solutions	52.8	66.3	59.6
Other	5.2	6.2	—
Total EMEA	1,000.1	1,073.4	942.8
APAC			
Oncology Systems	606.0	609.6	535.7
Proton Solutions	7.7	7.6	3.7
Other	19.7	7.1	—
Total APAC	633.4	624.3	539.4
Total Revenues	$ 3,168.2	$3,225.1	$2,919.1
North America [1]			
Oncology Systems	$ 1,362.9	$ 1,349.2	$ 1,261.6
Proton Solutions	60.7	70.0	85.6
Other	24.4	5.9	—
Total North America	1,448.0	1,425.1	1,347.2
International			
Oncology Systems	1,634.9	1,712.6	1,508.6
Proton Solutions	60.4	73.9	63.3
Other	24.9	13.5	—
Total International	1,720.2	1,800.0	1,571.9
Total Revenues	$ 3,168.2	$3,225.1	$2,919.1

(1) North America primarily includes the United States and Canada.

Total Revenues by Product Type	Fiscal Years		
(In millions)	2020	2019	2018
Products Transferred at a point in time			
Oncology Systems	$ 1,455.3	$ 1,642.3	$ 1,431.0
Proton Solutions	2.3	3.0	3.8
Other	49.3	19.4	—
Total Products transferred at a point in time	1,506.9	1,664.7	1,434.8
Products and Services transferred over time			
Oncology Systems	1,542.5	1,419.5	1,339.2
Proton Solutions	118.8	140.9	145.1
Total Products and Services transferred over time	1,661.3	1,560.4	1,484.3
Total Revenues	$ 3,168.2	$3,225.1	$2,919.1

Other Items

	Depreciation & Amortization			Total Assets	
	Fiscal Years			Fiscal Years	
(In millions)	2020	2019	2018	2020	2019
Oncology Systems	$ 53.2	$ 49.6	$ 42.1	$ 2,315.7	$ 2,339.1
Proton Solutions	4.0	4.8	7.9	285.9	275.9
Total reportable segments	57.2	54.4	50.0	2,601.6	2,615.0
Other	11.5	14.8	—	314.6	307.8
Corporate	30.2	23.8	22.7	1,546.0	1,178.9
Total Company	$ 98.9	$ 93.0	$ 72.7	$ 4,462.2	$ 4,101.7

Geographic Information

	Revenues			Property, plant and equipment, net	
	Fiscal Years			Fiscal Years	
(In millions)	2020	2019	2018	2020	2019
United States	$ 1,393.5	$ 1,384.3	$ 1,308.3	$ 163.6	$ 155.3
Other countries	1,774.7	1,840.8	1,610.8	181.3	156.2
Total Company	$ 3,168.2	$ 3,225.1	$ 2,919.1	$ 344.9	$ 311.5

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 2020 and 2019, India represented approximately 13% and 12% of total property, plant and equipment, net. Intercompany and intracompany profits are eliminated in consolidation.

17. QUARTERLY FINANCIAL DATA (UNAUDITED)

(In millions, except per share amounts)	Fiscal Year 2020				
	First Quarter	Second Quarter[3]	Third Quarter [2]	Fourth Quarter [1]	Total Year
Total revenues	$ 828.9	$ 794.5	$ 694.3	$ 850.5	$ 3,168.2
Gross margin	$ 366.8	$ 337.2	$ 298.5	$ 374.7	$ 1,377.2
Net earnings	$ 88.9	$ 43.1	$ 60.9	$ 76.5	$ 269.4
Net earnings attributable to Varian	$ 88.2	$ 43.2	$ 61.2	$ 76.6	$ 269.2
Net earnings per share - basic	$ 0.97	$ 0.48	$ 0.67	$ 0.84	$ 2.96
Net earnings per share - diluted	$ 0.96	$ 0.47	$ 0.67	$ 0.83	$ 2.94

(In millions, except per share amounts)	Fiscal Year 2019				
	First Quarter [5]	Second Quarter	Third Quarter [6]	Fourth Quarter [7]	Total Year
Total revenues	$ 741.0	$ 779.4	$ 825.8	$ 878.9	$ 3,225.1
Gross margin	$ 316.1	$ 318.2	$ 351.4	$ 384.6	$ 1,370.3
Net earnings (loss)	$ 103.9	$ 88.4	$ 29.5	$ 70.4	$ 292.2
Net earnings attributable to Varian	$ 103.2	$ 88.6	$ 29.4	$ 70.7	$ 291.9
Net earnings (loss) per share - basic	$ 1.13	$ 0.97	$ 0.32	$ 0.78	$ 3.21
Net earnings (loss) per share - diluted	$ 1.12	$ 0.96	$ 0.32	$ 0.77	$ 3.18

[1] In the fourth quarter of fiscal year 2020, net earnings includes a $14.8 million in net gains on the Company's equity investments, $10.9 million in litigation charges and legal cost and an $8.6 million impairment charge related to the Company's available-for-sale investments.

[2] In the third quarter of fiscal year 2020, net earnings includes a $25.7 million gain on equity investments, $13.9 million in restructuring charges and a $9.2 million impairment charge related to the Company's available-for-sale investments.

[3] In the second quarter of fiscal year 2020, net earnings includes a $40.5 million impairment charge related to the Company's CPTC Loans and the release of $8.9 million in contingent consideration liabilities.

[4] In the first quarter of fiscal year 2020, net earnings includes $8.8 million charge to acquisition-related expenses due to an increase to the fair value of contingent consideration related to an acquisition.

[5] In the first quarter of fiscal year 2019, net earnings includes a $22.0 million gain on the sale of our investment in Augmenix.

[6] 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.

[7] 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.

REPORT OF MANAGEMENT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

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 October 2, 2020. 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 October 2, 2020. PricewaterhouseCoopers LLP has issued a report on the Company's internal control over financial reporting as of October 2, 2020, which appears immediately after this report.

Report of Independent Registered Public Accounting Firm

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 October 2, 2020 and September 27, 2019, and the related consolidated statements of earnings, of comprehensive earnings, of equity and of cash flows for each of the three years in the period ended October 2, 2020, 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 October 2, 2020, 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 October 2, 2020 and September 27, 2019, and the results of its operations and its cash flows for each of the three years in the period ended October 2, 2020 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 October 2, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in fiscal 2020.

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 - Interventional Solutions Reporting Unit

As described in Notes 1 and 6 to the consolidated financial statements, the Company's consolidated goodwill balance was $623.9 million as of October 2, 2020, and the goodwill associated with the Interventional Solutions reporting unit was $169.2 million. Management 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 or a reporting unit below its carrying amount. Due to certain indicators identified, including a significant decrease in near term revenue projections due to COVID-19, management identified a triggering event for the Interventional Solutions reporting unit in the second quarter of fiscal year 2020. As a result of the triggering event, management performed an interim impairment test. The fair value of the Interventional Solutions' reporting unit was in excess of its carrying value by approximately $20 million, or 7%. During the fourth quarter of fiscal year 2020, management performed its annual impairment test as of July 3, 2020. The fair value of the Interventional Solutions' reporting unit as of July 3, 2020 was in excess of its carrying value by approximately $72 million, or 27%. Management determines the fair value of its reporting units based on a combination of income and market approaches. As disclosed by management, determining the fair value of a reporting unit involves the use of significant estimates and assumptions with respect to the calculation of projected future cash flows, including revenue growth rates, operating margins, as well as weighted-average cost of capital ("WACC").

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment of the Interventional Solutions reporting unit is a critical audit matter are (i) the significant judgment by management when developing the fair value measurement of the reporting unit; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to revenue growth rates, projected operating margins, and the WACC; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

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 Interventional Solutions reporting unit. These procedures also included, among others (i) testing management's process for developing the fair value estimate of the Interventional Solutions reporting unit; (ii) evaluating the appropriateness of the valuation approach, (iii) testing the completeness and accuracy of underlying data used in the valuation; and (iv) evaluating the significant assumptions used by management related to the revenue growth rates, projected operating margins, and the WACC. Evaluating management's assumptions related to the revenue growth rates and projected operating margins involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the reporting unit; (ii) new sales and product opportunities; (iii) growth in salesforce headcount; and (iv) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skills and knowledge were used to assist in the evaluation of the Company's valuation approach and the WACC.

California Proton Therapy Center ("CPTC") Loans - Impairment Assessment

As described in Note 15 to the consolidated financial statements, the Company's California Proton Treatment Center ("CPTC") notes receivable balance was $11.8 million as of October 2, 2020, which includes the effects of an impairment charge of $40.5 million taken during the second quarter of fiscal year 2020. Management evaluates CPTC loans for impairment on a quarterly basis under the incurred loss model. In the second quarter of fiscal year 2020, primarily as a result of the COVID-19 pandemic,

CPTC suffered material negative impacts to its operating plan, including declines in current and projected patient volume and delays in the potential partnership with a significant clinical partner. Therefore, management concluded that it was no longer probable that the Company would collect the amounts owed under the Term Loan and Revolving Loan (collectively "CPTC loans") when due. Management determined the fair value of its CPTC loans using the probability weighted expected return model, using assumptions of different outcomes. Management applied significant judgment with respect to the application of the probability weighted expected return model ("PWERM") and the individual expected scenarios, utilizing management's assumptions of different outcomes.

The principal considerations for our determination that performing procedures relating to the CPTC loans impairment assessment is a critical audit matter are the significant judgment by management in determining the estimated fair value of the loans and the individual expected scenarios used in the PWERM. This in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating audit evidence related to the PWERM and management's individual expected scenarios.

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 CPTC loans impairment assessment, including controls over management's identification of the indicators of impairment and the model used to estimate the fair value of the loans. These procedures also included, among others, testing management's process for determining the fair value of the loans using the PWERM, evaluating the appropriateness of the model and testing the completeness and accuracy of underlying data used in the model, and evaluating the reasonableness of management's individual expected scenarios. Evaluating management's individual expected scenarios involved evaluating whether management's assumptions of different outcomes were reasonable considering (i) operational performance of the center and (ii) relevant proton market comparable transactions.

/s/ PricewaterhouseCoopers LLP

San Jose, California
November 25, 2020
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 2020 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 2021 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 2021 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 2021 Annual Meeting of Stockholders under the caption "Compensation of the Named Executive Officers and Directors."

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Equity Compensation Plan Information

The following table provides information as of October 2, 2020 with respect to the shares of VMS common stock that may be issued under existing equity compensation plans.

	A	B	C
(In millions, except price per share)	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights [1]	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column A)
Equity compensation plans approved by security holders	2.5 [2]	$ 110.79	11.2 [3]
Total	2.5	$ 110.79	11.2

[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.

(3) Includes 6.4 million shares available for future issuance under the Fifth Amended 2005 Plan. Also includes 4.8 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, or earlier, depending on the expected closing date of the Merger). 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 2021 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 2021 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 2021 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 2020, 2019 and 2018 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:

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.

(1) Exhibits:

The exhibits listed below are filed or incorporated by reference as part of this Form 10-K.

Exhibit Number	Description
2.1	Amended and Restated Distribution Agreement, dated as of January 14, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 2 to the Registrant's Form 8-K Current Report filed as of April 19, 1999, File No. 1-7598).
2.2	Separation and Distribution Agreement, dated as of January 27, 2017, by and between Registrant and Varex Imaging Corporation (incorporated by reference to Exhibit No. 2.1 to the Registrant's Form 8-K Current Report filed as of January 30, 2017, File No. 1-7598).
2.3	Agreement and Plan of Merger by and among Siemens Healthineers Holding I GmbH, Falcon Sub Inc., Varian Medical Systems, Inc. and, with respect to certain provisions, Siemens Medical Solutions USA, Inc., dated as of August 2, 2020 (incorporated by reference to Exhibit No. 2.1 to the Registrant's Form 8-K Current Report filed as of August 3, 2020, File No. 1-7598).
2.4	Letter of Support between Siemens Healthineers AG and Varian Medical Systems, Inc., dated August 2, 2020 (incorporated by reference to Exhibit No. 2.2 to the Registrant's Form 8-K Current Report filed as of August 3, 2020, File No. 1-7598).
3.1	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).
3.2	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).
3.3	Registrant's Amended and Restated Bylaws, as amended (incorporated by reference to Exhibit No. 3.1 to the Registrant's Form 8-K Current Report filed as of March 3, 2020, File No. 1-7598)

Exhibit Number	Description
4.1	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).
4.2	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).
4.3	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).
4.4	Description of Securities Registered Under Section 12 of the Exchange Act.
10.1†	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).
10.2†	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).
10.3†	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).
10.4†	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).
10.5†	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).
10.6	Employee Benefits Allocation Agreement, dated April 2, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 99.1 to the Registrant's Form 8-K Current Report filed as of April 19, 1999, File No. 1-7598).
10.7	Intellectual Property Agreement, dated April 2, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 99.2 to the Registrant's Form 8-K Current Report filed as of April 19, 1999, File No. 1-7598).
10.8	Tax Sharing Agreement, dated April 2, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 99.3 to the Registrant's Form 8-K Current Report filed as of April 19, 1999, File No. 1-7598).
10.9†	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).
10.10†	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).
10.11†	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).
10.12†	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).

Exhibit Number	Description
10.13†	Registrant's Third Amended and Restated 2005 Omnibus Stock Plan (incorporated by reference to Exhibit No. 10.1 to the Registrant's Form 10-Q Quarterly Report for the quarter ended March 30, 2012, File No. 1-7598).
10.14†	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).
10.15†	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).
10.16†	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).
10.17†	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).
10.18†	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).
10.19†	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).
10.20†	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).
10.21++	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).
10.22++	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).
10.23++	Loan and Security Agreement (Project Loan) dated as of July 15, 2015 by and among MM PROTON I, LLC, a Borrower; JPMORGAN CHASE BANK, N.A., as Administrative Agent and Collateral Agent, and the Lenders referenced therein (incorporated by reference to Exhibit 10.45 to the Registrant's Form 10-K/A filed as of August 18, 2016, File No. 1-7598). "Lenders" includes the Registrant.
10.24++	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.
10.25	Transition Services Agreement, dated as of January 27, 2017, by and between Registrant and Varex Imaging Corporation (incorporated by reference to Exhibit No. 10.1 to the Registrants Form 8-K Current Report filed as of January 30, 2017, File No. 1-7598).

Exhibit Number	Description
10.26	Tax Matters Agreement, dated as of January 27, 2017, by and between Registrant and Varex Imaging Corporation (incorporated by reference to Exhibit No. 10.2 to the Registrants Form 8-K Current Report filed as of January 30, 2017, File No. 1-7598).
10.27	Employee Matters Agreement, dated as of January 27, 2017, by and between Registrant and Varex Imaging Corporation (incorporated by reference to Exhibit No. 10.3 to the Registrant's Form 8-K Current Report filed as of January 30, 2017, File No. 1-7598).
10.28	Intellectual Property Matters Agreement, dated as of January 27, 2017, by and between Registrant and Varex Imaging Corporation (incorporated by reference to Exhibit No. 10.4 to the Registrant's Form 8-K Current Report filed as of January 30, 2017, File No. 1-7598).
10.29	Trademark License Agreement, dated as of January 27, 2017, by and between Registrant and Varex Imaging Corporation (incorporated by reference to Exhibit No. 10.5 to the Registrant's Form 8-K Current Report filed as of January 30, 2017, File No. 1-7598).
10.30†	Registrant's Fourth Amended and Restated 2005 Omnibus Stock Plan (incorporated by reference to Appendix A of the Registrant's Proxy Statement for its 2017 Annual Meeting of Stockholders filed as of December 30, 2016, File No. 1-7598).
10.31†	Offer Letter between Registrant and Gary Bischoping, dated March 20, 2017 (incorporated by reference to Exhibit 10.1 to the Registrant's From 8-K Current Report filed as of April 5, 2017, File No. 1-07598).
10.32†	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).
10.33†	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).
10.34†	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).
10.35†	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).
10.36†	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).
10.37†	Registrant's Fifth Amended and Restated 2005 Omnibus Stock Plan (incorporated by reference to Appendix A of the Registrant's Proxy Statement for its 2018 Annual Meeting of Stockholders filed as of December 29, 2017, File No. 1-7598).
10.38†	Form of Registrant's Time-based Nonqualified Stock Option Agreement under the Registrant's Fifth Amended and Restated 2005 Omnibus Stock Plan.
10.39†	Form of Registrant's Time Based Restricted Stock Unit Agreement under the Registrant's Fifth Amended and Restated 2005 Omnibus Stock Plan (effective for grants made prior to August 21, 2020).

Exhibit Number	Description
10.40†	Form of Registrant Performance Units Agreement under the Registrant's Fifth Amended and Restated 2005 Omnibus Stock Plan
10.41	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 (incorporated by reference to Exhibit 10.41 to the Registrant's Form 10-K filed as of November 25, 2019, File No. 1-7598).
10.42†	Form of Registrant's Non-Employee Director Restricted Stock Unit Agreement under the Registrant's Fifth Amended and Restated 2005 Omnibus Stock Plan (incorporated by reference to Exhibit No. 10.1 to the Registrant's Form 10-Q Quarterly Report filed as of February 11, 2020, File No. 1-7598).
10.43†	Executive Separation Agreement by and between Registrant and John Kuo dated April 22, 2020 (incorporated by reference to Exhibit No. 10.1 to the Registrant's Form 10-Q Quarterly Report filed as of August 11, 2020, File No. 1-7598).
10.44†	Change in Control Agreement between Varian Medical Systems, Inc. and Dow R. Wilson, effective as of August 1, 2020 (incorporated by reference to Exhibit No. 10.1 to the Registrant's Form 8-K Current Report filed as of August 3, 2020, File No. 1-7598).
10.45†	Change in Control Agreement between Varian Medical Systems, Inc. and J. Michael Bruff, effective as of August 1, 2020 (incorporated by reference to Exhibit No. 10.2 to the Registrant's Form 8-K Current Report filed as of August 3, 2020, File No. 1-7598).
10.46†	Change in Control Agreement between Varian Medical Systems, Inc. and Kolleen T. Kennedy, effective as of August 1, 2020 (incorporated by reference to Exhibit 10.3 to the Registrant's Form 8-K Current Report filed as of August 3, 2020, File No. 1-7598).
10.47†	Change in Control Agreement between Varian Medical Systems, Inc. and Christopher A. Toth, effective as of August 1, 2020 (incorporated by reference to Exhibit No. 10.4 to the Registrant's Form 8-K Current Report filed as of August 3, 2020, File No. 1-7598).
10.48†*	Form of Registrant's Time Based Restricted Stock Unit Agreement under the Registrant's Fifth Amended and Restated 2005 Omnibus Stock Plan (effective for grants made on and after August 21, 2020).
21*	List of Subsidiaries as of November 5, 2020
23*	Consent of Independent Registered Public Accounting Firm.
31.1*	Chief Executive Officer Certification Pursuant to Rule 13a-14(a) of the Securities Exchange Act.
31.2*	Chief Financial Officer Certification Pursuant to Rule 13a-14(a) of the Securities Exchange Act.
32.1**	Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2**	Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.*	The following financial statements from the Company's Annual Report on Form 10-K for the year ended October 2, 2020: (i) Consolidated Statements of Earnings, (ii) Consolidated Statements of Comprehensive Earnings, (iii) Consolidated Balance Sheets, (iv) Consolidated Statements of Cash Flows, (v) Consolidated Statements of Equity, and (vi) Notes to the Consolidated Financial Statements, tagged as blocks of text and including detailed tags.
104*	The cover page from the Company's Annual Report on Form 10-K for the year ended October 2, 2020, 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, 2020

VARIAN MEDICAL SYSTEMS, INC.

By: **/s/ J. MICHAEL BRUFF**
J. Michael Bruff
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.

Signature	Capacity	Date
/s/ DOW R. WILSON Dow R. Wilson	President and Chief Executive Officer and Director *(Principal Executive Officer)*	November 25, 2020
/s/ J. MICHAEL BRUFF J. Michael Bruff	Senior Vice President, Finance and Chief Financial Officer *(Principal Financial Officer)*	November 25, 2020
/s/ MAGNUS A. MOMSEN Magnus A. Momsen	Senior Vice President, Chief Accounting Officer and Corporate Controller *(Principal Accounting Officer)*	November 25, 2020
/s/ R. ANDREW ECKERT R. Andrew Eckert	Chairman of the Board of Directors	November 25, 2020
/s/ MICHELE LE BEAU Michele Le Beau	Director	November 25, 2020
/s/ JEFFREY R. BALSER Jeffrey R. Balser	Director	November 25, 2020
/s/ ANAT ASHKENAZI Anat Ashkenazi	Director	November 25, 2020
/s/ JUDY BRUNER Judy Bruner	Director	November 25, 2020
/s/ JEAN-LUC BUTEL Jean-Luc Butel	Director	November 25, 2020
/s/ REGINA E. DUGAN Regina E. Dugan	Director	November 25, 2020
/s/ DAVID J. ILLINGWORTH David J. Illingworth	Director	November 25, 2020
/s/ PHILLIP FEBBO Phillip Febbo	Director	November 25, 2020

Schedule II

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
VALUATION AND QUALIFYING ACCOUNTS

Fiscal Year	Description	Balance at Beginning of Period	Provision to Allowance for Doubtful Accounts	Write-offs Adjustments Charged to Allowance	Balance at End of Period
			(In millions)		
2020	Allowance for doubtful accounts	$ 46.5	$ 14.5	$ (2.7)	$ 58.3
2019	Allowance for doubtful accounts	$ 41.1	$ 6.6	$ (1.2)	$ 46.5
2018	Allowance for doubtful accounts	$ 63.1	$ 4.0	$ (26.0)	$ 41.1

Fiscal Year	Description	Balance at Beginning of Period	Increases	Deductions	Balance at End of Period
			(In millions)		
2020	Valuation allowance for deferred tax assets	$ 99.7	$ 39.1	$ (0.9)	$ 137.9
2019	Valuation allowance for deferred tax assets	$ 101.6	$ 6.7	$ (8.6)	$ 99.7
2018	Valuation allowance for deferred tax assets	$ 105.8	$ 5.3	$ (9.5)	$ 101.6

VARIAN MEDICAL SYSTEMS, INC.

Fifth Amended and Restated 2005 Omnibus Stock Plan

RESTRICTED STOCK UNIT AGREEMENT

Varian Medical Systems, Inc. (the "Company") hereby awards to the designated employee ("Employee") named on the Summary of Grant Award* (the "Grant Summary") Restricted Stock Units under the Company's Fifth Amended and Restated 2005 Omnibus Stock Plan (the "Plan"). The Restricted Stock Units awarded under this Restricted Stock Unit Agreement (the "Agreement") consist of the right to receive shares of common stock of the Company ("Shares"). The Grant Date is the date of this Agreement (the "Grant Date"). Subject to the provisions of Appendix A of this Agreement ("Appendix A") (attached) and of the Plan, the principal features of this award are as follows:

Grant Date: [INSERT DATE]

Total Number of Restricted Stock Units: [INSERT NUMBER]

Scheduled Vesting Dates:	**Number of Restricted Stock Units****
[AUGUST 10th 1 YEAR FROM GRANT DATE]	[33-1/3% of NUMBER A]
[AUGUST 10th 2 YEARS FROM GRANT DATE]	[33-1/3% of NUMBER A]
[AUGUST 10th 3 YEARS FROM GRANT DATE]	[33-1/3% of NUMBER A]

* See "Grant Summary" page on the service provider website.

** See Section 6(b) of Appendix A of the Agreement for treatment of fractional Shares.

Your signature below, or otherwise any acceptance of the Restricted Stock Units or any Shares hereunder, indicates your agreement and understanding that this award is subject to all of the terms and conditions contained in Appendix A and the Plan. For example, important additional information on vesting and forfeiture of the Restricted Stock Units covered by this award is contained in Paragraphs 2 through 5 of Appendix A. **PLEASE BE SURE TO READ ALL OF APPENDIX A, WHICH CONTAINS THE SPECIFIC TERMS AND CONDITIONS OF THIS AGREEMENT. YOU CAN REQUEST A COPY OF THE PLAN BY CONTACTING THE CORPORATE HUMAN RESOURCES OFFICE IN PALO ALTO, CALIFORNIA. TO THE EXTENT ANY CAPITALIZED TERMS USED IN APPENDIX A ARE NOT DEFINED HEREIN, THEY WILL HAVE THE MEANING ASCRIBED TO THEM IN THE PLAN.**

VARIAN MEDICAL SYSTEMS, INC. **EMPLOYEE**

By: ____ ____

Title: [NAME]

APPENDIX A

TERMS AND CONDITIONS OF RESTRICTED STOCK UNITS

1. Award. The Company hereby awards to the Employee under the Plan as a separate incentive, and not in lieu of any salary or other compensation for his or her services, an award of [INSERT NUMBER] Restricted Stock Units on the date hereof, subject to all of the terms and conditions in this Agreement and the Plan.

2. Vesting Schedule. Except as provided in Paragraphs 3 and 5, the Restricted Stock Units subject to this Agreement shall vest as follows: thirty-three and one-third percent (33-1/3%) of the Shares covered by this Award on August 10th of the year following the year this Award is granted, and as to an additional thirty-three and one-third percent (33-1/3%) on each succeeding one-year anniversary of the first vesting date (each date, a "Vesting Date"), until one hundred percent (100%) of such Restricted Stock Units shall have been vested. Restricted Stock Units shall not vest in accordance with any of the provisions of Paragraph 2 unless the Employee (a) shall have been continuously and actively employed by the Company or by one of its Affiliates from the Grant Date until each Vesting Date or (b) shall have had a Termination of Service due to Disability at any time following the Grant Date, in which case, vesting shall occur upon the Employee's Termination of Service and settlement shall occur within thirty (30) days following such Termination of Service.

3. Committee Discretion. The Committee, in its absolute discretion, may accelerate the vesting and settlement timing of the balance, or some lesser portion of the balance, of the unvested Restricted Stock Units at any time. If so accelerated, such Restricted Stock Units shall be considered as having vested as of the date specified by the Committee.

4. Forfeiture. Except as provided in Paragraphs 2, 3 and 5 and notwithstanding any contrary provision of this Agreement, the balance of the Restricted Stock Units which have not vested at the time of the Employee's Termination of Service shall thereupon be forfeited. For the avoidance of doubt and for purposes of these Restricted Stock Units only, Termination of Service will be deemed to occur as of the date the Employee is no longer actively providing services as an employee of the Company or an Affiliate (except, in certain circumstances at the sole discretion of the Company, to the extent the Employee is on an approved leave of absence) and will not be extended by any notice period or "garden leave" that may be required contractually or under applicable laws, unless otherwise determined by the Company in its sole discretion.

5. Death of Employee. In the event of the Employee's death prior to Employee's Termination of Service, each Vesting Date of the Restricted Stock Units subject to this Agreement shall fully accelerate and all of the Restricted Stock Units subject to this Agreement shall be settled at the time of Employee's death. Any distribution or delivery to be made to the Employee under this Agreement shall, if the Employee is then deceased, be made to the Employee's designated beneficiary, or if either no beneficiary survives the Employee or the Committee does not permit beneficiary designations, to the administrator or executor of the Employee's estate. Any designation of a beneficiary by the Employee shall be effective only if such designation is made in a form and manner acceptable to the Committee. Any transferee must furnish the Company with (a) written notice of his or her status as transferee, and (b) evidence satisfactory to the Company to establish the validity of the transfer and compliance with any laws or regulations pertaining to said transfer.

6. Settlement of Restricted Stock Units; Dividend Equivalents.

Status as a Creditor. Unless and until Restricted Stock Units have vested in accordance with Paragraph 2, 3 or 5 above, the Employee will have no settlement right with respect to any Restricted Stock Units. Prior to settlement of any vested Restricted Stock Units, the vested Restricted

Stock Units will represent an unfunded and unsecured obligation of the Company, payable (if at all) only from the general assets of the Company. The Employee is an unsecured general creditor of the Company, and settlement of Restricted Stock Units is subject to the claims of the Company's creditors.

Form and Timing of Settlement. Restricted Stock Units will automatically be settled in the form of Shares upon the applicable vesting of the Restricted Stock Units pursuant to Paragraph 2 or 5 above. Fractional Shares will not be issued upon the vesting of Restricted Stock Units. Where a fractional Share would be owed to the Employee upon the vesting of Restricted Stock Units, a cash payment equivalent will be paid in place of any such fractional Share using the Fair Market Value on the relevant settlement date.

Dividend Equivalents. Restricted Stock Units will accrue dividend equivalents in the event cash dividends are paid with respect to the Shares having a record date on or after the Grant Date and prior to the date on which the Restricted Stock Units are settled. Such dividend equivalents will be settled in cash and paid only if and when the underlying Restricted Stock Units vest and are settled. Dividend equivalents shall not accrue interest prior to the date of settlement. For purposes of clarity, no dividend equivalents shall be credited with respect to any Restricted Stock Units that are settled or terminated prior to the applicable dividend record date.

7. Tax Liability and Withholding. The Company or one if its Affiliates may assess applicable tax liability and requirements (including any income tax or tax withholdings, social contributions, required deductions, or other payments) in connection with the Employee's participation in the Plan, including, without limitation, any such liability associated with the grant or vesting of the Restricted Stock Units or sale of the underlying shares (collectively, the "Tax-Related Items"). These requirements may change from time to time as laws or interpretations change. Regardless of the Company's or any Affiliate's actions in this regard, and as a condition to the grant, vesting, and settlement of the Restricted Stock Units, the Employee hereby acknowledges and agrees that all Tax-Related Items shall be the Employee's responsibility and liability and may exceed any amount actually calculated, withheld, or requested from the Employee by the Company or any Affiliate. Further, the Employee acknowledges and agrees that the Company (a) makes no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Restricted Stock Units; and (b) does not commit to structure the terms of the Award or any aspect of the Restricted Stock Units to reduce or eliminate the Employee's liability for Tax-Related Items or achieve any particular tax result. The Employee acknowledges that the Company's obligation to issue or deliver Shares shall be subject to satisfaction of all Tax-Related Items. The Tax-Related Items shall be satisfied by the Company's withholding all or a portion of any Shares that otherwise would be issued to the Employee upon settlement of the vested Restricted Stock Units; provided that amounts withheld shall not exceed the amount necessary to satisfy the Company's tax withholding obligations. Such withheld Shares shall be valued based on the Fair Market Value as of the date the withholding obligations are satisfied. Furthermore, the Employee agrees to pay the Company or the Affiliate any Tax-Related Items that cannot be satisfied by the foregoing methods. The Employee also agrees that he or she will not make any claim against the Company, or any of its directors, employees or Affiliates related to tax liabilities arising from the Restricted Stock Units. The Employee further acknowledges and agrees that the Employee is responsible for filing all relevant documentation that may be required in relation to the Restricted Stock Units or any Tax-Related Items (other than filings or documentation that is the specific obligation of the Company or an Affiliate pursuant to applicable law) such as but not limited to personal income tax returns or reporting statements in relation to the grant, vesting or settlement of the Restricted Stock Units, the holding of Shares or any bank or brokerage account, the subsequent sale of Shares, and the receipt of any dividends or dividend equivalents. The Employee also understands that applicable laws may require varying Share or Restricted Stock Unit valuation methods for purposes of calculating Tax-Related Items,

and the Company assumes no responsibility or liability in relation to any such valuation or for any calculation or reporting of income or Tax-Related Items that may be required of the Employee under applicable laws. Further, if the Employee has become subject to Tax-Related Items in more than one jurisdiction, the Employee acknowledges that the Company or an Affiliate may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

8. Rights as Stockholder. Neither the Employee nor any person claiming under or through the Employee shall have any of the rights or privileges of a stockholder of the Company in respect of any Restricted Stock Units (whether vested or unvested) unless and until such Restricted Stock Units are settled in Shares and certificates representing such Shares shall have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to the Employee. After such issuance, recordation and delivery, the Employee shall have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares.

9. Acknowledgments. The Employee acknowledges and agrees to the following:

(a) The grant of the Restricted Stock Units is voluntary and occasional and does not create any contractual or other right to receive future grants of Restricted Stock Units, or benefits in lieu of the Restricted Stock Units even if Restricted Stock Units have been granted repeatedly in the past, and all determinations with respect to such future Restricted Stock Units, if any, including but not limited to, the times when the Restricted Stock Units shall be granted or when the Restricted Stock Units shall vest, will be at the sole discretion of the Committee;

(b) The Employee's participation in the Plan is voluntary, and the value of the Restricted Stock Units is an extraordinary item of compensation, which is outside the scope of the Employee's employment contract (if any), except as may otherwise be explicitly provided in the Employee's employment contract (if any); further, the Restricted Stock Units are not part of normal or expected compensation or salary for any purpose, including, but not limited to, calculating termination, severance, resignation, redundancy, end of service, or similar payments, or bonuses, long-service awards, pension or retirement benefits;

(c) The future value of the Shares is unknown and cannot be predicted with certainty and may decrease in value; further, neither the Company nor any Affiliate is responsible for any foreign exchange fluctuation between local currency and the United States Dollar or the selection by the Company or any Affiliate in its sole discretion of an applicable foreign currency exchange rate that may affect the value of the Restricted Stock Units (or the calculation of income or Tax-Related Items thereunder);

(d) No claim or entitlement to compensation or damages arises from the termination of the Award or diminution in value of the Restricted Stock Units or Shares, and the Employee irrevocably releases the Company and its Affiliates from any such claim that may arise;

(e) Neither the Plan nor the Restricted Stock Units shall be construed to create an employment relationship where any employment relationship did not otherwise already exist; further, nothing in this Agreement or the Plan shall 1) confer upon the Employee any right to be or continue to be employed by the Company or any Affiliate for any period of time or 2) interfere with or restrict in any way the rights of the Company or the Affiliate, which are hereby expressly reserved, to terminate the employment of the Employee under applicable law;

(f) The transfer of employment of the Employee between the Company and any one of its Affiliates (or between Affiliates) shall not be deemed a Termination of Service;

(g) Nothing herein contained shall affect the Employee's right to participate in and receive benefits under and in accordance with the then current provisions of any pension, insurance or other employee welfare plan or program of the Company or any Affiliate;

(h) Unless otherwise permitted by the Company, any cross-border cash remittance made to transfer proceeds received upon the sale of Shares must be made through a locally authorized financial institution or registered foreign exchange agency and may require the Company or the Employee to provide to such entity certain information regarding the transaction.

10. Changes in Stock. In the event that as a result of a stock dividend, stock split, reclassification, recapitalization, combination of Shares or the adjustment in capital stock of the Company or otherwise, or as a result of a merger, consolidation, spin-off or other reorganization, the Company's common stock shall be increased, reduced or otherwise changed, the Restricted Stock Units shall, subject to Section 409A of the Code, be properly adjusted.

11. Address for Notices. Any notice to be given to the Company under the terms of this Agreement shall be addressed to the Company, in care of its Secretary, at 3100 Hansen Way, Palo Alto, California 94304, or at such other address as the Company may hereafter designate in writing.

12. Restrictions on Transfer. Except as provided in Paragraph 5 above, this award and the rights and privileges conferred hereby shall not be transferred, assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of this award, or of any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this award and the rights and privileges conferred hereby immediately shall become null and void. Regardless of whether the transfer or issuance of the Shares to be issued pursuant to this Agreement has been registered under the Securities Act of 1933, as amended (the "1933 Act") or has been registered or qualified under the securities laws of any state or other jurisdiction, the Company may impose additional restrictions upon the sale, pledge, or other transfer of the Shares (including the placement of appropriate legends on stock certificates and the issuance of stop-transfer instructions to the Company's transfer agent) if, in the judgment of the Company and the Company's counsel, such restrictions are necessary in order to achieve compliance with the provisions of the 1933 Act, the securities laws of any state or other jurisdiction, or any other law. Stock certificates evidencing the Shares issued pursuant to this Agreement, if any, may bear such restrictive legends as the Company and the Company's counsel deem necessary under applicable laws or pursuant to this Agreement.

13. Binding Agreement. Subject to the limitation on the transferability of this award contained herein, this Agreement shall be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

14. Conditions for Issuance of Certificates for Stock. The Shares deliverable to the Employee upon settlement of vested Restricted Stock Units may be either previously authorized but unissued Shares or issued Shares which have been reacquired by the Company. Subject to Section 409A of the Code, the Company shall not be required to issue any certificate or certificates for Shares hereunder prior to fulfillment of all the following conditions: (a) the admission of such Shares to listing on all stock exchanges on which such class of stock is then listed; (b) the completion of any registration or other qualification or compliance of such Shares under any applicable law or under the rulings or regulations of the Securities and Exchange Commission or any other governmental regulatory body, which the Committee shall, in its absolute discretion, deem necessary or advisable; (c) the approval or other clearance from any governmental regulatory body, which the Committee shall, in its absolute discretion, determine to be necessary or advisable; and (d) the lapse of such reasonable period of time following the

Vesting Date as the Committee may establish from time to time for reasons of administrative convenience. To the extent applicable laws may restrict or prevent the settlement of the Restricted Stock Units, neither the Company nor any Affiliate assumes liability in relation to the Restricted Stock Units.

15. Plan Governs. This Agreement is subject to all terms and provisions of the Plan. In the event of a conflict between one or more provisions of this Agreement and one or more provisions of the Plan, the provisions of the Plan shall govern.

16. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California, without reference to its principles of conflicts of law. For purposes of litigating any dispute that may arise directly or indirectly from this Agreement, the parties hereby submit and consent to the exclusive jurisdiction of the State of California and agree that any such litigation shall be conducted only in the courts of California or the federal courts of the United States located in California and no other courts.

17. Committee Authority. The Committee shall have the power to interpret the Plan and this Agreement, and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules. All actions taken and all interpretations and determinations made by the Committee in good faith shall be final and binding upon the Employee, the Company and all other interested persons. No member of the Committee shall be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Agreement. In its absolute discretion, the Board may at any time and from time to time exercise any and all rights and duties of the Committee under the Plan and this Agreement.

18. Imposition of Other Requirements. The Company reserves the right to impose other requirements on the Employee's participation in the Plan, on the Restricted Stock Units and the Shares subject to the Restricted Stock Units and on any other award or Shares acquired under the Plan, or take any other action, to the extent the Company determines it is necessary or advisable in order to comply with applicable laws or facilitate the administration of the Plan. The Employee agrees to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing. Furthermore, the Employee acknowledges that the applicable laws of the country in which the Employee is residing or working at the time of grant, vesting and settlement of the Restricted Stock Units or the sale of Shares received pursuant to the Restricted Stock Units (including any rules or regulations governing securities, foreign exchange, tax, labor, or other matters) may subject the Employee to additional procedural or regulatory requirements that the Employee is and will be solely responsible for and must fulfill. The Employee also understands and agrees that if he works, resides, moves to, or otherwise is or becomes subject to applicable laws or Company policies of another jurisdiction at any time, certain country-specific notices, disclaimers and/or terms and conditions may apply to him as from the Grant Date, unless otherwise determined by the Company in its sole discretion.

19. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

20. Severability. In the event that any provision in this Agreement shall be held invalid or unenforceable, such provision shall be severable from, and such invalidity or unenforceability shall not be construed to have any effect on, the remaining provisions of this Agreement.

21. Modifications to the Agreement. This Agreement constitutes the entire understanding of the parties on the subjects covered. The Employee expressly warrants that he or she is not executing this Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company.

22. Amendment, Suspension or Termination of the Plan. By accepting this award, the Employee expressly warrants that he or she has received a right to an equity based award under the Plan, and has received, read, and understood a description of the Plan. The Employee understands that the Plan is discretionary in nature and may be modified, suspended, or terminated by the Company at any time.

23. ***Data Privacy. The Employee hereby explicitly and unambiguously consents to the collection, use, and transfer, in electronic or other form, of his or her Personal Data (as described below) by and among, as applicable, the Company and its Subsidiaries or Affiliates for the exclusive purposes of implementing, administering and managing the Employee's participation in the Plan. The Employee understands that refusal or withdrawal of consent will affect the Employee's ability to participate in the Plan; without providing consent, the Employee will not be able to participate in the Plan or realize benefits (if any) from the Restricted Stock Unit.***

The Employee understands that the Company and its Subsidiaries or Affiliates or designated third parties may hold personal information about the Employee, including, but not limited to, name, home address, date of birth, salary, job title, termination date and reason, local identification number, electronic mail address, any shares or directorships held in the Company, details of all Restricted Stock Units or other entitlement to shares awarded, canceled, exercised, vested, unvested, or outstanding in the Employee's favor ("Personal Data"). The Employee further understands that the Personal Data may be transferred to any Subsidiary or Affiliate or third parties assisting the Company in the implementation, administration, and management of the Plan ("Data Recipients"). These Data Recipients may be located in the United States, the Employee's country, or elsewhere, and that the Data Recipients country may have different data privacy laws and protections than the Employee's country. In particular, the Company may transfer Personal Data to the broker or stock plan administrator assisting with the Plan, to its legal counsel and tax/accounting advisor and to the Subsidiary or Affiliate that is the Employee's employer and its payroll provider.

24. Electronic Delivery and Agreement: By executing this Agreement, whether in writing or by electronic means, or by otherwise accepting the Restricted Stock Units or any Shares, the Employee consents to the electronic delivery of the Plan documents, this Agreement, and any other Company-related documents. The Employee also agrees to participate in the Plan electronically via online or third-party systems as may be designated by the Company, including the use of electronic signatures or click-through electronic acceptance of terms and conditions. Execution of this Agreement, whether in writing or electronic, shall have the same binding effect and shall fully bind Employee and the Company to all of the terms and conditions set forth in this Agreement and the Plan.

25. Translation. To the extent the Employee has been provided with a copy of this Agreement, the Plan, or any other documents relating to the Restricted Stock Units in a language other than English, the English language documents will prevail in case of any ambiguities or divergences as a result of translation.

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Exhibit 21

VARIAN MEDICAL SYSTEMS, INC.

LIST OF SUBSIDIARIES

Name	State or Other Jurisdiction of Incorporation
CyberHeart, Inc.	DE, USA
D3 Oncology Inc.	DE, USA
Endocare, Inc.	DE, USA
Mansfield Insurance Company	VT, USA
Mobius Medical Systems Holdings, LLC	TX, USA
Mobius Medical Systems, LP	TX, USA
Page Mill Corporation	MA, USA
Varian BioSynergy, Inc.	DE, USA
Varian Medical Systems Africa Holdings, Inc.	DE, USA
Varian Medical Systems Canada Holdings, Inc.	DE, USA
Varian Medical Systems India Pvt. Ltd.	DE, USA
Varian Medical Systems International Holdings, Inc.	DE, USA
Varian Medical Systems Latin America, Ltd.	DE, USA
Varian Medical Systems Netherlands Holdings, Inc.	DE, USA
Varian Medical Systems Pacific, Inc.	DE, USA
American Institute of Pathology and Laboratory Sciences Private Limited	India
Artmed Healthcare Private Limited	India
Asiri AOI Cancer Center (Private) Ltd.	Sri Lanka
Cancer Treatment Services Hyderabad Private Limited	India
CTSI (Mauritius) Limited	Mauritius
Fang Chi Health Management Co., Ltd.	Taiwan
Hangzhou Alicon Pharmaceutical Technology Co. Ltd.	China
Hong Tai Health Management Co., Ltd.	Taiwan
Monarch Capital, Limited	Cayman Islands
New Century Health Care Corporation	Taiwan
Scion Medical Technologies (Shanghai) Ltd. (a/k/a Scion Medical Equipment Co. Ltd.)	China
Scion Medical Limited	Hong Kong
Talent Choice Investment Limited	Cayman Islands
Varian Medical Systems Africa (Pty) Ltd	South Africa
Varian Medical Systems Algeria SpA	Algeria
Varian Medical Systems Arabia Commercial Limited	Saudi Arabia
Varian Medical Systems Australasia Pty Ltd.	Australia
Varian Medical Systems Belgium N.V.	Belgium
Varian Medical Systems Brasil Limitada	Brazil
Varian Medical Systems Canada, Inc.	Canada
Varian Medical Systems (China) Co. Ltd.	China
Varian Medical Systems Deutschland G.m.b.H.	Germany
Varian Medical Systems Finland OY	Finland
Varian Medical Systems France	France

Varian Medical Systems Gesellschaft m.b.H.	Austria
Varian Medical Systems Haan G.m.b.H.	Germany
Varian Medical Systems Hungary Kft	Hungary
Varian Medical Systems Iberica S.L.	Spain
Varian Medical Systems Imaging Laboratory G.m.b.H.	Switzerland
Varian Medical Systems International A.G.	Switzerland
Varian Medical Systems International (India) Pvt. Ltd.	India
Varian Medical Systems Italia S.p.A.	Italy
Varian Medical Systems K.K.	Japan
Varian Medical Systems Korea, Inc.	Korea
Varian Medical Systems Malaysia Sdn. Bhd.	Malaysia
Varian Medical Systems Mauritius Ltd.	Mauritius
Varian Medical Systems München GmbH	Germany
Varian Medical Systems Nederland B.V.	Netherlands
Varian Medical Systems Nederland Finance B.V.	Netherlands
Varian Medical Systems Particle Therapy GmbH	Germany
Varian Medical Systems Philippines, Inc.	Philippines
Varian Medical Systems Poland Sp. zo. o	Poland
Varian Medical Systems Puerto Rico, LLC	Puerto Rico
Varian Medical Systems (RUS) LLC	Russia
Varian Medical Systems Scandinavia AS	Denmark
Varian Medical Systems Taiwan Co., Ltd.	Taiwan
Varian Medical Systems Trading (Beijing) Co., Ltd.	China
Varian Medical Systems UK Holdings Limited	United Kingdom
Varian Medical Systems UK Limited	United Kingdom
Varian Medical Systems Vietnam Company Limited	Vietnam
Varinak Oncology Systems	Turkey
Varinak Bulgaria LTD	Bulgaria
Varinak Europe SRL	Romania
VMS Deutschland Holdings G.m.b.H.	Germany
VMS Kenya, Ltd	Kenya
Vertice Investment Limited	Hong Kong

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-223143, No. 333-220078, No.333-188693, and No. 333-168443) of Varian Medical Systems, Inc. of our report dated November 25, 2020 relating to the 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, 2020

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE 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, 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 reasonable 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, 2020

/s/ Dow R. Wilson
Dow R. Wilson
President
and Chief Executive Officer

Exhibit 31.2

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, J. Michael Bruff, 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 reasonable 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, 2020

/s/ J. Michael Bruff
J. Michael Bruff
Senior Vice President and
Chief Financial Officer

Exhibit 32.1

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 October 2, 2020 (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, 2020

/s/ Dow R. Wilson
Dow R. Wilson
President
and Chief Executive Officer

Exhibit 32.2

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 October 2, 2020 (the "Report"), I, J. Michael Bruff, 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, 2020

/s/ J. Michael Bruff

J. Michael Bruff
Senior Vice President and
Chief Financial Officer