

VARIAN MEDICAL SYSTEMS INC

Form 10-K

November 26, 2013

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

x ANNUAL REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the fiscal year ended September 27, 2013

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	(I.R.S. Employer
incorporation or organization)	Identification Number)

3100 Hansen Way, Palo Alto, California	94304-1030
(Address of principal executive offices)	(Zip Code)
(650) 493-4000	

(Registrant's telephone number, including area code)

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

Title of each class	Name of each exchange on which registered
Common Stock, \$1 par value	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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K

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

Large accelerated filer  Accelerated filer   
Non-accelerated filer  Smaller reporting company

(Do not check if a smaller reporting company)

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

As of March 29, 2013, the last business day of Registrant's most recently completed second fiscal quarter, the aggregate market value of shares of Registrant's common stock held by non-affiliates of Registrant (based upon the closing sale price of such shares on the New York Stock Exchange on March 28, 2013) was approximately \$7,792,603,632. Shares of Registrant's common stock held by the Registrant's executive officers and directors and by

each entity that owned 10% or more of Registrant's outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

At November 19, 2013, the number of shares of the Registrant's common stock outstanding was 105,719,260.

DOCUMENTS INCORPORATED BY REFERENCE

Definitive Proxy Statement for the Company's 2014 Annual Meeting of Stockholders Part III of this Form 10 K

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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 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, and from time to time in our other filings with the Securities and Exchange Commission (SEC). For this purpose, statements concerning industry or market segment outlook; market acceptance of our transition to new products or technology such as fixed field intensity-modulated radiation therapy, image-guided radiation therapy, stereotactic radiosurgery, volumetric modulated arc therapy, brachytherapy, software, treatment techniques, proton therapy and advanced X-ray products; growth drivers; future orders, revenues, backlog, earnings or other financial results; and any statements using the terms believe, expect, anticipate, can, should, would, could, estimate, may, intended, potential, 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, radiosurgery, proton therapy and brachytherapy. We are also a premier supplier of X-ray imaging components for medical, scientific, and industrial applications and also supply X-ray imaging products for cargo screening and industrial inspection. Our mission is to explore and develop radiation technology that helps to protect and save lives and prevent harm. We seek to be a Partner for Life and to help save millions of lives every year everywhere. To meet this challenge, we offer tools for fighting cancer, taking X-ray images and protecting ports and borders.

Our Oncology Systems business segment designs, manufactures, sells and services hardware and software products for treating cancer with conventional radiotherapy (including IMRT, IGRT and volumetric modulated arc therapy), stereotactic body radiotherapy, stereotactic radiotherapy, stereotactic radiosurgery and brachytherapy. Our products include linear accelerators, brachytherapy afterloaders, treatment simulation and verification equipment and accessories; as well as information management, treatment planning and image processing software. Our products enable radiation oncology departments in hospitals and clinics to perform conventional radiotherapy treatments and offer advanced treatments such as fixed field intensity-modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), volumetric modulated arc therapy, and stereotactic radiotherapy, as well as to treat patients using brachytherapy techniques. Our products are also used by surgeons and radiation oncologists to perform radiosurgery. Our worldwide customers include university research and community hospitals, private and governmental institutions, healthcare agencies, doctors' offices and cancer care clinics.

Our X-Ray Products business segment designs, manufactures, sells and services X-ray imaging components for use in a range of applications, including radiographic or fluoroscopic imaging, mammography, special procedures, computed tomography ( CT ) and industrial applications. We sell our X-ray imaging components to large imaging system original equipment manufacturer ( OEM ) customers that incorporate them into their medical diagnostic, dental, veterinary and industrial imaging systems. We also sell our X-ray tubes and our flat panel digital image detectors for filmless X-ray imaging (commonly referred to as flat panel detectors or digital image detectors ) to small OEM customers, independent service companies and directly to end-users for replacement purposes.

We report Security and Inspection Products ( SIP ), Varian Particle Therapy ( VPT ) and Ginzton Technology Center ( GTC ), under the Other category. GTC, our scientific research facility, develops technologies that enhance our current businesses or may lead to new business areas, including technology to improve radiation therapy and X-ray imaging, as well as other technology for a variety of applications, including security and cargo screening. GTC is also actively engaged in searching for chemical or biological agents that work synergistically with radiation to improve treatment outcomes. Our SIP business designs, manufactures, sells and services Linatron® X-ray accelerators, imaging processing software and image detection products (including IntellX™) for security and inspection purposes, such as cargo screening at ports and borders and nondestructive examination in a variety of applications. We generally sell SIP products to OEM customers who incorporate our products into their inspection systems.

Our VPT 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. Although proton therapy has been in clinical use for more than four decades, it has not been widely deployed due to high capital cost. Our current focus is commercializing our ProBeam proton therapy system and bringing our expertise in traditional radiation therapy to proton therapy to improve its clinical utility and to reduce its cost of treatment per patient.

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.

#### Radiation Therapy and the Cancer Care Market

Radiotherapy is the use of certain types of focused energy to kill cancer cells and shrink tumors. Radiotherapy is commonly used either alone or in combination with surgery or chemotherapy. One important advantage is that radiation has its greatest effect on replicating cells. When radiation interacts with a cell the therapeutic effect is primarily mediated by damaging cellular genetic material (chromosomes), which interrupts cell replication and results in eventual cellular death. Since the need for replication is particularly critical to the survival of a cancer and since normal tissues are better able to repair such damage, radiation tends to disproportionately kill cancer cells. The clinical goal in radiation oncology is to deliver as high of a radiation dose as possible directly to the tumor to kill the cancerous cells while minimizing radiation exposure to healthy tissue surrounding the tumor so that complications, side effects and secondary effects can be limited. This goal has been the driving force in the clinical care advancements in radiation oncology over the past two decades, from conventional radiotherapy to advanced forms of treatment such as IMRT, IGRT, stereotactic radiosurgery ( SRS ), stereotactic body radiotherapy ( SBRT ) and proton therapy, and it has certainly been one of the driving forces in our own product development plans.

The process for delivering radiotherapy typically consists of examining the patient, planning the treatment, simulating and verifying the treatment plan, providing quality assurance for the equipment and software, delivering the treatment, verifying that the treatment was delivered correctly and recording the history and results of the treatment. The team responsible for delivering the radiotherapy treatment generally is comprised of a physician specializing in radiation oncology, a medical physicist for planning patient treatments and conducting appropriate quality assurance procedures and a radiation therapist for positioning the patients for treatment and operating the machines.

The most common form of radiotherapy 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 linear accelerator generates the X-ray beams and administers the treatment by rotating around a patient lying on a treatment couch and delivering the X-ray beam to the tumor from different angles in order to concentrate radiation at the tumor while at the same time minimizing the dose delivered to the surrounding healthy tissue. Conventional radiotherapy typically involves multiple, or fractionated, treatments of a tumor in up to 50 treatment sessions. The linear accelerator may also deliver electron beams for the treatment of diseases closer to the body surface.



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

IGRT is another advanced form of external beam radiotherapy complementing IMRT to enhance treatments. While IMRT helps physicians shape the beam to the tumor, IGRT goes further in allowing physicians to accommodate for a tumor moving or shrinking. This allows the delivery of even higher doses of radiation to tumors with the goal of sparing even more of the surrounding healthy tissue. IGRT technologies provide dynamic, real-time visualization enabling precise treatment of small, moving and changing tumors

with greater intensity and accuracy. With the greater precision offered by IGRT, clinics and hospitals are potentially able to improve outcomes by concentrating even still higher doses of radiation at the tumors. We believe IGRT has become an accepted standard for treatment in the radiation oncology market.

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 ionizing radiation. Radiosurgery is typically delivered with many small beams of radiation from many positions about the body, incorporating precise stereotactic image-guidance, which maximizes dose to the target and minimizes dose to surrounding normal tissues. Radiation oncologists, surgeons and other oncology specialists are increasingly recognizing radiosurgery as a useful tool to treat cancerous and non-cancerous lesions anywhere in the body.

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

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

An alternative to external beam radiotherapy, brachytherapy involves the insertion of radioactive seeds, wires or ribbons directly into a tumor or into a body cavity close to the cancerous area. These techniques, unlike external beam radiation therapy, tend to result in much less irradiation of the 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 and prostate.

Proton therapy is another form of external beam radiotherapy that uses proton particles in the form of a beam generated with a cyclotron rather than X-ray beams from a linear accelerator. A proton beam's signature energy distribution curve, also known as the Bragg peak, allows for greater accuracy 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 tumors near critical structures such as the optic nerve and cancers in children. Pencil-beam scanning capability allows for greater sparing of healthy tissue compared to external beam radiotherapy treatments. Although proton therapy has been in clinical use for more than four decades, it has not been widely deployed due to its high capital cost and the market is still developing. We have entered the proton therapy market because we believe we can apply our experience in traditional radiotherapy to proton therapy, reducing the cost of treatment per patient for existing clinical applications and expanding the use of proton therapy into a broader array of cancer types. We believe that proton therapy will over time become a more widely accepted method of treatment.

The radiation oncology market is growing globally due to a number of factors. The number of new cancer cases diagnosed annually is projected to increase by more than 65 percent from 12.7 million new cases in 2008 to more than

21.3 million in 2030, according to the International Agency for Research on Cancer (the IARC ) in the World Health Organization. The IARC s World Cancer Report predicts that the increase in new cases will mainly be due to steadily aging populations in both developed and developing countries. 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 match new, higher standards of care.

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

International markets in particular are under-equipped to address the growing cancer incidence. Patients in many foreign countries must frequently endure long waits for radiotherapy. Several countries with growing economies, including China, India, and Brazil, are

beginning to invest in expanding their radiation oncology capability to address the needs of their growing and aging populations. As an example, China and India are estimated to have less than fifteen treatment machines per million people over the age of 64; Brazil has an estimated 25 per million over the age of 64. By comparison, the United States is estimated to have about 90 treatment machines per million people over the age of 64. This capacity shortfall in emerging markets, coupled with ever increasing incidences of cancer, represent additional drivers for our continued growth in international markets.

## Products

### Oncology Systems

Our Oncology Systems business segment is the leading provider of advanced hardware and software products for treatment of cancer with conventional radiation therapy, IMRT, IGRT, volumetric modulated arc therapy, stereotactic radiotherapy, SRS, SBRT and brachytherapy. Oncology Systems products address each major aspect of the radiotherapy process, including linear accelerators and accessory products for positioning the patient and delivering the X-ray beam; brachytherapy afterloaders for delivering radioactive implantable seeds; treatment planning software for planning treatment sessions and dose delivery; treatment simulation and verification equipment 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 X-ray 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, clinically 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 and that 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 to the tumor while limiting exposure of nearby healthy tissue. Additionally, the precision and versatility of our products and technology makes it possible to use radiotherapy to treat metastatic cancers. With our treatment planning, verification and information management software products, a patient's treatment plans, treatment data and images are recorded and stored in a single database shared by each of our products, which enables better communication among products. Our products also allow multiple medical specialties—radiation oncology, neurosurgery, radiographic imaging and medical oncology—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.

Linear accelerators are the core device for delivering conventional external beam radiotherapy, IMRT, IGRT, volumetric modulated arc therapy treatments, stereotactic radio surgery and we produce versions of these devices to suit various clinical requirements. Our Clinac® medical linear accelerators are used to treat cancer by producing therapeutic electrons and X-ray beams that target tumors and other diseases. The Clinac iX linear accelerators 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 device with a faster dose delivery rate and more precise isocenter compared to the Clinac iX. At the high end, the TrueBeam™ system for image-guided radiotherapy and radiosurgery is a fully-integrated system designed from the ground up to treat a moving target with higher speed and accuracy and complements our accelerator product line portfolio. TrueBeam was the first platform in the market to introduce flattening filter free beam delivery modes bringing new dose delivery rates to therapy delivery that are between 40-140 percent faster than Trilogy.

We also manufacture and market linear accelerator accessories that enhance efficiency and enable delivery of advanced treatments such as IMRT, IGRT, stereotactic radiotherapy, SRS, SBRT and volumetric modulated arc therapy. 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 RPM respiratory gating system, which allows the linear accelerator to be synchronized with patient breathing to help compensate for tumor motion during treatment. During the first quarter of fiscal year 2013, we announced the EDGE™ radiosurgery suite, a combination of products for performing advanced radiosurgery using new real-time tumor tracking technology and motion management capabilities. We have now received Food and Drug Administration ( FDA ) 510(k) clearance for components of EDGE, including the EDGE radiosurgery accelerator and the Calypso® System with Dynamic Edge Gating, and have affixed the Conformité Européenne ( CE ) mark for the European Union ( EU ) on EDGE and the Calypso System. During fiscal year 2013, we booked multiple orders for the EDGE radiosurgery system and EDGE radiosurgery accessories and software, as upgrades to customers existing systems.

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 a cone-beam computerized tomography ( CBCT ) imaging software accessory that works with the OBI to allow patient positioning based on soft-tissue anatomy. Using sophisticated image analysis tools, the CBCT scan can be compared with a reference CT scan taken previously 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. Through the acquisition of Calypso Medical Technologies, Inc. ( Calypso ), a supplier of specialized products and software for real-time tumor tracking and motion management during radiosurgery and radiotherapy, in October 2011, Oncology Systems offers Calypso's GPS for the Body® products and software for real-time tumor tracking and motion management during radiosurgery and radiotherapy.

Our RapidArc radiotherapy products are a proprietary implementation of volumetric modulated arc therapy that coordinates 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 treatment planning and information management 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. 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 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.

Finally, our ARIA® Oncology Information Management System ( ARIA ) is a comprehensive 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 chemotherapy treatment which may be prescribed by a physician in addition to radiotherapy, 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 has been certified fully ARRA- Health Information Technology for Economic and Clinical Health Act ( HITECH ) compliant. In October 2012, we introduced our FullScale™ oncology-specific information technology solutions, which take advantage of virtualization or cloud technologies to deploy our ARIA oncology information system and our Eclipse treatment planning system in a way that enables treatment centers to take advantage of economies of scale.

Our treatment simulators enable physicians to simulate radiation therapy treatments prior to delivery. We manufacture and sell Acuity , a simulator that uses advanced amorphous silicon imaging technology and which has been designed to enhance IMRT treatments by integrating simulation more closely with treatment planning and by helping physicians better address tumor motion caused by breathing.

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. In April 2012, we entered into a strategic global partnership with Siemens AG ( Siemens ) through which, among other things, we represent Siemens diagnostic imaging products to radiation oncology clinics in most international markets and in North America, and Siemens, in turn, represents our equipment and software products for radiotherapy and radiosurgery within its offerings 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 and Siemens are exploring opportunities to co-develop new imaging and treatment solutions. We hold a minority equity interest in and have an exclusive option to purchase the remaining equity interest of Augmenix, Inc. ( Augmenix ), a company that is developing hydrogel products to decrease irradiation of radiation sensitive tissue such as the rectum.

Our brachytherapy operations design, manufacture, sell and service advanced brachytherapy products, including VariSource HDR afterloaders and GammaMed HDR/PDR afterloaders, BrachyVision brachytherapy treatment planning system, applicators and accessories. Brachytherapy also develops and markets the VariSeed LDR prostate treatment planning system and the Vitesse software for real-time treatment planning for HDR prostate brachytherapy.

Revenues from our Oncology Systems business segment represented 77%, 78% and 78% of total revenues for fiscal years 2013, 2012 and 2011, respectively. Our Oncology Systems business segment revenues include both products and service revenues. Product revenues in Oncology Systems accounted for 47%, 50% and 51% of total revenues for fiscal years 2013, 2012 and 2011, respectively. Service revenues in Oncology Systems accounted for 30%, 28% and 27% of total revenues for fiscal years 2013, 2012 and 2011, respectively. See Customer Services and Support. For a discussion of Oncology Systems business segment financial information, see Note 17, Segment Information of the Notes to the Consolidated Financial Statements.

#### X-Ray Products

Our X-Ray Products business segment is a world leader in designing and manufacturing X-ray tubes, flat panel detectors and image processing tools, which are key components of X-ray imaging systems. We sell our products to OEM customers both for incorporation into new system configurations and as replacement components for installed systems. We conduct an active research and development program to focus on new technology and applications in both the medical and industrial X-ray imaging markets.

We manufacture X-ray tubes for four primary medical diagnostic radiology applications: CT scanners, radiographic or fluoroscopic imaging, special procedures, and mammography. We also offer a large line of industrial X-ray tubes, which consist of analytical X-ray tubes used for X-ray fluorescence and diffraction, as well as tubes used for non-destructive imaging and gauging and airport baggage inspection systems.

Our flat panel detectors, which are based on amorphous silicon imaging technologies, have broad application as an alternative to image intensifier tubes and X-ray film. Our flat panel detector products are being incorporated into next generation filmless medical diagnostic, dental, veterinary, and industrial inspection imaging systems and also serve as a key component of our OBI, which helps enable IGRT. We believe that imaging equipment based on amorphous silicon technologies is more stable and reliable, needs fewer adjustments, suffers less degradation over time than image intensifier tubes, and is more cost effective than X-ray film.

In April 2012, we acquired InfiMed, Inc. ( InfiMed ), a supplier of hardware and software for processing diagnostic X-ray images. Through the acquisition of InfiMed, we now offer image processing tools for X-ray imaging systems for a variety of modalities including fluoroscopy, angiography, cardiology and general radiography. The image processing tools may be combined with our radiographic flat panel detectors to upgrade film-based X-ray imaging systems to digital systems.

We are currently in the process of introducing multiple new products which we believe will help sustain the growth of our X-Ray Products business. Changes in access to diagnostic radiology or the reimbursement rates associated with diagnostic radiology as a result of the Affordable Care Act and similar state proposals, or otherwise, could however affect demand for our products in our X-Ray Products business.

Revenues from X-Ray Products represented 19%, 18% and 18% of total revenues in fiscal years 2013, 2012 and 2011, respectively. For a discussion of the X-Ray Products business segment financial information, see Note 17, Segment Information of the Notes to the Consolidated Financial Statements.

#### Other

Our SIP business designs, manufactures, sells and services Linatron X-ray accelerators, imaging processing software and image detection products for security and inspection purposes, such as cargo screening at ports and borders and nondestructive examination in a variety of applications. The Linatron M-i is a dual energy accelerator that can perform non-intrusive inspection of cargo containers and aid in automatically detecting and alerting operators when



high-density nuclear materials associated with dirty bombs or weapons of mass destruction are present during cargo screening. The Linatron K-15 is a high-energy accelerator for inspection of very large, dense objects, including, for example, manufactured segments used in the Ariane rocket program in Europe. IntellX is a gantry-based imaging system for cargo screening.

Generally, we sell our SIP products to OEM customers who incorporate our products into OEM inspection systems. The OEM customers sell the systems to customs and other government agencies for use in overseas ports and borders to screen overland, rail, and sea cargo for contraband, weapons, narcotics and explosives, as well as for manifest verification. We also sell our SIP products to commercial enterprises in the casting, power, aerospace, chemical, petro-chemical and automotive industries for nondestructive product examination purposes, such as industrial inspection and manufacturing quality control.

Our VPT 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. Our ProBeam system is capable of delivering precise intensity modulated proton therapy ( IMPT ) using pencil beam scanning technology. Proton therapy is a preferred option for treating certain cancers, particularly tumors near critical structures such as the optic nerve and cancers in children. 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.

Our VPT technology and systems are in operation at the Paul Scherrer Institute in Villigen, Switzerland and the Rinecker Proton Therapy Center in Munich, Germany. During fiscal years 2013 and 2012, we continued work on the construction, installation and commissioning of a ProBeam proton therapy system for the five-room Scripps Proton Therapy Center in San Diego, California. In addition to this \$88 million system project from California Proton Treatment Center, LLC ( CPTC ), we have a 10-year operations and maintenance agreement valued at approximately \$60 million to service the ProBeam system once the Scripps Proton Therapy Center opens, which is scheduled for fiscal 2014. We are also participating with ORIX Capital Markets, LLC ( ORIX ) in a \$165 million loan facility to finance the completion and startup operations of the center. We are providing \$115 million of the loan commitment, and ORIX is providing \$50 million of the loan commitment. See Note 15, Variable Interest Entity of the Notes to the Consolidated Financial Statements for further discussion.

In fiscal year 2012, VPT booked two additional orders a \$50 million order to supply a ProBeam system for a two-room proton therapy center at the PTC St. Petersburg Center of Nuclear Medicine of the International Institute of Biological Systems in Russia and a \$73 million ProBeam system order for a five-room proton therapy center at the King Fahd Medical City in Riyadh, Saudi Arabia. We did not book any VPT orders in fiscal year 2013.

GTC, our scientific research facility, continues to invest in developing technologies that enhance our current businesses or may lead to new business areas, including next generation digital X-ray imaging technology, volumetric and functional imaging, and improved X-ray sources and technology for security and cargo screening applications. In addition, GTC is developing technologies and products that are designed to improve disease management by more precise targeting of radiation, as well as by employing targeted energy and molecular agents to enhance the effectiveness and broaden the application of radiation therapy. GTC is also actively engaged in searching for chemical or biological agents that work synergistically with radiation to improve treatment outcomes.

SIP, VPT and GTC report their results from operations as part of the Other category. Combined revenues from these operations represented 4% of total revenues in each of fiscal years 2013, 2012 and 2011. For a discussion of segment financial information, see Note 17, Segment Information of the Notes to the Consolidated Financial Statements.

#### Marketing and Sales

We employ a combination of direct sales forces and independent distributors or resellers for the marketing and sales of our products worldwide. The recent environment has been characterized by ongoing concerns about the U.S. and Euro zone economies, which has weakened and may continue to weaken global demand, thus slowing down economic activities in faster growing export-centric countries, such as China. These conditions may affect our business and demand for our products in fiscal year 2014. 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 weaker U.S. dollar against foreign currencies would make our product pricing more competitive in the local currencies of our international customers. A weaker U.S. dollar against foreign currencies would also benefit our international revenues and gross orders when measured in U.S. dollars. In fiscal years 2013, 2012 and 2011, we did not have a single customer that represented 10% or more of our total revenues.

#### Oncology Systems

For our Oncology Systems segment, we sell direct in the United States and Canada and use a combination of direct sales and independent distributors in international regions. Through our strategic global partnership with Siemens, we

represent Siemens diagnostic imaging products to radiation oncology clinics in most international markets and in North America. Siemens represents our equipment and software products for radiotherapy and radiosurgery within its offerings to its healthcare customers in agreed upon countries. 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 our external beam radiotherapy products typically can be quite lengthy since many of them are considered capital equipment and are affected by budgeting cycles. Our customers frequently fix capital budgets one or more years in advance. In recent years, we have seen the purchasing cycle lengthen as a result of the more complex decision-making process associated with larger dollar value transactions for more sophisticated IGRT and surgical equipment, and other technical advances.

During the most recent economic downturn, we saw customers decision-making process further complicated and lengthened, especially in the United States, which caused hospitals, clinics and research institutions to more closely scrutinize and prioritize their capital spending in light of tightened capital budgets, tougher credit requirements and the general constriction in credit availability. In addition, the recent economic downturn had caused customers to delay requested delivery dates. Because our product revenues are

influenced by the timing of product shipments, which are tied to customer-requested delivery dates, these delivery delays had increased the average order to revenue conversion cycle in the United States. Historically, this conversion cycle has been longer when new products are introduced or when we sell more products internationally. The lengthening of order to revenue conversion cycle could reduce our revenues and margins. In addition, our receivables may take longer to collect. Furthermore, we have recently seen a greater percentage of Oncology Systems gross orders and revenues coming from emerging markets within our international region, such as China, India, Poland and Brazil, which typically demand lower-priced products compared to developed markets. We expect that this shift in geographic mix of gross orders and revenues will generally continue and may negatively impact Oncology Systems gross margin.

Reimbursement rates in the United States have generally supported a favorable return on investment for the purchase of new radiotherapy equipment. While we believe that improved product functionality, greater cost-effectiveness and prospects for better clinical outcomes with new capabilities such as IMRT, IGRT and volumetric modulated arc therapy tend to drive demand for radiotherapy products, large changes in reimbursement rates or reimbursement structure can affect customer demand and cause market shifts. We do not know what impact the Patient Protection and Affordable Care Act (the Affordable Care Act) in the United States will have on long-term growth or demand for our products and services. We believe, however, that growth of the radiation oncology market in the United States is being impacted as customers' decision-making processes are complicated by the uncertainties surrounding the Affordable Care Act and reimbursement rates for radiotherapy and radiosurgery, and that this uncertainty will likely continue into the next fiscal year and result in a high degree of variability of gross orders and revenue from quarter-to-quarter. We also believe that the Affordable Care Act is causing healthcare providers to re-evaluate their business models and we are seeing increased consolidation of hospitals and clinics and more integration of systems and equipment across multi-site healthcare networks, which is impacting transaction size, timing and purchasing processes, and also contributing to the increased variability. In accordance with the Affordable Care Act, in the second quarter of fiscal year 2013, we began to incur the 2.3% excise tax on sales of medical devices (including our Oncology Systems products) in the United States, which has had and may continue to have a negative impact on our gross margin and/or may lead our customers to reduce their orders for our products. In addition, the U.S. Centers for Medicare and Medicaid Services (CMS) reduced reimbursement rates for radiation therapy in free-standing clinics in the United States for calendar year 2013.

Total Oncology Systems revenues, including service revenues, were \$2.3 billion, \$2.2 billion and \$2.0 billion for fiscal years 2013, 2012 and 2011, respectively. We divide our market segments for Oncology Systems revenues into North America, Europe, Asia and rest of the world, and these regions constituted 47%, 29%, 18% and 6%, respectively, of Oncology Systems revenues during fiscal year 2013; 46%, 32%, 16% and 6%, respectively, of Oncology Systems revenues during fiscal year 2012; and 48%, 32%, 15% and 5%, respectively, of Oncology Systems revenues during fiscal year 2011.

#### X-Ray Products

Our X-Ray Products segment employs a combination of direct sales and independent distributors for sales in all of its regions and sells a high proportion of our X-ray imaging components products to a limited number of OEM customers. The long-term fundamental growth driver of this business segment is the on-going success of our key OEM customers, and we expect that revenues from relatively few customers will continue to account for a high percentage of X-Ray Products revenues in the foreseeable future. Our OEM customers include Toshiba Corporation, Carestream Health, Inc., Hitachi Medical Corporation, Planmeca Oy, Siemens AG, Dental Imaging Technologies Corporation, Hologic Inc., GE Healthcare, Philips Medical Systems and Sound-Eklin Medical Systems. These OEM customers represented 68%, 70% and 67% of our total X-Ray Products segment revenues during fiscal years 2013, 2012 and 2011, respectively, with the remaining revenues coming from a large number of small OEM customers and independent services companies. Although our X-ray Products business experienced softer demand from major

customers during fiscal year 2012, new products introduced in the second half of fiscal year 2013 begin to contribute to growth in gross orders and revenues in the fourth quarter of fiscal year 2013. Changes in access to diagnostic radiology or the reimbursement rates associated with diagnostic radiology as a result of the Affordable Care Act and similar state proposals will likely affect domestic demand for our products in our X-Ray Products business.

Total revenues for our X-Ray Products segment were \$546 million, \$493 million and \$469 million for fiscal years 2013, 2012 and 2011, respectively. We divide our market segments for X-Ray Products revenues by region into North America, Europe, Asia and rest of the world, and these regions constituted 29%, 23%, 47% and 1%, respectively, of X-Ray Products revenues during fiscal year 2013; 26%, 24%, 48% and 2%, respectively, of X-Ray Products revenues during fiscal year 2012 and 29%, 21%, 49% and 1%, respectively, of X-Ray Products revenues during fiscal year 2011.

#### Other

Our SIP business also uses a combination of direct sales and independent distributors and also sells a high proportion of its products as subsystems and components to a limited number of OEM customers. As with X-Ray Products, this business depends on the success of our OEM customers, and we expect that revenues from relatively few customers will continue to account for a high percentage of SIP

revenues in the foreseeable future. We supply Linatron linear accelerators and imaging detector products to OEM customers such as Smiths Detection, Rapiscan Systems, Inc., American Science & Engineering, Inc. and L3 Communications. We also sell our SIP products to regional integrators outside the United States as well as commercial enterprises in the casting, power, aerospace, chemical, petro-chemical and automotive industries for use in non-destructive investigation and testing applications.

We believe demand for our SIP products will be driven primarily by cargo screening, border protection, and non-destructive testing needs domestically and internationally. This business is heavily influenced by domestic and international government policies on border and port security, political change and government budgets. Orders and revenues for our SIP products have been and may continue to be unpredictable as governmental agencies may place large orders with us or with our OEM customers over a short period of time and then may not place additional orders until complete deployment and installation of previously ordered products. We have seen domestic and international governments postpone purchasing decisions and delay installations of products for security and inspection systems. These postponements and delays have been and may in the future be related to re-evaluating program priorities, evaluating funding options, and collaboration between individual government agencies. Furthermore, bid awards in this business may be subject to challenge by third parties, as we have previously encountered, which can make the conversion of some SIP orders to revenue unpredictable.

In the VPT business, we use direct sales specialist representatives who collaborate with our Oncology Systems sales group globally on projects. Potential customers are government-sponsored hospitals and 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, we believe that growth in this business will initially develop in the major metropolitan areas in the United States and abroad, driven by institutions that wish to expand their clinical offerings and increase their profile in their respective communities. We are investing substantial resources to build this new 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. We have seen the very tight credit markets constrain the ability of proton projects to obtain financing. As with our SIP business, bid awards in this business may be subject to challenge by third parties.

## Backlog

Backlog is the accumulation of all gross orders for which revenues have not been recognized and are still considered valid. Backlog also includes a small portion of billed service contracts that are included in deferred revenue. Orders may be revised or canceled, either according to their terms or as customers' needs change; consequently, it is difficult to predict with certainty the amount of backlog that will result in revenues. Our backlog at the end of fiscal year 2013 was \$2.9 billion, of which we expect to recognize approximately 45% to 50% as revenues in fiscal year 2014. Our backlog at the end of fiscal year 2012 was \$2.8 billion, of which \$1.2 billion was recognized as revenues in fiscal year 2013. Our Oncology Systems backlog represented 87% and 86% of the total backlog at the end of fiscal years 2013 and 2012, respectively.

Beginning in the fourth quarter of fiscal 2013, we changed the presentation of reported orders from net orders to gross orders. Gross orders are defined as the sum of new orders recorded during the period adjusted for any revisions to existing orders during the period. New orders are recorded for the total contractual amount, excluding certain pass-through items, once a written agreement for the delivery of goods or provision of services is in place and, for businesses other than VPT, when shipment of the product (or in the case of certain highly customized products in our SIP business, construction of the product) is expected to occur within two years, so long as any contingencies are deemed perfunctory. However, we will not record SIP orders from governmental agencies with bid protest provisions

until the expiration of the bid protest period. For our VPT 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 either deemed perfunctory or if the existence and nature of material contingencies is disclosed. However, we will not record VPT orders if there are major financing contingencies or customer board approval contingencies pending.

We perform a quarterly review to verify that outstanding orders in the backlog remain valid. Aged orders that are not expected to be converted to revenues are deemed dormant and are reflected as a reduction in the backlog amounts and net orders in the period identified. Backlog adjustments are comprised of dormancies, cancellations, foreign currency exchange rate and other adjustments. In fiscal years 2013, 2012, and 2011, our backlog adjustments were \$257 million, \$101 million, and \$121 million, respectively. During fiscal year 2013, as a result of ongoing uncertainty in the U.S. healthcare environment and higher cancellations, particularly from small freestanding center developers, we re-evaluated similar transactions and removed orders that were not expected to be converted into revenues from our backlog, which resulted in an increase in backlog adjustments in fiscal year 2013 compared to fiscal years 2012 and 2011.

## Competition

Rapidly evolving technology, intense competition and pricing pressure characterize the markets for radiation therapy equipment and software products, including our Oncology Systems products. We compete with companies worldwide. Some of our competitors may have greater financial, marketing and other resources than we have. These competitors could develop technologies and products that are more effective than those we currently use or produce or that could 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. Furthermore, we believe that new competitors will enter our markets, as we have encountered new competitors as we enter new markets such as radiosurgery, volumetric modulated arc therapy and proton therapy. We have directed substantial product development efforts into (i) increasing the interconnectivity of our products for more seamless operation within a system, (ii) enhancing the ease of use of our software products and (iii) reducing setup and treatment times and increasing patient throughput. We have also maintained an open systems approach that allows customers to mix and match our various individual products, incorporate products from other manufacturers, share information with other systems or products and use the equipment for offering various methods of radiation therapy treatment. We have done this based on our belief that such interconnectivity will increase the acceptance and adoption of IMRT, IGRT and volumetric modulated arc therapy and will stimulate demand for our products. There are competitive closed-ended dedicated-use systems, however, that place simplicity of use ahead of flexibility. If we have misjudged the importance to our customers of maintaining an open systems approach, or if we are unsuccessful in our efforts to sustain interconnectivity, enhance ease-of-use and reduce setup and treatment times, our revenues could suffer.

Our Oncology Systems customers' equipment purchase considerations typically include: reliability, servicing, patient throughput, precision, price, payment terms, connectivity, clinical features, the ability to track patient referral patterns, long-term relationship and capabilities of customers' existing equipment. We believe we compete favorably with our competitors based upon our strategy of providing a complete package solution of products and services in the field of radiation oncology and our continued commitment to global distribution and customer services, value-added manufacturing, technological leadership and new product innovation. To compete successfully, we must provide technically superior, clinically proven products that deliver more precise, cost effective, high quality clinical outcomes, together in a complete package of products and services, and to 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, additional competitors may delay customer purchasing decisions as customers evaluate the products of these competitors along with ours, potentially extending our sales cycle and adversely affecting our gross orders.

We are the leading provider of medical linear accelerators and related accessories. In radiotherapy and radiosurgery markets, we compete primarily with Elekta AB and Accuray Incorporated (now selling Tomotherapy products following Accuray's 2011 acquisition of Tomotherapy). With our information and image management, simulation, treatment planning and radiosurgery products, we also compete with a variety of companies, such as Elekta AB (following its 2012 acquisition of Nucletron B.V.), Philips Medical Systems, RaySearch Laboratories AB, Brainlab AG and Best Theratronics, Ltd. We also encounter some competition from providers of enterprise hospital information systems. With respect to our brachytherapy operations, our competitors are Elekta AB (following its acquisition of Nucletron B.V.), 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 alternative cancer treatment methods, such as traditional surgery, chemotherapy, robotic surgery and drug therapies, among others. To compete successfully, we need to demonstrate and convince our customers of the advantages of radiation therapy over 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.

In our X-Ray Products business, we often compete with companies that have greater financial, marketing and other resources than we have. Some of the major diagnostic imaging systems companies, which are the primary OEM customers for our X-ray components, also manufacture X-ray components, including X-ray tubes, for use in their own imaging systems products. We must compete with these in-house manufacturing operations for business from their affiliated companies. As a result, we must have a competitive advantage in one or more significant areas, which may include lower product cost, better product quality or superior technology and/or performance. We sell a significant volume of our X-ray tubes to OEM customers such as Toshiba Corporation, Hitachi Medical Corporation, Philips Medical Systems, and GE Healthcare, all of which have in-house X-ray tube production capability. In addition, we compete against other stand-alone, independent X-ray tube manufacturers such as Comet AG and IAE Industria Applicazioni Elettroniche Spa as well as small start-up manufacturers in China. These companies compete with us for both the OEM business of major diagnostic imaging equipment manufacturers and the independent servicing business for X-ray tubes. The market for flat panel detectors is also very competitive. We incorporate our flat panel detectors into our equipment for IGRT within our Oncology Systems and also sell to a number of OEM customers, which incorporate our flat panel detectors into their medical diagnostic, dental, veterinary and industrial imaging systems. Our amorphous silicon based flat panel detector technology competes with other detector technologies such as amorphous selenium, charge-coupled devices and variations of amorphous silicon scintillators. We believe that our product provides a competitive advantage due to lower product cost and better product quality and performance. For flat panel detectors, our significant customers include Planmeca U.S.A., Inc., Carestream Health, Inc., Sound-Eklin Medical Systems, Shimadzu Corporation, Toshiba Corporation, Siemens and Dental Imaging Technologies Corporation and we primarily compete against Perkin-Elmer, Inc., Trixell S.A.S., Vieworks Co., Ltd. and Canon, Inc. Recently, Hamamatsu Corporation has entered the flat panel market.

In our SIP business, we compete with other OEM suppliers, primarily outside the United States in the security and inspection market. Currently, our major competitor is Nuctech Company Limited, and we have also seen some competition from Siemens. The market for our SIP products used for nondestructive testing in industrial applications is small and highly fractured, and there is no single major competitor in this nondestructive testing market.

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

#### 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 maintain service centers in Milpitas, California; Las Vegas, Nevada; Marietta, Georgia; Buc, France; Crawley, United Kingdom; Zug, Switzerland; Herlev (Copenhagen), Denmark; Diegem (Brussels), Belgium; Darmstadt, Germany; Houten, The Netherlands; Alcobendas (Madrid), Spain; Cernusco (Milan), Italy; Manama, Bahrain; Moscow, Russia; Mumbai, Delhi, and Chennai, India; Tokyo, Osaka, Sendai, Nagoya, and Fukuoka, Japan; Beijing, Chengdu, Shanghai and Hong Kong, China; Kuala Lumpur, Malaysia; Singapore; Bangkok, Thailand; Belrose, Australia; Sao Paulo, Brazil; Seoul, South Korea; Budapest, Hungary; Vienna, Austria; Helsinki, Finland and Winnipeg, Canada; as well as field service personnel throughout the world for Oncology Systems customer support services. Key Oncology Systems education operations are located in Las Vegas, Nevada; Beijing, China; Mumbai, India; Zug, Switzerland and Tokyo, Japan. 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 services to customers on a time-and-materials basis, replacement part sales and through 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 service 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.

We generally warrant our X-ray imaging components in our X-Ray Products business segment for 12 months. We provide technical advice and consultation for X-ray imaging components to major OEM customers from our offices in Salt Lake City, Utah; Charleston, South Carolina; Liverpool, New York; Tokyo, Japan; Beijing, China and Willich, Germany. Our applications specialists and engineers

make recommendations to meet the customer's technical requirements within the customer's budgetary constraints. We often develop specifications for a unique product, which will be designed and manufactured to meet a specific customer's requirements. We also maintain a technical customer support group in Charleston, South Carolina and Liverpool, New York to meet the technical support requirements of independent service companies that use our X-ray imaging components products.

We generally warrant our SIP products for 12 months. We provide technical support and service for these products to major OEM customers from our offices in Las Vegas, Nevada; Lincolnshire, Illinois; Buc, France; Manama, Kingdom of Bahrain; Crawley, United Kingdom; Milano, Italy; Tokyo, Japan and Brussels, Belgium.

In the VPT business, we sell our proton therapy equipment generally with a 12-month warranty. We also generate service revenues by providing on-site proton therapy system technical operation and maintenance support services for relatively long-term periods (i.e., a five-year term or longer). We believe customer service and support are an integral part of our VPT competitive strategy.

### Manufacturing and Supplies

We manufacture our medical linear accelerators in Palo Alto, California and in Beijing, China. Our treatment simulator systems and some accelerator subsystems are manufactured in Crawley, United Kingdom and some of our other accessory products in Baden, Switzerland; Helsinki, Finland; Toulouse, France and Winnipeg, Canada. We manufacture our high dose rate brachytherapy systems in Crawley, United Kingdom and Haan, Germany and our brachytherapy treatment planning products in Charlottesville, Virginia. Calypso manufactures components of their tumor tracking and motion management products in Seattle, Washington. Our SIP linear accelerators are manufactured in Palo Alto, California and integrated into complete X-ray sources in Las Vegas, Nevada. We manufacture components and sub-systems for our proton therapy products and systems in Troisdorf, Germany. We manufacture our X-ray imaging component products in Salt Lake City, Utah; Charleston, South Carolina; Liverpool, New York; Willich, Germany and Beijing, China. 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 by International Standards Organization (ISO) under ISO 9001 (for SIP) or ISO 13485 (for medical devices).

Manufacturing processes at our various facilities include machining, fabrication, subassembly, system assembly and final testing. We have invested in various automated and semi-automated equipment for the fabrication and machining of the parts and assemblies that we incorporate into our products. We may, from time to time, invest further in such equipment. Our quality assurance program includes various quality control measures from inspection of raw materials, purchased parts and assemblies through on line 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; transistor arrays and cesium iodide coatings for flat panel detectors and specialized integrated circuits, X-ray tube targets, housings, glassframes and various other components; and radiofrequency components, magnets and gantry hardware for proton therapy systems. We require certain raw materials such as tungsten, lead and copper for Oncology Systems and SIP; copper, lead, tungsten, rhenium, molybdenum zirconium, and various high grades of steel alloy for X-ray tubes, and high-grade steel, high-grade copper and iron for the VPT 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. New rules issued by the SEC in August 2012 requires us to ascertain and disclose the origin of some of the raw materials, including tungsten, that we use, which will add to the

associated costs.

#### 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. Research and development expenses totaled \$208 million, \$186 million and \$171 million in fiscal years 2013, 2012 and 2011, respectively.

Our research and development are conducted both within the relevant product groups of our businesses and through GTC. GTC maintains technical expertise in X-ray technology, accelerator technology, imaging physics and applications, algorithms and software, electronic design, materials science and biosciences to prove feasibility of new product concepts and to improve current products. Present research topics include new imaging concepts, image based radiotherapy treatment planning and delivery, real time accommodation of moving targets, functional imaging and combined modality therapy, manufacturing process improvements, improved X-ray tubes and large-area, high resolution digital X-ray sensor arrays for cone-beam CT and other applications. GTC is also pursuing the potential of combining advances in directed energy and imaging technology with the latest breakthroughs in biotechnology by employing targeted energy to enhance the effectiveness of biological and chemical therapeutic agents. In addition,

GTC is investigating the use of X-ray and high energy accelerator, detector, and image processing technology for security applications. GTC accepts some sponsored research contracts from external agencies such as the U.S. government or private sources.

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, simulation, 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 X-Ray Products, development is primarily conducted at our Salt Lake City, Utah; Palo Alto, California; Liverpool, New York and Lincolnshire, Illinois facilities and is primarily focused on developing and improving X-ray imaging component products. Current X-ray tube development areas include improvements to tube life and tube stability and reduction of tube noise. We are also working on X-ray tube designs which will operate at higher power loadings and at higher CT rotational speed to enhance the performance of next generation CT scanners as well as X-ray tubes to enhance the performance of our flat panel detectors. Research in imaging technology is aimed at developing new panel technologies for low cost radiographic imaging, wireless panel interfaces, better dose utilization in dental imaging, improved image quality for cone beam CT and new image processing tools for advanced applications.

Within VPT, our development efforts focus on integrating patient set-up, motion management and clinical workflow solutions originally developed in Oncology Systems as well as reducing the size of our proton therapy system. We expect that, in order to realize the full potential of the VPT business, we will need to invest substantial resources to continue to develop proton therapy technology.

#### 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 (for example, when our SIP products are being used to scan cargo), 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 diagnosing 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 facility that ultimately result in the delivery of 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. 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, as well as liability related to the loss or misuse of private patient data. 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), we may be required to correct or recall the product and notify regulatory authorities. We maintain

limited product liability insurance coverage and currently self-insure professional liability/errors and omissions liability.

## Government Regulation

### U.S. Regulations

Laws governing marketing a medical device. In the United States, as a manufacturer and seller of medical devices and devices emitting radiation or utilizing radioactive by-product material, we and some of our suppliers and distributors 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, to ensure the devices are safe and effective and comply with laws governing products which emit, produce or control radiation. Similar international regulations apply overseas. These regulations, which include the U.S. Food, Drug and Cosmetic Act (the FDC Act ) and regulations promulgated by the FDA, govern, among other things, the design, development, testing, manufacturing, packaging, labeling, distribution, import/export, sale and marketing and disposal of medical devices, post market surveillance and reporting of serious injuries and death, repairs, replacements, recalls and other matters relating to medical devices, radiation emitting devices and devices utilizing radioactive by-product material. State regulations are extensive and vary from state to state. Our Oncology Systems equipment and software, as well as proton therapy systems offered by our VPT business, constitute medical devices subject to these regulations. Our X-ray tube products and flat panel detectors produced

by X-Ray Products are also considered medical devices. Under the FDC Act, each medical device manufacturer must comply with quality system regulations that are strictly enforced by the FDA.

Unless an exception applies, the FDA requires that the manufacturer of a new medical device or a new indication for use of, or other significant change in, existing currently marketed medical device obtain either 510(k) pre-market notification clearance or pre-market approval ( PMA ) before it can market or sell those products in the United States. The 510(k) clearance process is applicable when the device introduced into commercial distribution is substantially equivalent to a legally marketed device. The process of obtaining 510(k) clearance generally takes at least six months from the date the application is filed, but could take significantly longer, and generally requires submitting supporting testing data. After a product receives 510(k) clearance, any modifications or enhancements to a product that could significantly affect its safety or effectiveness, or that would constitute a major change in the intended use of the device, technology, materials, labeling, packaging, or manufacturing process may require a new 510(k) clearance. The FDA requires each manufacturer to make this determination in the first instance, but the FDA can review any such decision. If the FDA disagrees with the manufacturer's decision, it may retroactively require the manufacturer to submit a request for 510(k) pre-market notification clearance and can require the manufacturer to cease marketing and/or recall the product until 510(k) clearance is obtained. The FDA has issued draft guidance that, if finalized and implemented, will result in manufacturers needing to seek a significant number of new clearances for changes made to legally marketed devices. If we cannot establish that a proposed product is substantially equivalent to a legally marketed device, we must seek pre-market approval through a PMA application. 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 evidence 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. To date, we have only manufactured Class I medical devices, which do not require PMA or 510(k) clearance, and Class II medical devices, which require 510(k) clearance. We do not manufacture any Class III medical devices, which require PMA. Our X-ray tubes and flat panel detectors are Class I medical devices, while all of the medical devices produced by our Oncology Systems segment and the proton therapy systems manufactured by our VPT business are Class II medical devices.

Quality systems. Our manufacturing operations for medical devices, and those of our third-party manufacturers, are required to comply with the FDA's Quality System Regulation ( QSR ), which addresses a company's responsibility for product design, testing, and manufacturing quality assurance, and the maintenance of records and documentation. The QSR requires that each manufacturer establish a quality systems program by which the manufacturer monitors the manufacturing process and maintains records that show compliance with FDA regulations and the manufacturer's written specifications and procedures relating to the devices. QSR compliance is necessary to receive and maintain FDA clearance or approval to market new and existing products. The FDA makes announced and unannounced periodic and on-going inspections of medical device manufacturers to determine compliance with the QSR. If in connection with these inspections the FDA believes the manufacturer has failed to comply with applicable regulations and/or procedures, it may issue observations that would necessitate prompt corrective action. If FDA inspection observations are not addressed and/or corrective action taken in a timely manner and to the FDA's satisfaction, the FDA may issue a Warning Letter (which would similarly necessitate prompt corrective action) and/or proceed directly to other forms of enforcement action. 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 the FDA bringing enforcement action against us, which could include the total shutdown of our production facilities, denial of importation rights to the U.S. for products manufactured in overseas locations and denial of export rights for U.S. products and criminal and civil fines.

The FDA and the Federal Trade Commission ( FTC ) also regulate advertising and promotion of our products to ensure that the claims we make are consistent with our regulatory clearances, that there are adequate and reasonable scientific data to substantiate the claims 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.

It is also important that our products comply with electrical safety and environmental standards, such as those of Underwriters Laboratories ( UL ), the Canadian Standards Association ( CSA ), and the International Electrotechnical Commission ( IEC ). In addition, the manufacture and distribution of medical devices utilizing radioactive by-product material requires a specific radioactive material license. Manufacture and distribution of these radioactive sources and devices also must be in accordance with an approved NRC certificate, or an Agreement State registration certificate. Service of these products must be in accordance with a specific radioactive materials license. 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.

Other applicable U.S. regulations. As a participant in the healthcare industry, we are also subject to extensive laws and regulations protecting the privacy and integrity of patient medical information that we receive, including the Health Insurance Portability and Accountability Act of 1996 ( HIPAA ), fraud and abuse laws and regulations, including, physician self-referral prohibitions, and

false claims 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, 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. We also must comply with numerous federal, state and local laws of more general applicability relating to such matters as safe working conditions, manufacturing practices and fire hazard control.

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. For example, HIPAA was amended by the HITECH Act, enacted as part of the American Recovery and Reinvestment Act of 2009. The HITECH Act significantly increases the civil money penalties for violations of patient privacy rights protected under HIPAA. Furthermore, business associates who have access to patient health information provided by hospitals and healthcare providers are now directly subject to HIPAA, including the new enforcement scheme and inspection requirements.

#### 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. 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, such as we experienced in 2012 with the reductions to reimbursement rates for radiation therapy proposed by CMS. 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.

The provisions of the Affordable Care Act went into effect in 2012 and will continue to be in effect through 2014. We are continuing to evaluate the Affordable Care Act and its potential impact on our business. Specifically, one of the components of the law is a 2.3% excise tax on sales of most medical devices, which include our Oncology Systems products, which started January 1, 2013. This tax has had and may continue to have a negative impact on our gross margin and/or may lead our customers to reduce their orders for our products. Other elements of this legislation, including comparative effectiveness research, an independent payment advisory board, payment system reforms (including shared savings pilots) and other provisions, 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 reduced medical procedure volumes.

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 VPT businesses, and may continue to do so.

The sale of medical devices including radiotherapy products, the referral of patients for diagnostic examinations and treatments utilizing such devices, and the submission of claims to third-party payors (including Medicare and Medicaid) seeking reimbursement for such services, are subject to various federal and state laws pertaining to

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

## Foreign Regulations

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

Marketing a medical device internationally. In order for us to market our products internationally, we must obtain clearances or approvals 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 the ISO 9001 for our SIP products and ISO 13485 for our medical devices. Several Asian countries, including Japan and China, have adopted regulatory schemes that are comparable, and in some cases more stringent, than the EU scheme. To import medical devices into Japan, the requirements of Japan's New Medical Device Regulation must be met and a shonin, the approval to sell medical products in Japan, must be obtained. Similarly, in China a registration certification issued by the State Food and Drug Administration and a China Compulsory Certification mark for certain products are required to sell medical devices in that country. Obtaining such certifications on our products can be time-consuming and can cause us to delay marketing or sales of certain products in such countries. Similarly, prior to selling a device in Canada, manufacturers of Class II, III and IV devices must obtain a medical device license. We sell Class II and Class III devices in Canada. Additionally, many countries have laws and regulations relating to radiation and radiation safety that also apply to our products. In most countries, radiological regulatory agencies require some form of licensing or registration by the facility prior to acquisition and operation of an X-ray generating device or a radiation source. The handling, transportation and the recycling of radioactive metals and source materials are also highly regulated.

A number of countries, including the members of the EU, have implemented or are implementing regulations that would require manufacturers to dispose, or bear certain disposal costs, of products at the end of a product's useful life and restrict the use of some hazardous substances in certain products sold in those countries. For a further discussion of these regulations, see Critical Accounting Estimates in MD&A and Note 9, Commitments and Contingencies of the Notes to the Consolidated Financial Statements.

Manufacturing and selling a device internationally. We are also subject to laws and regulations outside the United States applicable to manufacturers of radiation-producing devices and products utilizing radioactive materials, and laws and regulations of general applicability relating to matters such as environmental protection, safe working conditions, manufacturing practices and other matters, in each case that are often comparable to, if not more stringent than, regulations in the United States. 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, tariff 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.

Other applicable international regulations. In addition to the U.S. laws regarding the privacy and integrity of patient medical information, we are subject to similar laws and regulations in foreign countries covering data privacy and other protection of health and employee information. Particularly within Europe, data protection legislation is comprehensive and complex and there has been a recent trend toward more stringent enforcement of requirements regarding protection and confidentiality of personal data, as well as enactment of stricter legislation. We are also subject to international fraud and abuse laws and regulations, as well as false claims and misleading advertisement

laws.

#### Patent and Other Proprietary Rights

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

We generally rely upon a combination of patents, copyrights, trademarks, trade secret and other laws, and contractual restrictions on disclosure, copying and transferring title, including confidentiality agreements with vendors, strategic partners, co developers, employees, consultants and other third parties, to protect our proprietary rights in the developments, improvements and inventions that we have originated and which are incorporated in our products or that fall within our fields of interest. As of September 27, 2013, we owned 418 patents issued in the United States and 182 patents issued throughout the rest of the world and had 346 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.

#### Financial Information about Geographic Areas

We do business globally with manufacturing, engineering, and development in the United States, India, Canada, Europe and China and with sales and service operations and customers throughout the world. Roughly half of our revenues are generated from our international regions. In addition to the potentially adverse impact of foreign regulations, see **Government Regulation Foreign Regulations**, we also may be affected by other factors related to our international sales such as: lower average selling prices and profit margins; longer time periods from shipment to revenue recognition (which increases revenue recognition deferrals and time in backlog); and longer time periods from shipment to cash collection (which increases days sales outstanding ( **DSO** )). To the extent that the geographic distribution of our sales continues to shift more towards international regions, our overall revenues and margins may suffer. We sell our products internationally predominantly in local currencies, but our cost structure is weighted towards the U.S. dollar. Accordingly, there may be adverse consequences from fluctuations in foreign currency exchange rates, which may affect both the affordability and competitiveness of our products and our profit margins. We engage in currency hedging strategies to offset the effect of fluctuations in foreign currency exchange rate, but the protection offered by these hedges depends upon the timing of transactions; the effectiveness of the hedges; the number of transactions that are hedged; and forecast volatility.

We are also exposed to other economic, political and other risks inherent in doing business globally. For an additional discussion of these risks, see Item 1A, **Risk Factors**.

For a discussion of financial information about geographic areas, see Note 17, **Segment Information** of the Notes to the Consolidated Financial Statements.

#### Employees

We had approximately 6,400 full time and part-time employees worldwide, including 3,700 in the United States and 2,700 elsewhere at September 27, 2013. None of our employees based in the United States are unionized or subject to collective bargaining agreements. Employees based in some foreign countries may, from time to time, be represented by works councils or unions or subject to collective bargaining agreements. We currently consider our relations with our employees to be good.

#### Information Available to Investors

As soon as reasonably practicable after our filing or furnishing the information to the SEC we make the following available free of charge 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 Business Ethics, Corporate Governance Guidelines and the charters of the Audit Committee, Compensation and Management Development Committee, Nominating and Corporate Governance Committee and Executive Committee are also available on the Investors page of our website. 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 ).

Executive Officers of the Registrant

The biographical summaries of our executive officers, as of November 1, 2013, are as follows:

Name	Age	Position
Dow R. Wilson	54	President and Chief Executive Officer
Elisha W. Finney	52	Executive Vice President, Finance and Chief Financial Officer
Kolleen T. Kennedy	54	Senior Vice President and President, Oncology Systems
Robert H. Kluge	67	Senior Vice President and President, Imaging Components Businesses
John W. Kuo	50	Senior Vice President, General Counsel and Corporate Secretary
Clarence R. Verhoef	58	Senior Vice President, Finance and Corporate Controller

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 has served on the board of directors of Saba Software, Inc. (an e-learning software provider) since August 2006 and in August 2011 was named the lead independent director of that board. Mr. Wilson was appointed to our Board of Directors effective September 29, 2012.

Elisha W. Finney was appointed Executive Vice President, Finance, in addition to being Chief Financial Officer, in February 2012. Ms. Finney served as Corporate Senior Vice President and Chief Financial Officer from January 2005 through January 2012 and as Corporate Vice President and Chief Financial Officer from April 1999 to January 2005. Ms. Finney has held various other positions, including Treasurer, during her 25 years with the Company. Ms. Finney holds a B.B.A. degree in risk management and insurance from the University of Georgia and an M.B.A. degree from Golden Gate University in San Francisco. Ms. Finney joined the board of Altera Corporation (a supplier of custom logic solutions) in August 2011.

Kolleen T. Kennedy was appointed Senior Vice President and President, Oncology Systems effective October 2011. 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. in Medical Physics from the University of Colorado.

Robert H. Kluge was appointed Senior Vice President and President, Imaging Components Businesses in February 2013. Prior to that, Mr. Kluge served as Corporate Senior Vice President and President, X-Ray Products from February 2008 to February 2013; Corporate Vice President and President, X-Ray Products from December 1999 to February 2008; and Vice President and General Manager of our X-Ray Products business from 1993 to December 1999. Before joining the Company in 1993, Mr. Kluge held various positions with Picker International (an X-ray systems manufacturer). Mr. Kluge holds a B.A. degree in economics and an M.B.A. degree in finance from the University of Wisconsin.

John W. Kuo was appointed Senior Vice President, in addition to being General Counsel and Corporate Secretary in February 2012. Prior to that, he served as Corporate Vice President and General Counsel from July 2005 through January 2012 and as Corporate Secretary since February 2005. Mr. Kuo joined the Company as Senior Corporate Counsel in March 2003 and became Associate General Counsel in March 2004. Prior to joining the Company, Mr. Kuo was General Counsel and Secretary at BroadVision, Inc. (an e-commerce software provider) in 2002 and held senior legal positions at 3Com Corporation (a networking equipment provider) from 1997 to 2002. Mr. Kuo has previously been with the law firms of Gray Cary Ware & Freidenrich (now DLA Piper) and Fulbright & Jaworski. Mr. Kuo holds a B.A. degree from Cornell University and a J.D. degree from Boalt Hall School of Law at the University of California at Berkeley.

Clarence R. Verhoef was appointed Senior Vice President, Finance and Corporate Controller in August 2012. From May 2012 to August 2012, Mr. Verhoef served as the Company's Vice President and Operations Controller, and from September 2006 to May 2012, he served as the Controller for the Company's X-Ray Products business. Prior to joining



the Company, from 2003 to September 2006, Mr. Verhoef served as the Chief Financial Officer of Techniscan Medical Systems Inc. (a developer of ultrasound technology), and prior to that held various finance management positions with GE Healthcare and other medical imaging equipment companies. Mr. Verhoef holds a B.S. degree in Finance from the University of Utah.

## Item 1A. Risk Factors

The following risk factors and other information included in this Annual Report on Form 10-K should be carefully considered. Although the risk factors described below are the ones management deems significant, additional risks and uncertainties not presently known to us or that we presently deem less significant may also impair our business operations. If any of the following risks actually occur, our business, operating results, and financial condition could be adversely affected.

**IF OUR PRODUCTS AND PRODUCT LINES FAIL TO CONTINUE TO MEET CUSTOMER DEMANDS, OUR PRODUCTS MAY BECOME LESS USEFUL OR OBSOLETE AND OUR OPERATING RESULTS WILL SUFFER**

We believe that IMRT, including volumetric modulated arc therapy, and IGRT have become accepted standards for treatment in the radiation oncology market. Demand for our IMRT and IGRT products have been the drivers for our gross orders and revenues in Oncology Systems and, because of the significance of Oncology Systems, in our business in general. We have introduced products such as TrueBeam, a line of linear accelerators for radiotherapy and radiosurgery, and UNIQUE, a less complex, low-energy linear accelerator for the more price sensitive emerging markets, to meet the evolving needs of our IMRT and IGRT customers. We believe TrueBeam is a valuable tool for clinicians in the fight against cancer and will stimulate faster replacement of older systems in our installed base. We also believe that our RapidArc products for volumetric modulated arc therapy are a significant advance in IMRT treatments and can help drive longer term demand for our linear accelerators and IMRT- and IGRT-related products. Orders for these products and products lines have contributed greatly to our orders and revenue growth and are keys to our future success. If our customers do not purchase these products or if future studies call into question the effectiveness of these or our other IMRT or IGRT products (including other volumetric modulated arc therapy products) or show negative side effects, or if other more effective technologies are introduced, our gross orders, revenues and financial results could suffer. As more institutions buy or upgrade to achieve IMRT and IGRT capabilities, the market for these products (including volumetric modulated arc therapy products) may become saturated. Alternatively, the marketplace may conclude that functions and features of our products should no longer be an element of a generally accepted diagnostic or treatment regimen. If this occurs, the market for our products may be adversely affected and they may become less useful or obsolete.

Our X-Ray Products business sells products primarily to a small number of imaging system OEM customers who use our products in their medical diagnostic and industrial imaging systems. To succeed, we must provide products that meet customer demands for product quality, superior technology and product performance at a competitive cost. If we are unable to continue to innovate our X-ray technology and anticipate our customers' demands in the areas of cost, quality, technology and performance, then our customers may purchase from other tube or panel manufacturers (including the in-house operations of some of these customers), which would negatively impact this business.

In both the Oncology Systems and X-Ray Products businesses, and in our other product lines, we may be unable to accurately anticipate changes in our markets and the direction of technological innovation and demands of our customers. Our competitors may develop products or processes that are superior to, or more cost efficient than, what we can then offer. If this occurs, the market for our products may be adversely affected and our products may become less useful or obsolete. Any development adversely affecting the markets for our products would force us to reduce production volumes or to discontinue manufacturing one or more of our products or product lines and would reduce our revenues and earnings.

**OUR SUCCESS DEPENDS ON THE SUCCESSFUL DEVELOPMENT, INTRODUCTION AND COMMERCIALIZATION OF NEW GENERATIONS OF PRODUCTS AND ENHANCEMENTS TO OR SIMPLIFICATIONS OF EXISTING PRODUCT LINES**

Rapid change and technological innovation characterize the markets in which we operate. Our Oncology Systems products often have long development and government approval cycles, so we must anticipate changes in the marketplace, in technology and in customer demands. Our success depends on the successful development, introduction and commercialization of new generations of products, treatment systems and enhancements to and/or simplification of existing product lines. Our Oncology Systems products, including products such as EDGE, our new combination of products for performing advanced radiosurgery, TrueBeam and RapidArc, are technologically complex and must keep pace with, if not be superior to, the products of our competitors. Our X-Ray Products business must also continually improve products at competitive costs. We are investing in long-term growth initiatives, such as development of our SIP and VPT businesses, and expect that we will need to invest more to develop and commercialize new products and technology for these businesses. Accordingly, many of our products may require significant planning, design, development and testing, as well as significant capital commitments, involvement of senior management and other investments on our part. In addition, because of the large footprint and high price of many proton therapy systems, including ours, there is increasing demand for development of a smaller, more compact proton therapy system. Our ability to compete may depend on our ability to timely develop new technologies to reduce the size and price of our proton therapy system or provide additional features and functionality that our competitors do not.

We may need to spend more time and money than we expect to develop and introduce new products or enhancements and, even if we succeed, they may not be sufficiently profitable that we are able to recover all or a meaningful part of our investment. Once introduced, new products may adversely impact orders and sales of our existing products, or make them less desirable or even obsolete, and could adversely impact our revenues and operating results. In addition, certain costs, including installation and warranty, associated with new products may be proportionately greater than other products, and may therefore adversely affect our gross and operating margins. If we are unable to lower these costs over time, our operating results could be adversely affected. Compliance with regulations, competitive alternatives, and shifting market preferences may also impact our success with new products or enhancements.

Our ability to successfully develop and introduce new products and product enhancements and simplifications, and the revenues and costs associated with these efforts, are affected by our ability to:

- properly identify customer needs;
- prove the feasibility of new products;
- 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 caused by phase-in of new products and phase-out of old products;
- price our products 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;
- appropriately manage our supply chain;
- manage customer acceptance and payment for products;
- manage customer demands for retrofits of both new and old products;  
and

- anticipate and compete successfully with competitors.

Furthermore, we cannot be sure that we will be able to successfully develop, manufacture or introduce new products, treatment systems or enhancements, the roll-out of which involves compliance with complex quality assurance processes, including the FDA's QSR. Failure to complete these processes timely and efficiently could result in delays that could affect our ability to attract and retain customers, or could cause customers to delay or cancel orders, causing our revenues and operating results to suffer.

New products generally take longer to install than well-established products. Because a portion of a product's revenue is generally tied to installation and acceptance of the product, our recognition of revenue associated with new products may be deferred longer than expected. In addition, even if we succeed in our product introductions, potential customers may not decide 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. As a result, our revenues and other financial results could be adversely affected.

**MORE THAN HALF OF OUR REVENUES ARE INTERNATIONAL, AND ECONOMIC, POLITICAL AND OTHER RISKS ASSOCIATED WITH INTERNATIONAL SALES AND OPERATIONS COULD ADVERSELY AFFECT OUR SALES OR MAKE THEM LESS PREDICTABLE**

We conduct business globally. Our international revenues accounted for approximately 57%, 56% and 55% of revenues from continuing operations during fiscal years 2013, 2012 and 2011, respectively. As a result, 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. For example, we have aligned our resources to support sales and marketing efforts in emerging markets. We cannot be sure, however, that we will be able to meet our sales, service and support objectives or obligations in international markets, or to recover our investments. Our future results could be harmed by a variety of factors, including:

- currency fluctuations;

- the lower sales prices and gross margins usually associated with sales of our products in the international region, in particular emerging markets;

- the longer payment cycles associated with many foreign customers;

- difficulties in interpreting or enforcing agreements and collecting receivables through many foreign country's legal systems;
- changes in the political, regulatory, safety or economic conditions in a country or region;
- the imposition by foreign countries of additional taxes, tariffs or other restrictions on foreign trade;
- the longer period in the international region from placement of any order to revenue recognition;
- any inability to obtain export licenses and other required export or import licenses or approvals;
- failure to comply with export laws and requirements, which may result in civil or criminal penalties and restrictions on our ability to export our products, particularly our industrial linear accelerator products;
- failure to obtain proper business licenses or other documentation, or to otherwise comply with local laws and requirements regarding marketing, sales, service or any other business we conduct in a foreign jurisdiction, which may result in civil or criminal penalties and restrictions on our ability to conduct business in that jurisdiction; and
- the possibility that it may be more difficult to protect our intellectual property in foreign countries.

Although our orders and sales fluctuate from period to period, in recent years our international region has represented a larger share of our business. The more we depend on sales in the international region, the more vulnerable we become to these factors.

As of September 27, 2013, 68% of our cash and cash equivalents were held abroad. If these funds were repatriated to the United States, they could be subject to additional taxation and our overall tax rate and our results of operations could suffer.

Our effective tax rate is impacted by tax laws in both the United States and in the countries in which our international subsidiaries do business. Earnings from our international region are generally taxed at rates lower than U.S. rates. A change in the percentage of our total earnings from the international region, or a change in the mix of particular tax jurisdictions within the international region could cause our effective tax rate to increase or decrease. Also, we are not currently taxed in the United States on certain undistributed earnings of certain foreign subsidiaries. These earnings could become subject to incremental foreign withholding or U.S. federal and state taxes should they either be deemed or actually remitted to the United States, in which case our financial results would be adversely affected. In addition, there have been proposals that would significantly change U.S. taxation of U.S.-based multinational corporations. Although we cannot predict whether or in what form Congress would enact any such proposals, legislation of this type could negatively impact our effective tax rate and adversely affect our financial results.

OUR RESULTS HAVE BEEN AND MAY CONTINUE TO BE AFFECTED BY CONTINUING WORLDWIDE ECONOMIC INSTABILITY

Since fiscal year 2008, the global economy has been impacted by a number of economic factors, including the sequential effects of the subprime lending crisis; the credit market crisis; collateral effects on the finance and banking industries; volatile currency exchange rates and energy costs; concerns over the downgrade of the sovereign debt of the United States and several European countries; continued sovereign debt and banking system uncertainties in Europe and other foreign countries and concerns regarding recession in Europe and the directions of the Chinese and United States economies. In many markets, these conditions have shrunk capital equipment budgets, slowed decision-making, made financing for large equipment purchases more expensive and more time consuming to obtain, and made it difficult for our customers and our vendors to accurately forecast and plan future business activities and reduced their confidence. This, in turn, has caused our customers to freeze, delay or dramatically reduce purchases and capital project expenditures. Project delays may continue, particularly as they relate to large scale or government projects, which may be affected by austerity measures. Alternatively, in the past, some countries have adopted and may in the future adopt government stimulus programs to revitalize their economies and improve healthcare and medical services. The availability of stimulus programs in the future could positively affect our results in one period and adversely affect our results in other periods, making it difficult for investors to compare our financial results between fiscal periods. Weak economic recovery may also disrupt supply if vendors consolidate or go out of business. As with our customers and vendors, these economic conditions make it more difficult for us to accurately forecast and plan our future business activities. Continued economic uncertainty may also affect our service business, as customers constrained budgets may result in pricing pressure, extended warranty provisions and even cancellation of service contracts.

In addition, concerns over continued economic instability, including the sovereign debt and banking crises in Europe, could make it more difficult for us to collect outstanding receivables. Historically, our business has felt the effects of market trends later than other sectors in the healthcare industry, such as diagnostic radiology, and we may experience the effects of any economic recovery later than others in the healthcare industry. A continued weak or deteriorating healthcare market would inevitably adversely affect our business, financial conditions and results of operations.

WE FACE SIGNIFICANT COSTS IN ORDER TO COMPLY WITH LAWS AND REGULATIONS APPLICABLE TO THE MANUFACTURE AND DISTRIBUTION OF OUR PRODUCTS, AND FAILURE OR DELAYS IN OBTAINING REGULATORY CLEARANCES OR APPROVALS, OR FAILURE TO COMPLY WITH APPLICABLE LAWS AND REGULATIONS COULD PREVENT US FROM DISTRIBUTING OUR PRODUCTS, REQUIRE US TO RECALL OUR PRODUCTS AND RESULT IN SIGNIFICANT PENALTIES

Our products and those of OEMs that incorporate our products are subject to extensive and rigorous government regulation in the United States. Compliance with these laws and regulations is expensive and time-consuming, and failure to comply with these laws and regulations could adversely affect our business. Furthermore, public media reports on misadministrations of radiotherapy in patients and focus on the role of the FDA in regulating medical devices has led to increased scrutiny of medical device companies and an increased likelihood of enforcement actions.

U.S. laws governing marketing a medical device. In the United States, as a manufacturer and seller of medical devices and devices emitting radiation or utilizing radioactive by-product material, we and some of our suppliers and distributors are subject to extensive regulation by federal governmental authorities, such as the FDA, the NRC and state and local regulatory agencies, such as the State of California, to ensure the devices are safe and effective and comply with laws governing products which emit, produce or control radiation. These regulations govern, among other things, the design, development, testing, manufacturing, packaging, labeling, distribution, import/export, sale and marketing and disposal of our products.

Unless an exception applies, the FDA requires that the manufacturer of a new medical device or a new indication for use of, or other significant change in, existing currently marketed medical device obtain either 510(k) pre-market notification clearance or PMA before it can market or sell those products in the United States. Modifications or enhancements to a product that could significantly affect its safety or effectiveness, or that would constitute a major change in the intended use of the device, technology, materials, labeling, packaging, or manufacturing process also require a new 510(k) clearance. Although manufacturers make the initial determination whether a change to a cleared device requires a new 510(k) clearance, we cannot assure you that the FDA will agree with our decisions not to seek additional approvals or clearances for particular modifications to our products or that we will be successful in obtaining new 510(k) clearances for modifications. Obtaining clearances or approvals is time-consuming, expensive and uncertain, and the PMA process is more complex than the 510(k) clearance process. We may not be able to obtain the necessary clearances or approvals or may be unduly delayed in doing so, which could harm our business. Furthermore, even if we are granted regulatory clearances or approvals, they may include significant limitations on the indicated uses of the product, which may limit the market for the product. If we were unable to obtain required FDA clearance or approval for a product or unduly delayed in doing so, or the uses of that product were limited, our business could suffer. In the past, our devices have generally been subject to 510(k) clearance or exempt from 510(k) clearance. However, there are some in the regulatory field who believe that certain medical devices should be required to use the PMA approval process. If we were required to use the PMA process for future products or product modifications, it could delay or prevent release of the proposed products or modifications, which could harm our business.

Further, as we enter new businesses or pursue new business opportunities, such as radiosurgery and opportunities that require clinical trials, we may become subject to additional laws, rules and regulations, including FDA rules and regulations that are applicable to the clinical trial process and protection of study subjects. Becoming familiar with and implementing the infrastructure necessary to comply with these laws, rules and regulations is costly. In addition, failure to comply with these laws, rules and regulations could delay the introduction of new products and could adversely affect our business.

Quality systems. Our manufacturing operations for medical devices, and those of our third-party manufacturers, are required to comply with the FDA's QSR, as well as other federal and state regulations for medical devices and



radiation emitting products. The FDA makes announced and unannounced periodic and on-going inspections of medical device manufacturers to determine compliance with QSR and in connection with these inspections issues reports, known as Form FDA 483 reports when the FDA believes the manufacturer has failed to comply with applicable regulations and/or procedures. If observations from the FDA issued on Form FDA 483 reports 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 and/or proceed directly to other forms of enforcement action. Similarly, if a Warning Letter were issued, prompt corrective action to come into compliance would be required. Failure to respond timely to Form FDA 483 observations, a Warning Letter or other notice of noncompliance and to promptly come into compliance could result in the FDA bringing enforcement action against us, which could include the total shutdown of our production facilities, denial of importation rights to the U.S. for products manufactured in overseas locations, adverse publicity and criminal and civil fines. The expense and costs of any corrective actions that we may take, which may include products recalls, correction and removal of products from customer sites and/or changes to our product manufacturing and quality systems, could adversely impact our financial results and may also divert management resources, attention and time. Additionally, if a Warning Letter were issued, customers could delay purchasing decisions or cancel orders, and we could face increased pressure from our competitors who could use the Warning Letter against us in competitive sales situations, either of which could adversely affect our reputation, business and stock price.

In addition, we are required to timely file various reports with the FDA, including reports required by the medical device reporting regulations ( MDRs ), that require that we report to regulatory authorities if our devices may have caused or contributed to a death or serious injury or malfunctioned in a way that would likely cause or contribute to a death or serious injury if the malfunction were to recur. If these reports are not filed timely, regulators may impose sanctions and sales of our products may suffer, and we may be subject to product liability or regulatory enforcement actions, all of which could harm our business.

If we initiate a correction or removal of a device to reduce a risk to health posed by the device, we would be required to submit a publicly available Correction and Removal report to the FDA and in many cases, similar reports to other regulatory agencies. This report could be classified by the FDA as a device recall which could lead to increased scrutiny by the FDA, other international regulatory agencies and our customers regarding the quality and safety of our devices. Furthermore, the submission of these reports have been and could be used by competitors against us in competitive situations and cause customers to delay purchase decisions, cancel orders or adversely affect our reputation.

Our medical devices utilizing radioactive material are subject to the NRC clearance and approval requirements, and the manufacture and sale of these products are subject to extensive federal and state regulation that varies from state to state and among regions. Our manufacture, distribution, installation and service (and decommissioning and removal) of medical devices utilizing radioactive material or emitting radiation also requires us to obtain a number of licenses and certifications for these devices and materials. Service of these products must also be in accordance with a specific radioactive materials license. Obtaining licenses and certifications may be time consuming, expensive and uncertain. In addition, we are subject to a variety of 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. In particular, the handling and disposal of radioactive materials resulting from the manufacture, use or disposal of our products may impose significant costs and requirements. Disposal 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.

The FDA and the FTC also regulate advertising and promotion of our products to ensure that the claims we make are consistent with our regulatory clearances, that there are adequate and reasonable scientific data to substantiate the claims and that our promotional labeling and advertising is neither false nor misleading in any respect. If the FDA or FTC determines that any of our advertising or promotional claims are misleading, not substantiated or not permissible, we may be subject to enforcement actions, including Warning Letters, and may be required to revise our promotional claims and make other corrections or restitutions.

If we or any of our suppliers, distributors, agents or customers fail to comply with FDA, FTC and other applicable U.S. regulatory requirements or are perceived to potentially have failed to comply, we may face:

- adverse publicity affecting both us and our customers;
- increased pressures from our competitors;
- investigations by governmental authorities or Warning Letters;

- fines, injunctions, and civil penalties;
  
- partial suspensions or total shutdown of production facilities, or the imposition of operating restrictions;
  
- increased difficulty in obtaining required FDA clearances or approvals;
  
- losses of clearances or approvals already granted;
  
- seizures or recalls of our products or those of our customers;
  
- delays in purchasing decisions by customers or cancellation of existing orders;
  
- the inability to sell our products;
  
- difficulty in obtaining product liability or operating insurance at a reasonable cost, or at all; and
  
- civil fines and criminal prosecutions.

Other applicable U.S. regulations. As a participant in the healthcare industry, we are also subject to extensive laws and regulations protecting the privacy and integrity of patient medical information that we receive, including the HIPAA, fraud and abuse laws and regulations, including physician self-referral prohibitions, and false claims 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, 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. We also must comply with numerous federal, state and local laws of more general applicability relating to such matters as safe working conditions, manufacturing practices and fire hazard control.

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. For example, HIPAA was amended by the HITECH Act, enacted as part of the American Recovery and Reinvestment Act of 2009. The HITECH Act significantly increases the civil money penalties for violations of patient privacy rights protected under HIPAA. Furthermore, business associates who have access to patient health information provided by hospitals and healthcare providers are now directly subject to HIPAA, including the new enforcement scheme and inspection requirements. Moreover, there has been a trend in recent years toward more stringent regulation and enforcement of requirements applicable to medical device manufacturers who receive or have access to patient health information.

Government regulation also may cause considerable delay or even prevent the marketing and full commercialization of future products or services that we may develop, and/or may impose costly requirements on our business. Insurance coverage is not commercially available for violations of law, including the fines, penalties or investigatory costs that may flow to us as the consequence of regulatory violations; consequently, we do not have insurance that would cover this type of liability.

#### COMPLIANCE WITH FOREIGN LAWS AND REGULATIONS APPLICABLE TO THE MANUFACTURE AND DISTRIBUTION OF OUR PRODUCTS MAY BE COSTLY, AND FAILURE TO COMPLY MAY RESULT IN SIGNIFICANT PENALTIES

Regulatory requirements affecting our operations and sales outside the United States vary from country to country, often differing significantly from those in the United States. In general, outside the United States, our products are regulated as medical devices by foreign governmental agencies similar to the FDA.

Marketing a medical device internationally. In order for us to market our products internationally, we must obtain clearances or approvals for products and product modifications. These processes (including for example in the EU, the EEA, Switzerland, China, Japan and Canada) can be time consuming, expensive and uncertain, which can delay our ability to market products in those countries. Delays in receipt of or failure to receive regulatory approvals, the inclusion of significant limitations on the indicated uses of a product, the loss of previously obtained approvals or failure to comply with existing or future regulatory requirements could restrict or prevent us from doing business in a country or subject us to a variety of enforcement actions and civil or criminal penalties, which would adversely affect our business.

Within the EEA, we must affix a CE mark, a European marking of conformity that indicates that a product meets the essential requirements of the Medical Device Directive. This conformity to the Medical Device Directive is done through self-declaration and is verified by an independent certification body, called a Notified Body. Once the CE mark is affixed, the Notified Body will regularly audit us to ensure that we remain in compliance with the applicable European laws and Medical Device Directive. By affixing the CE mark marking to our product, we are certifying that our products comply with the laws and regulations required by the EEA countries, thereby allowing the free movement of our products within these countries and others that accept CE mark standards. If we cannot support our performance claims and demonstrate compliance with the applicable European laws and Medical Device Directive, we would lose our right to affix the CE mark to our products, which would prevent us from selling our products within the EU/EEA/Switzerland territory and in other countries that recognize the CE mark. Significant revisions to some of the applicable regulations governing requirements for medical devices in the EU/EEA/Switzerland went into effect in March 2010. These revisions have introduced additional uncertainty into the marketing authorization process for medical devices in Europe. Until medical device manufacturers and European regulatory agencies, including Notified Bodies and Competent Authorities, (governmental agencies to whom the legislator has delegated the capacity to enforce the Medical Devices Directive) have greater experience with interpreting and applying the revised regulations, we may be subject to risks associated with additional testing, modification, certification or amendment of our existing market authorizations, or we may be required to modify products already installed at our customers

facilities in order to comply with the official interpretations of these revised regulations.

In addition, we are required to timely file various reports with international regulatory authorities, including reports required by international adverse event reporting regulations, that require that we report to regulatory authorities if our devices may have caused or contributed to a death or serious injury or malfunctioned in a way that would likely cause or contribute to a death or serious injury if the malfunction were to recur. If these reports are not timely filed, regulators may impose sanctions, including temporarily suspend our market authorizations or CE mark, and sales of our products may suffer, and we may be subject to product liability or regulatory enforcement actions, all of which could harm our business.

Further, as we enter new businesses or pursue new business opportunities internationally, such as opportunities that require clinical trials, we may become subject to additional laws, rules and regulations. Becoming familiar with and implementing the infrastructure necessary to comply with these laws, rules and regulations is costly. In addition, failure to comply with these laws, rules and regulations could delay the introduction of new products and could adversely affect our business.

Manufacturing and selling a device internationally. We are also subject to 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. These are often comparable to, if not more stringent than, the equivalent regulations in the United States. Sales overseas are also affected by regulation of matters such as product standards, packaging, labeling, environmental and product recycling requirements, import and export restrictions, tariffs, duties and taxes.

In some countries, we rely on our foreign distributors and agents to assist us in complying with foreign regulatory requirements, and we cannot be sure that they will always do so. If we or any of our suppliers, distributors, agents or customers fail to comply with applicable international regulatory requirements or are perceived to potentially have failed to comply, we may face:

- adverse publicity affecting both us and our customers;
- investigations by governmental authorities;
- fines, injunctions, civil penalties and criminal prosecutions;
- increased difficulty in obtaining required approvals in foreign countries;
- losses of clearances or approvals already granted;
- seizures or recalls of our products or those of our customers;
- delays in purchasing decisions by customers or cancellation of existing orders; and
- the inability to sell our products in or to import our products into such countries.

Other applicable international regulations. We are subject to laws and regulations in foreign countries covering data privacy and other protection of health and employee information. Particularly within Europe, data protection legislation is comprehensive and complex and there has been a recent trend toward more stringent enforcement of requirements regarding protection and confidentiality of personal data. Data protection authorities from the different member states of the EU may interpret the legislation differently, which adds to this complexity, and data protection is a dynamic field where guidance is often revised. Fully understanding and implementing this legislation could be quite costly and timely, which could adversely affect our business. Additionally, in some instances, in order to fulfill the requirements of applicable U.S. laws, we may be faced with deciding whether to comply with international data protection rules. Failure or partial failure to comply with data protection rules and regulations internationally could result in substantial monetary fines. New data protection legislation that will entail substantial changes to the current legal framework, some stricter than before, some less strict, is expected to be enacted by the European Commission in 2014.

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.

#### THE AFFORDABLE CARE ACT INCLUDES PROVISIONS THAT MAY ADVERSELY AFFECT OUR BUSINESS AND RESULTS OF OPERATIONS, INCLUDING AN EXCISE TAX ON THE SALES OF MOST MEDICAL DEVICES

On March 23, 2010, President Obama signed into law the Affordable Care Act, many of the provisions of which will go into effect through 2014. While we are continuing to evaluate the Affordable Care Act, it could adversely impact the demand for our products and services, and therefore our financial position and results of operations, possibly materially.

Specifically, one of the components of the law is a 2.3% excise tax on sales of most medical devices, which include our Oncology Systems and VPT products, which started January 1, 2013. The Congressional Budget Office estimates that the total cost to the medical device industry could exceed \$30 billion over ten years. This tax has had and may continue to have a negative impact on our gross margin and/or may lead our customers to reduce their orders for our products.

In addition, discussions relating to the Affordable Care Act have included the possibility for bundled reimbursement payments and accountable care organizations (ACOs). ACOs and bundled payment programs were established by the Affordable Care Act 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 Affordable Care Act, 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 (the Physician Payment Sunshine Act ), 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 reduced 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 is being adversely impacted as customers' decision-making processes are complicated by the uncertainties surrounding the implementation of the Affordable Care Act and reimbursement rates for radiotherapy and radiosurgery, and that this uncertainty will likely continue into the next fiscal year and result in a high degree of variability of gross orders and revenue 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 will have on our customers' purchasing decisions. However, an expansion in government's role in the U.S. healthcare industry may adversely affect our business, possibly materially.

#### CHANGES TO RADIATION ONCOLOGY AND OTHER REIMBURSEMENTS AND CHANGES IN INSURANCE DEDUCTIBLES AND ADMINISTRATION MAY AFFECT DEMAND FOR OUR PRODUCTS

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 restrain individuals from seeking the same level of medical treatments as they might seek if the costs they bear are lower, particularly in the medical diagnostic portion of our business. Third party payors have also increased utilization controls related to the use of our products by healthcare providers.

Furthermore, there is no uniform policy on reimbursement among third-party payors, and we cannot be sure that third-party payors will reimburse our customers for procedures using our products 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 has made 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 CMS to reimburse for a treatment, or changes to Medicare's reimbursement policies or reductions in payment amounts with respect to a treatment sometimes 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 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 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, discussions relating to the Affordable Care Act have included the possibility for bundled reimbursement payments and ACOs. Any significant cuts in reimbursement rates or changes in reimbursement methodology or administration for radiotherapy, radiosurgery, proton therapy or brachytherapy, 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 and have a material adverse effect on our revenues and stock price.



Foreign governments also have their own healthcare reimbursement systems and we cannot be sure that adequate reimbursement will be made available with respect to our products under any foreign reimbursement system.

**OUR RESULTS MAY BE IMPACTED BY CHANGES IN FOREIGN CURRENCY EXCHANGE RATES**

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 provide 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, and the effectiveness of the hedges, the number of transactions that are hedged and forecast volatility. If our hedging strategies do not offset these fluctuations, our revenues, margins and other operating results may be harmed. In addition, movement in foreign currency exchange rates could impact our financial results positively or negatively in one period and not another, making it more difficult to compare our financial results from period to period.

In addition, long-term movements in foreign currency exchange rates can also affect the competitiveness of our products in the local currencies of our international customers. Even though our international sales are mostly in local currencies, our cost structure is weighted towards the U.S. Dollar. The volatility of the U.S. Dollar that we have experienced over the last several years has affected the competitiveness of our pricing against our foreign competitors, some of which may have cost structures based in other currencies, either helping or hindering our international order and revenue growth, thereby affecting our overall financial performance and results. Changes in monetary or other policies here and abroad, including as a result of economic instability or concerns about the downgrade and levels of sovereign debt, or in reaction thereto, would also likely affect foreign currency exchange rates. For example, the value of the Euro against the U.S. Dollar has been impacted by the sovereign debt and banking crises in Greece, Spain and other European countries. Furthermore, in the event that 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 such time as stable exchange rates are established.

**WE ARE SUBJECT TO FEDERAL, STATE AND FOREIGN LAWS GOVERNING OUR BUSINESS PRACTICES WHICH, IF VIOLATED, COULD RESULT IN SUBSTANTIAL PENALTIES. ADDITIONALLY, CHALLENGES TO OR INVESTIGATION INTO OUR PRACTICES COULD CAUSE ADVERSE PUBLICITY AND BE COSTLY TO RESPOND TO AND THUS COULD HARM OUR BUSINESS**

Laws and ethical rules governing interactions with healthcare providers. The Medicare and Medicaid anti-kickback laws, and similar state laws, prohibit payments or other remuneration that is 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, which is called off-label promotion. Violating anti-kickback and false claims laws can result in civil and criminal penalties, which can be substantial, and potential mandatory or discretionary exclusion from healthcare programs for noncompliance. Even an unsuccessful challenge or investigation into our practices could cause adverse publicity, and be costly to defend, and thus could harm our business and results of operations. Additionally, several state, federal and international laws, including the laws in Massachusetts and Vermont, and the federal Physician Payment Sunshine Act, require, among other things, extensive tracking and maintenance of databases regarding the disclosure of equity ownership and payments to physicians, healthcare providers and hospitals. These laws require us to implement the necessary and costly infrastructure to track and report certain payments to healthcare providers. Failure to comply with these new tracking and reporting laws could subject us to significant civil monetary penalties.

We are subject to similar laws in foreign countries where we conduct business. For example, within the EU, the control of unlawful marketing activities is a matter of national law in each of the member states. The member states of the EU closely monitor perceived unlawful marketing activity by companies. We could face civil, criminal and administrative sanctions if any member state determines that we have breached our obligations under its national laws.

Industry associations also closely monitor the activities of member companies. If these organizations or authorities name us as having breached our obligations under their regulations, rules or standards, our reputation would suffer and our business and financial condition could be adversely affected.

Anti-corruption laws and regulations. We are also 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, which became effective on July 1, 2011, and the Law On the Fundamentals of Health Protection in the Russian Federation, with a significant anti-corruption intent and effective since January 2012. In general, there is a worldwide trend to strengthen anticorruption laws and their enforcement, and the healthcare industry and medical equipment manufacturers have been particular targets of these investigation and enforcement efforts. Any violation of these laws by us or our agents or distributors could create a substantial liability for us, subject our officers and directors to personal liability and also cause a loss of reputation in the market. Transparency International's 2012 Corruption Perceptions Index measured the degree to which public sector corruption is perceived to exist in 174 countries around the world, and found that nearly three quarters 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. Becoming familiar with and implementing

the infrastructure necessary to comply with laws, rules and regulations applicable to new business activities and mitigate and protect against corruption risks could be quite costly. In addition, 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. This notwithstanding, we will inevitably do more business, directly and potentially indirectly in countries, where the public sector is perceived to be more or highly corrupt and be engaging in business in more countries perceived to be more or highly corrupt. Increased business in higher risk countries could subject us and our officers and directors to increased scrutiny and increased liability. In addition, we have conducted, and in the future expect to conduct internal investigations or face audits or investigations by one or more domestic or foreign government agencies, 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.

**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 FUTURE REVENUES AND REQUIRE US TO PAY MATERIAL UNINSURED CLAIMS**

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 (for example, when our SIP products are being used to scan cargo), 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 diagnosing of medical problems, the possibility for significant injury and/or death exists to the intended or unintended recipient of the delivery. Our medical products operate within our customers' facilities and network systems, and under quality assurance procedures established by the facility that ultimately result in the delivery of 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. 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, 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. For these and other reasons, we may choose to settle product liability claims against us, regardless of their actual merit. If a product liability action were finally determined against us, it could result in significant damages, including the possibility of 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, even ones that do not involve our products, 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 of radiation therapy, radiosurgery, medical devices or the healthcare industry in general, and adversely affect our ability to promote, manufacture and sell our products. Both adverse publicity and increased regulatory activities could negatively impact our business and results of operations.

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), we may be required to correct or recall the product and notify regulatory authorities. The adverse publicity resulting from a correction or recall 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 and have an adverse financial impact on our business, including incurring substantial costs, losing revenues and accruing losses under accounting principles generally accepted in the United States ( GAAP ).

We maintain limited product liability insurance coverage and currently self-insure professional liability/errors and omissions liability. Our product liability insurance policies are expensive and have high deductible amounts and self-insured retentions. Our insurance coverage may also prove to 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 relating to a self-insured liability or a liability that is in excess of our insurance coverage, or for which insurance coverage is denied or limited, we could have to pay substantial damages, which could have a material adverse effect on our financial position and results of operation.

**WE COMPETE IN HIGHLY COMPETITIVE MARKETS, AND WE MAY LOSE MARKET SHARE TO COMPANIES WITH GREATER RESOURCES OR THE ABILITY TO DEVELOP MORE EFFECTIVE TECHNOLOGIES, OR WE COULD BE FORCED TO REDUCE OUR PRICES**

Rapidly evolving technology, intense competition and pricing pressure characterize the markets for radiation therapy equipment and software. New competitors may enter our markets, and we have encountered new competitors as we have entered new markets such as radiosurgery, volumetric modulated arc therapy and proton therapy. Some of these competitors may have greater financial, marketing and other resources than we have. To compete successfully, we must provide technically superior, clinically proven products that deliver more precise, cost-effective, high quality clinical outcomes, 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. The shift in the proportion of sales within our international region towards emerging market countries, which typically have purchased less complex, lower-priced products compared to more developed countries and which usually have stiffer price competition, could also adversely impact our results of operations. New competitors may also delay customer purchasing decisions as customers evaluate the products of these competitors along with ours, potentially extending our sales cycle and adversely affecting our gross orders.

In X-ray imaging components and subsystems, we often compete with companies that have greater financial, marketing and other resources than we have. Some of the major diagnostic imaging systems companies, which are the primary OEM customers for our X-ray components, also manufacture X-ray components, including X-ray tubes, for use in their own imaging systems products. We must compete with these in-house manufacturing operations for business from their affiliated companies. In addition, we compete against other stand-alone, independent X-ray tube manufacturers who compete with us for both the OEM business of major diagnostic imaging equipment manufacturers and the independent servicing business for X-ray tubes. The market for flat panel detectors is also very competitive. As a result, we must have an advantage in one or more significant areas, which may include lower product cost, better product quality and/or superior technology and/or performance.

In our SIP business, we compete with other OEM suppliers, primarily outside of the United States. The market for our SIP products used for nondestructive testing in industrial applications is small and highly fragmented.

The market for proton therapy products is still developing and is characterized by rapidly evolving technology and pricing pressure. Our ability to compete successfully depends, in part, on our ability to lower our product costs, develop and provide technically superior, clinically proven products that deliver more precise, cost-effective, high quality clinical outcomes, including integration of technologies such as our OBI for IGRT and our motion management technologies.

In each of our business segments, existing competitors' actions and new entrants may adversely affect our ability to compete. These competitors could develop technologies and products that are more effective than those we currently use or produce or that could render our products obsolete or noncompetitive. In addition, 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, 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, which could enable them to compete more aggressively. Our competitors could also acquire some of our suppliers or distributors,

which could disrupt these supply or distribution arrangements and result in less predictable and reduced revenues in our businesses. Any of these competitive factors could negatively affect our pricing, sales, revenues, market share and gross margins and our ability to maintain or increase our operating margins.

**OPEN ARCHITECTURE IS BECOMING INCREASINGLY IMPORTANT, AND SALES OF OUR PRODUCTS COULD FALL IF WE FAIL TO ACHIEVE THIS**

As radiation oncology treatment becomes more complex, our customers are increasingly focusing on ease-of-use and interconnectivity. Our equipment and software are highly sophisticated and require a high level of training and education to use them competently and safely requirements made even more important because they work together within integrated environments. We have directed substantial product development efforts into (i) increasing the interconnectivity of our products for more seamless operation within a system, (ii) making our software products easier to use and (iii) reducing setup and treatment times to increase patient throughput. We have emphasized an open systems approach that allows customers to mix and match our individual products, incorporate products from other manufacturers, share information with other systems or products and use the equipment for offering 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 volumetric modulated arc therapy and will stimulate demand for our

products. There are competitive closed-ended dedicated-use systems, however, that place simplicity of use ahead of flexibility. If we have misjudged the importance to our customers of maintaining an open systems approach, or if we are unsuccessful in our efforts to 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 the other company 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 and 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 best 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 or more costly to our customers.

#### PROTECTING OUR INTELLECTUAL PROPERTY CAN BE COSTLY AND WE MAY NOT BE ABLE TO MAINTAIN LICENSED RIGHTS, AND IN EITHER CASE OUR COMPETITIVE POSITION WOULD BE HARMED IF WE ARE NOT ABLE TO DO SO

We file applications as appropriate for patents covering new products and manufacturing processes. We cannot be sure, however, that our current patents, the claims allowed under our current patents, or patents for technologies licensed to us will be sufficiently broad to protect our technology position against competitors. Issued patents owned by, or licensed to, us may be challenged, invalidated or circumvented, or the rights granted under the patents may not provide us with competitive advantages. We also cannot be sure that patents will be issued from any of our pending or future patent applications. Asserting our patent rights against others in litigation or other legal proceedings is costly and diverts managerial resources. An unfavorable outcome in any such litigation or proceeding 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.

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

#### THIRD PARTIES MAY CLAIM WE ARE INFRINGING THEIR INTELLECTUAL PROPERTY, AND WE COULD SUFFER SIGNIFICANT LITIGATION OR LICENSING EXPENSES OR BE PREVENTED FROM



## SELLING OUR PRODUCTS

There is a substantial amount of litigation over patent and other intellectual property rights in the industries in which we compete. Our competitors, like companies in many high technology businesses, continually review other companies' activities for possible conflicts with their own intellectual property rights. In addition, non-practicing entities may review our activities for conflicts with their patent rights. Determining whether a product infringes a third party's intellectual property rights involves complex legal and factual issues, and the outcome of this type of litigation is often uncertain. Third parties may claim that we are infringing their intellectual property rights. We may not be aware of intellectual property rights of others that relate to our products, services or technologies. From time to time, we have received notices from third parties asserting infringement and we have been subject to lawsuits alleging infringement of third-party patent or other intellectual property rights. For example, we are currently involved in a patent infringement lawsuit relating to our Real-time Position Management technology initiated in 2007 by the University of Pittsburgh. 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. For example, in the University of Pittsburgh patent infringement case, as of September 27, 2013 we are subject to a court judgment that could result in the Company

incurring up to approximately \$102 million in damages, including prejudgment interest, plus an ongoing royalty for sales after the date of judgment. While we have appealed the findings against us, this appeal is subject to uncertainties and we cannot provide assurance as to its outcome. As of September 27, 2013, we had accrued an aggregate of approximately \$5.0 million related to all ongoing proceedings, including the low end of the range of the probable settlement value for the University of Pittsburgh matter. If actual liabilities significantly exceed the estimates made, 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. Furthermore, even if a third party rights holder is willing to license its rights to us, the amounts we might be required to pay under the associated royalty or license agreement could be significant.

#### THE LOSS OF A SUPPLIER OR ANY INABILITY TO OBTAIN SUPPLIES OF IMPORTANT COMPONENTS COULD RESTRICT OUR ABILITY TO MANUFACTURE PRODUCTS, CAUSE DELAYS IN OUR ABILITY TO DELIVER PRODUCTS, 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 afterloaders, klystrons for linear accelerators; transistor arrays and cesium iodide coatings for flat panel detectors, and specialized integrated circuits, X-ray tube targets, housings, glassframes and various other components; and radiofrequency components, magnets and gantry hardware for proton therapy systems. 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. This 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 that and other related products. Although we have insurance to protect against business interruption loss, this insurance coverage may not be adequate or continue to remain available on acceptable terms, if at all. Furthermore, some of our single-source suppliers provide components for some of our rapidly 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- or sole-sourced components or subassemblies or the capacity limitations of the suppliers for these components or subassemblies, including the ones referenced above, could adversely affect our business and financial results and could damage our customer relationships.

#### 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 or SIP; copper, lead, tungsten, rhenium, molybdenum zirconium, and various high grades of steel alloy for X-ray tubes, and high-grade steel, high-grade copper and iron for VPT. 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.

#### 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 what were previously more than one customer combine orders as one entity, or as groups of organizations combine their purchases. As a result, as 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. In addition, some customers appear to be developing new partnerships across clinical specialties to prepare for the possibility of operating in an 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 gross orders could affect the level of future revenues, which would adversely affect our operating results, financial condition, and the price of VMS common stock.

**WE SELL OUR X-RAY PRODUCTS TO A LIMITED NUMBER OF OEM CUSTOMERS, MANY OF WHICH ARE ALSO OUR COMPETITORS, AND A REDUCTION IN BUSINESS OR INABILITY TO PROPERLY FORECAST SALES BY ONE OR MORE OF THESE CUSTOMERS COULD REDUCE OUR SALES**

We sell our X-ray tube products to a limited number of OEM customers, many of which are also our competitors with in-house X-ray tube manufacturing operations. If these customers manufacture a greater percentage of their components in-house or otherwise lower external sourcing costs, we could experience reduction in purchasing volume by, or loss of, one or more of these customers. Such a reduction or loss could have a material adverse effect on our X-Ray Products business. In addition, economic uncertainties over the past few years and, in Japan, the power outages, facility closures and other effects of the 2011 tsunami, have made it difficult for our OEM customers to accurately forecast and plan future business activities. Such economic uncertainties and natural disasters, as well as other factors, have previously impacted our X-Ray Products business with inventory reduction efforts and slowdowns in sales at some of these customers. Similar inventory adjustments and slowdowns in sales could occur in the future. Our agreements for X-ray components may contain purchasing estimates that are based on our customers' historical purchasing patterns, and actual purchasing volumes under the agreements may vary significantly from these estimates.

**ORDERS FOR OUR SECURITY AND INSPECTION PRODUCTS COULD BE UNPREDICTABLE**

Our SIP business designs, manufactures, sells and services Linatron X-ray accelerators, imaging processing software and image detection products for security and inspection, such as cargo screening at ports and borders and nondestructive examination for a variety of applications. We generally sell SIP products to OEMs who incorporate our products into their inspection systems, which are then sold to customs and other government agencies, as well as to commercial organizations in the casting, power, aerospace, chemical, petro-chemical and automotive industries. We believe growth in the SIP business will be driven by security cargo screening and border protection needs, as well as by the needs of customs agencies to verify shipments for assessing duties and taxes. Orders for our SIP products have been and may continue to be unpredictable as governmental agencies may place large orders with us or our OEM customers in a short time period, and then may not place any orders for a long time period thereafter. Because it is difficult to predict our OEM customer delivery, the actual timing of sales and revenue recognition varies significantly.

In addition, our SIP business is heavily influenced by U.S. and foreign governmental policies on national and homeland security, border protection and customs revenue activities, which depend upon government budgets and appropriations that are subject to economic conditions, as well as political changes. We have seen customers freeze or dramatically reduce purchases and capital project expenditures, delay projects, or act cautiously as governments around the world wrestle with spending priorities. As economic growth remains sluggish in various jurisdictions and appears to be deteriorating in others, and as concerns about levels of government employment and government debt continue, we expect that these effects will also continue. Furthermore, bid awards in this business may be subject to challenge by third parties, as we have previously encountered with a large government project. These factors make the timing of orders, sales and revenues in this business more unpredictable and could cause volatility in our revenues and earnings, and therefore the price of VMS common stock.

**IF WE ARE UNABLE TO PROVIDE THE SIGNIFICANT EDUCATION AND TRAINING REQUIRED FOR THE HEALTHCARE MARKET TO ACCEPT OUR PRODUCTS, OUR BUSINESS WILL SUFFER**

In order to achieve market acceptance for our radiation therapy products, we often need to educate physicians about the use of new treatment procedures such as IMRT, IGRT, volumetric modulated arc therapy, stereotactic

radiotherapy, stereotactic radiosurgery, stereotactic body radiation therapy or proton therapy, overcome physician objections to some of the effects of the product or its related treatment regimen, convince healthcare payors that the benefits of the product and its related treatment process outweigh its costs and 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 on marketing and educational efforts to create awareness of IMRT, IGRT, volumetric modulated arc therapy, stereotactic radiotherapy, stereotactic radiosurgery, stereotactic body radiation therapy and proton therapy generally, to encourage the acceptance and adoption of our products for these technologies and to 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 on their education.

#### 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 and technology companies, as well as universities and research institutions. 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. Additionally, if we are unable to retain key personnel, we may not be able to replace them readily or on terms that are reasonable, which also could hurt our business.

#### IF WE ARE NOT ABLE TO MATCH OUR MANUFACTURING CAPACITY WITH DEMAND FOR OUR PRODUCTS, OUR FINANCIAL RESULTS MAY SUFFER

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 MAY NOT REALIZE EXPECTED BENEFITS FROM ACQUISITIONS OF OR INVESTMENTS IN NEW BUSINESSES, PRODUCTS, OR TECHNOLOGIES, WHICH COULD HARM OUR BUSINESS

We need to grow our businesses in response to changing technologies, customer demands and competitive pressures. In some circumstances, we may decide to grow our business through the acquisition of complementary businesses, products or technologies rather than through internal development. For example, in fiscal year 2012 we acquired InfiMed, a supplier of hardware and software for processing diagnostic X-ray images, and Calypso, a supplier of specialized products and software for real-time tumor tracking and motion management during radiosurgery and radiotherapy. 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, completing an acquisition can divert our management and key personnel from our current business operations, which could harm our business and affect our financial results. Even if we complete an acquisition, we may not be able to successfully integrate newly acquired organizations, products, technologies or employees into our operations, or may not fully realize some of the expected synergies.

Integrating an acquisition can also be expensive and time-consuming, and may strain our resources. It may cost us more to commercialize new products than we originally anticipated, as we have experienced with our proton therapy systems, or cause us to increase our expenses related to research and development, either of which could impact our results of operations. In many instances, integrating a new business will also involve implementing or improving internal controls appropriate for a public company at a business that lacks them. In addition, we may be unable to retain the employees of acquired companies, or the acquired company's customers, suppliers, distributors or other partners for a variety of reasons, including the fact that these entities may be our competitors or may have close relationships with our competitors.

Further, we may find that we need to restructure or divest acquired businesses, or assets of those businesses. Even if we do so, an acquisition may not produce the full efficiencies, growth or benefits we expected. If we decide to sell assets or a business, as we did in fiscal year 2008 with the scientific research instruments business that we acquired as part of our acquisition of ACCEL GmbH, it may be difficult to identify buyers or alternative exit strategies on acceptable terms, in a timely manner, or at all, which could delay the accomplishment of our strategic objectives. We

may be required to dispose of a business at a lower price or on less advantageous terms, or to recognize greater losses, than we had anticipated.

We account for our acquisitions under the purchase method of accounting. Under this method, we allocate the total purchase price to the acquired businesses' tangible assets and liabilities, identifiable intangible assets and in-process research and development costs based on their fair values as of the date of the acquisition, and record the excess of the purchase price over those fair values as goodwill. If we fail to achieve the anticipated growth 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, 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 that are subject to risk of loss of investment capital. These investments are inherently risky in some instances because the markets for the technologies or products these companies have under development may never materialize. If these companies do not succeed, we could lose some or all of our investment in these companies.

## WE MAY FACE ADDITIONAL RISKS FROM THE ACQUISITION OR DEVELOPMENT OF NEW LINES OF BUSINESS

From time to time, we may acquire or develop new lines of business, such as particle therapy. There are substantial risks and uncertainties associated with new lines of business, particularly in instances where the markets are not fully developed. Risks include developing knowledge of and experience in the new business, recruiting market professionals, increasing research and development expenditures, and developing and capitalizing on new relationships with experienced market participants. This may mean significant investment and involvement of our senior management to acquire or develop, then integrate, the business into our operations. Timelines for integration of new businesses may not be achieved and price and profitability targets may not prove feasible, as new products can carry lower gross margins than existing products. External factors, such as compliance with regulations, competitive alternatives, and shifting market preferences, may also impact whether implementation of a new business will be successful. Failure to manage these risks could have a material adverse effect on our business, results of operations and financial condition.

## WE WORK WITH DISTRIBUTORS FOR SALES IN SOME TERRITORIES, AND LOSING THEM COULD HARM OUR REVENUES IN THAT TERRITORY

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

## FLUCTUATIONS IN OUR OPERATING RESULTS, INCLUDING QUARTERLY GROSS ORDERS, REVENUES, AND MARGINS, MAY CAUSE OUR STOCK PRICE TO BE VOLATILE, WHICH COULD CAUSE LOSSES FOR OUR STOCKHOLDERS

We have experienced and expect in the future to experience fluctuations in our operating results, including gross orders, revenues and margins, from period to period. 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. When orders are placed, installation is accomplished and the revenues recognized 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 net order amounts) and the timing of revenue include:



delay in shipment due, for example, to an unanticipated construction delay at a customer location where our products are to be installed, cancellations or reschedulings 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 quarterly operating results, including our margins, may also be affected by a number of other factors, including:

- changes in our or our competitors' pricing or discount levels;
- changes in foreign currency exchange rates;
- changes in the relative portion of our revenues represented by our various products, including the relative mix between higher margin and lower margin products;

- changes in the relative portion of our revenues represented by our international region as a whole, by regions within the overall region, as well as by individual countries (notably those in emerging markets);
- fluctuation in our effective tax rate, which may or may not be known to us in advance;
- changes to our organizational structure, which may result in restructuring or other charges;
- disruptions in the supply or changes in the costs of raw materials, labor, product components or transportation services;
- disruptions in our operations, including our ability to manufacture products, caused by events such as earthquakes, fires, floods, terrorist attacks or the outbreak of epidemic diseases;
- the impact of changing levels of sales on sole purchasers of certain of our X-ray products;
- 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 are presently below the gross margins for our traditional radiotherapy products and particularly prior to completion because the associated revenues are being accounted for in accordance with the zero profit, percentage-of-completion method. If our gross margins fall below the expectation of securities analysts and investors, the trading price of VMS common stock would almost certainly decline.

We report on a quarterly and annual basis our gross orders and backlog. 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 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 customer purchase decisions or 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. 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.

THE FINANCIAL RESULTS OF OUR VPT BUSINESS MAY FLUCTUATE AND BE UNPREDICTABLE

The development of our VPT business enables us to offer products for delivering image-guided, intensity-modulated proton therapy for the treatment of cancer. Our success in this area will depend upon the wide-spread awareness, acceptance and adoption by the oncology market of proton therapy systems for the treatment of cancer. However, this technology has not been widely adopted and future developments may not be adopted as quickly as others.

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 of our time and uses more of our 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 VPT that may make it difficult to predict our results and to 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. The worldwide economic downturn resulted in a contraction in credit markets. This has 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 that we participate in financing arrangements (such as we did for the Scripps Proton Therapy Center) or make payment concessions in their agreements with us, which could impact our operating results. Challenges or delays in obtaining financing or commencing treatment could also impact the viability of one or more of our customers as a going concern. Changes in reimbursement rates for proton therapy treatments, or uncertainty regarding these reimbursement rates, such as we experienced in 2012 with the reductions to reimbursement rates for hospital based proton therapy centers in the United States by CMS, can affect growth or demand for our VPT products and services.

We compete for many proton therapy system sales through tenders, where parties compete on price and other factors. Some companies may 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, there is a risk we will 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 relatively large and complex, the sales and customer decision cycles for proton therapy projects

may take several years, and an order in one fiscal period (or the cancellation of an order as a result of bid challenge or otherwise) will cause our gross orders to vary significantly, making comparisons between fiscal periods more difficult. We expect that a limited number of customers will account for a substantial portion of VPT's 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 could adversely impact our operating results.

Our estimates as to future operating results include certain assumptions about the results of VPT's business. If we are incorrect in our assumptions, our financial results could be materially and adversely affected. It is possible that VPT could perform significantly below our expectations due to a number of factors that cannot be predicted with certainty, including revenue growth rates, operating margins and future market conditions. These factors could adversely impact VPT's ability to meet its projected results, which could cause a portion or all of the goodwill of VPT to become impaired. As of September 27, 2013, the goodwill of VPT was \$60.1 million. If we determine that VPT's goodwill becomes impaired, we would be required to record a charge that could have a material adverse effect on our results of operations in such period.

#### OUR VPT BUSINESS MAY SUBJECT US TO INCREASED RISK AND POTENTIAL LIABILITY

VPT's business may subject us to increased risk and potential 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, as well as in some situations participate in or provide project financing for the project. Since the cost of each proton therapy center project will 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. In addition, we have encountered and may encounter additional challenges in the commercialization of the proton therapy products, which may increase our research and development costs and delay the introduction of our products. These and other unanticipated events could adversely affect our business and make our results of operations unpredictable.

#### WE HAVE ENTERED INTO A CREDIT FACILITY AGREEMENT THAT RESTRICTS CERTAIN ACTIVITIES, AND FAILURE TO COMPLY WITH THIS AGREEMENT MAY HAVE AN ADVERSE EFFECT ON OUR BUSINESS, LIQUIDITY AND FINANCIAL POSITION

We maintain a credit facility with debt outstanding that contains restrictive financial covenants, including financial covenants that require us to comply with specified financial ratios. We may have to curtail some of our operations to comply with these covenants. In addition, our revolving credit facility contains other 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. Furthermore, if we fail to comply with the credit facility requirements, we may be in default. Upon an event of default, if the credit agreement is not amended or the event of default is not waived, the lender could declare all amounts outstanding, together with accrued interest, to be immediately due and payable. If this happens,

we may not be able to make those payments or borrow sufficient funds from alternative sources to make those payments. Even if we were to obtain additional financing, that financing may be on unfavorable terms.

**CHANGES IN 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 ), 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 from period to period and make it more difficult to compare our financial results to prior periods.

As our operations evolve over time, we may introduce new products or new technologies that require us to apply different accounting principles, including ones regarding revenue recognition, than we have applied in past periods. Currently, we recognize revenues for our proton therapy systems and proton therapy commissioning contracts and for certain highly customized image detection systems in

our SIP business under contract accounting rules, which affects the timing of revenue recognition. We could be required to apply contract accounting rules to other businesses in the future. Under contract accounting rules, the use of the percentage-of-completion method involves considerable use of estimates in determining revenues, costs and profits and in assigning dollar amounts to relevant accounting periods, estimates which must be periodically reviewed and appropriately adjusted. For example, revenues recognized under the percentage-of-completion method are based on contract costs incurred to date compared with total estimated contract costs. In circumstances in which the final outcome of a contract cannot be precisely estimated but a loss on the contract is not expected, we recognize revenues under the percentage-of-completion method based on a zero profit margin until more precise estimates can be made. Recognizing revenues using the percentage-of-completion method based on a zero profit margin, as we had done with the revenues associated with the Scripps Proton Therapy Center in the earlier stages of the project lowers our gross margins and makes it more difficult to compare our financial results from quarter to quarter. In addition, if we were to recognize revenues for our proton therapy systems and services under either the completed contract method or outside of contract accounting rules altogether, we would defer revenue until a contract is completed or substantially completed. This may cause our results of operations to fluctuate from period to period.

If our estimates prove to be inaccurate or circumstances change over time, we would be required to adjust revenues or even record a contract loss in later periods, and our financial results could suffer. In addition, if a loss is expected on a contract under the percentage-of-completion method, the estimated loss would be charged to cost of sales in the period the loss is identified. The application of different types of accounting principles and related potential changes may make it more difficult to compare our financial results from quarter to quarter, and the trading price of VMS common stock could suffer or become more volatile as a result.

#### ENVIRONMENTAL LAWS IMPOSE COMPLIANCE COSTS ON OUR BUSINESS AND CAN ALSO 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 a directive that may lead to restrictions on the use of certain hazardous substances in some of our products sold there. This directive, along with another that requires material disclosure information to be provided upon request, could increase our operating costs. All of these costs, and any future violations or liabilities under environmental laws or regulations, could have a material adverse effect on our business.

#### UNFAVORABLE RESULTS OF LEGAL PROCEEDINGS COULD MATERIALLY 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, arising in the ordinary course of our

business or otherwise. We are currently involved in various legal proceedings and claims, including product liability and intellectual property claims, that have not yet been fully resolved and additional claims may arise in the future. Legal proceedings are often lengthy, taking place over a period of years with interim motions or judgments subject to multiple levels of review (such as appeals or rehearings) before the outcome is final. Litigation is subject to significant uncertainty and may be expensive, time-consuming, and disruptive to our operations. For these and other reasons, we may choose to settle legal proceedings and claims, regardless of their actual merit.

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.

**AS A STRATEGY TO ASSIST OUR SALES EFFORTS, WE MAY PARTICIPATE IN PROJECT FINANCING OR OFFER EXTENDED PAYMENT TERMS, WHICH MAY ADVERSELY AFFECT OUR FINANCIAL RESULTS**

We have provided financing for the construction and start-up operations of the Scripps Proton Therapy Center, and we may provide or be requested to provide financing to other potential VPT customers in the future. Providing such financing could adversely affect our financial results, since we cannot provide assurance that a center will be completed on time or within budget, that the center can or will generate sufficient patient volumes and revenues to support scheduled loan payments or to provide incremental revenue to us, or that the borrower will have the financial means to pay off any financing at maturity. In addition, in connection with our financing of the Scripps Proton Therapy Center, we cannot provide any assurance that any portion of our loan commitment can be syndicated to third parties, or that the loan facility can be successfully refinanced upon the maturity of the loan, which has a maximum term of six years. If a borrower does not have the financial means to pay off its debts and if we cannot recover the amounts due us from the sale of any collateral, we may be required to write off all or a portion of the loan, which would adversely affect our financial results.

In addition, in some circumstances we offer longer or extended payment terms for qualified customers in our other businesses. Many of the areas where we offer such longer or extended payment terms have under-developed legal systems for securing debt and enforcing collection of debt. As of September 27, 2013, customer contracts with remaining terms of more than one year amounted to approximately four percent of our accounts receivable balance. While we qualify customers to whom we offer longer or extended payment terms, their financial positions may change adversely over the longer time period given for payment. Concerns over continued 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, longer or extended payment terms could impact the timing of our revenue recognition, and they have in the past and may in the future result in an increase in our days sales outstanding.

**DISRUPTION OF CRITICAL INFORMATION SYSTEMS OR MATERIAL BREACHES IN THE SECURITY OF OUR SYSTEMS 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. 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. If our data management systems do not 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, perhaps materially. Any such impairment could materially and adversely affect our financial condition, results of operations, cash flows and the timeliness with which we report our operating results internally and externally.

Moreover, we manufacture and sell products that allow our customers to store confidential information about their patients. While we have implemented security measures to protect our systems from unauthorized access, these measures may not secure our customers' equipment or any information stored in our customers' systems or at their locations. A breach of network security and systems or other events that cause the loss or public disclosure of, or access by third parties to, our customers' stored information could have serious negative consequences for our business, including possible 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.



**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. A major earthquake or other disaster (such as a major fire, hurricane, flood, 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 our or our suppliers' damaged manufacturing 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. Even if we are able to quickly respond to a disaster, the ongoing effects of the disaster could create some uncertainty in the operations of our businesses, such as occurred following the March 2011 tsunami in Japan. In addition, our facilities may be subject to a shortage of available electrical power and other energy supplies. Any shortages may increase our costs for power and energy supplies or could result in blackouts, which could disrupt the operations of our affected facilities and harm our business. Further, our products are typically shipped from a limited number of ports, and any disaster, strike or other event blocking shipment from these ports could delay or prevent shipments and harm

our business. In addition, concerns about terrorism, the effects of a terrorist attack, political turmoil or an outbreak of epidemic diseases, such as the swine flu, could have a negative effect on our business operations, those of our suppliers and customers, and the ability to travel, resulting in adverse consequences on our revenues and financial performance.

#### WE WORK IN INTERNATIONAL LOCATIONS WHERE THERE ARE 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. Some of our services are performed in or adjacent to high-risk locations, such as Iraq, Libya, and Mexico, where the country or location and surrounding area is suffering from political, social, or economic issues; war or civil unrest, or has a high level of criminal or terrorist activity. In those locations where we have employees or operations, we may incur substantial costs to maintain the safety of our personnel. Despite these precautions, 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.

#### Item 1B. Unresolved Staff Comments

None.

#### Item 2. Properties

As of September 27, 2013, we owned and leased a total of approximately 2.1 million square feet of floor space for our office, manufacturing, research and development and other services worldwide. Our executive offices, our Oncology Systems management, some of our Oncology Systems manufacturing facilities and the GTC are located in Palo Alto, California on 30 acres of land under leaseholds which expire in calendar year 2056. We own these facilities, which contain an aggregate of 475,128 square feet of floor space. We also own 47,699 square feet of space and 2 acres of land in Crawley, England. In Beijing, China we own 143,078 square feet of space which resides on 5 acres of land under a leasehold that expires in 2056. Our X-Ray Products business is located in Salt Lake City, Utah, where we own 38 acres of land and 340,812 square feet of space that is used for office and manufacturing, and also in Liverpool, New York we own 3 acres of land and 27,074 square feet of space that is used for light assembly manufacturing. In Las Vegas, Nevada, we own 191,422 square feet of floor space and 12 acres of land where our SIP Manufacturing, and Oncology Systems Customer Services and Support operations are located. The balance of our facilities is leased.

Substantially all of this space is fully utilized for its intended purposes. We believe that our facilities and equipment are generally well maintained, in good operating condition and adequate for present operations.

#### Item 3. Legal Proceedings

In 1999, we transferred our instruments business to Varian, Inc. ( VI ) and our semiconductor equipment business to Varian Semiconductor Equipment Associates, Inc. ( VSEA ) and subsequently spun off VI and VSEA, which resulted in a non-cash dividend to our stockholders (the Spin-offs ). Under the Amended and Restated Distribution Agreement dated as of January 14, 1999 and other associated agreements that govern the Spin-offs, we retained the liabilities related to the medical systems business and agreed to manage and defend claims related to legal proceedings and environmental matters arising from corporate and discontinued operations. Generally, each of the spun-off subsidiaries is obligated to indemnify us for one third of these liabilities (after adjusting for any insurance proceeds we

realize or tax benefits we receive), including certain environmental liabilities, and to indemnify us fully for liabilities arising from the operations of the business transferred to it as part of the Spin-offs. For a more detailed discussion of environmental costs and liabilities, see Note 9, Commitments and Contingencies to the Notes to the Consolidated Financial Statements, which is by this reference incorporated herein.

From time to time, we are involved in other legal proceedings arising in the ordinary course of our business or otherwise and, from time-to-time, acquired as part of business acquisitions that we make. For a detailed discussion of current material legal proceedings, see Note 9, Commitments and Contingencies of the Notes to the Consolidated Financial Statements, which is by this reference incorporated herein.

#### Item 4. Mine Safety Disclosures

Not applicable.

## 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. The following table sets forth the high and low sales prices for VMS common stock as reported in the consolidated transaction reporting system for the NYSE in fiscal years 2013 and 2012.

	High	Low
Fiscal Year 2013		
First Quarter	\$ 72.61	\$ 57.00
Second Quarter	\$ 75.78	\$ 67.88
Third Quarter	\$ 73.20	\$ 63.10
Fourth Quarter	\$ 76.69	\$ 65.70
Fiscal Year 2012		
First Quarter	\$ 67.82	\$ 48.72
Second Quarter	\$ 71.95	\$ 64.22
Third Quarter	\$ 69.81	\$ 56.61
Fourth Quarter	\$ 64.00	\$ 52.90

Since the Spin-offs, we have not paid any cash dividends on VMS common stock. We have no current plan to pay cash dividends on VMS common stock, and will review that decision periodically. Further, our existing unsecured term loan agreement and credit facility agreement contain provisions that limit our ability to pay cash dividends. Specifically, dividends would not be permitted if, when aggregated with other transactions, we would not be in compliance with our financial covenants. See Note 7, Borrowings of the Notes to the Consolidated Financial Statements for more information on our credit facility.

As of November 19, 2013, there were approximately 2,413 holders of record of VMS common stock.

PERFORMANCE GRAPH

This graph shows the total return on VMS common stock and certain indices from September 26, 2008 until the last day of fiscal year 2013.

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 9/26/08 in stock or index, including reinvestment of dividends. Indexes calculated on month-end basis.

	9/26/08	10/2/09	10/1/10	9/30/11	9/28/12	9/27/13
Varian Medical Systems, Inc.	100.00	65.40	99.18	85.26	98.59	121.25
S&P 500	100.00	93.09	102.55	103.72	135.05	161.17
S&P Health Care Equipment	100.00	83.70	81.02	83.94	103.57	119.01

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.

## Stock Repurchase Program

The following table provides information with respect to the shares of VMS common stock repurchased by VMS during the fourth quarter of fiscal year 2013.

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (1)
June 29, 2013 - July 26, 2013	247,973	\$ 68.99	247,973	3,602,027
July 27, 2013 - August 23, 2013	752,506(2)	\$ 73.17	752,027	2,850,000
August 24, 2013 - September 27, 2013	850,000	\$ 73.44	850,000	2,000,000
Total	1,850,479	\$ 72.73	1,850,000	

(1) In August 2012, the VMS Board of Directors authorized the repurchase of 8,000,000 shares of VMS common stock through December 31, 2013. In November 2013, the VMS Board of Directors authorized the repurchase of an additional 6,000,000 shares of VMS common stock from December 30, 2013 through December 31, 2014. Stock 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 may be made from time to time in one or more blocks. Shares will be retired upon repurchase.

(2) Includes 479 shares of VMS common stock that were tendered to 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

We derived the following selected financial data from our audited consolidated financial statements for the five fiscal years ended September 27, 2013. 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: (In millions, except per share amounts)	Fiscal Years				
	2013	2012	2011	2010	2009
Revenues	\$ 2,942.9	\$ 2,807.0	\$ 2,596.7	\$ 2,356.6	\$ 2,214.1
Earnings from continuing operations before taxes	612.0	595.9	588.7	532.9	474.6
Taxes on earnings	173.8	168.9	180.1	165.4	143.1
Earnings from continuing operations	438.2	427.0	408.6	367.5	331.5
Loss from discontinued operations, net of taxes (1)			(9.7)	(7.1)	(12.5)
Net earnings	\$ 438.2	\$ 427.0	\$ 398.9	\$ 360.4	\$ 319.0
Net earnings (loss) per share basic					
Continuing operations	\$ 4.04	\$ 3.83	\$ 3.50	\$ 3.02	\$ 2.67
Discontinued operations (1)			(0.08)	(0.06)	(0.10)
Net earnings per share	\$ 4.04	\$ 3.83	\$ 3.42	\$ 2.96	\$ 2.57
Net earnings (loss) per share diluted					
Continuing operations	\$ 3.98	\$ 3.76	\$ 3.44	\$ 2.96	\$ 2.65
Discontinued operations (1)			(0.08)	(0.05)	(0.10)
Net earnings per share	\$ 3.98	\$ 3.76	\$ 3.36	\$ 2.91	\$ 2.55
Financial Position at Fiscal Year End:					
Working capital	\$ 1,544.2	\$ 934.0	\$ 728.7	\$ 777.8	\$ 830.1
Total assets	3,468.5	2,878.7	2,498.8	2,324.0	2,308.2
Long-term debt (including current maturities)	506.3	6.3	16.1	23.4	32.4
Short-term borrowings		155.0	181.4	20.0	4.4
Stockholders equity	1,713.8	1,509.8	1,243.9	1,275.4	1,311.8

(1) In September 2008, we approved a plan to sell Research Instruments. The sale of Research Instruments was completed in the second quarter of fiscal year 2009. We classified the operating results of Research Instruments as a discontinued operation in the Consolidated Statements of Earnings for fiscal years 2011, 2010 and 2009. The net loss of \$9.7 million, \$7.1 million and \$12.5 million was reported in discontinued operations for fiscal years 2011, 2010, and 2009 respectively. In fiscal years 2013 and 2012, we did not recognize any income or losses and did not have any revenues from discontinued operations.





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

### Overview

In fiscal year 2013, total revenues increased 5% over fiscal year 2012, and net earnings from operations per diluted share increased 6% over fiscal year 2012. During fiscal year 2013, we repurchased 6 million shares of VMS common stock.

Beginning in the fourth quarter of fiscal year 2013, we changed the presentation of reported orders from net orders to gross orders. Gross orders are defined as the sum of new orders recorded during the period adjusted for any revisions to existing orders during the period. We believe that presentation of gross orders is more consistent and improves comparability with other companies in our industry. Gross orders from Oncology Systems increased 2% and from X-Ray Products increased 15% in fiscal year 2013 compared to fiscal year 2012. Gross orders in VPT decreased 98% in fiscal year 2013 compared to fiscal year 2012 when two proton therapy systems orders (St. Petersburg in Russia and King Fahd Medical City in Saudi Arabia) totaling approximately \$123 million were recorded, compared to no new system orders in fiscal year 2013.

Our backlog adjustments during fiscal year 2013 were approximately \$257 million. This amount is higher than typical levels as a result of ongoing uncertainty in the U.S. healthcare environment and higher cancellations of orders, particularly from small freestanding center developers. This caused us to re-evaluate similar transactions and remove orders that were not expected to be converted into revenues. Despite the increase in the backlog adjustments, our backlog at the end of fiscal year 2013 was 1% higher than at the end of fiscal year 2012.

In order to assess how our underlying businesses performed, we also compare the percentage change in revenues and 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. During fiscal year 2013, our total revenues increased 6% on a constant currency basis.

We have classified Research Instruments as a discontinued operation for fiscal year 2011 in our Consolidated Statements of Earnings. There were no operating results of Research Instruments beyond fiscal year 2011. As of September 30, 2011, we had no remaining obligations related to Research Instruments, which was previously included in the Other category. Unless otherwise stated, the discussion in this MD&A pertains to our continuing operations.

**Oncology Systems.** Our largest business segment is Oncology Systems, which designs, manufactures, sells and services hardware and software products for treating cancer with conventional radiotherapy, (including IMRT, IGRT, and volumetric modulated arc therapy), stereotactic body radiotherapy, stereotactic radiotherapy, stereotactic radiosurgery and brachytherapy.

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; customer demand for the more advanced and effective cancer treatments that we offer; 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. We have recently seen a greater percentage of Oncology Systems gross orders and revenues coming from emerging markets within our international region, such as China, India and Poland and Brazil, which typically demand lower-priced products compared to developed markets. We expect that this shift in geographic mix of gross orders and revenues will generally continue and may negatively impact Oncology Systems' gross margin.

In the radiation oncology markets outside of North America, for the shorter term, we expect the market growth of our European region (which includes Europe, the Middle East, India and Africa) will be mixed, with stronger market growth in Eastern Europe, the Middle East, Africa and India, offset by lower market growth in Southern Europe which is facing severe economic challenges. Our outlook for Asia and the rest of world remains robust and, overall, we believe the longer-term global radiation oncology market can grow, on average, in the mid-single-digit range.

Oncology Systems gross orders increased 2% in fiscal year 2013 compared to fiscal year 2012 with a 6% increase in international orders partially offset by a 3% decrease in orders in North America. Oncology Systems gross orders increased 4% on a constant currency basis in fiscal year 2013 over fiscal year 2012, reflecting increased gross orders in international region partially offset by a decrease in gross orders in North America. We believe that the uncertainty in the United States associated with the Affordable Care Act, some consolidation activity among free standing clinics, and more integration of systems and equipment across multi-site networks, is resulting in slower capital spending in North America that contributed to the decline in Oncology Systems gross orders in North America during fiscal year 2013. Emerging markets within our international region are driving growth, and we received several large orders from customers in these markets during fiscal year 2013.

Oncology Systems total revenues increased 3% in fiscal year 2013 over 2012. Oncology Systems gross margin in fiscal year 2013 decreased 0.4 percentage points from fiscal year 2012 primarily due to the excise tax on sales of medical devices.

Prior to the fourth quarter of fiscal year 2013, revenues and cost of revenues of parts that were sold by the service department were classified as product revenues and product cost of revenues, respectively. Revenues and costs of revenues of parts that are sold by the service department have been reclassified from product revenues and product cost of revenues to service revenue and service cost of revenues, respectively, for the first nine months of fiscal year 2013 and for fiscal years 2012 and 2011 to conform to the current presentation. Also, certain other cost of revenue items have been reclassified between product cost of revenues and service cost of revenues for the first nine months of fiscal year 2013 and for fiscal years 2012 and 2011 to conform to the current presentation.

**X-Ray Products.** Our X-Ray Products business segment designs, manufactures, sells and services X-ray imaging components for use in a range of applications, including radiographic or fluoroscopic imaging, mammography, special procedures, computed tomography and industrial applications. We continue to view the long-term fundamental growth driver for this business to be the ongoing success of key X-ray imaging OEM customers that incorporate our X-ray tube products and flat panel detectors into their medical diagnostic, dental, veterinary and industrial imaging systems.

Our success in our X-Ray Products business depends upon our ability to anticipate changes in our markets, the direction of technological innovation and the demands of our customers.

In fiscal year 2013, X-Ray Products gross orders increased 15% and revenues increased 11% over fiscal year 2012.

X-Ray Products gross margin for fiscal year 2013 decreased 1.6 percentage points over fiscal year 2012, primarily due to price pressure and unfavorable product mix on our flat panel products and higher warranty costs in our X-ray tube products.

**Other.** The Other category is comprised of: (i) SIP, which designs, manufactures, sells and services Linac<sup>®</sup> X-ray accelerators, imaging processing software and image detection products (including IntellIX<sup>™</sup>) for security and inspection purposes, (ii) our VPT business, which designs, develops, manufactures, sells and services products and systems for delivering proton therapy treatments, and (iii) the operations of the GTC, our scientific research facility.

Revenues in the Other category increased 15% primarily due to increases in VPT and SIP revenues. Gross orders in the Other category decreased 60% primarily due to no system orders received for VPT in fiscal year 2013 compared to orders of \$126 million in VPT in fiscal year 2012.

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 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 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 include revenue recognition, share-based compensation expense, valuation of allowance for doubtful accounts, valuation of inventories, assessment of recoverability of goodwill and intangible assets, valuation of warranty obligations, assessment of loss contingencies, valuation of defined benefit pension and post-retirement benefit plans, valuation of derivative instruments and taxes on earnings. 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 Item 1A, Risk Factors.

#### Revenue Recognition

We frequently enter into sales arrangements with customers that contain multiple elements or deliverables such as hardware, software and services. Judgments as to the allocation of consideration from an arrangement to the multiple elements of the arrangement, and the appropriate timing of revenue recognition are critical with respect to these arrangements to ensure compliance with GAAP.

The allocation of consideration in a multiple element arrangement is affected by the determination of whether any software deliverables that function together with other hardware components to deliver the hardware products essential functionality are considered as non-software products for purpose of revenue recognition. The allocation of consideration to each non-software deliverable is based on the assumptions we use to establish its selling price, which are based on vendor-specific objective evidence ( VSOE ) of selling price, if it exists, otherwise, third-party evidence of selling price, if it exists, and if not on estimated selling prices. In addition, the allocation of consideration to each software deliverable in a multiple element arrangement is affected by our judgment as to whether VSOE of its fair value exists in these arrangements.

Changes to the elements in an 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, the readiness of customers facilities for installation or is subject to customer acceptance. 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.

In addition, revenues related to certain highly customized image detection systems, proton therapy systems and proton therapy system commissioning contracts are recognized in accordance with contract accounting. We recognize contract revenues under the percentage-of-completion method which are based on contract costs incurred to date compared with total estimated contract costs. 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 precisely estimated but a loss on the contract is not expected, we recognize revenues under the percentage-of-completion method based on a zero profit margin until more precise estimates can be made. If and when we can make more precise estimates, revenues and costs of revenues are adjusted in the same period. Because the percentage-of-completion method involves considerable use of estimates in determining revenues, costs and profits and in assigning the dollar amounts to relevant accounting periods, and 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 forced to adjust revenues or even record a contract loss in later periods.

#### Share-based Compensation Expense

We value our stock options granted and the option component of the shares of VMS common stock purchased under the employee stock purchase plan using the Black-Scholes option-pricing model. We value our performance units using the Monte Carlo simulation model. The determination of 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 VMS s stock price, as well as the input of other subjective assumptions, including the expected terms of share-based awards and the expected price volatilities of shares of VMS common stock and peer companies that are used to assess certain performance targets over the expected term of the awards, and the dividend yield of VMS.

The expected term of our stock options is based on the observed and expected time to post-vesting exercise and post-vesting cancellations of stock options by our employees. We determine the expected term of stock options based on the demographic grouping of employees and retirement eligibility. We use a combination of historical and implied volatility, or blended volatility, in deriving the expected volatility assumption for our stock options. Blended volatility represents the weighted average of implied volatility and historical volatility. Implied volatility is derived based on traded options on VMS common stock. Implied volatility is weighted in the calculation of blended volatility based on the ratio of the term of the exchange-traded options to the expected terms of the employee stock options. Historical volatility represents the remainder of the weighting. Our decision to incorporate implied volatility was based on our assessment that implied volatility of publicly traded options on VMS common stock is reflective of market conditions and is generally reflective of both historical volatility and expectations of how future volatility will differ from

historical volatility. In determining the extent of use of implied volatility, we considered: (i) the volume of market activity of traded options; (ii) the ability to reasonably match the input variables of traded options to those of stock options granted by us, including the date of grant; (iii) the similarity of the exercise prices; and (iv) the length of term of traded options. After considering the above factors, we determined that we could not rely exclusively on implied volatility based on the fact that the term of VMS exchange-traded options is less than one year and that it is different from the expected terms of the stock options we grant. Therefore, we believe a combination of the historical volatility over the expected terms of the stock options we grant and the implied volatility of exchange-traded options best reflects the expected volatility of VMS common stock. In determining the grant date fair value of our performance units, 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. In addition, we are required to estimate the expected forfeiture rate, as well as the probability that certain performance conditions that affect the vesting of performance units will be achieved, and recognize expense only for those awards expected to vest. If the actual forfeiture rate and/or the actual number of performance units 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 and SIP, and orders in our X-Ray Products business, our payment terms usually 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 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.

#### Inventories

Our inventories include high technology parts and components that are highly specialized in nature and that are 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.

#### Goodwill and Intangible Assets

Goodwill is initially recorded when the purchase price paid for a business acquisition exceeds the estimated fair value of the net identified tangible and intangible assets acquired. The majority of businesses that we have acquired have not had significant identified tangible assets and, as a result, we have typically allocated a significant portion of the purchase price to intangible assets and goodwill. Our future operating performance will be impacted by the future amortization of these acquired intangible assets and potential impairment charges related to these intangibles or to goodwill if indicators of impairment exist. The allocation of the purchase price from business acquisitions to goodwill and intangible assets could have a significant impact on our future operating results. In addition, the allocation of the purchase price of the acquired businesses to goodwill and intangible assets requires us to make significant estimates and assumptions, including estimates of future cash flows expected to be generated by the acquired assets and the appropriate discount rate for those cash flows. Should conditions differ from management's estimates at the time of the acquisition, material write-downs of intangible assets and/or goodwill may be required, which would adversely affect our operating results.

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. If we determine that a quantitative analysis is necessary, the impairment test for goodwill is a two-step process. Step one consists of a comparison of 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 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, step two requires the comparison of the implied fair value of the reporting unit's goodwill against the carrying amount of the reporting unit's goodwill. Any excess of the carrying value of the reporting unit's goodwill over the implied fair value of the reporting unit's goodwill is recorded as an impairment loss. 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.

Based on the most recent annual goodwill impairment testing that we performed in fiscal year 2013 for each of our four reporting units with goodwill, Oncology Systems, X-Ray Products, SIP and VPT, the fair value of each such reporting unit was substantially in excess of its carrying value.

We will continue to make assessments of impairment on an annual basis or more frequently if indicators of potential impairment arise.

#### Warranty Obligations

We warrant most of our products for a specific period of time, usually 12 months from installation, against material defects. We provide for the estimated future costs of warranty obligations in cost of revenues when the related revenues are recognized. The accrued warranty 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 its 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. However, such matters are subject to many uncertainties and outcomes are not predictable with assurance. If actual liabilities significantly exceed the estimates made, our consolidated financial position, results of operations or cash flows could be materially adversely affected.

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 in the future, it would adversely or favorably impact our operating results.

#### Defined Benefit Pension and Post-Retirement Benefit Plans

We sponsor five defined benefit pension plans in Germany (where we have two defined benefit pension plans), Japan, Switzerland and the United Kingdom covering employees who meet the applicable eligibility requirements in these countries. In fiscal year 2012, we terminated one pension plan in Germany upon the death of the last participant in the plan. Although we do not have any defined benefit pension plans in the United States, we sponsor a post-retirement benefit plan that provides healthcare benefits to certain eligible retirees. Several statistical and other factors that attempt to anticipate future events are used in calculating the expenses and liabilities related to those plans for which the benefits are actuarially determined, such as our defined benefit pension and post-retirement benefit plans. These factors include assumptions about the discount rate, expected return on plan assets, rate of future compensation increases and rate of healthcare cost increases, all of which we determine within certain guidelines. In addition, we also 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 and post-retirement benefit 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. The discount rate enables us to state expected future cash flows at a present value on the measurement date. The discount rates used for defined benefit plans in all countries are based primarily on the yields of a universe of high quality corporate bonds in each applicable country or the spot rate of high quality AA-rated corporate bonds, with durations corresponding to the expected durations of the benefit obligations. A change in the discount rate will cause the present value of benefit obligations to change in the opposite direction.

### Valuation of Derivative Instruments

We use foreign currency forward contracts to reduce the effects of currency rate fluctuations on sales transactions denominated in foreign currencies and on assets and liabilities denominated in foreign currencies. These foreign currency forward contracts are derivative instruments and are measured at fair value. There are three levels of inputs that may be used to measure fair value (see Note 3, *Fair Value* of the Notes to the Consolidated Financial Statements). Each level of input has different levels of subjectivity and difficulty involved in determining fair value. The fair value of foreign currency forward contracts are calculated primarily using Level 2 inputs, which include currency spot and forward rates, interest rate and credit or non-performance risk. The spot rate for each currency is the same spot rate used for all balance sheet translations at the measurement date and sourced from our major trading banks. The forward point values for each currency and the London Interbank Offered Rate ( *LIBOR* ) to discount assets and liabilities are interpolated from commonly quoted broker services. One year credit default swap spreads of the counterparty at the measurement date are used to adjust derivative assets, all of which mature in 13 months or less, for non-performance risk. We are required to adjust derivative liabilities to reflect the potential non-performance risk to lenders based on our incremental borrowing rate. Each contract is individually adjusted using the counterparty credit default swap rates (for net assets) or our borrowing rate (for net liabilities). The use of Level 2 inputs in determining fair values requires certain management judgment and subjectivity. Changes to these Level 2 inputs

could have a material impact on the valuation of our derivative instruments, as well as on our result of operations. There were no transfers of assets or liabilities between fair value measurement levels during fiscal years 2013, 2012 and 2011.

#### 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.

The accounting for uncertainty in income taxes requires a two-step approach to recognizing, derecognizing 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, derecognition and measurement are based on management's best judgment given the facts, circumstances and information available at the end of the accounting period. A tax benefit should be recognized in the first period in which it meets the more likely than not recognition threshold, and conversely, a tax benefit previously recognized should be derecognized in the first period in which new information results in a change in judgment in which the position fails to meet the recognition threshold. A benefit not previously recognized would be recognized when the tax position is effectively settled through examination, negotiation or litigation with tax authorities, or when the statute of limitations for the relevant taxing authority to examine and challenge the position has expired. Our policy is to include interest and penalties related to unrecognized tax benefits within the provision for taxes on earnings.

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 foreign earnings are generally taxed at rates lower than U.S. rates. Our effective tax rate is impacted by existing tax laws in both the United States and in the respective countries in which our foreign subsidiaries do business. In addition, a decrease in the percentage of our total earnings from our foreign countries, or a change in the mix of foreign countries among particular tax jurisdictions could increase or decrease our effective tax rate. Our current effective tax rate does not assume U.S. taxes on certain undistributed profits of certain foreign subsidiaries. These earnings could become subject to incremental foreign withholding or U.S. federal and state taxes should they either be deemed or actually remitted to the United States.

## Results of Operations

## Fiscal Year

Our fiscal year is the 52- or 53-week period ending on the Friday nearest September 30. Fiscal year 2013 was the 52-week period ended on September 27, 2013. Fiscal year 2012 was the 52-week period ended on September 28, 2012, and fiscal year 2011 was the 52 week period ended on September 30, 2011. Set forth below is a discussion of our results of operations for fiscal years 2013, 2012 and 2011. As indicated above, the operating results of Research Instruments have been segregated and presented as a discontinued operation in our Consolidated Statements of Earnings for fiscal year 2011.

## Discussion of Results of Operations for Fiscal Years 2013, 2012 and 2011

## Total Revenues

Revenues by sales classification (Dollars in millions)	Fiscal Years				
	2013	% Change	2012	% Change	2011
Product	\$ 2,056	3%	\$ 2,004	7%	\$ 1,879
Service	887	10%	803	12%	718
Total Revenues	\$ 2,943	5%	\$ 2,807	8%	\$ 2,597
Product as a percentage of total revenues	70%		71%		72%
Service as a percentage of total revenues	30%		29%		28%

Revenues by region					
North America	\$ 1,263	3%	\$ 1,223	5%	\$ 1,170
Europe	877	4%	842	7%	788
Asia	678	13%	602	12%	537
Rest of world	125	(11%)	140	36%	102
Total International (1)	1,680	6%	1,584	11%	1,427
Total	\$ 2,943	5%	\$ 2,807	8%	\$ 2,597
North America as a percentage of total revenues	43%		44%		45%
International as a percentage of total revenues	57%		56%		55%

(1) We consider international revenues to be revenues outside of North America.

The increase in total revenues in fiscal year 2013 over fiscal year 2012 was due to revenue growth in all business units. The increase in total revenues in fiscal year 2012 over fiscal year 2011 was due to revenue growth in Oncology Systems, X-Ray Products and SIP, partially offset by a slight decrease in VPT revenues.

The increase in product revenues in fiscal year 2013 over fiscal year 2012 was due to revenue growth in X-Ray Products, VPT and SIP, partially offset by a decrease in Oncology product revenues. The increase in product revenues in fiscal year 2012 over fiscal year 2011 was due to revenue growth in Oncology Systems, X-Ray Products, VPT and SIP.

Service revenues increased in fiscal year 2013 over fiscal year 2012 primarily due to an increase in Oncology Systems service revenues and, to a lesser extent, an increase in SIP service revenues. These increases were partially offset by a small decline in VPT service revenues. Service revenues increased in fiscal year 2012 over fiscal year 2011 due to an increase in Oncology Systems service revenues and, to a lesser extent, an increase in SIP service revenues, partially offset by a decline in VPT service revenues. Growth of service revenues in fiscal year 2013 over fiscal year 2012 was marginally lower than the growth of service revenues in fiscal year 2012 over fiscal year 2011.

The increase in total North American revenues in fiscal year 2013 over fiscal year 2012 was due to increases in North American Oncology Systems and X-Ray Products partially offset by decreases in North American SIP and VPT revenues. The increase in total North American revenues in fiscal year 2012 over fiscal year 2011 was due to North American revenues increases in Oncology Systems, SIP and VPT, partially offset by a decrease in North American revenues in X-Ray Products.

Increases in revenues in North America, Europe and Asia were partially offset by a decrease in revenue in the rest of world region in fiscal year 2013 compared to fiscal year 2012. International revenues in Oncology, X-Ray Products, SIP and VPT contributed to the increase in international revenues in fiscal year 2013 compared to fiscal year 2012. The U.S. dollar significantly strengthened against the Japanese yen and slightly weakened against the Euro in fiscal year 2013 compared to fiscal year 2012 such that the differences in exchange rates overall had a negative impact on revenues.

All international regions contributed to the growth in international revenues in fiscal year 2012 over fiscal year 2011. The increase in international revenues in fiscal year 2012 over fiscal year 2011 was primarily due to increases in international revenues in Oncology Systems and X-Ray Products, which increases were partially offset by declines in international revenues in SIP and VPT. The U.S. dollar strengthened against the Euro and weakened against the Japanese yen in fiscal year 2012 compared to fiscal year 2011 such that the differences in currency exchange rates largely offset each other when international revenues were measured in U.S. dollars.

#### Oncology Systems Revenues

Revenues by sales classification (Dollars in millions)	Fiscal Years				
	2013	% Change	2012	% Change	2011
Product	\$ 1,389	(1%)	\$ 1,408	6%	\$ 1,325
Service	864	11%	781	12%	697
Total Oncology Systems	\$ 2,253	3%	\$ 2,189	8%	\$ 2,022
Product as a percentage of Oncology Systems revenues	62%		64%		66%
Service as a percentage of Oncology Systems revenues	38%		36%		34%
Oncology Systems revenues as a percentage of total revenues	77%		78%		78%

Oncology Systems product revenues decreased in fiscal year 2013 over fiscal year 2012 primarily due to decreases in revenues from sales of our software products and upgrades of our high energy linear accelerators. TrueBeam linear accelerators revenue increased as a percentage of overall accelerator revenue.

Oncology Systems product revenues increased in fiscal year 2012 over fiscal year 2011 primarily due to increases in revenues from sales of our high energy linear accelerators and sales of our software products, as well as revenues from sales of tumor tracking products offered by Calypso.

The increases in Oncology Systems service revenues in fiscal year 2013 over fiscal year 2012 and in fiscal 2012 over fiscal year 2011 were primarily driven by increased customer adoption of service contracts as our products become more sophisticated, and by the increased number of customers as the installed base of our products continues to grow. In fiscal year 2013, the warranty period for TrueBeam systems delivered in fiscal year 2012 started to expire, contributing to an increase in service revenues compared to fiscal year 2012. Service revenues grew faster than product revenues from fiscal year 2013 to fiscal year 2012 and from fiscal year 2012 to fiscal year 2011. Service revenues also increased as a percentage of total Oncology Systems revenues in each fiscal year.

Revenues by region (Dollars in millions)	Fiscal Years				
	2013	% Change	2012	% Change	2011
North America	\$ 1,058	5%	\$ 1,005	4%	\$ 971
Europe	663	(4%)	690	6%	650
Asia	412	15%	359	18%	303

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Rest of world	120	(11%)	135	38%	98
Total International	1,195	1%	1,184	13%	1,051
Total Oncology Systems	\$ 2,253	3%	\$ 2,189	8%	\$ 2,022
North America as a percentage of Oncology Systems revenues	47%		46%		48%
International as a percentage of Oncology Systems revenues	53%		54%		52%

The international region represented more than half of total Oncology Systems revenues in fiscal years 2013, 2012 and 2011.

Oncology Systems North American revenues increased in fiscal year 2013 over fiscal year 2012 primarily due to an increase in revenues from our service contracts and an increase in sales of high energy linear accelerators. These increases were partially offset by a decrease in North American revenues from sales of our software products. In fiscal year 2013, the increase in Oncology Systems international revenues from fiscal year 2012 was primarily attributable to increases in revenues from service contracts in all international regions, as well as increases in product revenues from sales of high energy linear accelerators and software products in Asia, partially offset by decreases in sales of high energy linear accelerators and software products in Europe and rest of world region. The U.S. dollar was stronger against the Japanese yen during fiscal year 2013 compared to fiscal year 2012 so that the currency exchange rates overall had a negative impact on our Oncology Systems international revenues when measured in U.S. dollars.



Oncology Systems North American revenues increased in fiscal year 2012 over fiscal year 2011 primarily due to increases in revenues from our service contracts and our software products, as well as revenues from sales of Calypso tumor tracking products. These increases were partially offset by a decrease in North American revenues from sales of our high energy linear accelerators. In fiscal year 2012, the increase in Oncology Systems international revenues over fiscal year 2011 was primarily attributable to increases in revenues from sales of our high energy linear accelerators and service contracts in all international regions. The U.S. dollar strengthened against the Euro and weakened against the Japanese yen in fiscal year 2012 compared to fiscal year 2011 such that the differences in currency exchange rates largely offset each other when Oncology Systems international revenues were measured in U.S. dollars.

Varying cycles of higher and lower revenues between the North American and international regions are impacted by regional influences, which recently have included government economic stimulus programs, the recession and the pace of economic recovery, the European sovereign debt crisis, uncertainty created by healthcare reform (such as the excise tax on the sale of most medical devices, Medicare reimbursement rates and consolidation of free standing clinics in the United States), and different technology adoption cycles that are consistent with the gross order patterns. See further discussion of orders under **Gross Orders**.

#### X-Ray Products Revenues

Revenues by region (Dollars in millions)	Fiscal Years				
	2013	% Change	2012	% Change	2011
North America	\$ 159	23%	\$ 130	(6%)	\$ 137
Europe	125	4%	120	24%	97
Asia	257	8%	238	3%	231
Rest of world	5	6%	5	10%	4
Total International	387	7%	363	9%	332
Total X-Ray Products	\$ 546	11%	\$ 493	5%	\$ 469
North America as a percentage of X-Ray Products revenues	29%		26%		29%
International as a percentage of X-Ray Products revenues	71%		74%		71%
X-Ray Products revenues as a percentage of total revenues	19%		18%		18%

Both North America and the international region contributed to the increase in X-Ray Products revenues in fiscal year 2013 over fiscal year 2012.

In North America, the increase in X-Ray Products revenues in fiscal year 2013 from fiscal year 2012 was due to increases in both the X-ray tube and X-ray panel products.

In the international region, the increase in X-Ray Products in fiscal year 2013 over fiscal year 2012 was primarily due to increased revenues from sale of our X-ray tube products in all international regions and increased revenues from sales of our flat panel products in Asia partially offset by decreased revenues from sales of our flat panel products in Europe and the rest of world region.

Additionally, revenues from sales of new products and revenues from sales of image processing tools, which we added to our product line with the acquisition of InfiMed during the third quarter of fiscal year 2012, also contributed to an increase in X-Ray Products revenues during fiscal year 2013 compared fiscal year 2012.

In North America, the decrease in X-Ray Products revenues in fiscal year 2012 from fiscal year 2011 was primarily due to a decrease in revenues from sales of our flat panel products, and to a lesser extent, a decrease in revenues from sales of our X-ray tube products, which were partially offset by the inclusion in fiscal year 2012 of revenues from sales of image processing tools offered by InfiMed.

In the international region, the increase in X-Ray Products revenues in fiscal year 2012 over fiscal year 2011 was primarily due to increased revenues from sales of our flat panel products in all international regions and increased revenues from sales of our X-ray tube products in Europe, partially offset by decreased revenues from sales of our X-ray tube products in Asia and the rest of the world region. Revenues from sales of image processing tools offered by InfiMed also contributed to the increase in international X-Ray Products revenues in fiscal year 2012 over fiscal year 2011.

The differences in currency exchange rates between the U.S. dollar and foreign currencies between fiscal year 2013 and fiscal year 2012, as well as between fiscal year 2012 and fiscal year 2011, did not have a material impact on X-Ray Products international revenue growth because sales transactions in the X-Ray Products business are primarily denominated in U.S. dollars.

## Other Revenues

Revenues by sales classification (Dollars in millions)	Fiscal Years					
	2013	% Change	2012	% Change	2011	
Product	\$ 121	17%	\$ 103	22%	\$ 85	
Service	23	7%	22	6%	21	
Total Other	\$ 144	15%	\$ 125	18%	\$ 106	
Other revenues as a percentage of total revenues	4%		4%		4%	

Revenues in the Other category, which is comprised of SIP, VPT and GTC, increased in fiscal year 2013 over fiscal year 2012 primarily due to an increase in VPT product revenues and to a lesser extent increases in SIP product and service revenues. These increases were marginally offset by a decrease in VPT service revenues.

Revenues in the Other category increased in fiscal year 2012 over fiscal year 2011 primarily due to increases in SIP product and service revenues. VPT revenues did not change significantly in fiscal year 2012 compared to fiscal year 2011.

Gross Margin<sup>1</sup>

(Dollars in millions)	Fiscal Years					
	2013	% Change	2012	% Change	2011	
Dollar by segment						
Oncology Systems	\$ 976	2%	\$ 957	4%	\$ 917	
X-Ray Products	227	7%	212	10%	193	
Other	47	70%	27	7%	26	
Gross margin	\$ 1,250	4%	\$ 1,196	5%	\$ 1,136	
Percentage by segment						
Oncology Systems	43.3%		43.7%		45.4%	
X-Ray Products	41.5%		43.1%		41.2%	
Total Company	42.5%		42.6%		43.7%	

<sup>1</sup> Prior to the fourth quarter of fiscal year 2013, revenues and cost of revenues of parts that were sold by the service department were classified as product revenues and product cost of revenues, respectively. Revenues and costs of revenues of parts that are sold by the service department have been reclassified from product revenues and product cost of revenues to service revenue and service cost of revenues, respectively. As a result of this reclassification, product and service gross margin for Oncology Systems and the total Company have been recalculated for fiscal years 2012 and 2011 to conform to the current presentation. Also, certain cost of revenue items have been reclassified between product cost of revenues and service cost of revenues for the first nine months of fiscal year 2013 and fiscal years 2012 and 2011 to conform to the current presentation.

The total Company gross margin percentage decreased marginally in fiscal year 2013 from fiscal year 2012. A decrease in the X-Ray Products gross margin percentage and to a lesser extent a decrease in the Oncology Systems

gross margin percentage was almost offset by an increase in gross margin in the Other category.

Total product gross margin percentage was 37.0% in fiscal year 2013, compared to 37.8% in fiscal year 2012 and 39.7% in fiscal year 2011. Total service gross margin percentage was 55.2% in fiscal year 2013, compared to 54.7% in fiscal year 2012 and 54.3% in fiscal year 2011.

The decrease in total Company gross margin percentage in fiscal year 2012 from fiscal year 2011 was primarily due to decreases in Oncology Systems and SIP gross margins, partially offset by an increase in X-Ray Products gross margin. In addition, total Company gross margin percentage was negatively impacted in fiscal years 2012 and 2011 by the recognition of revenues in VPT relating to the Scripps Proton Therapy Center with a zero profit margin.

Oncology Systems gross margin decreased 0.4 percentage points in fiscal year 2013 from fiscal year 2012 primarily due to a decrease in the product gross margin. Oncology Systems product gross margin percentage decreased to 35.7% in fiscal year 2013 from 37.1% in fiscal year 2012 due to the new excise tax on medical devices and a significant geographic shift of product revenues away from developed markets to emerging markets, which typically demand lower-priced products compared to developed markets. Our Oncology Systems product gross margin was further impacted by pricing pressure in our international region. Improved installation and warranty as well as product cost reductions in fiscal year 2013 from fiscal year 2012 partially offset these decreases. The gross

margin for Oncology Systems includes the impact of the medical device excise tax of approximately \$7.2 million during fiscal year 2013, which is included in the cost of revenues.

Oncology Systems service gross margin in fiscal year 2013 remained consistent with fiscal year 2012 at 55.7%.

Increases in service gross margin due to higher service contract volume (which lowered the costs per contract) and cost control measures in fiscal year 2013 were offset by unfavorable product mix and higher service freight charges.

In addition, the U.S. dollar strengthened against the Japanese yen in fiscal year 2013 compared to fiscal year 2012 and has had a negative impact on the Oncology systems gross margin. We believe the shift of Oncology Systems revenues towards emerging markets, which typically have purchased less complex, lower-priced products compared to developed markets, will generally continue and may negatively impact Oncology Systems gross margin.

Oncology Systems gross margin decreased 1.7 percentage points in fiscal year 2012 from fiscal year 2011 due to a decrease in product gross margin, partially offset by an increase in service gross margin. Oncology Systems product gross margin decreased to 37.1% in fiscal year 2012 from 40.2% in fiscal year 2011 primarily due to a geographic shift of product revenues away from developed markets to emerging markets. Our Oncology Systems product gross margin for fiscal year 2012 was further impacted by increased pricing pressure in our international region, particularly in the higher-growth emerging markets. Improved installation, warranty and factory costs in fiscal years 2012 from fiscal year 2011 partially offset these decreases.

Oncology Systems service gross margin was 55.7% in fiscal year 2012, compared to 55.1% in fiscal year 2011. The increase in service gross margin was primarily due to higher service contract volume (which lowered the costs per contract) and cost control measures in fiscal year 2012. In addition, the U.S. dollar strengthened against the Euro and weakened against the Japanese yen in fiscal year 2012 compared to fiscal year 2011, such that the differences in currency exchange rates largely offset each other when Oncology Systems gross margin was measured in U.S. dollars.

X-Ray Products gross margin decreased 1.6 percentage points in fiscal year 2013 over fiscal year 2012 primarily due to price pressure and unfavorable product mix in our flat panel products.

X-Ray Products gross margin increased 1.9 percentage points in fiscal year 2012 over fiscal year 2011 primarily due to improved quality costs for our flat panel products and higher margin products representing a greater proportion of X-Ray Products sales in fiscal year 2012 than fiscal year 2011.

The increase in gross margin percentage in the Other category was primarily due to increases in SIP product and service gross margin percentages and also an increase in VPT product gross margin percentage. The increase in SIP gross margin in fiscal year 2013 from fiscal year 2012 was primarily due to higher margin products representing a greater proportion of SIP sales in fiscal year 2013 than fiscal year 2012 and also due to an increase in service revenue with higher gross margin percentage in fiscal 2013 compared to fiscal year 2012. The increase in VPT product gross margin percentage in fiscal year 2013 compared to fiscal year 2012 was due to VPT recognizing revenue on two new projects in fiscal year 2013 using the percentage of completion method and best estimate of gross margin, as compared to the projects in fiscal year 2012 and fiscal 2011 during which revenues were recognized using the percentage of completion method and zero profit margin.

The decrease in SIP gross margin in fiscal year 2012 from fiscal year 2011 was primarily due to lower margin products representing a greater proportion of SIP sales in fiscal year 2012 than fiscal year 2011.

Research and Development

(Dollars in millions)	Fiscal Years				
	2013	% Change	2012	% Change	2011
Research and development	\$ 208	12%	\$ 186	9%	\$ 171
As a percentage of total revenues	7%		7%		7%

The \$22 million increase in research and development expenses in fiscal year 2013 over fiscal year 2012 was primarily due to increases in expenses of \$14 million in Oncology Systems, \$11 million in the Other category partially offset by a decrease in expense of \$2 million in X-Ray Products. The \$14 million increase in Oncology Systems was primarily due to expenses relating to new product development projects, including fixed fees accrued as part of the strategic arrangement with Siemens. The increase in expenses of \$11 million in the Other category was primarily due to expenses relating to new product development projects and a net increase in costs associated with increased headcount to support our growing research activities in VPT. The \$2 million decrease in research and development expenses in X-Ray Products was mainly due to cost control measures.

The \$15 million increase in research and development expenses in fiscal year 2012 over fiscal year 2011 was primarily due to increases in expenses of \$9 million in Oncology Systems, \$3 million in X-Ray Products and \$2 million in the Other category. The increase in Oncology Systems was primarily due to higher research and development expenses for Calypso, partially offset by a \$3 million favorable currency translation impact, as foreign currency denominated research and development expenses for Oncology Systems were translated into U.S. dollars. The \$3 million increase in X-Ray Products was mainly due to higher development expenses for flat panel products, as well as higher research and development expenses for InfiMed. The \$2 million increase in the Other category was primarily due to an increase in expenses for development projects in VPT, partially offset by a decrease in research expenses in SIP.

#### Selling, General and Administrative

(Dollars in millions)	Fiscal Years					
	2013	% Change	2012	% Change	2011	
Selling, general and administrative	\$ 433	4%	\$ 417	11%	\$ 377	
As a percentage of total revenues	15%		15%		15%	

The \$16 million increase in selling, general and administrative expenses for fiscal year 2013 compared to fiscal year 2012 was primarily attributable to: (a) a \$13 million net increase in employee-related costs, in part for increased headcount to support our growing business activities; (b) a \$6 million increase in legal expenses relating to litigation matters; (c) a \$4 million increase in restructuring charges; (d) a \$4 million increase in depreciation expense; and (e) a \$2 million increase in risk insurance expense. These increases were partially offset by a \$5 million decrease due to change in fair value of our contingent consideration liabilities; a \$4 million decrease in bad debt expense; and a \$2 million increase in income from equity method investment in dpiX Holding LLC.

The \$40 million increase in selling, general and administrative expenses for fiscal year 2012 compared to fiscal year 2011 was primarily attributable to: (a) a \$15 million net increase in employee-related costs, in part for increased headcount to support our growing sales, marketing and other business activities particularly the in international region; (b) an \$8 million increase in bad debt expense to increase the allowance for doubtful accounts related to a limited number of customers; (c) a \$6 million increase in selling, general and administrative expenses associated with Calypso and InfiMed; (d) a \$5 million net increase in legal expenses relating to ongoing litigation; (e) a \$4 million decrease in the income recognized on our equity investment in dpiX Holding LLC; and (f) a \$2 million increase in restructuring charge primarily for a workforce reduction in North America that accompanied the realignment of resources to support sales and marketing activities in emerging market countries. These increases were partially offset by a decrease of \$4 million in contingent liability charge in fiscal year 2012 compared to fiscal year 2011.

#### Interest Income, Net

(Dollars in millions)	Fiscal Years					
	2013	% Change	2012	% Change	2011	
Interest income (expense), net	\$ 3.2	73%	\$ 1.9	614%	\$ 0.3	

The net increases in interest income, net of interest expense, in fiscal year 2013 over fiscal year 2012 and in fiscal year 2012 over fiscal year 2011, were primarily due to increases in interest income generated from our loan to CPTC. These increases were partially offset by increases in interest expense associated with increased borrowing from our credit facilities.

Taxes on Earnings

	Fiscal Years					
	2013	% Change	2012	% Change	2011	
Effective tax rate	28.4%	0.1%	28.3%	(2.3%)	30.6%	

The slight increase in our effective tax rate in fiscal year 2013 from fiscal year 2012 was primarily due to a shift in the geographic mix of earnings.

The decrease in our effective tax rate in fiscal year 2012 from fiscal year 2011 was primarily due to a shift in the geographic mix of earnings, partially offset by a smaller net benefit for discrete items in fiscal year 2012 related to the prior period. These discrete items were primarily related to the release of certain liabilities for uncertain tax positions, including the expiration of the statutes of limitation in various jurisdictions and the favorable resolution of several income tax audits.



In general, our effective income tax rate differs from the U.S. federal statutory rate primarily because our foreign earnings are taxed at rates that are, on average, lower than the U.S. federal rate, and our domestic earnings are subject to state income taxes. We expect our future effective tax rate may fluctuate due to changes in geographic mix of earnings, changes in the valuation of our deferred tax assets or liabilities and changes in tax laws or interpretations of those laws. For example, recent proposals would make significant changes to U.S. taxation of U.S. based multinational corporations. Although we cannot predict whether or in what form Congress would enact any such proposals, legislation of this type could have an adverse impact on our effective tax rate. We also expect that our effective tax rate may experience may fluctuate from period to period. See Note 13, Taxes on Earnings of the Notes to the Consolidated Financial Statements.

#### Net Earnings Per Diluted Share

	Fiscal Years				
	2013	% Change	2012	% Change	2011
Net earnings per diluted share	\$ 3.98	6%	\$ 3.76	9%	\$ 3.44

The increase in net earnings per diluted share in fiscal year 2013 over fiscal year 2012 resulted from an increase in total revenues and a reduction in the number of diluted shares of common stock outstanding due to stock repurchases. These positive impacts on net earnings per diluted share were partially offset by an excise tax of \$7.2 million on sales of medical devices and restructuring charges of \$6.7 million during fiscal year 2013.

The increases in net earnings per diluted share in fiscal year 2012 over fiscal year 2011 resulted from: (a) an increase in total revenues; (b) a decrease in effective tax rate; and (c) a reduction in the number of diluted shares of common stock outstanding due to stock repurchases. These positive impacts on net earnings were partially offset by a decrease in gross margin percentage and a \$3 million restructuring charge in fiscal year 2012 primarily for a workforce reduction in North America that accompanies the realignment of resources to support sales and marketing activities in emerging markets.

#### Gross Orders

Total Gross Orders (by segment and region) (Dollars in millions)	Fiscal Years				
	2013	% Change	2012	% Change	2011
<b>Oncology Systems:</b>					
North America	\$ 1,135	(3%)	\$ 1,167	1%	\$ 1,150
Total International	1,419	6%	1,333	9%	1,220
Total Oncology Systems	\$ 2,554	2%	\$ 2,500	5%	\$ 2,370
<b>X-Ray Products:</b>					
North America	\$ 160	14%	\$ 141	0%	\$ 140
Total International	425	16%	366	7%	343
Total X-Ray Products	\$ 585	15%	\$ 507	5%	\$ 483
Other:	\$ 86	(60%)	\$ 216	7%	\$ 201

Total Gross Orders	\$ 3,225	0%	\$ 3,223	6%	\$ 3,054
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Beginning in the fourth quarter of fiscal 2013, we changed the presentation of reported orders from net orders to gross orders. We believe this is more consistent with other companies in our industry, will enhance comparability and will better present the orders activity for the period. For comparability and consistency, prior years presented have been revised to also show orders on a gross basis.

Gross orders are defined as the sum of new orders recorded during the period adjusted for any revisions to existing orders during the period. New orders are recorded for the total contractual amount, excluding certain pass-through items, once a written agreement for the delivery of goods or provision of services is in place and, for businesses other than VPT, when shipment of the product (or in the case of certain highly customized products in our SIP business, construction of the product) is expected to occur within two years, so long as any contingencies are deemed perfunctory. However, we will not record SIP orders from governmental agencies with bid protest provisions until the expiration of the bid protest period. For our VPT 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 either deemed perfunctory or if the existence and nature of material contingencies is disclosed. However, we will not record VPT orders if

there are major financing contingencies or customer board approval contingencies pending. We perform a quarterly review to verify that outstanding orders remain valid.

Oncology Systems gross orders grew 2% in fiscal year 2013 over fiscal year 2012 compared to 5% in fiscal year 2012 over fiscal year 2011.

An increase in Oncology Systems gross orders in the international region was partially offset by a decrease in gross orders in North America in fiscal year 2013 compared to fiscal year 2012. In North America, a decrease in gross orders in fiscal year 2013 compared to fiscal year 2012 was due to decreases in orders of our high energy linear accelerators and our software products partially offset by an increase in orders for our service contracts. The increase in international Oncology Systems gross orders was primarily due to growth in orders for our service contracts in Europe and Asia, as well as increased orders for our high energy linear accelerators (including TrueBeam) in all international regions. When measured in constant currency, international Oncology Systems gross orders grew 9% in fiscal year 2013 over fiscal year 2012.

Both the international region and North America contributed to the growth in Oncology Systems gross orders in fiscal years 2012 and 2011 over the respective prior fiscal years. The growth in North American Oncology Systems gross orders was primarily due to the continued growth in orders for our service contracts, as well as increased orders for our software products and tumor tracking products offered by Calypso, which increases were partially offset by a decrease in orders for our high energy linear accelerators. The increase in international Oncology Systems gross orders was primarily due to growth in orders for our service contracts in all international regions, as well as increased orders for our linear accelerators and our software products in Asia and Europe. When measured in constant currency, international Oncology Systems gross orders grew 11% in fiscal year 2012 over fiscal year 2011.

The trailing 12 months growth in gross orders for Oncology Systems at the end of fiscal year 2013 and for the three immediately prior fiscal quarters ends were: a 2% total increase, with a 2% decrease in North America and a 6% increase for the international region, as of September 27, 2013; a 4% total increase, with a 3% increase in North America and a 5% increase for the international region, as of June 28, 2013; a 2% total increase, with a 2% increase in North America and a 2% increase for the international region, as of March 29, 2013; a 5% total increase, with a 6% increase in North America and a 3% increase for the international region, as of December 28, 2012. Consistent with the historical pattern, we expect that Oncology Systems gross orders will continue to experience regional fluctuations, even with an overall shift of orders towards international regions and emerging markets. In addition, the availability of 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.

X-Ray Products gross orders grew 15% in fiscal year 2013 over fiscal year 2012 compared to 5% in fiscal year 2012 over fiscal year 2011. X-Ray Products gross orders in North America grew 13% in fiscal year 2013 compared to fiscal year 2012. The North American gross order increase in fiscal year 2013 over fiscal year 2012 was attributable to increases in our flat panel products and X-ray tube products. In the international region, X-Ray Products gross orders grew due to growth in both the X-ray tube and flat panel products in fiscal year 2013 compared to fiscal year 2012. Within the international region, X-ray tube products grew in all regions, with strongest growth in Asia in fiscal year 2013 over fiscal year 2012. Within the international region, growth in flat panel products was due to an increase in flat panel orders in Asia partially offset by decreases in flat panel products in Europe and rest of world region in fiscal year 2013 over fiscal year 2012.

X-Ray Products gross orders grew 5% in fiscal year 2012 over fiscal year 2011. X-Ray Products gross orders in North America were flat in fiscal year 2012 compared to fiscal year 2011. North American gross order increases in fiscal year 2012 over fiscal year 2011 attributable to our flat panel products and our image processing tools offered by InfiMed were offset by a decrease in gross orders for our X-ray tube products. In the international region, the increase

in X-Ray Products gross orders in fiscal year 2012 over fiscal year 2011 was primarily due to increased orders for our flat panel products in all international regions and increased orders for our X-ray tube products in Europe, as well as orders for image processing tools offered by InfiMed in Europe and Asia. These increases were partially offset by lower orders for our X-ray tube products in Asia and rest of the world region in fiscal year 2012 over fiscal year 2011.

Gross orders in the Other category decreased \$130 million in fiscal year 2013 over fiscal year 2012 primarily due to VPT recording two proton therapy system orders in fiscal year 2012, compared to no proton therapy system order recorded in fiscal year 2013 and to a lesser extent a decrease in orders in SIP.

Gross orders in the Other category increased \$15 million in fiscal year 2012 over fiscal year 2011 primarily due to VPT recording two proton therapy system orders, compared to recording one proton therapy system order in fiscal year 2011. In fiscal year 2012, VPT recorded a \$50 million order to supply a proton therapy system for a two-room proton therapy center at the PTC St. Petersburg Center of Nuclear Medicine of the International Institute of Biological Systems in Russia. In addition, we recorded a \$77 million order (of which \$73 million was allocated to VPT and the remaining amount allocated to Oncology Systems) to supply a proton therapy system and two TrueBeam linear accelerators for a five-room proton therapy center at the King Fahd Medical City in Riyadh, Saudi

Arabia. In fiscal year 2011, VPT recorded an \$88 million order from CPTC for the Scripps Proton Therapy Center. The increase in VPT gross orders for fiscal year 2012 over fiscal year 2011 was partially offset by a decline in SIP gross orders. The decline in SIP gross orders was primarily due to SIP booking a \$21 million one-time order from U.S. Customs and Border Protection for five IntellX cargo screening systems in fiscal year 2011.

Orders in any period may not be directly correlated to the level of revenues in any particular future quarter or period since the timing of revenue recognition will vary significantly based on the delivery requirements of individual orders, acceptance schedules and the readiness of individual customer sites for installation of our products. Moreover, certain types of orders, such as orders for software or newly introduced products in our Oncology Systems segment, typically take more time from order to completion of installation and acceptance than hardware or older products. Because an order for a proton therapy system can be relatively large, an order in one fiscal period will cause our gross orders to vary significantly, making comparisons between fiscal periods more difficult. Orders and revenues for our SIP products have been and may continue to be unpredictable as governmental agencies may place large orders with us or with our OEM customers over a short period of time and then may not place any orders for a long time period thereafter. Furthermore, bid awards in the VPT and SIP businesses may be subject to challenge by third parties, which can make these orders more unpredictable than other products.

#### Net Orders

In the fourth quarter of 2013 we changed our primary presentation of orders to gross orders. The below table for net orders is provided for comparison purposes. Net orders are defined as gross orders less backlog adjustments. Backlog adjustments are comprised of dormancies, cancellations, foreign currency exchange rate and other adjustments. Aged orders that are not expected to be converted to revenues are deemed dormant and are reflected as a reduction in the backlog amounts and net orders in the period identified.

Total Net Orders (by segment and region) (Dollars in millions)	Fiscal Years				
	2013	% Change	2012	% Change	2011
<b>Oncology Systems:</b>					
North America	\$ 939	(14%)	\$ 1,091	5%	\$ 1,038
Total International	1,360	4%	1,309	8%	1,211
Total Oncology Systems	\$ 2,299	(4%)	\$ 2,400	7%	\$ 2,249
<b>X-Ray Products:</b>					
North America	\$ 161	14%	\$ 141	0%	\$ 140
Total International	422	16%	365	7%	343
Total X-Ray Products	\$ 583	15%	\$ 506	5%	\$ 483
Other:	\$ 86	(60%)	\$ 216	7%	\$ 201
Total Net Orders	\$ 2,968	(5%)	\$ 3,122	6%	\$ 2,933

#### Backlog

Backlog is the accumulation of all gross orders for which revenues have not been recognized and are still considered valid. Backlog also includes a small portion of billed service contracts that are included in deferred revenue. Including the \$100 million VPT backlog, our backlog at September 27, 2013 was \$2.9 billion, which was an increase of 1% over the backlog at September 28, 2012. Our Oncology Systems backlog at September 27, 2013 was 2% higher than the backlog at September 28, 2012, which reflected a 15% increase for the international region and a 9% decrease for North America.

In fiscal years 2013, 2012, and 2011, our backlog adjustments were \$257 million, \$101 million, and \$121 million, respectively. During fiscal year 2013, as a result of ongoing uncertainty in the U.S. healthcare environment and higher cancellations, particularly from small freestanding center developers, we re-evaluated similar transactions and removed orders that were not expected to be converted into revenues from our backlog, which resulted in an increase in the backlog adjustments in fiscal year 2013 compared to fiscal years 2012 and 2011.

## Discontinued Operations

In the fourth quarter of fiscal year 2008, we approved a plan to sell Research Instruments in order to focus our efforts on the development of the proton therapy systems portion of the ACCEL business. The sale of Research Instruments was completed in the second quarter of fiscal year 2009. Research Instruments has been classified as a discontinued operation in our Consolidated Statements of Earnings for fiscal year 2011.

The total loss from discontinued operations for fiscal year 2011 was \$9.7 million less applicable income tax of zero. Total revenues of Research Instruments, reported in discontinued operations, for fiscal years 2011 was zero. As of September 30, 2011, we had no remaining obligations related to this discontinued operation. In fiscal years 2013 and 2012, we did not recognize any income or losses and did not have any revenues from discontinued operations. See Note 18, *Discontinued Operations* to the Notes to the Consolidated Financial Statements for a detailed discussion.

## 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 have included operations, borrowings, stock option exercises and employee stock purchases and interest income. Our cash usage is actively managed on a daily basis to ensure the maintenance of sufficient funds to meet our needs. Because Research Instruments' cash flows were not material, we have not segregated them from continuing operations on our Consolidated Statements of Cash Flows and the discussion herein.

## Cash and Cash Equivalents

The following table summarizes our cash and cash equivalents:

	September 27,	September 28,	
(In millions)	2013	2012	Increase
Cash and cash equivalents	\$ 1,118	\$ 705	\$ 413

Our cash and cash equivalents increased \$413 million from \$705 million at September 28, 2012 to \$1,118 million at September 27, 2013. The increase in cash and cash equivalents in fiscal year 2013 was due primarily to \$500 million of cash provided from borrowings under the term loan facility, \$455 million of cash generated from operating activities, \$130 million of cash provided by stock option exercises and employee stock purchases, and \$9 million of cash provided by the excess tax benefits from share-based compensation. These increases were partially offset by aggregate payments of \$420 million of cash for the repurchase of shares of VMS common stock, \$155 million of cash used in net payments under our credit facility, \$76 million of cash for purchases of property, plant, and equipment, \$10 million of cash used to fund a portion of our loan commitment to CPTC for financing the construction and startup operations of the Scripps Proton Therapy Center, \$10 million used to fund a note receivable, and \$10 million used to satisfy employee tax withholding requirements for employees who tendered VMS stock upon vesting of restricted common stock and restricted stock units. In addition, foreign currency exchange rate changes in fiscal year 2013 increased cash and cash equivalents by \$3 million.

At September 27, 2013, we had approximately \$358 million, or 32%, of total cash and cash equivalents in the United States. Approximately \$760 million, or 68%, of total cash and cash equivalents was held abroad and could be subject to additional taxation if it were repatriated to the United States. As of September 27, 2013, most of our cash and cash equivalents that were held abroad were in U.S. dollars and were primarily held as bank deposits. 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, permitted VMS stock repurchases, acquisitions, and other lawful corporate purposes.

#### Cash Flows

(In millions)	Fiscal Years		
	2013	2012	2011
Net cash flow provided by (used in):			
Operating activities	\$ 455	\$ 493	\$ 472
Investing activities	(96)	(122)	(118)
Financing activities	51	(234)	(311)
Effects of exchange rate changes on cash and cash equivalents	3	4	1
Net increase in cash and cash equivalents	\$ 413	\$ 141	\$ 44



Our primary cash inflows and outflows for fiscal years 2013, 2012 and 2011 were as follows:

We generated net cash from operating activities of \$455 million in fiscal year 2013, compared to \$493 million in fiscal year 2012 and \$472 million in fiscal year 2011.

The \$38 million decrease in net cash from operating activities during fiscal year 2013 compared to fiscal year 2012 was driven primarily by a net change of \$35 million in operating assets and liabilities (working capital items) and a decrease in non-cash items of \$14 million, partially offset by an increase of \$11 million in net earnings.

The major contributors to the net change in working capital items in fiscal year 2013 were inventories, deferred revenues and advance payments from customers, accounts receivable, and accrued expenses and other liabilities as follows:

- Ø Inventories increased \$76 million due to anticipated customer demands for products in fiscal year 2014, mainly in Oncology Systems and X-Ray Products.
- Ø Deferred revenue and advance payments from customers increased \$75 million due to receipts of down payments for orders for which revenues have not been recognized during fiscal year 2013 and due to nature of contracts and timing of customer acceptances.
- Ø Accounts receivable increased \$43 million due to higher revenues and timing of collections.
- Ø Accrued expenses and other liabilities decreased \$33 million due primarily to the timing of payments processed and specifically due to the timing of tax payments both in the United States and internationally.

The \$21 million increase in net cash from operating activities during fiscal year 2012 compared to fiscal year 2011 was driven primarily by an increase of \$28 million in net earnings and a net change of \$5 million in operating assets and liabilities (working capital items), partially offset by a decrease in non-cash items of \$12 million.

The major contributors to the net change in working capital items in fiscal year 2012 were accounts receivable, deferred revenues and advance payments from customers, prepaid expenses and other assets, and inventories as follows:

- Ø Accounts receivable increased \$87 million due to higher revenues and timing of collections.
- Ø Deferred revenue and advance payments from customers increased by \$69 million due to receipts of down payments for Oncology System and VPT orders for which revenues have not been recognized during fiscal year 2012.
- Ø Prepaid expenses and other current assets increased by \$47 million primarily due to guaranteed prepayments made under a commercial agreement for products that we resell, as well as timing of expense payments.
- Ø Inventories increased by \$42 million due to anticipated customer demands for products in fiscal year 2013 mainly in Oncology Systems and VPT.

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, accounts receivable collections, inventory management, and the timing and amount of tax and other payments. See Item 1A, Risk Factors.

Investing activities used \$96 million of net cash in fiscal year 2013, compared to \$122 million of net cash in fiscal year 2012 and \$118 million of net cash in fiscal year 2011. Cash used for purchases of property, plant and equipment was \$76 million in fiscal year 2013, compared to \$61 million in fiscal year 2012, and \$71 million in fiscal year 2011. During fiscal year 2013, we used \$10 million to fund a portion of our loan commitment to CPTC and used \$10 million to fund a note receivable. In fiscal year 2012, we used \$31 million to fund a portion of our loan commitment to CPTC and used \$28 million for business acquisitions (primarily Calypso and InfiMed), and we received \$9 million of cash from dpiX LLC for the repayment of a note receivable. During fiscal year 2011, we used \$19 million for loans to CPTC, paid \$15 million to Augmenix for a minority equity interest plus an exclusive option to purchase the remaining equity interest of Augmenix and paid cash of \$8 million for the acquisition of all of the outstanding capital stock of a supplier of devices for delivery of brachytherapy treatment.

Financing activities provided net cash of \$52 million in fiscal year 2013, compared to \$234 million of net cash used in fiscal year 2012, and \$311 million of net cash used in fiscal year 2011. In fiscal year 2013, we borrowed \$500 million under a term loan facility. In fiscal year 2013 and 2012, we repaid a net amount of \$155 million and \$26 million, respectively, to our credit facilities. In fiscal year 2011, we borrowed a net amount of \$161 million from our credit facilities. We received cash proceeds from employee stock option exercises and employee stock purchases of \$130 million, \$60 million, and \$138 million in fiscal years 2013, 2012, and 2011, respectively, as well as cash provided by excess tax benefits from share-based compensation of \$10 million in fiscal year 2013, \$9 million in fiscal year 2012, and \$23 million in fiscal year 2011. In fiscal year 2013, we used \$420 million for the repurchases of VMS common stock compared to \$257 million in fiscal year 2012. In fiscal year 2011, we paid an aggregate of \$611 million in connection with three accelerated share repurchase agreements and for shares repurchased in the open market. In fiscal year 2013 there were no bank borrowing repayments as compared to \$10 million and \$7 million in fiscal years 2012, and 2011, respectively. Cash used for financing activities in fiscal years 2013, 2012, and 2011 also includes \$10 million, \$10 million, and \$15 million (the value of withheld shares), respectively, for tendered VMS common stock to satisfy employee tax withholding requirements upon vesting of restricted common stock and restricted stock units. We expect our capital expenditures, which typically represent construction and/or purchases of facilities, manufacturing equipment, office equipment and furniture and fixtures, as well as capitalized costs related to the implementation of software applications, will be approximately 2.8% of revenues in fiscal year 2014. As further described under Contractual Obligations, we loaned \$62.7 million (including accrued interest) to CPTC as of September 27, 2013, and we expect CPTC to continue to draw down the loan facility, under which we have committed to loan up to \$115.3 million to CPTC, during the construction and initial operation period of the Scripps Proton Therapy Center through fiscal year 2014.

We had a \$300 million credit facility with Bank of America, N.A. ( BofA ) during fiscal years 2013 and 2012 (the 2012 Credit Facility ). At September 28, 2012, a total of \$155 million was outstanding under the 2012 Credit Facility with a weighted average interest rate of 1.47%. No letters of credit or swing line loans were outstanding at that date. We were in compliance with all covenants under the 2012 Credit Facility for all periods presented within these consolidated financial statements in which it was in existence.

On August 27, 2013, we repaid all outstanding amounts and terminated the 2012 Credit Facility and entered into a five-year credit agreement with certain lenders and BofA as administrative agent (the 2013 Credit Agreement ) that provides for (i) a five-year term loan facility in an aggregate principal amount of up to \$500 million (the 2013 Term Loan Facility ) and (ii) a five-year revolving credit facility in an aggregate principal amount of up to \$300 million (the 2013 Revolving Credit Facility ). The Revolving Credit Facility also includes a \$50 million sub-facility for the issuance of letters of credit and permits swing line loans of up to \$25 million. Under the 2013 Credit Agreement, we have the right to make (i) up to two requests to increase the aggregate commitments under the Term Loan Facility by an aggregate amount for all such requests of up to \$100 million and (ii) up to three requests to increase the aggregate commitments under the Revolving Credit Facility by an aggregate amount for all such requests of up to \$200 million, provided that, in each case, the Lenders are willing to provide such new or increased commitments and certain other conditions are met. We may prepay, reduce or terminate the commitments without penalty. The 2013 Credit Facility contains provisions that limit our ability to pay cash dividends.

A pledge of 65% of the voting shares that we hold in Varian Medical Systems Nederland B.V., a wholly-owned subsidiary, serves as security for a portion of the 2013 Credit Facility. These stock pledges also serve as security for all hedging or treasury management obligations entered into by the Company with a Lender. As of September 27, 2013, VMS had pledged 65% of the voting shares that it holds in Varian Medical Systems Nederland Holdings B.V., a

wholly owned subsidiary. The 2013 Credit Agreement provides that certain material domestic subsidiaries must guarantee the 2013 Credit Facility, subject to certain limitations on the amount secured. As of September 27, 2013, the 2013 Credit Facility was not guaranteed by any VMS subsidiary.

Borrowings under the 2013 Term Loan Facility accrue interest either (i) based on a Eurodollar Rate, as defined in the Credit Agreement (the Eurodollar Rate), plus a margin of 1.00% to 1.25% based on a leverage ratio involving funded indebtedness and EBITDA or (ii) based upon a base rate of (a) the federal funds rate plus 0.50%, (b) BofA's announced prime rate, or (c) the Eurodollar Rate plus 1.00%, whichever is highest, plus a margin of 0.00% to 0.25% based on the same leverage Ratio, depending upon instructions from the Company. Borrowings under the 2013 Revolving Credit Facility accrue interest either (i) based on the Eurodollar Rate plus a margin of 1.25% to 1.50% based on a leverage ratio or (ii) based upon a base rate of (a) the federal funds rate plus 0.50%, (b) BofA's announced prime rate, or (c) the Eurodollar Rate plus 1.00%, whichever is highest, plus a margin of 0.25% to 0.50% based on the same leverage ratio, depending upon instructions from the Company. At September 27, 2013, borrowings under the 2013 Term Loan Facility totaled \$500 million with a weighted average interest rate of 1.31%. At September 27, 2013, there was no amount outstanding under the 2013 Revolving Credit Facility.

We must pay a commitment fee on the unused portion of the 2013 Revolving Credit Facility at a rate from 0.15% to 0.275% based on a leverage ratio.

The 2013 Credit Agreement contains affirmative and negative covenants applicable to us that are typical for credit facilities of this type, and that are subject to materiality and other qualifications, carve-outs, baskets and exceptions.

We have also agreed to maintain certain financial covenants including (i) a maximum consolidated leverage ratio, involving funded indebtedness and EBITDA, and (ii) a minimum cash flow coverage ratio. We were in compliance with all covenants under the 2013 Credit Agreement for all periods in which it was in existence.

In addition, VMS's Japanese subsidiary ( VMS KK ) has an unsecured uncommitted credit agreement with Sumitomo Mitsui Banking Corporation that enables VMS KK to borrow and have outstanding at any given time a maximum of 3 billion Japanese yen (the Sumitomo Credit Facility ). In March 2013, the Sumitomo Credit Facility was extended. The Sumitomo Credit Facility will expire on April 5, 2014. 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% per annum. As of September 27, 2013, there was no outstanding balance under the Sumitomo Credit Facility.

See Note 7, Borrowings to the Consolidated Financial Statements for a discussion regarding the 2013 Credit Facility and the Sumitomo Credit Facility.

The following table provides additional information regarding our short-term borrowings (excluding current maturities of long-term debt):

(Dollars in millions)	Fourth	Fiscal Year		
	Quarter of Fiscal Year	2013	2012	2011
Amount outstanding (at end of period)	\$	\$	\$ 155	\$ 181
Weighted average interest rate (at end of period)			1.47%	1.05%
Average amount outstanding (during period)	96	168	172	60
Weighted average interest rate (during period)	1.71%	1.45%	1.29%	2.07%
Maximum month-end amount outstanding during period	\$ 148	\$ 232	\$ 205	\$ 239

Our liquidity is affected by many factors, some of which result from the normal ongoing operations of our business and some of which arise from uncertainties and conditions in the United States and global economies. Although our cash requirements will fluctuate as a result of the shifting influences of these factors, we believe that existing cash and cash equivalents and cash to be generated from operations and current or future credit facilities will be sufficient to satisfy anticipated commitments for capital expenditures and other cash requirements for the next 12 months and into the foreseeable future. We currently anticipate that we will continue to utilize our available liquidity and cash flows from operations, as well as borrowed funds, to make strategic acquisitions, invest in the growth of our business, invest in advancing our systems and processes, repurchase VMS common stock and fund our loan commitment to CPTC.

Total debt as a percentage of total capital increased to 22.8% at September 27, 2013 from 9.6% at September 28, 2012 primarily due to increased borrowings under our 2013 Credit Facility. The ratio of current assets to current liabilities increased to 2.33 to 1 at September 27, 2013 from 1.76 to 1 at September 28, 2012.

#### Days Sales Outstanding

Trade accounts receivable DSO were 85 days at both September 27, 2013 and September 28, 2012. Excluding VPT, DSO were 77 days at September 27, 2013 compared to 80 days at September 28, 2012. Our accounts receivable and

DSO are impacted by a number of factors, primarily including the timing of product shipments, collections performance, payment terms, the mix of revenues from different regions and the continued sovereign debt and banking crises in Europe. As of September 27, 2013, approximately 4% of our accounts receivable balance was related to customer contracts with remaining terms of more than one year.

#### Stock Repurchase Program

During fiscal years 2013, 2012 and 2011, we repurchased 6,000,000 shares, 4,433,718 shares, and 9,028,033 shares, respectively, of VMS common stock under various authorizations by VMS's Board of Directors. The repurchased shares include shares of VMS common stock repurchased under various accelerated share repurchase agreements. Aggregate amount of repurchases in connection with the various accelerated share repurchase agreements (as further discussed below) and for shares repurchased in the open market totaled \$424 million, \$257 million and \$611 million in fiscal years 2013, 2012 and 2011, respectively. All shares that were repurchased have been retired.

On August 24, 2010, we executed an accelerated share repurchase agreement with BofA (the August 2010 Repurchase Agreement). Pursuant to the August 2010 Repurchase Agreement, we initially paid to BofA \$225 million and BofA delivered 3,888,249 shares of VMS common stock, representing approximately 90% of the shares expected to be repurchased. Under the terms of the August 2010 Repurchase Agreement, the specific number of shares that we ultimately repurchased was to be based on the volume weighted average share price of VMS common stock during the repurchase period, less a discount, such that we might be entitled to receive additional shares of VMS common stock from BofA or we might be required to deliver VMS shares or, at our option, make a cash payment to BofA. The repurchase period ended on February 23, 2011, and we made a cash payment of \$26.1 million in March 2011 to settle the August 2010 Repurchase Agreement.

On February 23, 2011, we executed an accelerated share repurchase agreement with BofA (the February 2011 Repurchase Agreement). Pursuant to the February 2011 Repurchase Agreement, we paid to BofA \$280 million and BofA delivered 3,547,474 shares of VMS common stock, representing approximately 85% of the shares expected to be repurchased. Under the terms of the February 2011 Repurchase Agreement, the specific number of shares that we ultimately repurchased was to be based on the volume weighted average share price of VMS common stock during the repurchase period, less a discount. In June 2011, BofA accelerated the end of the repurchase period, and we received an additional 630,921 shares of VMS common stock, with a then market value of approximately \$41.3 million, upon the settlement of the February 2011 Repurchase Agreement.

On August 25, 2011, we entered into another accelerated share repurchase agreement with BofA (the August 2011 Repurchase Agreement). Pursuant to the August 2011 Repurchase Agreement, we paid to BofA \$250 million and BofA delivered 3,849,638 shares of VMS common stock, representing approximately 85% of the shares expected to be repurchased. Under the terms of the August 2011 Repurchase Agreement, the specific number of shares that we ultimately repurchased was to be based on the volume weighted average share price of VMS common stock during the repurchase period, less a discount. The repurchase period ended in February 2012, and we received an additional 375,449 shares of VMS common stock, with a then market value of approximately \$25 million, upon the settlement of the August 2011 Repurchase Agreement.

In February 2011, the VMS Board of Directors authorized the repurchase of 12 million shares of VMS common stock through the end of fiscal year 2012. As of September 28, 2012, the remaining 3,000,000 shares available for repurchase under the February 2011 authorization expired. In August 2012, the VMS Board of Directors authorized the repurchase of 8,000,000 shares of VMS common stock from September 29, 2012 through December 31, 2013. Stock repurchases under the August 2012 authorization 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 may be made from time to time or in one or more blocks. As of September 27, 2013, 2,000,000 shares remained available for repurchase under the August 2012 authorization.

In November 2013, the VMS Board of Directors authorized the repurchase of an additional 6,000,000 shares of VMS common stock from December 30, 2013 through December 31, 2014. Stock repurchases under the November 2013 authorization 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 may be made from time to time in one or more blocks. Shares will be retired upon repurchase.

#### Contractual Obligations

The following summarizes our contractual obligations as of September 27, 2013 and the effect such obligations are expected to have on our liquidity and cash flows in future periods:

(In millions)	Payments Due By Period				Total
	Fiscal Year 2014	Fiscal Years 2015 - 2016	Fiscal Years 2017 - 2018	Beyond	
Long term debt (1) (including current maturities of long-term debt)	\$ 56.3	\$ 100.0	\$ 350.0	\$	\$ 506.3
Interest obligation on long term debt (including current maturities of long-term debt) (2)	6.4	10.3	7.4		24.1
Unused loan facility to CPTC (3)	52.6				52.6
Operating leases (4)	20.0	29.5	15.0	12.0	76.5
Defined benefit pension plans (5)	6.3				6.3
Post-retirement benefit plan (6)	0.5	1.0	1.0	1.8	4.3
Total (7)	\$ 142.1	\$ 140.8	\$ 373.4	\$ 13.8	\$ 670.1

(1) For further discussion regarding long-term debt, see Note 7, Borrowings of the Notes to the Consolidated Financial Statements.

(2) Interest on the term loan facility has been calculated based on the interest rate applicable as of September 27, 2013.



- (3) As further described in Note 15, *Variable Interest Entity* of the Notes to the Consolidated Financial Statements, we participate, through our Swiss subsidiary, in a \$165 million loan facility to CPTC, under which we committed to loan up to \$115.3 million, to finance the construction and startup operations of the Scripps Proton Therapy Center. As of September 27, 2013, we had loaned \$62.7 million (including accrued interest) to CPTC, and we expect CPTC to continue to draw down this facility during the construction and initial operation period as of the Scripps Proton Therapy Center through fiscal year 2014. The amounts and timing of loan drawdown may change due to changes in construction progress and other factors. We expect to use cash held abroad to meet funding requirements under this loan facility. We may sell all or a portion of our participation in this loan facility before the end of the drawdown period in 2014. Upon the sale of all or a portion of this facility, we will not be required to make further loan advances for the portion of the facility that is sold.
- (4) Operating leases include future minimum lease payments under all our noncancelable operating leases as of September 27, 2013.
- (5) As further described in Note 10, *Retirement Plans* of the Notes to the Consolidated Financial Statements, as of September 27, 2013, our defined benefit pension plans were underfunded by \$14.9 million. Due to the impact of future plan asset performance, changes in interest rates and other economic and demographic assumptions the potential for changes in legislation in the United States and other foreign jurisdictions, we are not able to reasonably estimate the timing and amount of contributions to fund its defined benefit pension plans beyond the next fiscal year.
- (6) As further described in Note 10, *Retirement Plans* of the Notes to the Consolidated Financial Statements, as of September 27, 2013, our post-retirement benefit plan had an estimated total benefit obligation of \$4.8 million. Due to changes in health care cost trend rates, mortality rates of plan participants, and the potential for us to change the type of healthcare plans offered or the level of contributions from plan participants, we are not able to reasonably estimate the timing and amount of contributions to fund our post-retirement benefit plan beyond fiscal year 2023.
- (7) The following items are not included in the table above:
- Long-term income taxes payable includes the liability for uncertain tax positions, including interest and penalties, and may also include other long-term tax liabilities. As of September 27, 2013, our total liability for uncertain tax positions was \$41.9 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; therefore, the liability for uncertain tax positions has been excluded from the table above. See a detailed discussion in Note 13, *Taxes on Earnings* of the Notes to the Consolidated Financial Statements.
  - As further described in Note 9, *Commitments and Contingencies*, of the Notes to the Consolidated Financial Statements, as of September 27, 2013, we accrued \$11.3 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 become more clearly defined.

·In connection with the acquisition of businesses in prior years, we entered into agreements which include provisions to make additional consideration payments upon the achievement of certain milestones by the acquired businesses. As of September 27, 2013, the accrual for potential contingent considerations under these agreements is \$2.5 million.

·In April 2012, we entered into a strategic global partnership with Siemens through which, among other things, we and Siemens will collaborate to develop interfaces that will enable our ARIA oncology information system software to connect with Siemens linear accelerators and imaging systems. Under the agreement establishing this collaboration, we committed to make certain payments, including up to \$10 million in fixed fees and \$20 million in license fees, in the event that certain product development milestones are achieved. We will also pay for additional licenses beyond the minimum quantities set forth in the agreement. We expect that these interfaces will be commercialized as part of our ARIA oncology information system offering to customers. As of September 27, 2013, we accrued \$2 million of the fixed fees under the terms of the agreement. As of September 27, 2013, no amount related to achievement of product development milestones was payable under this agreement.

#### Contingencies

#### Environmental Remediation Liabilities

For a discussion of environmental remediation liabilities, see Note 9, Commitments and Contingencies

Environmental Remediation Liabilities of the Notes to the Consolidated Financial Statements, which discussion is incorporated herein by reference.

#### Other Matters

From time to time, we are a party to or otherwise involved in legal proceedings, claims and government inspections or investigations and other legal matters both inside and outside the United States, arising in the ordinary course of our business or otherwise. Such

matters are subject to many uncertainties and outcomes are not predictable with assurance. See Note 9, Commitments and Contingencies Other Matters of the Notes to the Consolidated Financial Statements, which discussion is incorporated herein by reference.

#### Off-Balance Sheet Arrangements

In conjunction with the sale of our products in the ordinary course of business, we provide standard indemnification of business partners and customers for losses suffered or incurred for property damages, death and injury and for patent, copyright or any other intellectual property infringement claims by any third parties with respect to our products. The terms of these indemnification arrangements are generally perpetual. Except for losses related to property damages, the maximum potential amount of future payments we could be required to make under these arrangements is unlimited. As of September 27, 2013, we have not incurred any significant costs since the Spin-offs 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.

#### Recent Accounting Pronouncements

##### a) New accounting updates recently adopted

In September 2011, the FASB amended Accounting Standard Codification ( ASC ) 350, Intangibles Goodwill and Other. This amendment is intended to simplify how an entity tests goodwill for impairment and will allow an entity to first assess qualitative factors to determine whether it is necessary to perform the two-step quantitative goodwill impairment test. An entity no longer will be required to calculate the fair value of a reporting unit unless the entity determines, based on a qualitative assessment, that it is more likely than not that the reporting unit's fair value is less than its carrying amount. This amendment became effective for us beginning in the first quarter of fiscal year 2013. The adoption of this amendment did not have an impact on our consolidated financial position, results of operations or cash flows.

In June 2011, the FASB amended ASC 220, Presentation of Comprehensive Income. This amendment requires companies to present the components of net income and other comprehensive income either as one continuous statement or as two consecutive statements. It eliminates the option to present components of other comprehensive income as part of the statement of changes in stockholders' equity. In December 2011, the FASB issued another amendment which defers indefinitely this amendment to the extent it relates to the presentation of reclassification adjustments. The amended guidance became effective for us in the first quarter of fiscal year 2013. The adoption of this amendment concerns disclosure only and did not have an impact on our consolidated financial position, results of operations or cash flows.

In July 2013, the FASB issued an accounting standard update to eliminate diversity in practice in the presentation of unrecognized tax benefits when a net operating loss carry forward, a similar tax loss, or a tax credit carry forward exists. We adopted this guidance beginning in the fourth quarter of fiscal year 2013. The adoption of this guidance did not have a material impact on our consolidated financial position, results of operations or cash flows.

b) Recent accounting standards or updates not yet effective

In December 2011, the FASB amended ASC 210, Balance Sheet, enhancing disclosure requirements about the nature of an entity's right to offset and related arrangements associated with its financial instruments and derivative instruments. The new guidance requires the disclosure of the gross amounts subject to rights of set-off, the amounts offset in accordance with the accounting standards followed, and the related net exposure. The new guidance will be effective for us beginning in the first quarter of fiscal year 2014. The adoption of this amendment concerns disclosure only and we do not expect it to have an impact on our consolidated financial position, results of operations or cash flows.

In February 2013, the FASB issued an accounting standard update to require reclassification adjustments from other comprehensive income to be presented either in the financial statements or in the notes to the financial statements. This accounting standard update will be effective for us beginning in the first quarter of fiscal year 2014, at which time we will include the required disclosures.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to three primary types of market risks: credit risk, foreign currency exchange rate risk and interest rate risk.

### Credit Risk and Counterparty Risk

We are exposed to credit loss in the event of nonperformance by counterparties on the foreign currency forward contracts used in hedging activities. These counterparties are large international and regional financial institutions and to date, no such counterparty has failed to meet its financial obligation to us under such contracts. We are also exposed to credit loss in the event of default by CPTC, the obligor under the loan facility in which we are participating to finance the construction and start-up operations of the Scripps Proton Therapy Center. 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 economic downturn of 2008 and accompanying contraction in the credit markets heighten these risks. Concerns over continued economic instability, including the sovereign debt and banking crises in Europe, could make it more difficult for us to collect outstanding receivables and could adversely impact affect 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 transactions when they are not transacted in the subsidiaries' functional currency or in U.S. dollars. The foreign currency sales transactions that fit our risk management policy criteria are hedged with 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 forward contracts for speculative or trading purposes. The forward contracts range from one to thirteen 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 U.S. dollar functional currency.

The notional amounts of 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.

The notional values and the weighted average contractual foreign currency exchange rates of our sold and purchased foreign currency forward contracts outstanding at September 27, 2013 were as follows:

## Weighted Average

	Notional	Notional Value	Contract Rate
(In millions)	Value Sold	Purchased	(Foreign Currency Units per USD)
Australian dollar \$	21.9	\$	1.0746
British pound	18.6		0.62
Canadian dollar		2.2	1.0311
Euro	228.6		0.7391
Indian rupee	4.7		63.03
Japanese yen	147.9		98.852
Norwegian krone	3.3	2.8	6.0064
Swiss franc		70.9	