

PROCESSED

JAN 03 2005

THOMSON
FINANCIAL



04053319

TARGETING CANCER TECHNOLOGY GIVES FIGHTERS A NEW EDGE

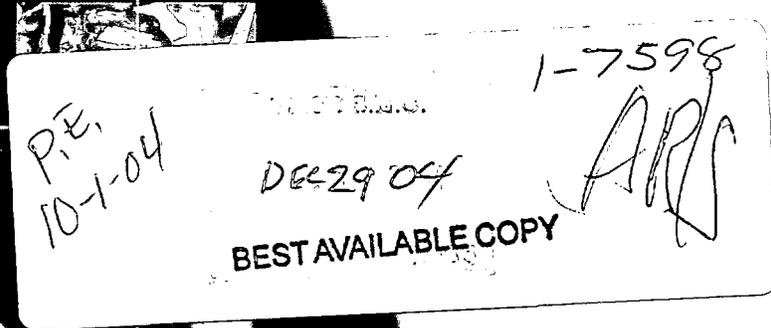


IMAGE-GUIDED RADIOTHERAPY
TARGETING
THE TUMOR

STEREOTACTIC RADIOTHERAPY
THE NEXT STEP
IN PRECISION

FLAT-PANEL DETECTORS
REVOLUTIONIZING
X-RAY IMAGING

Varian Medical Systems, Inc., of Palo Alto, California, is the world's leading supplier of equipment and software for treating cancer. The company is also a premier supplier of components including X-ray tubes and flat-panel detectors for medical, scientific, and industrial imaging. Varian Medical Systems employs approximately 3,280 people who are located at manufacturing sites in North America and Europe and in its 55 sales and support offices around the world. Additional information is available on the company's Web site at www.varian.com.



ON THE COVER

With treatments like real-time image-guided radiotherapy and stereotactic radiosurgery, clinics are using new technology from Varian Medical Systems to give patients a fighting edge. In addition to helping doctors

treat patients, Varian solutions are working for many people, from customs agents screening cargo containers to aerospace engineers inspecting rocket parts.

FISCAL YEARS

(Dollars in millions)

	2004	2003	2002
Revenues	\$ 1,236	\$ 1,042	\$ 873
Gross margin	\$ 517	\$ 422	\$ 339
Operating earnings	\$ 256	\$ 198	\$ 145
Operating earnings as percentage of revenues	20.7%	19.0%	16.6%
Net earnings	\$ 167	\$ 131	\$ 94
Net earnings per diluted share ⁽¹⁾	\$ 1.18	\$ 0.92	\$ 0.67
Net orders	\$ 1,398	\$ 1,152	\$ 974
Backlog	\$ 970	\$ 808	\$ 698

⁽¹⁾ FY03 and FY02 have been restated for the two-for-one stock split (effected in the form of a 100% stock dividend) paid on July 30, 2004.

Except for historical information, this summary annual report contains "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995. Statements concerning industry outlook, including market acceptance of or transition to new products or technology such as intensity-modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), software, and advanced X-ray products; growth drivers; our orders, sales, backlog, or earnings growth; future financial results and any statements using the terms "set the stage," "can," "expect," "think," "should," "believe," "continue," "will," "could," "may," "would," "eliminate," "promises," "enable," "make," "might," "potential," "becoming," "transforming," "growing," "gaining," "momentum," "continued," "designed," "hope," or similar statements are forward-looking statements that involve risks and uncertainties that could cause our actual results to differ materially from those anticipated. Such risks and uncertainties include, without limitation, demand for our products; our ability to develop and commercialize new products; the impact of competitive products and pricing; the effect of economic conditions and currency exchange rates; our ability to meet demand for manufacturing capacity; the effect of environmental claims and expenses; our ability to protect our intellectual property; the impact of managed care initiatives or other healthcare reforms on capital expenditures and/or third-party reimbursement levels; our ability to meet U.S. FDA and other regulatory requirements or product clearances; our dependency on a small number of customers for a significant amount of our sales; our reliance on a limited group of suppliers, and in some cases sole source suppliers, for some product components; the potential loss of key distributors; the possibility that material product liability claims could harm future sales or require us to pay uninsured claims; the risk of operations interruptions due to events beyond our control; and other risks detailed from time to time in our filings with the Securities and Exchange Commission. We assume no obligation to update or revise any forward-looking statements because of new information, future events, or otherwise.

Varian, Varian Medical Systems, Clinac, GammaMed, ImMerge, Linatron, OpTx, PaxScan, SonArray, and Zmed are registered trademarks of Varian Medical Systems, Inc.

Acuity, BrachyVision, Dynamic Targeting, Eclipse, Exact, FastPlan, GammaMedPlus, GrassFire, Helios, Linac Scalpel, MammoSource, Millennium, On-Board Imager, PortalVision, RPM, SmartBeam, Trilogy, VariSeed, VariSource, VARiS Vision and Z-Scape are trademarks of Varian Medical Systems, Inc.

The names of other companies and products mentioned herein are used for identification purposes only and may be trademarks or registered trademarks of their respective owners.

VARIAN 04

www.varian.com/investor

VARIAN
medical systems



Contents

2 LETTER TO STOCKHOLDERS

Fiscal year 2004 was a rewarding year for Varian Medical Systems' stockholders, customers, and employees. Chairman and CEO Richard M. Levy discusses the hallmarks of success—profitable growth, market leadership, emerging businesses, strategic acquisitions, and operational efficiencies—and sets the stage for continuing growth.

CORE TECHNOLOGIES

6 IMAGE-GUIDED RADIOTHERAPY: TARGETING THE TUMOR

Dynamic Targeting™ IGRT using real-time imaging techniques helps doctors locate and target moving tumors with unprecedented accuracy.

10 STEREOTACTIC RADIOTHERAPY: THE NEXT STEP IN PRECISION

New stereotactic treatment technologies represent significant progress toward turning cancer into a manageable condition.

13 INTENSITY-MODULATED RADIOTHERAPY: AN UPDATE

Clinical use of IMRT—an advanced form of radiotherapy—has surged in the last year. With IMRT, doctors are now treating cancers of the head and neck, prostate, lung, breast, gastrointestinal organs, cervix, and uterus as well as pediatric tumors, sarcoma, spinal metastases, and lymphoma.

EMERGING BUSINESS AREAS

14 FLAT-PANEL DETECTORS: REVOLUTIONIZING X-RAY IMAGING

Digital X-ray imaging has the potential to transform industries where success hinges on seeing hidden structures quickly, clearly, and cost-effectively.

18 HIGH-DOSE-RATE BRACHYTHERAPY: GAINING RECOGNITION

For certain cancers, brachytherapy now offers a viable alternative to surgery, often with fewer side effects and faster recovery times.

20 CARGO SCREENING: ACCELERATING PORT SECURITY

With Varian Medical Systems' technology, customs agents at ports on every continent are getting a good look at what's inside cargo containers.

2004 HIGHLIGHTS

22 BUSINESS SEGMENT OVERVIEWS

A review of the year's highlights for Varian Medical Systems' Oncology Systems and X-Ray Products business segments.

25 GINZTON TECHNOLOGY CENTER

Scientists at Varian's research and development center continue to push the technological envelope.

26 FINANCIAL TABLES

Earnings, balance sheets, and cash flows.



CLOCKWISE FROM FRONT:

Richard M. Levy
Chairman, President and CEO

Timothy E. Guertin
Executive Vice President

Wendy S. Reitherman
Vice President, Human Resources

John Anderson Thorson II
Vice President, Business Development

Joseph B. Phair
Vice President, General Counsel

George A. Zdasiuk
Vice President, Chief Technology Officer

Robert H. Kluge
Vice President

Elisha W. Finney
Vice President, Chief Financial Officer

TO OUR STOCKHOLDERS, CUSTOMERS, AND EMPLOYEES

Fiscal year 2004 was a rewarding year for Varian Medical Systems' stockholders, customers, and employees. We achieved impressive financial results, introduced six major new products, extended our technological and market leadership, significantly expanded three emerging business areas, completed three strategic acquisitions, entered two new markets, and enhanced our operational efficiency. These accomplishments set the stage for continued strong growth in fiscal year 2005.

PROFITABLE GROWTH

For 2004, in comparison with the previous year:

- Net orders rose 21 percent to \$1.4 billion
- Year-end backlog rose 20 percent to \$970 million
- Revenues increased 19 percent to \$1.2 billion
- Operating earnings climbed 29 percent to \$256 million
- Net earnings rose 28 percent to \$167 million

After paying a two-for-one stock dividend during the year, our company recorded annual earnings of \$1.18 per diluted share, up 28 percent from fiscal year 2003.

Annual net orders, revenues, and operating earnings rose in all three business segments. Net orders increased 20 percent in Oncology Systems, 30 percent in X-Ray Products, and 32 percent in the "Other" segment that includes the Ginzton Technology Center and BrachyTherapy products. Revenues rose 20 percent in Oncology Systems, 8 percent in X-Ray Products, and 20 percent in the "Other" segment.

Higher unit volumes and a sales mix change toward more profitable products drove the company's annual gross margin up by about 1.4 percent to a record 41.9 percent of revenue. We also reduced selling, general, and administrative expenses as a percentage of revenues by about one-half percent to 15.3 percent. Our operating earnings for fiscal year 2004 were a record 20.7 percent of revenues, up 29 percent from the previous year. In keeping with our commitment to technological leadership, we increased our research-and-development investment by about 20 percent.

For fiscal year 2004, Varian Medical Systems delivered a 27.9 percent return on equity—an increase of 2.4 percent over the prior year.

The company generated a record of \$234 million in cash from operations. We ended the year with \$393 million in cash and marketable securities after spending \$202 million to repurchase approximately 5.6 million shares of the company's common stock and another \$72 million on acquisitions.

For the year, Varian Medical Systems delivered a 27.9 percent return on equity—an increase of 2.4 percent from an already good 25.5 percent return on equity in fiscal year 2003.

MARKET LEADERSHIP

In 2004, Varian Medical Systems introduced several significant new products for more precise radiotherapy treatments that will enable better outcomes in cancer treatment. These products also address the equally important need for greater cost-efficiency in modern healthcare.

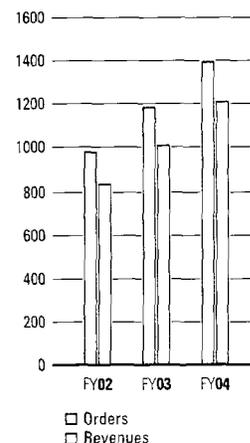
Varian developed the world's first clinically practical products for real-time, image-guided radiation therapy (IGRT), a new treatment process that addresses the problem of tumor motion. Our engineers made it possible for the equipment to track and target tumors more accurately than ever with a new On-Board Imager™ accessory that takes still, moving, or three-dimensional X rays of patients at the moment of treatment. Using these images, clinics are now able to treat patients with smaller radiation beams to concentrate higher doses in tumors while improving the protection of surrounding healthy tissue. To make our IGRT solution clinically practical, Varian has developed powerful software that integrates and automates the process so that treatments can be completed easily within a normal 15-minute session.

Annual net orders, revenues,
and operating earnings rose in
all three business segments.

NET ORDERS AND REVENUES

21 percent gain in annual
net orders to \$1.4 billion.

19 percent gain in annual
revenues to \$1.2 billion.



41.9% GROSS MARGIN

20.7% OPERATING MARGIN

\$1.18 EARNINGS PER SHARE

Customers welcomed our IGRT solution when it was introduced last March, and by the end of the fiscal year more than 80 clinics in North America and Europe had placed orders for the On-Board Imager product, one of the fastest new product introductions in our history. Meanwhile, clinics continued to adopt intensity-modulated radiation therapy (IMRT), a modern treatment process enabled by Varian developments over the last 15 years. Varian-equipped centers using this technique nearly doubled to more than 860 during the fiscal year.

Equally significant, in fiscal year 2004 we introduced the Trilogy™ accelerator, the most comprehensive, versatile, and cost-effective radiation treatment machine in the world—a device that can be shared by radiation oncologists and neurosurgeons to address multiple medical conditions. Trilogy is optimized for specialized radiosurgical procedures as well as all standard radiotherapies, including IGRT and IMRT. This product offers Varian a growth opportunity in the burgeoning field of radiosurgery, the substitution of focused radiation for traditional surgical techniques. Customer response again was gratifying. By the end of the fiscal year, 27 Trilogy accelerators had been ordered by centers around the world.

Fiscal year 2004 also saw the introduction of Varian's iX Series Clinac® accelerator, a modularized product designed to facilitate more rapid adoption of IMRT and IGRT. Other IGRT-related developments in the year included cone-beam CT 3D imaging on our Acuity™ simulator and the addition of Zmed's SonArray® 3D ultrasound imaging device.

Within the \$100 million Oncology Systems software product line, we added an "electronic health record" feature to our VARIS Vision™ product to support paperless clinical processes. We acquired OpTx® assets and incorporated OpTx medical oncology practice management software into our product line

for comprehensive cancer clinics. This acquisition also broadened Varian's market, giving us our first offering for stand-alone chemotherapy clinics.

Our engineers successfully developed two more precise dose calculating algorithms for our Eclipse™ treatment planning software. Varian's Eclipse product now supports stereotactic radiosurgery planning with Trilogy as well as IMRT and IGRT.

In summary, these product introductions extended Varian's technical and market leadership during fiscal 2004. Today, we offer a complete line of products that can be configured to support every type of radiation treatment within an integrated, automated, and cost-efficient system.

Progress in our X-Ray Products segment was similarly successful in 2004. A second major customer ordered a new version of the powerful anode-grounded CT scanning tube that is unique to Varian, and we successfully developed several other X-ray tubes that meet higher performance standards set by imaging equipment manufacturers.

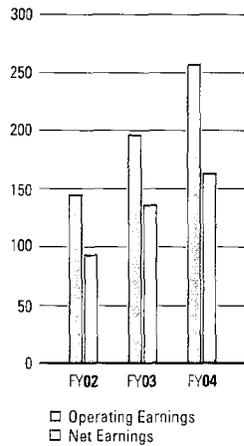
EMERGING BUSINESS AREAS AND ACQUISITIONS

For several years, Varian has been investing in three emerging product lines complementary to our core business in radiation therapy and X-ray tubes. These are brachytherapy planning and delivery systems, flat-panel detectors for X-ray imaging, and Linatron® accelerators for nondestructive testing and cargo screening. In 2004, these products contributed significantly to our growth, with orders 51 percent higher and revenues 36 percent higher than in fiscal 2003. Each of these products contributed to our profits for the year. The three emerging businesses, together with our fiscal year 2004 acquisitions—Zmed, OpTx, and Mitsubishi Electric Corporation's radiotherapy equipment service business in Japan—generated orders in excess of \$130 million during the year.

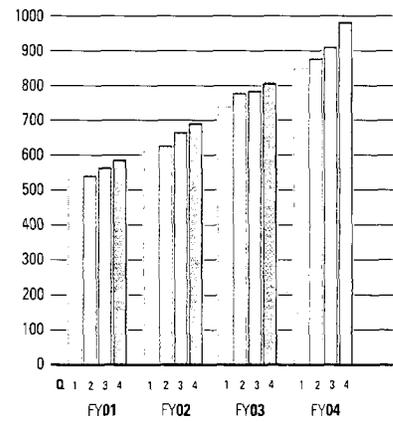
EARNINGS

29 percent gain in annual operating earnings to \$256 million.

28 percent gain in annual net earnings to \$167 million.

**BACKLOG**

20 percent gain in year-end backlog to \$970 million.



\$234M OPERATING CASH FLOW

\$393M CASH AND MARKETABLE SECURITIES

\$614M SHAREHOLDER EQUITY

Our execution is leading to growth in margins. In fiscal 2004, we extended our record of continuous improvement in operations.

OPERATIONS

Our strategies are leading to growth in revenues. Our execution is leading to growth in margins. In fiscal 2004, we extended our record of continuous improvement in operations. In Oncology Systems, we stepped up production by more than 10 percent while improving operational efficiencies. We reduced production times for our accelerators and completed construction of two new test cells for expanded production in fiscal 2005 and beyond. We successfully reduced warranty costs and improved responsiveness to customer needs through expansion of our help desk and customer education programs. In our X-Ray Products segment, we enhanced efficiencies through expanded Six Sigma programs and increased inventory turns. Sales per employee rose in all of our business segments.

All of Varian Medical Systems' accomplishments in 2004 came through talented and committed employees who are inspired to help others. Above all, we owe our success to our people around the world.

WHAT'S NEXT?

We have established ambitious goals for Varian Medical Systems in 2005. We expect to:

- Increase adoption of IMRT and IGRT throughout the world
- Expand acceptance of our new products for radiosurgery and medical oncology
- Aggressively pursue growth opportunities beyond our core businesses
- Continue to enhance operational performance and customer satisfaction

From the accomplishments of fiscal year 2004, it should be clear that Varian Medical Systems has the momentum for continued growth and can make a real difference in the quality and efficiency of modern healthcare. We look forward to another rewarding year for our stockholders, customers, and employees in fiscal 2005, and we thank all of you for your continued support.

Sincerely yours,

Richard M. Levy
Chairman, President and CEO
Varian Medical Systems

IMAGE-GUIDED RADIO THERAPY

TARGETING THE TUMOR



Bruno Sorcini, PhD, of the Karolinska Institute in Stockholm, prepares to deliver a treatment using the On-Board Imager device.

Dynamic Targeting™ IGRT using real-time imaging techniques helps doctors locate and target moving tumors with unprecedented accuracy.

At the Karolinska Institute in Stockholm, Sweden, Jan-Olov Carlsson lies on a treatment couch under a medical linear accelerator. He is ready to receive his daily dose of radiation for a prostate cancer diagnosed in early 2004. An X-ray system on robotic arms slides into place on either side of his body, then rotates around him, taking images to pinpoint the tumor's exact location. In a control room, clinicians monitor computers that match the images with Carlsson's treatment plan to see if the tumor has shifted. It has. Within seconds, the coordinates needed to put Carlsson's tumor into perfect alignment with the radiation beam are calculated. Then, with the push of a button, Carlsson's therapists adjust the couch and position him for treatment.

Sixty-year-old Carlsson is one of more than a dozen patients this day at the Karolinska Institute, where Varian Medical Systems' On-Board Imager™ device is being used to deliver image-guided radiation therapy (IGRT). IGRT helps doctors locate and target tumors with unprecedented speed and precision.

"IGRT is a significant incremental improvement in accuracy and our ability to deliver more radiation safely," according to Munther Ajlouni, MD, an early adopter of IGRT and radiation oncology director at the Henry Ford Health System in Detroit, Michigan. Ajlouni and other doctors expect that IGRT will be an important weapon for combating many types of cancer.

"The On-Board Imager device verifies that you're hitting the target and avoiding surrounding critical structures," says Timothy Fox, PhD, director of medical physics at the Emory University School of Medicine's Department of Radiation Oncology in Atlanta, Georgia.

If accuracy increases as much as expected, radiotherapy guided by daily X-ray imaging could begin to be used to treat small metastatic tumors and lesions that currently require surgery or chemotherapy. "We think IGRT will allow us to tackle different stages and types of tumors that we haven't treated before," says Fox.

In 2004, Varian's On-Board Imager technology was not only installed at Karolinska, Henry Ford, and Emory, but also at the Hirslanden Klinik in Aarau, Switzerland; M.D. Anderson Cancer Center in Houston, Texas; Memorial Sloan-Kettering Cancer Center in New York; Piedmont Hospital in Atlanta, Georgia; Stanford University Medical Center in Palo Alto, California; and other major cancer treatment centers.

Doctors at these centers are using Varian's new technology to help treat prostate and brain tumors, and they are planning or beginning to use it with gynecological tumors as well as cancers of the pancreas and the head and neck. All these applications share the same goal: Deliver enough radiation to the tumor to eliminate it, while minimizing the amount of healthy tissue exposed to the beam.

WHY ON-BOARD IMAGING?

Standard radiation therapy is limited in many cases by normal shifts within human anatomy. Tissues and organs can settle around the bones differently each time a patient climbs onto the treatment table. Patients may gain or lose weight over the course of 25 to 35 daily treatments, causing repositioning of organs. Tumors can move several centimeters as patients breathe during treatments.

Oncologists have had to compensate for tumor movements by making the radiation beam larger, exposing a significant volume of healthy tissue around the tumor. Unfortunately, to avoid causing complications in the surrounding healthy tissue, the radiation doses have had to be limited—sometimes to a point below the optimal amount needed to kill the tumor.

Using current procedures, clinicians typically verify tumor locations on a weekly basis, often using the high-energy treatment beam to generate an image that can be used to make any needed adjustments in patient positioning and treatment plans. Many physicians believe that daily imaging and adjustments would make treatments more precise, especially if these can be done using low-energy diagnostic X rays rather than the high-energy treatment beam. With the treatment beam, says Emory's Fox, "you don't get a high-quality diagnostic image."

Varian's On-Board Imager device solves these problems by using low-energy X rays (about one-sixtieth the energy of the treatment beam) to yield much higher quality images, rapidly and automatically. Clinicians at Emory have now used the device to refine patients' positions for more than 400 radiotherapy treatment sessions for prostate, brain, and central nervous system cancers.

A VERSATILE DEVICE

The On-Board Imager device produces radiographic, fluoroscopic, and cone-beam CT images, providing still shots, X-ray movies of moving tumors, or 3D images that can provide excellent contrast between tumors and the surrounding normal soft tissue. Physicians can choose the optimal imaging technique for each patient's disease characteristics.

So far, the On-Board Imager device has been used primarily to track shifts in tumor locations immediately *before* treatment sessions. In the near future, however, doctors expect to be able to track and adjust for tumor movement *during* treatment sessions, using fluoroscopic imaging in combination with Varian's Real-Time Position Management (RPM™) respiratory gating system. The gating system tracks tumor movement caused by respiration and enables physicians to activate beams at optimal moments in their patients' normal breathing patterns. Because breathing can move tumors as much as two to four centimeters, tracking this motion using fluoroscopic imaging and gating could significantly reduce the margin of healthy tissue exposed to the beam. This could be particularly important in lung or breast cancer treatments (see article on page 9).

The On-Board Imager device is designed to be integrated and synchronized with other Varian hardware and software, including treatment planning and information management systems, all working through a single database to communicate in real time with one another and with treatment devices. Such linking helps automate and expedite imaging and treatment, making IGRT processes fast and practical.

Ingemar Naslund, MD, head of the radiotherapy unit at Karolinska, says his institution will be increasing its use of On-Board Imager devices. "Images are high quality and can be integrated automatically and easily into the treatment process

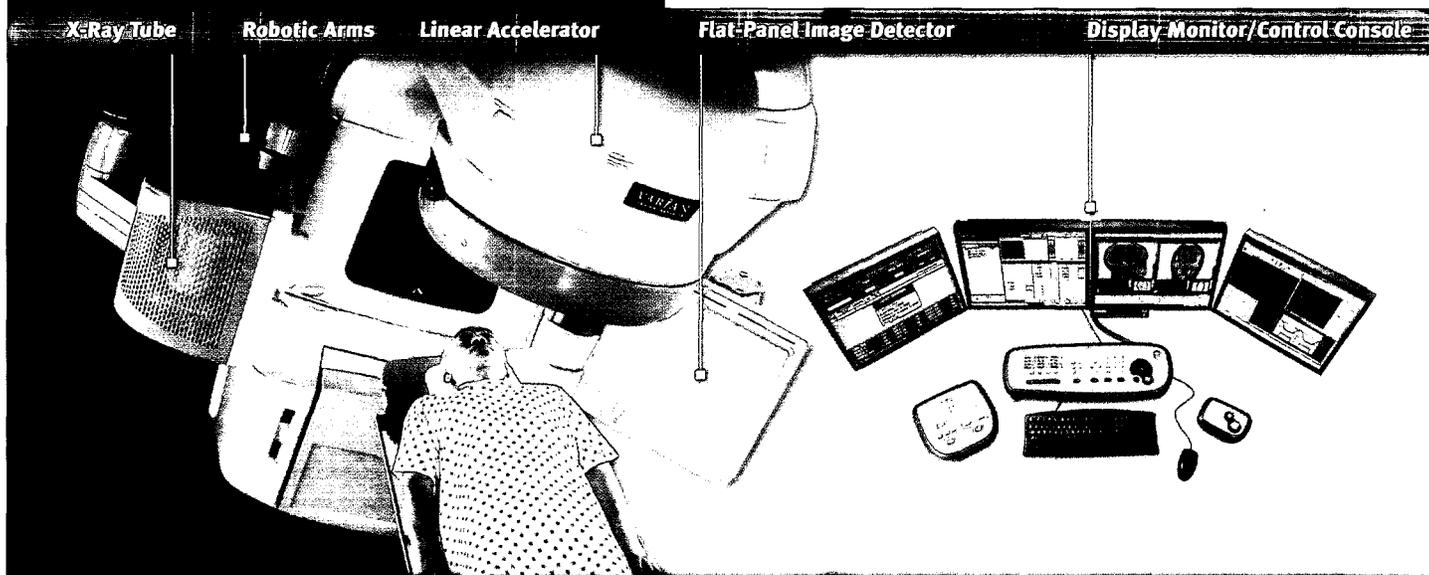
to make the On-Board Imager practical for use in busy radiotherapy units," he says. Naslund is particularly enthusiastic about using fluoroscopic imaging to visualize gold markers implanted in tumors that are subject to respiratory motion.

Doctors and clinicians using the On-Board Imager device say that the amount of additional time required to take daily X-ray images and make positioning changes is not significant: three to five minutes or less in a typical treatment session.

The increased precision afforded by an On-Board Imager device raises the possibility of treating tumors with higher daily doses over shorter periods of time using Varian's new Trilogy™ linear accelerator (see article on page 10). "IGRT will be especially important for ensuring a precision treatment, particularly when we are escalating the dose," says Fang-Fang Yin, PhD, director of medical physics at Duke University Medical Center in Durham, North Carolina. During 2004, Yin was instrumental in implementing IGRT at the Henry Ford Health System.

After receiving the fifth of 25 planned radiation treatments, prostate cancer patient Jan-Olov Carlsson says his experience at Karolinska has been problem free. "To be able to adjust position before beaming the radiation is just great," says Carlsson. "My hope is that it results in fewer side effects. I am happy to get treated with the latest technology, especially when it means that the radiation should hit me exactly where it is supposed to." ○

HOW AN ON-BOARD IMAGER WORKS



Varian's On-Board Imager device for the linear accelerator uses robotic arms that operate along three axes of motion to position an X-ray tube and flat-panel image detector on opposite sides of a patient. The imaging components are positioned with submillimeter accuracy for the best possible imaging angle.

The tube generates low-dose X rays needed for high-quality images. The flat-panel detector captures the X rays and electronically converts them into high-quality, real-time images that are instantly displayed on a monitor. Images from two or more angles are required to precisely locate a tumor position.

Varian software compares real-time images from the On-Board Imager with reference images to determine whether the patient must be moved to align the tumor with the treatment beam. Patients are automatically repositioned at the push of a button on the control console. The entire process takes three to five minutes.

The On-Board Imager can produce radiographic (still), fluoroscopic (moving), or cone-beam CT (3D) images to give clinicians optimal views of the tumor.



Breast cancer survivor Karen Metz
with her doctor, Francine Halberg, MD,
at the Marin Cancer Institute.

RESPIRATORY GATING: TREATING A MOVING TARGET

Lung cancer remains the number one cancer killer, and its five-year survival rate of less than 15 percent has hardly budged over the last 30 years, according to the U.S. National Cancer Institute. But new Varian technology, “respiratory gating,” offers patients and doctors the hope of more aggressive and successful treatments.

Respiratory gating makes it possible to track the position of tumors that move as much as 4 centimeters (more than 1.5 inches) as the patient breathes. Varian’s RPM™ gating system—now in place at more than 300 cancer centers around the world—uses an infrared camera and a special marker placed on the patient’s diaphragm. Breathing can be monitored while taking CT scans for treatment planning as well as during treatment sessions, allowing doctors to pick the best moment in a patient’s breathing cycle to turn on the beam. As a result, the margin of treatment around the tumor can be significantly reduced and the total dose can be increased without fear of harming the surrounding normal tissue.

“Traditionally we used margins of anywhere from 3 to 5 centimeters around a tumor to ensure that we were getting adequate coverage,” says Anthony Berson, MD, chair of the Radiation Oncology Department at St. Vincent’s Comprehensive Cancer Center in New York. With respiratory gating,

the margin has been reduced to 1 to 2 centimeters. “That’s a huge improvement.”

At the same time, the total dose can be increased. “Our initial goal is to increase the dose 10 to 20 percent,” says Berson. “It’s too early to see what the long-term results are, but we expect that as we increase the dose, we should be controlling tumors at a higher rate.”

At the Marin Cancer Institute in Greenbrae, California, Francine Halberg, MD, has been using respiratory gating to treat left-sided breast cancer, where the ability to precisely target a tumor helps avoid irradiating heart tissue and prevent related side effects. Respiratory gating protocols for lung cancer “usually seek to deliver treatment at the point of the patient’s maximum exhalation,” says Halberg. “That’s a very stable point, and very consistent relative to other parts of the breathing cycle. However, for treating breast cancer, we’re looking for the farthest inhalation because that’s when the breast moves furthest from the heart.”

Halberg has treated more than two dozen breast cancer patients with respiratory gating after their tumors were removed by lumpectomy. “We have a very, very low risk of recurrence after radiation therapy to the breast,” she says.

At St. Vincent’s, more than 300 patients have been treated with respiratory gating over the last three years. In addition to lung cancer, Berson and his team have used respiratory gating to treat upper abdominal cancers, including pancreatic, stomach, and liver tumors, which also move as patients breathe. In those cases, Berson says, the large radiation fields required by traditional techniques, combined with chemotherapy, result in high complication rates. “In that situation,” he says, “anything you can do to reduce the size of the field will reduce unwanted complications.”

The significant improvements respiratory gating makes possible can be achieved easily, without disrupting a clinic’s practices. “We are a very busy community hospital, and our throughput is very high,” says Berson. “We see a lot of patients in a day. This is just a normal part of our day.” ◦

STEREOTACTIC RADIO THERAPY

THE NEXT STEP IN PRECISION



Cancer survivor Linda Holland with her treatment team at Emory University (left to right): radiation therapist Tony Webb; chief medical physicist Timothy Fox, PhD; and Ian Crocker, MD.

New stereotactic treatment technologies represent significant progress toward turning cancer into a manageable condition.

Cutting-edge radiation oncology departments are pioneering ultraprecise stereotactic radiation treatment and bringing new hope of eradicating previously unreachable tumors. How? With a new breed of medical linear accelerator, specialized accessories, and techniques adapted from brain radiosurgery. This new dimension in radiation oncology makes it possible to think seriously about transforming cancer from a fatal disease into a manageable condition.

In October 2004, a 56-year-old woman became the first person treated with image-guided radiosurgery using Varian's new Trilogy™ machine, an ultraprecise, high-powered linear accelerator with an On-Board Imager™ accessory. A 10-year survivor of lung cancer, the woman underwent radiosurgery for two small metastases in the brain. The single procedure delivered a cancer-killing radiation beam so powerful and tightly focused that it was called *radiosurgery* instead of radiation therapy. The patient was back at work within two days.

Had she been treated a month earlier, this patient would have received low-dose radiation to her entire brain, with less probability of eradicating the cancer. "Given her favorable long-term outlook, we were committed to delivering a focal high-dose radiation treatment to eliminate the risk of brain injury from radiation treatment to the whole brain," explains Ian Crocker, MD, professor of radiation oncology at the Emory University School of Medicine in Atlanta, Georgia.

Varian's Trilogy machine is the first medical linear accelerator optimized for stereotactic treatments.

The case at Emory is just one of many examples of stereotactic treatments that take advantage of recent advances in imaging, precision beam delivery, treatment planning, and automated patient-positioning technologies.

In standard forms of external beam radiation therapy, the patient receives the radiation dose in small daily increments over a period of weeks. By contrast, stereotactic radiation treatment delivers very high radiation doses in a short course of only a few days—or even a single session. Recent studies have suggested this strategy can be more effective at killing or controlling certain types of cancer.

Delivering higher radiation doses safely, however, requires a higher standard of precision in targeting the beam to the tumor shape and exact location. Varian's Trilogy machine is the first medical linear accelerator optimized for stereotactic treatments.

It has a more tightly focused beam and can deliver doses more than 60 percent faster than conventional accelerators to reduce the effects of tumor motion, shorten treatment times, and enhance patient comfort. It can be equipped with a highly maneuverable On-Board Imager accessory with radiographic, fluoroscopic, and cone-beam CT scanning capability for image-guided patient positioning.

The precision of stereotactic radiotherapy promises exciting new options for patients, enabling radiation treatment at earlier stages when cancer is most curable, making many inoperable tumors treatable, and providing a noninvasive alternative to surgery.



Radiotherapy Control Console

ADVANCED TREATMENT FOR MORE PATIENTS

A young mother is one of 90,000 people worldwide who develop spinal tumors each year. In her case, the location of the tumor near the spinal cord makes surgery and standard external beam radiation treatment too dangerous.

The University of Texas M. D. Anderson Cancer Center in Houston is one of the few treatment centers where doctors offer stereotactic spine radiotherapy using a modified linear accelerator. A CT scanner in the treatment room is used to scan the patients and ensure they are positioned precisely for treatment. "Almost every type of cancer can spread to the spine, so there is a great clinical need for the procedure," explains Eric Chang, MD, director of the Stereotactic Spine Radiotherapy Program. "However, it isn't widely available because it is so complicated to perform."

Varian's Trilogy accelerator, which combines treatment delivery and imaging in a single system, represents a significant step toward making this kind of treatment easier to deliver. "With the CT imaging that is available on Trilogy, we hope to cut treatment time from the two hours it takes today to 30 minutes," says Chang. "This advance may make stereotactic spinal radiotherapy available in more centers."



“Using the Trilogy system, we have the potential to substantially improve cancer treatment outcomes.”

Lawrence Davis, MD, Emory University

INOPERABLE LUNG CANCER IN THE CROSSHAIRS

Surgery can be an effective treatment for early-stage non-small cell lung cancer, which strikes more than a million people worldwide each year. But surgery is out of the question for a dearly loved grandfather because he also has advanced emphysema.

Stereotactic radiotherapy can be an alternative for cancer patients like this man, who has other ailments that preclude surgery. The standard radiation treatment for inoperable lung tumors takes 30 daily sessions. Researchers at the Indiana University School of Medicine theorized that a higher dose delivered over just three sessions might be more effective and less dangerous for frail patients.

According to Robert D. Timmerman, MD, formerly of Indiana University and now at University of Texas Southwestern in Dallas, the Indiana clinical team was able to safely escalate the dose to levels they thought would improve on tumor control rates. Without the benefit of a Trilogy machine or an On-Board Imager device, they managed by immobilizing patients in a stereotactic body frame and using a conventional linear accelerator. A machine like Trilogy, with its On-Board Imager device, would have been extremely helpful, Timmerman says.

“An On-Board Imager accessory allows you to see, on the fly, what you’re aiming at,” he says. “We try hard to be accurate, but there is always uncertainty that the target is where you think it is. On-board imaging adds to your confidence that you are aiming correctly, so you can limit the safety margins. It might allow treatment of a smaller volume.”

Early evidence from Indiana points toward good local tumor control with few side effects. Now a group study based on this work is taking place in the United States at dozens of hospitals and clinics. Timmerman, principal investigator for the study, expects stereotactic radiotherapy techniques to advance quickly with the number of multi-institutional studies under way, including one in Germany on liver metastases and another in Japan on lung tumors.

The Kyoto University Graduate School of Medicine is one of 16 leading institutes in Japan participating in a three-year study involving 165 lung cancer patients. “If this study demonstrates that stereotactic radiation treatment can be a standard of care for inoperable non-small cell lung cancer, it will be good news,” says Yasushi Nagata, MD, PhD, Department of Therapeutic Radiology and Oncology. Because it is noninvasive, stereotactic radiation treatment could eventually become a preferred option for patients with operable tumors as well.

ZEROING IN ON MULTIPLE METASTASES

A woman with non-small cell lung cancer has several metastases in her liver. Three cycles of chemotherapy, the standard treatment, have had little effect.

Patients like this woman are not normally treated with radiation once their cancer spreads, but investigators at the University of Chicago in Illinois are trying something new. They are backing up chemotherapy with pinpoint stereotactic radiotherapy to small metastatic tumors in up to five sites anywhere in the body.

“By treating each small metastatic tumor with a very high dose over a few sessions, we hope to shrink or completely eradicate the tumors,” says Mary Martel, PhD, associate professor of radiation oncology.

With Trilogy, doctors may for the first time have a practical means of routinely treating tiny metastatic lesions where cancer has spread. Using new imaging processes such as PET/CT scans in post-treatment checkups, clinics may be able to detect these lesions and then eradicate them with image-guided stereotactic treatments. Thus, cancer could be turned into a chronic disease managed through a series of checkups and treatments when metastatic lesions reappear.

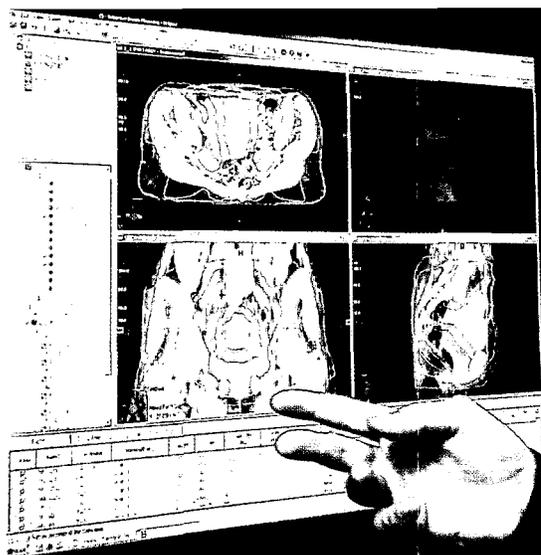
Varian introduced Trilogy at the beginning of 2004 and, by the end of September, had 27 orders for the new machine and several installations—a relatively fast adoption rate for a new technology in radiation oncology. The first Trilogy unit was installed at Emory University. “Using the Trilogy system, we have the potential to substantially improve cancer treatment outcomes,” says Lawrence Davis, MD, chairman of the Department of Radiation Oncology at Emory.

Visionaries see tremendous potential in the combination of new imaging capabilities and more precise tools for radio-surgery. “Imaging technologies are being developed that will eventually give us the same information for diagnosis and treatment that we get from surgical biopsy today,” predicts Emory’s Ian Crocker. “If we could make a diagnosis of lung cancer, for example, based on imaging information alone, we are certainly developing the tools to remove the tumors radiosurgically.”

In the meantime, the promise of stereotactic therapy is beginning to pick up speed. ◦

INTENSITY-MODULATED RADIOTHERAPY

AN UPDATE



Medical physicist **John C. Roeske, PhD**, (left) and **Arno Mundt, MD**, review an IMRT treatment plan at the University of Chicago.

Clinical use of IMRT—an advanced form of radiotherapy—has surged in the last year. With IMRT, doctors are now treating cancers of the head and neck, prostate, lung, breast, gastrointestinal organs, cervix, and uterus as well as pediatric tumors, sarcoma, spinal metastases, and lymphoma.

Arno Mundt, MD, radiation oncologist at the University of Chicago and medical director for radiation oncology at the University of Illinois at Chicago, and his colleague, medical physicist John C. Roeske, PhD, have compiled a comprehensive textbook on IMRT, collecting 30 chapters from 183 contributors at 43 treatment centers in nine countries. Chapters cover the use of IMRT to treat almost every type of solid tumor.

Their book illustrates how far IMRT has come since its introduction in the mid-1990s. "IMRT is coming into its own," says Mundt. "People are using it in more sophisticated ways, radiation oncology residents are being trained, and there's an explosion of literature showing the benefits of IMRT and how it can be applied."

Mundt conducted his first IMRT usage study in 2002, surveying 450 radiation oncologists in the United States. Published in the journal *Cancer*, the study showed that 32 percent of respondents were using IMRT. Most had adopted IMRT during the prior two years and were using it only to treat head-and-neck tumors and prostate cancer.

In 2004, Mundt's team did a follow-up study. This time, 73 percent of the respondents were using IMRT. Of those who were not, 90 percent planned to adopt it within three years. "There was a huge conversion of nonusers into users," says Mundt. "We also surveyed the chief residents at 77 accredited training programs and found that about 85 percent of the nation's residents are being trained to use IMRT. That really sets the stage for the future."

Varian figures echo the survey results. At the end of fiscal year 2003, the number of radiation oncology centers treating patients with Varian's SmartBeam™ IMRT had more than doubled to 472. By September 2004, that number had risen to 866. About half of the roughly 2,600 Varian-equipped sites around the world have the technology needed to deliver IMRT. And nearly 95 percent of the new linear accelerators ordered in 2004 included IMRT capabilities.

At the Princess Royal Hospital in Hull, England, IMRT has become one of the standard treatments for head-and-neck cancers. Chief physicist Andy Beavis, PhD, has also been running a dose escalation trial using IMRT for pancreatic cancers. "It has proven especially beneficial in palliative and other cases where there's no other way to get the necessary dose level to control the tumor," says Beavis. "IMRT is here to stay." ◊

FLAT-PANEL DETECTORS

REVOLUTIONIZING X-RAY IMAGING



Digital X-ray imaging leverages flat-panel receptor technology to transform industries where success hinges on seeing hidden structures quickly, clearly, and cost-effectively.

The patient has suffered a severe stroke. Around him, a team of doctors needs to come up with a treatment plan. Fast. But exactly where is the blood flow problem, and how bad is it? Fortunately this is Osaka City University Hospital, and the interventional room where this drama is playing out happens to be state-of-the-art. Almost anywhere else, the medical team would be shuttling the patient back and forth between imaging systems, even between rooms. Here, an advanced digital angiographic system from Hitachi Medical Corporation with flat-panel imaging technology from Varian Medical Systems quickly generates 3D vascular images that can answer the team's questions—in time to help save the patient's life.

An emerging technology that is rapidly taking hold across a spectrum of applications, Varian's flat-panel detectors (FPDs) are beginning to transform whole industries.

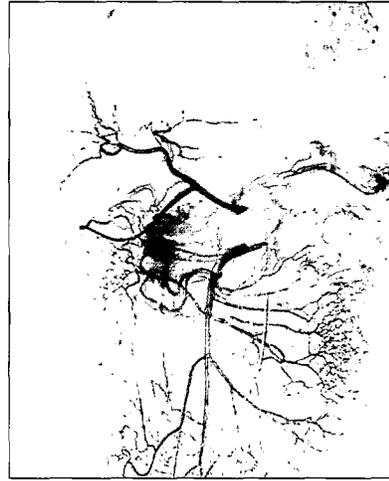
In healthcare, FPD-based systems offer such significant benefits that hospitals without them suffer a competitive disadvantage. In dentistry and veterinary medicine, specialists and service labs using FPD-based digital radiography can offer faster turnaround and better consults to doctors. In other industries, FPDs save so much time in nondestructive testing and inspection that some work would simply never get done without them.

NEW IMAGING OVERTAKES OLD

In the early 1990s Varian partnered with Xerox's Palo Alto Research Center to develop some of the first flat-panel X-ray imaging systems. Based on amorphous silicon technology, these FPDs resemble the LCD screens on computers and flat-screen televisions, but they act as receptors, not emitters. They work by converting X rays striking their surface into electronic data that computers can interpret and instantly display as high-quality digital images.

Varian's PaxScan® FPDs are known for being able to do both fast fluoroscopy (real-time moving images, for positioning and verification) and superior radiography (single-shot, higher resolution images, for diagnosis). In fact, Varian has a technological lead in FPD fluoroscopy, thanks to sophisticated electronics that can process data and display images at rates of up to 60 frames per second—fast enough to let doctors track a moving tumor, observe blood flowing through a kidney, or carefully guide a catheter into a premature infant or a beating heart.

Today Varian is a volume manufacturer of FPDs. Many are incorporated into the advanced cancer treatment systems offered by Varian's own Oncology Systems business, including the On-Board Imager™ and PortalVision™ devices for tracking and targeting tumors accurately, and the Acuity™ imaging



An image generated at Osaka City University Hospital in Japan to assess damage to a patient's pancreatic artery prior to an operation.

system for verifying and simulating radiotherapy treatments. Shipments to external customers also ramped up significantly in 2004, as imaging equipment

manufacturers and integrators capitalized on the versatility and performance advantages of flat-panel imaging.

One of the major advantages of FPDs is their compact size. Devices competing with FPDs, such as image-intensifier tubes (known as "IIs"), are typically much heavier, larger, and more awkward to work around and use. Compared to image intensifiers, FPDs have a longer service life and are able to instantly create distortion-free images that are rectangular, like traditional X-ray films, and highly detailed, even over large regions of interest. In addition, FPDs can significantly reduce the radiation dose to the patient.

DOCTORS CHAMPION MEDICAL APPLICATIONS

Hitachi Medical Corporation, one of Varian's oldest and largest customers in Japan, was one of the first companies in the world to market real-time angiography and gastrointestinal imaging systems using PaxScan FPDs. Last year Hitachi Medical sold more such systems than any other company in Japan. "Almost 80 percent of these replaced older image-intensifier units on C-arm assemblies," says Shigeyuki Ikeda, senior engineer at the Hitachi Research and Development Center. "We think that within a few years all image intensifiers will be replaced by FPDs."

Japanese radiologists using Hitachi Medical systems list several reasons why flat-panel detectors have generated so much enthusiasm. "Patients feel more comfortable with a smaller unit during examinations," explains Gen Iinuma, MD, PhD, a pioneer in digital radiography now at Japan's National Cancer Center in Tokyo. "Also, FPDs make it easier to get close to the patient, which is important."

"Current FPDs provide good image quality with high resolution in a wide latitude," Iinuma adds. "We really like them, not only for these reasons, but also for their square shape, similar to X-ray films."



“Flat-panel detectors make it easier to get close to the patient, which is important. They provide good image quality with high resolution.”

Gen Inuma, MD, PhD, National Cancer Center, Tokyo

The new Varian PaxScan 4030CB flat-panel display is now being designed into some of Hitachi Medical's most advanced diagnostic equipment with advanced cone-beam CT technology. So named because of the cone-like volume of data that can be captured in a single 360-degree rotation around a patient, yielding a three-dimensional image of anatomy, the new systems offer advantages that image-intensifier technologies cannot match.

“CT scans give us three-dimensional views, but in angiography, body parts can get in the way, making it difficult to study the images,” says Saori Tanaka, MD, of Osaka City University Hospital. “It takes a lot of effort to eliminate such things as bones from an image, but it is relatively easy to do with an FPD.”

OTHER APPLICATIONS PROLIFERATE

Besides human medicine, other fields, including dentistry, non-destructive testing, and veterinary medicine, are seizing on the advantages offered by flat-panel digital radiography systems, such as being able to dispense with the time-consuming chemistry, cost, storage, and nuisance of film.

Dental applications. As appearance-conscious baby boomers swell the ranks of senior citizens, dentures are becoming a thing of the past and dental implants are becoming the biggest growth area in dentistry. Imaging Sciences International, Inc., leads this new market with its i-CAT cone-beam CT system for dental scanning and planning of oral surgical procedures. The company reports that, compared to its image intensifier-based competitors, the PaxScan-equipped i-CAT systems are smaller and thus better designed for space-constrained dental offices. Unlike image intensifiers, they don't degrade over time, increasing the dose to patients; they're considerably better at resolving small contrast areas; and their resolution doesn't worsen near image edges.

“The question in dentistry today isn't *do you go digital but how do you go digital,*” says Edward Marandola, Imaging Sciences vice president and general manager. “That's where a flat panel is the answer, and that's where Varian stands out with the best technology, a great R&D group, and the ability to maneuver and change quickly.”

Industrial applications. Hytec, Inc., Varian's largest U.S. industrial distributor of PaxScan products, has different uses for each PaxScan model. “Besides being lightweight and fast, they all have good resolution and durability and long life expectancy,” says David Phillips, general manager of the Hytec Sensors and Imaging Group.

Hytec sells most of its systems to the U.S. government for nondestructive testing and inspection. Applications include inspecting missile components and solid-fuel rocket motors, and performing failure analysis of space shuttle components for NASA. “This inspection work still often uses X-ray film,” Phillips says, “but the government is buying our digital systems because they save time and are much less labor intensive.”

Other applications for Hytec systems include forensic inspection of suspicious objects, concrete and asphalt materials research at Washington State University, and dental appliance manufacturing for Align Technology. For Align Technology, Hytec developed a special FPD-based CT imaging system that

“We think that within a few years all image intensifiers will be replaced by flat-panel detectors.”

Shigeyuki Ikeda, Hitachi Medical Corporation

simplifies manufacturing of the company's popular Invisalign® clear plastic retainers for braceless orthodonture.

Veterinary applications. Digital radiography and picture archival and communications systems (PACS) like those offered by Sound Technologies are transforming the way veterinary offices work. Film-based clinics have to struggle with storing and sharing animal X rays, a big problem, since only 400 or so board-certified radiologists support 54,000 U.S. general-practice veterinarians.

Veterinarians clear the bottleneck with Sound Technologies' turnkey digital radiography solutions. These include PaxScan-equipped TruDR™ radiographic systems for diagnostic imaging, VetPACS™ software for sending images via the Internet, and archiving services. Study images are accessible 24 hours a day, 7 days a week to a select group of board-certified specialists who respond within hours. In 2004, Sound Technologies will do 3,000 to 4,000 studies; in 2005, the company conservatively expects 24,000. Says Kevin Wilson, chairman and CEO, “With their solid technology, R&D, integration, and support, Varian allows us to create great products and bring them to market much faster and more cost-effectively.” ◊

SIX SIGMA: QUALITY INITIATIVES IN X-RAY PRODUCT MANUFACTURING

Mark Jonaitis (left) and Scott Coles are leading Six Sigma programs that are strengthening X-Ray Products manufacturing operations at Varian Medical Systems.

Mark Jonaitis and Scott Coles are evangelists—not for any particular religious perspective, but rather for “Six Sigma,” a rigorous approach to using statistical analysis for improving manufacturing processes. Jonaitis, Coles, and other Six Sigma team members have been working to bring this methodology to all corners of Varian Medical Systems’ Salt Lake City, Utah, X-Ray Products design and manufacturing facility.

“Six Sigma seeks to minimize process variations in order to eliminate manufacturing defects,” explains Jonaitis. “With Six Sigma standards, you want to see fewer than four defects per million. Most factories run somewhere around two or three sigma, which equates to anywhere from 65,000 to 300,000 defects per million. Moving toward Six Sigma pays for itself by saving labor, time, and money, and avoiding customer dissatisfaction.”

HISTORY OF SIX SIGMA

The main idea of Six Sigma is that sustainable process improvements can be achieved by taking a statistical approach to identifying and solving problems. The Six Sigma method was developed by Motorola engineers in the mid-1980s based on statistical concepts from Carl Frederick Gauss (1777–1855) and on work during the 1920s by Walter Shewhart, a Bell Telephone Laboratories engineer who created statistical tools for controlling industrial processes. Six Sigma spread from Motorola to AlliedSignal

(later Honeywell) and, in 1995, to General Electric. Since its inception, hundreds of companies around the world have adopted Six Sigma quality programs.

SIX SIGMA AT VARIAN X-RAY PRODUCTS

“The steps for solving a problem using Six Sigma methods are: Define the problem, take measurements, analyze the data, design process improvements, and put controls in place so the process improvements are sustained,” explains Coles. “It means asking people not to rely on their ‘gut feelings,’ but to make observations, collect data, and base decisions on carefully documented statistical analysis.”

For example: “Gut feelings” turned out to be wrong when a group of engineers was trying to account for some electrical instability showing up in a line of industrial X-ray tubes. Nearly everyone assumed it was caused by a problem with the insulating material. “A Six Sigma study showed us we were wrong,” says Coles. Through factor identification, data collection, and experimentation—important components

of a Six Sigma process—a team discovered the real causes of the problem and devised process improvements that virtually eliminated tube scrap or rework costs. A similar project fixed a brazing process that was resulting in misalignments of metal components about 40 percent of the time. The fix raised the yield to 98 percent.

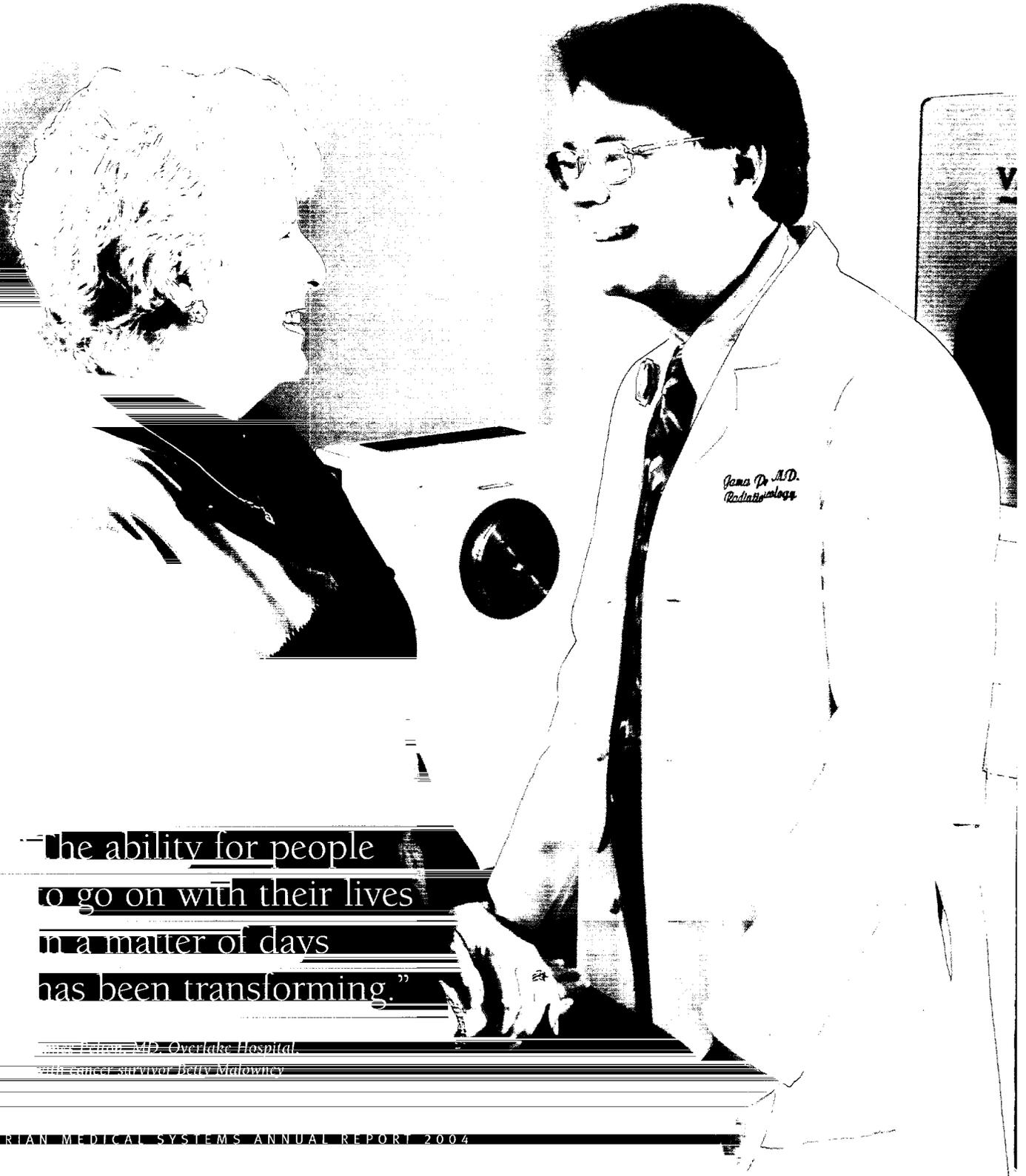
BLACK, GREEN, AND YELLOW BELTS

At Varian, a group of Six Sigma “master black belts” is qualified to train and certify other “black belts.” These project leaders are particularly adept at using statistical analysis to improve manufacturing. They, in turn, have trained 16 “green belts” in how to use Six Sigma to solve specific problems. Finally, as projects result in process improvements, another group—the “yellow belts”—takes over. “Yellow belts ‘own’ the improved processes, and control them into the future,” says Jonaitis. “After the problem solvers walk away, the yellow belts are the ones who maintain the gain” in terms of improved yields, decreased failure rates, or a reduction in the number of units that do not meet quality standards.

“Varian has a reputation for making high-quality, long-lasting X-ray tubes,” says Bob Kluge, president of the X-Ray Products business. “Six Sigma helps us maintain the highest quality in everything we do.” ◊

HIGH-DOSE-RATE BRACHYTHERAPY

GAINING RECOGNITION



"The ability for people
to go on with their lives
in a matter of days
has been transforming."

*James Dr. A.D. Radtke, M.D., Overlake Hospital
with cancer survivor Betty Malowney*

When Betty Malowney was diagnosed with breast cancer eight years ago, she underwent a modified radical mastectomy that required six weeks of recovery from surgery. Last year, a new cancer appeared in her other breast. But this time, says Betty, the difference in her treatment was like “night and day.”

Betty had a far less invasive treatment at Overlake Hospital in Bellevue, Washington, that involved a lumpectomy and five days of outpatient radiation therapy with high-dose-rate (HDR) brachytherapy. The treatment was made possible by a GammaMed® afterloader from Varian Medical Systems and a MammoSite™ device from Proxima Therapeutics. Just one week after treatment, the 57-year-old high school teacher was swimming and boating with friends.

“The ability for people to go on with their lives in a matter of days has been transforming,” says James Pelton, MD, medical director at Overlake Radiation Oncology.

BRINGING THE TREATMENT CLOSER TO THE TUMOR

HDR brachytherapy is a form of radiation therapy that is growing in use around the world, primarily for treating breast, prostate, and gynecological cancers. For many cancers, brachytherapy is a viable alternative to surgery, often with fewer side effects and faster recovery times. In addition, clinicians have found that new, more precise targeting methods

enable them to use brachytherapy to treat areas that would have been considered too risky a few years ago, such as within the lung or the head and neck.

The process consists of inserting a radioactive source mounted on the end of a wire into the tumor through a catheter, using a computer-driven device called an “afterloader.” Placement is guided with the help of X-ray images and treatment planning software. The radioactive source is generally left in place for several minutes and then removed.

“HDR brachytherapy systems use very small catheters, meaning they can be placed virtually anywhere in the body,” says Peter Hoskin, MD, consultant clinical oncologist and professor, Mount Vernon Hospital in Northwood, England. “It allows us to give a very high dose of radiation to the target, while the surrounding area receives a very low dose.”

“We have a fully integrated suite of brachytherapy products in one treatment room,” says Rose Guerrero, oncology service

line director at Overlake Hospital. Clinicians use Varian’s Acuity™ imaging system to see the patient’s anatomy and guide the placement of catheters and radiation sources.

GUIDING TREATMENTS WITH CONE-BEAM CT

At the Texas Cancer Clinic, Bradley R. Prestidge, MD, medical director, is pioneering the use of Acuity-generated cone-beam CT images, which show anatomy in three dimensions, to guide his HDR brachytherapy procedures. He can place catheters, acquire images for treatment planning, and deliver a treatment in as little as 30 minutes, without leaving the operating room.

“We’ve used cone-beam CT so far for breast cancer, gynecological cancer, and prostate cancer,” says Prestidge. “It’s very convenient—a matter of imaging for a minute and waiting 30 seconds for the software to reconstruct the three-dimensional image that we use to guide the treatment. That’s a 90-second process, so it doesn’t add significantly to time spent in the operating room.” At most treatment centers, patients must be sent out of the room for CT imaging after completion of the procedure, too late for any necessary adjustments.

With imaging capabilities and Varian’s BrachyVision™ software in the operating room, doctors can see the effect of each placement on dose distribution and adjust placements as they work to make the treatment more precise.

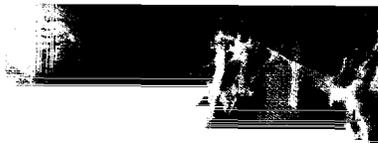
FOCUSING ON QUALITY OF LIFE

After being diagnosed with prostate cancer, Werner Thiele’s big concern was maintaining his quality of life. Repeatedly he was told his only option was surgery that would likely leave him impotent and/or incontinent. A successful risk manager and security consultant, Werner explored his options. He found what he was looking for at University Hospital Schleswig-Holstein in Kiel, Germany. Now, four years after brachytherapy, Werner says he lives a normal, active life.

Doctors at the University Hospital Schleswig-Holstein have performed about 1,800 brachytherapy treatments using Varian devices. They specialize in an approach called intensity-modulated brachytherapy (IMBT).

According to György Kovács, MD, PhD, professor and vice chairman of the Clinic for Radiotherapy and head of the Interdisciplinary Brachytherapy Centre at University Hospital Schleswig-Holstein, IMBT places sources at different spots within a catheter to achieve more precise dose distribution. This carefully planned approach enabled him to save the eye of a young woman with a sinus tumor. “The standard surgical therapy would have involved removal of the eye,” he says. “Today, eight years later, this woman has no tumor and no disturbance in her vision.”

Brachytherapy solutions from Varian Medical Systems are used in 1,825 treatment centers worldwide. Used alone or with external beam therapy, brachytherapy is offering new hope for patients and gaining recognition as a viable and highly targeted approach to treating many types of cancer. ○



A 3D image from Varian’s BrachyVision™ treatment planning software shows the dose distribution for a breast cancer case.

CARGO SCREENING

ACCELERATING PORT SECURITY

“Whereas we used to check only 6,000 containers a year, we can do at least 70,000 a year using X-ray scanning. We couldn't do this successfully without the very best technology.”

Kees Blankers, Netherlands Customs Agency

Millions of cargo containers are sailed annually into port cities, keeping commerce alive. Until recently, few of us gave any thought to what might be lurking inside one of them. Now we see these containers as possible transport vessels for terrorism. Fortunately, there's an effective way to check container contents and screen for weapons or contraband quickly and safely. It's a technology that is already at work in ports on every continent.

Africa is one of those continents. Imagine a senior customs official at a busy port on Africa's west coast. He opts to check a suspicious container entering from overseas. The container is loaded onto a truck and driven through a mobile scanner that utilizes high-energy X rays to inspect the contents. The container is packed with goods that have not been declared to the authorities. It could just as easily have carried illegal substances, or even weapons of mass destruction.

For customs regulators, this is all in a day's work—work that has been made more efficient using cargo screening systems that incorporate high-energy Linatron® linear accelerators from Varian Medical Systems. These machines shoot a powerful beam through a container at a detector array, which turns the X rays into detailed images that can be viewed on a computer monitor. Such high-energy scanning systems are becoming more common at ports and airports around the world.

Susan Massihzadeh, vice president of programs with Massachusetts-based L-3 Security Detection Systems, says cargo screening is really taking off. "We see it as our largest growth area," she says.

SAVING TIME, REDUCING RISK

In the Netherlands, "We now use X-ray technology to do a first analysis based on images," says Kaees Blankers, senior policy adviser with the Netherlands Customs Agency. "Previously, it was always done manually. In Rotterdam, we have to deal with 5.5 million containers a year. To take physical control of a container takes at least five hours. A scan will give you an image of the container's contents within four minutes. Whereas we used to check only 6,000 containers a year, we can do at least 70,000 a year using X-ray scanning. We couldn't do this successfully without the very best technology."

To date, Varian has supplied more than 100 accelerators to cargo screening system manufacturers, including L-3, ARACOR, Rapiscan, Smiths-Heimann, and BIR. These companies provide either fixed facilities or mobile units. Altogether, customs officials at more than 50 ports around the world are using Linatron-based systems to screen containers.

In Africa, Smiths-Heimann's customer Cotecna has implemented both fixed and mobile scanners in busy ports like Tema (Ghana), Dar es Salaam (Tanzania), Dakar (Senegal), and Lome (Togo). In Ghana, up to 1,500 containers are now routinely scanned each month.



Technicians review a high-energy X-ray image showing the contents of a cargo container on a truck.

"Before Ghana Customs had this, goods were being physically examined in the port, a process taking days to complete," says local scanner manager Ernest Woka. "Now it takes just minutes to do the scanning, and the whole clearance process can be completed in an hour or two."

According to Mike Peter Bakufan, senior customs official at Tema, the new scanner is an extremely effective way of counteracting smuggling, increasing revenue, and saving both labor and time. "With the scanner, a global view of the container's contents is ascertained in seconds," he says.

MEETING A GROWING NEED FOR CARGO SCREENING

For L-3, where the largest growth area is the Middle East, Susan Massihzadeh says the company's cargo screening systems must meet strict requirements for reliability, image quality, and service. "Reliable performance is critical because these devices are often deployed in very remote sites and you don't want to keep having to send service people out to resolve problems," she says, adding that Varian's performance in these areas is "absolutely world class."

Bob Armistead, president of ARACOR, says high-energy accelerators are core to the company's security systems business. ARACOR has installed its Eagle mobile cargo inspection system at ports in Miami, Florida; Savannah, Georgia; and El Paso, Texas, and has systems in transit to Baltimore, Maryland, and Kingston, Jamaica. "We consider the Linatron-M accelerator to be a fundamental building block in our security solution," he says.

Kevin Igielski, general manager of Chicago-based BIR's Security Systems Division, says Japan is the key area for his company, with nine Linatron-based scanners installed in Tokyo, Osaka, Kobe, Ngoya, and Yokohama. BIR is expecting to install up to three systems a year in the region for the next three to six years.

"The Japanese have been very aggressive in spending money on technology to build the infrastructure to comply with regulations and make their borders safe," says Igielski. ◊

ONCOLOGY SYSTEMS 2004 HIGHLIGHTS

Varian Oncology Systems is the leading supplier of radiotherapy systems for treating cancer. Its products include linear accelerators, simulators, and the broadest range of accessories and interconnected software tools for planning, verifying, and delivering the most sophisticated radiation and radiosurgical treatments available to patients. During fiscal year 2004, the business unit also supplied linear accelerators and components for nondestructive testing, industrial inspection, and cargo screening.

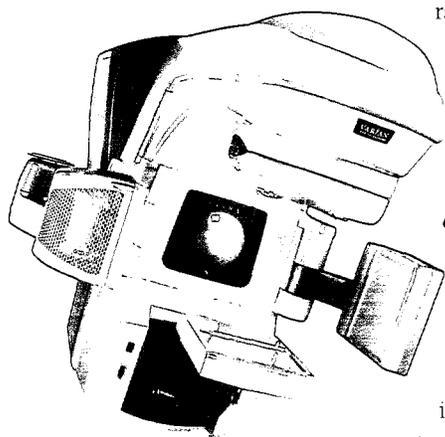
Record orders, revenues, and profits. Annual net orders increased 20 percent to \$1.2 billion, while revenues increased by 20 percent to \$1 billion.

The world's first clinically practical, automated On-Board Imager™ device and supporting software for medical linear accelerators. This accessory enables clinicians to track and adjust for normal tumor movements using smaller, more accurately targeted beams. The On-Board Imager accessory's capabilities were expanded during the year to encompass radiographic, fluoroscopic, and cone-beam CT imaging modes. Customers placed more than 80 orders for the new imaging device.

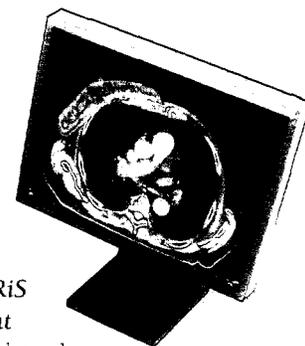
Introduction of the Trilogy™ linear accelerator, a multipurpose platform for conventional and advanced radiotherapy and for radiosurgery. The introduction marked Varian's entry into

radiosurgery. Customers placed 27 orders for Trilogy units in the product's first nine months on the market.

The iX Series of Clinac® accelerators. This product provides a more compact control system, built-in imaging electronics, and a modular design, allowing easy upgrades for implementing modern treatment processes.



Two new dose-calculation algorithms enhancing treatment planning software. The electron Monte Carlo algorithm calculates doses for treating superficial tumors with electrons. The AAA algorithm generates plans for treating tumors in heterogeneous tissues of differing densities.



New clinical management tools for VARiS Vision™ radiation oncology management software. This product provides a complete electronic health record that can facilitate the adoption of a paperless and filmless environment at treatment centers.

New cone-beam CT 3D imaging capabilities on the Acuity™ planning, simulation, and verification device.

The acquisition of OpTx® assets. The OpTx medical oncology management software complements the VARiS Vision information system to create a full-featured information system for comprehensive cancer clinics.

The acquisition of Zmed®. Zmed products add ultrasonic positioning capabilities for IGRT and planning technologies for radiosurgery.

The acquisition of Mitsubishi Electric Corporation's linear accelerator sales and service business in Japan. Varian is now servicing an additional 400 linear accelerators in Japan and other parts of Asia.

ONCOLOGY SYSTEMS

(Dollars in millions)

	04	03	02
Net orders	\$1,170	\$977	\$825
Revenues	\$1,031	\$856	\$725
Operating earnings	\$250	\$200	\$159
Operating earnings as a percentage of revenues	24.2%	23.4%	22.0%
Backlog	\$911	\$771	\$650
Capital expenditures	\$16	\$8	\$14
Depreciation and amortization	\$13	\$8	\$8

**ONCOLOGY SYSTEMS
PRODUCTS AND SERVICES**

Oncology systems

Clinac® and Trilogy™ medical linear accelerators

On-Board Imager™ accessories

Millennium™ multileaf collimators (MLCs)

Exact™ treatment couches

Acuity™ treatment planning, simulation, and verification imagers

Eclipse™/Helios™, FastPlan™, ImMerge®, and GrassFire™ treatment planning software

PortalVision™ digital imaging devices

VARiS Vision™ radiation oncology clinical data and image management software

RPM™ respiratory gating systems

Z-Scan™ image management and viewing software

Linac Scalpel™ stereotactic radiosurgery planning and positioning accessories

SonArray® ultrasound patient positioning platforms

Customer service, educational programs, and product support

Industrial inspection and security systems

Linatron® linear accelerators

FACILITIES

Ashland, Massachusetts

Baden, Switzerland

Buc, France

Crawley, England

Helsinki, Finland

Las Vegas, Nevada

Milpitas, California

Palo Alto, California (headquarters)

Tokyo, Japan

Winnipeg, Canada

Zug, Switzerland

BRACHYTHERAPY 2004 HIGHLIGHTS

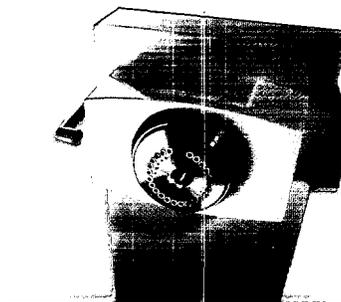
Varian's BrachyTherapy operation supplies products for treating cancer from the inside out by placing small radiation sources within tumors or into the area where a tumor has been surgically removed.

Record orders, revenues, and profits.

Annual net orders increased 31 percent to \$43 million, while revenues increased by 21 percent to \$37 million.

Two new applicators for specialized delivery of high-dose-rate brachytherapy. These enhance treatment of uterine and cervical cancer, and early-stage breast cancer.

The MammoSource™ afterloader. A single-channel device for accelerated partial-breast brachytherapy was introduced.



Three image-guided brachytherapy suites using Varian's Acuity™ simulator. Shared use of planning and verification devices such as Acuity enhance cooperation among medical specialties.

**BRACHYTHERAPY
PRODUCTS AND SERVICES**

VariSource™, GammaMedPlus™, and MammoSource™ high-dose-rate brachytherapy delivery systems

VariSeed™ brachytherapy treatment planning software for prostate seed implants

BrachyVision™ treatment planning software for high- and low-dose-rate brachytherapy

FACILITIES

Charlottesville, Virginia

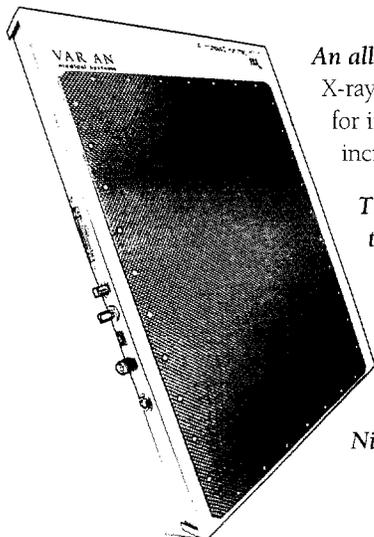
Crawley, England

Haan, Germany

Mountain View, California (headquarters)

X-RAY PRODUCTS 2004 HIGHLIGHTS

Varian X-Ray Products is the world's premier independent supplier of X-ray tubes and flat-panel detectors, providing imaging equipment for medical diagnostics, industrial inspection, and security.

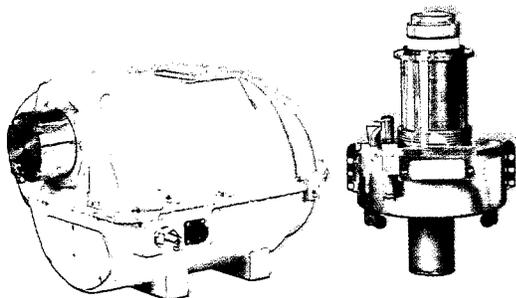


An all-time revenue high of \$165 million. Revenues for X-ray tubes increased 4 percent to \$150 million. Revenues for imaging products (flat-panel X-ray image detectors) increased from \$8.6 million to \$15.2 million.

The first-ever full-year profit of \$1 million for the flat-panel image detector product line.

Inclusion of Varian's flat-panel X-ray image detector in several OEM products. A major equipment manufacturer began shipping cardiac imaging panels incorporating this technology.

Nine new X-ray tubes.



X-RAY PRODUCTS AND SERVICES

X-ray tubes for:

CT scanners

Radiographic and fluoroscopic imaging

Mammography

Angiographic imaging

Scientific instrumentation

Airport baggage screening systems and nondestructive testing

PaxScan® flat-panel image detectors for:

Industrial inspection

Medical diagnostic subsystems

FACILITIES

Charleston, South Carolina

Salt Lake City, Utah (headquarters)

Willich, Germany

X-RAY PRODUCTS

(Dollars in millions)

	04	03	02
Net orders	\$184	\$142	\$123
Revenues	\$165	\$153	\$122
Operating earnings	\$31	\$29	\$12
Operating earnings as a percentage of revenues	18.8%	18.7%	10.2%
Backlog	\$44	\$25	\$36
Capital expenditures	\$3	\$3	\$4
Depreciation and amortization	\$7	\$7	\$7

THE GINZTON TECHNOLOGY CENTER

PUSHING THE TECHNOLOGICAL ENVELOPE

Digital X-ray imagers. Prostate targeting using implanted, radiopaque marker seeds. Volumetric cone-beam CT (3D) and respiration-synchronized (4D) imaging and treatment. These are some of the challenging problems that scientists at Varian's Ginzton Technology Center (GTC) have tackled recently. The results of their work turn up in new product offerings from Varian Medical Systems.

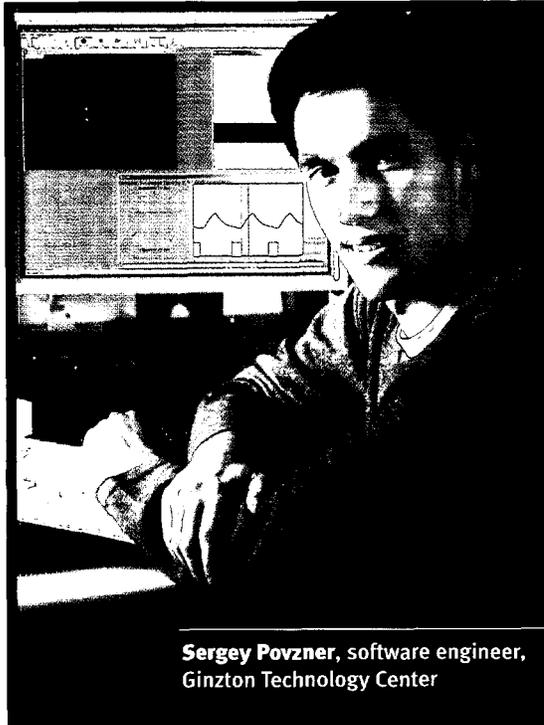
Varian's GTC research and development organization serves as the company's incubator for new or so-called "disruptive" technologies that can create significantly enhanced capabilities for Varian's customers.

"We work to create growth opportunities for Varian Medical Systems by developing technologies that eclipse current capabilities in radiation therapy and X-ray imaging or that lead to entirely new businesses," says George Zdasiuk, PhD, vice president and chief technology officer at Varian and director of the GTC. "A disruptive technology is a new, more cost-effective way of accomplishing something."

TURNING RESEARCH INTO REALITY

Headquartered in Mountain View, California, with a staff of about 45, the GTC has existed since the 1960s when it was known as Varian's Central Research Department. The organization's mission is to explore new scientific frontiers and push the technological envelope in search of answers to the question: *What's next?*

"One of our main jobs is to take as much risk as possible out of a new technology," Zdasiuk says. "We work with Varian's marketing and engineering teams and their customers to investigate a promising idea and assess whether it one day will result in a meaningful product or service."



Sergey Povzner, software engineer,
Ginzton Technology Center

"We create growth opportunities by developing technologies that eclipse current capabilities."

George Zdasiuk, PhD, Ginzton Technology Center

Probably the best example of a seedling technology that GTC researchers helped nurture into a commercial product is the flat-panel X-ray image detector. "We partnered with Xerox PARC researchers in the early 1990s to develop the early prototypes," Zdasiuk says. "Working with Varian's engineering department, we were able to incorporate this technology into the world's first FDA-cleared amorphous-silicon-based portal imaging product." Today, Varian's flat-panel imagers have been incorporated into a wide spectrum of products (see story on page 14).

GTC scientists have also been instrumental in the development of cone-beam computed tomography (CT), which can create three-dimensional images of tumors and surrounding healthy anatomy. Cone-beam CT technology has now been incorporated into Varian's Acuity™ simulator and also the On-Board Imager™ accessory to the Clinac® and Trilogy™ accelerators, ushering in a new age of image-guided radiation therapy (see story on page 6).

WORKING ON WHAT'S NEXT

GTC researchers helped develop the RPM™ respiratory gating system (see story on page 9). As part of the next

step in Varian's initiative for image-guided radiation therapy, GTC researchers are now working to develop a new generation of motion-tracking tools using X rays to monitor tumor movements in real time.

The GTC is also engaged in a research effort encompassing the use of radiation-activated chemical agents that can enhance radiotherapy outcomes as well as the use of radiation to enhance therapies involving genes or cancer-killing chemical agents.

"Right now, we're focused on tracking soft tissue and dealing with anatomical distortion. And we hope to improve targeting further using biochemical markers and functional images that show where the cancer really is located," Zdasiuk says. "An important role for GTC is to develop the technology that will analyze images and extract information that oncologists can act upon." ○

Consolidated Statement of Earnings

(In thousands, except per-share amounts)

	FISCAL YEARS		
	2004	2003	2002
Revenues			
Product	\$1,058,702	\$907,668	\$756,657
Service contracts and other	176,821	133,889	116,435
Total revenues	1,235,523	1,041,557	873,092
Cost of revenues			
Product	605,473	530,457	451,271
Service contracts and other	112,565	89,194	82,506
Total cost of revenues	718,038	619,651	533,777
Gross margin	517,485	421,906	339,315
Operating expenses			
Research and development	72,106	59,176	48,442
Selling, general and administrative	189,378	164,380	146,088
Reorganization income	-	-	(192)
Total operating expenses	261,484	223,556	194,338
Operating earnings	256,001	198,350	144,977
Interest income	5,970	7,401	5,768
Interest expense	(4,668)	(4,383)	(4,486)
Earnings from operations before taxes	257,303	201,368	146,259
Taxes on earnings	90,060	70,480	52,650
Net earnings	\$167,243	\$130,888	\$93,609
Net earnings per share: Basic ⁽¹⁾	\$1.23	\$0.96	\$0.69
Net earnings per share: Diluted ⁽¹⁾	\$1.18	\$0.92	\$0.67
Shares used in the calculation of net earnings per share ⁽¹⁾			
Weighted average shares outstanding: Basic	136,036	136,113	135,327
Weighted average shares outstanding: Diluted	142,215	142,153	140,477

(1) The results for fiscal years 2003 and 2002 have been restated for the two-for-one stock split (effected in the form of a 100% stock dividend) paid on July 30, 2004.

Consolidated Balance Sheets

(In thousands, except par values)

	FISCAL YEAR END	
	2004	2003 ⁽²⁾
Assets		
Current assets		
Cash and cash equivalents	\$239,470	\$210,448
Short-term marketable securities	112,478	112,128
Accounts receivable, net	288,663	252,265
Inventories	127,701	116,815
Prepaid expenses and other	29,454	26,143
Deferred tax assets	87,370	87,725
Total current assets	885,136	805,524
Property, plant and equipment, net	85,377	81,172
Long-term marketable securities	40,970	84,820
Goodwill	112,653	59,979
Other assets	46,056	21,992
Total assets	\$1,170,192	\$1,053,487
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable	\$59,639	\$53,231
Accrued expenses	255,519	234,344
Current maturities of long-term debt	5,250	-
Product warranty	40,654	36,040
Advance payments from customers	100,277	85,801
Total current liabilities	461,339	409,416
Long-term accrued expenses and other	41,889	21,895
Long-term debt	53,250	58,500
Total liabilities	556,478	489,811
Commitments and contingencies		
Stockholders' equity		
Preferred stock of \$1 par value: 1,000 shares authorized; none issued and outstanding	-	-
Common stock of \$1 par value: 189,000 shares authorized; 134,045 and 135,942 shares issued and outstanding at October 1, 2004, and at September 26, 2003, respectively ⁽¹⁾	134,045	135,942
Capital in excess of par value ⁽¹⁾	133,985	91,568
Deferred stock compensation	(1,110)	(2,281)
Retained earnings	346,794	341,863
Accumulated other comprehensive loss	-	(3,416)
Total stockholders' equity	613,714	563,676
Total liabilities and stockholders' equity	\$1,170,192	\$1,053,487

(1) The consolidated balance sheets as of October 1, 2004, and September 26, 2003, reflect the two-for-one stock split (effected in the form of a 100 percent stock dividend) paid on July 30, 2004.

(2) Certain reclassifications have been made to the prior-period consolidated financial statements to conform to the current-period presentation. These reclassifications have no impact on previously reported net earnings.

Consolidated Statement of Cash Flows

(In thousands)

FISCAL YEARS

	2004	2003	2002
Cash flows from operating activities			
Net earnings	\$167,243	\$130,888	\$93,609
Adjustments to reconcile net earnings to net cash provided by operating activities			
Tax benefits from employee stock option exercises	33,916	28,142	17,403
Depreciation	20,751	19,482	19,090
Provision for doubtful accounts receivable	805	2,160	1,539
Loss on disposal of property, plant and equipment	179	44	237
Amortization of intangibles	4,372	832	759
Amortization of premium/discount on marketable securities, net	795	1,359	546
Amortization of deferred stock compensation	1,171	1,055	1,057
Deferred taxes	8,519	(9,071)	(15,681)
Net change in fair value of derivatives and underlying commitments	1,907	(10,172)	138
Noncash stock-based compensation	–	119	–
Other	496	(235)	(460)
Changes in assets and liabilities			
Accounts receivable	(25,267)	(110)	(2,179)
Inventories	(8,705)	7,141	(10,172)
Prepaid expenses and other current assets	(6,530)	2,042	(4,592)
Accounts payable	4,122	(857)	(257)
Accrued expenses	15,666	31,483	35,845
Product warranty	4,256	4,912	7,154
Advance payments from customers	12,964	2,657	13,997
Long-term accrued expenses and other liabilities	(2,750)	(2,072)	(1,996)
Net cash provided by operating activities	233,910	209,799	156,037
Cash flows from investing activities			
Purchases of marketable securities	(77,960)	(110,708)	(139,110)
Proceeds from maturities of marketable securities	120,665	50,965	–
Purchases of property, plant and equipment	(24,218)	(18,888)	(25,907)
Proceeds from disposal of property, plant and equipment	311	189	437
Purchase of businesses, net of cash acquired	(71,770)	(135)	(14,086)
Increase in cash surrender value of life insurance	(6,002)	(5,166)	(2,799)
Other, net	(976)	(378)	(385)
Net cash used in investing activities	(59,950)	(84,121)	(181,850)
Cash flows from financing activities			
Repurchase of common stock	(201,807)	(105,099)	(55,092)
Proceeds from issuance of common stock to employees	46,099	36,654	23,960
Proceeds from sale of mandatorily redeemable financial instrument	13,457	–	–
Net repayments on short-term obligations	–	(58)	(116)
Net cash used in financing activities	(142,251)	(68,503)	(31,248)
Effects of exchange rate changes on cash and cash equivalents	(2,687)	(7,012)	(1,615)
Net increase (decrease) in cash and cash equivalents	29,022	50,163	(58,676)
Cash and cash equivalents at beginning of fiscal year	210,448	160,285	218,961
Cash and cash equivalents at end of fiscal year	\$239,470	\$210,448	\$160,285

Management and Directors

MANAGEMENT

Richard M. Levy, PhD ^{(1) (2)}
Chairman of the Board,
President and CEO

Elisha W. Finney ^{(1) (2)}
Vice President, Finance
Chief Financial Officer

Timothy E. Guertin ^{(1) (2)}
Executive Vice President
President, Oncology Systems

Robert H. Kluge ^{(1) (2)}
Vice President,
President, X-Ray Products

Franco N. Palomba ⁽²⁾
Vice President,
Corporate Treasurer

Joseph B. Phair ^{(1) (2)}
Vice President, Administration
General Counsel and Secretary

Crisanto C. Raimundo ^{(1) (2)}
Vice President,
Corporate Controller

Wendy S. Reitherman
Vice President,
Human Resources

John Anderson Thorson II
Vice President,
Business Development

George A. Zdasiuk, PhD ⁽²⁾
Vice President,
Ginzton Technology Center
and Chief Technology Officer

BOARD OF DIRECTORS

Susan L. Bostrom
Senior Vice President,
Internet Business Solutions Group
and Worldwide Government Affairs,
Cisco Systems, Inc.

John Seely Brown, PhD
Former Chief Scientist,
Xerox Corporation
Director Emeritus,
Xerox PARC

R. Andrew Eckert
Chief Executive Officer,
SumTotal Systems, Inc.

Samuel Hellman, MD
A.N. Pritzker Distinguished
Service Professor,
Department of Radiation
and Cellular Oncology,
University of Chicago

Richard M. Levy, PhD
Chairman of the Board,
President and CEO,
Varian Medical Systems, Inc.

Allen S. Lichter, MD
Dean and Professor of
Radiation Oncology,
University of Michigan
Medical School

David W. Martin, Jr., MD
Lead Director,
Varian Medical Systems, Inc.

Ruediger Naumann-Etienne, PhD
Owner and Managing Director,
Intertec Group

STOCKHOLDER INFORMATION

WORLD HEADQUARTERS

Varian Medical Systems, Inc.
3100 Hansen Way
Palo Alto, CA 94304-1038
650.493.4000

STOCKHOLDER RELATIONS

Copies of Varian Medical Systems' Annual Report on Form 10-K filed with the Securities and Exchange Commission and other current financial information are available without charge by contacting: Investor Relations
Varian Medical Systems, Inc.
3100 Hansen Way, M/S E-210
Palo Alto, CA 94304-1038

To obtain information over the Internet, visit www.varian.com/investor.

LISTINGS

Varian Medical Systems' common stock is listed on the New York and Pacific Stock Exchanges. The symbol is VAR.

TRANSFER AGENT AND REGISTRAR

EquiServe Trust Company, N.A.
PO Box 43069
Providence, RI 02940-3069
1.800.756.8200
Hearing impaired: 1.800.952.9245
www.equiserve.com

STOCKHOLDERS' MEETING

The annual meeting of stockholders will be held at 1:00 p.m. PT on February 17, 2005, at the Sheraton Palo Alto, 625 El Camino Real, Palo Alto, California.

STOCKHOLDERS OF RECORD

There were 3,969 stockholders of record of the company's common stock on October 1, 2004.

(1) Executive Officers

(2) Corporate Officers

COMPANY

[Investor Relations](#)
[Company Information](#)
[Community Citizenship](#)
[Careers](#)

CANCER PATIENTS

ONCOLOGY SYSTEMS

X-RAY PRODUCTS

SECURITY & INSPECTION

RESEARCH

VARIANO4



2004 ANNUAL REPORT

12.01.2004 | 1:04 PM | 42.68 +0.60 (+1.4%) *Minimum 20 minutes delayed*



Corporate profile

Varian Medical Systems, Inc. Palo Alto, California, is the manufacturer of radiotherapy systems treating thousands of patients.

The company is also a manufacturer of linear accelerators, tubes and flat-panel detectors in medical, scientific, and industrial markets. Varian Medical Systems employs over 10,000 people at some 40 sites worldwide. In its most recent fiscal year, Varian Medical Systems reported record earnings.

Investor news

Varian Medical Systems Reports Record Earnings

Strong demand for new radiation therapy products led to another year of record earnings, sales, net orders, and year-ending backlog for Varian Medical Systems (NYSE: VAR) in fiscal year 2004.

Varian Medical Systems Announces Acquisition of Zmed

Varian Medical Systems announced it has announced the acquisition of Zmed, a leading manufacturer of radiation oncology systems, including ultrasound-based, image-guided (IGRT), stereotactic

You're invested in us.
We're invested in you.

Whether you're managing a client's portfolio or your own, Varian Medical Systems is committed to keeping you informed. Visit www.varian.com/investor for the latest shareholder news, stock prices, and more.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended October 1, 2004

OR

- TRANSITION REPORTING 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
(State or other jurisdiction of
Incorporation or Organization)

94-2359345
(I.R.S. Employer
Identification Number)

3100 Hansen Way,
Palo Alto, California
(Address of principal executive offices)

94304-1030
(Zip Code)

(650) 493-4000

(Registrant's telephone number, including area code)

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

<u>Title of each class</u>	<u>Name of each exchange on which registered</u>
Common Stock, \$1 par value	New York Stock Exchange/Pacific Exchange
Preferred Stock Purchase Rights	New York Stock Exchange/Pacific Exchange

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

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 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 an accelerated filer (as defined in Rule 12b-2 of the Exchange Act). Yes No

As of April 2, 2004, the last business day of Registrant's most recently completed second fiscal quarter, the aggregate market value of shares of Registrant's Common Stock held by non-affiliates of Registrant (based upon the closing sale price of such shares on the New York Stock Exchange on April 2, 2004) was approximately \$5,328,914,878. Shares of Registrant's common stock held by the Registrant's executive officers and directors and by each entity that owns 5% 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 December 1, 2004, the number of shares of the Registrant's common stock outstanding was 134,020,370.

DOCUMENTS INCORPORATED BY REFERENCE

Definitive Proxy Statement for the Company's 2005 Annual Meeting of Stockholders—Part III of this Form 10-K

www.varian.com (NYSE: VAR)

TABLE OF CONTENTS

		Page
PART I		
Item 1.	Business	5
Item 2.	Properties	20
Item 3.	Legal Proceedings	21
Item 4.	Submission of Matters to a Vote of Security Holders	21
PART II		
Item 5.	Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Securities	23
Item 6.	Selected Consolidated Financial Data	24
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	26
Item 7A.	Quantitative and Qualitative Disclosure About Market Risk	59
Item 8.	Financial Statements and Supplementary Data	62
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	101
Item 9A.	Controls and Procedures	101
Item 9B.	Other Information	101
PART III		
Item 10.	Directors and Executive Officers of the Registrant	102
Item 11.	Executive Compensation	102
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	103
Item 13.	Certain Relationships and Related Transactions	103
Item 14.	Principal Accountant Fees and Services	103
PART IV		
Item 15.	Exhibits and Financial Statement Schedules	104

FORWARD-LOOKING STATEMENTS

In addition to historical information, this Annual Report on Form 10-K 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. (“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 below and elsewhere in this Annual Report on Form 10-K, including under “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Factors Affecting Our Business”, and from time to time in our other filings with the Securities and Exchange Commission. For this purpose, statements concerning industry or market segment outlook; market acceptance of or transition to new products or technology such as Intensity Modulated Radiation Therapy, or IMRT, Image Guided Radiotherapy, or IGRT, brachytherapy, software, treatment techniques, and advanced X-ray products; growth drivers; orders, revenues, backlog or earnings growth; future financial results and any statements using the terms “believe,” “expect,” “expectation,” “anticipate,” “can,” “should,” “will,” “would,” “could,” “estimate,” “appear,” “based on,” “may,” “pending,” “intended,” “potential,” “promise,” “predict” and “possible” or similar statements are forward-looking statements that involve risks and uncertainties that could cause our actual results and the outcome and timing of certain events to differ materially from those projected or management’s current expectations. Such risks and uncertainties include:

- our ability to anticipate and keep pace with changes in the marketplace and technological innovation;
- our ability to successfully develop and commercialize new products and new product enhancements, and to gain healthcare market acceptance and demand for our new products and treatment procedures, which may be affected by among other things, the budgeting cycles of hospitals and clinics for equipment purchases which frequently fix budgets one or more years in advance;
- economic, political and other risks associated with our significant international operations, including the enforceability of obligations, the extent of taxes and trade restrictions and licensing and other requirements, and protection of intellectual property;
- the effect of foreign currency exchange rates and changes to those rates, especially since we have benefited from the relatively weak U.S. dollar that has made our pricing more competitive with our foreign competitors;
- our ability to meet U.S. Food and Drug Administration and other domestic or foreign regulatory requirements or obtain product clearances, which might limit the products we can sell, subject us to fines or other regulatory actions, and/or increase costs;
- the highly competitive nature of the markets in which we compete, which may be affected by, among other things, purchase decisions made solely on price, which may result if hospitals and clinics cede autonomy in making purchasing decisions to third party group purchasing organizations, since our products are generally sold on a total value to the customer basis and the impact of such competition on our pricing, sales, margins and market share and on our ability to maintain or increase operating margins;
- our ability to make our products interoperate with one another or compatible with widely used third party products;
- our ability to protect our intellectual property and the competitive position of our products;

- the possibility of intellectual property infringement claims against us;
- our reliance on a sole source or a limited number of suppliers for some key components;
- our reliance on a limited number of original equipment manufacturer customers for our X-ray computed tomography tubes, and the potential for continued consolidation in the X-ray tubes market;
- our ability to provide significant education and training to physicians and healthcare payors on new treatment procedures, benefits of such treatment procedures and the skilled use of our products;
- our ability to attract and retain qualified employees;
- our ability to match manufacturing capacity with demand for our products;
- our ability to successfully acquire complementary businesses, to successfully integrate acquired businesses into our existing operations and to realize anticipated benefits;
- our use of distributors for a portion of our sales;
- the possibility that material product liability claims could harm our future sales or require us to pay uninsured claims, and the availability and adequacy of our insurance to cover any such liabilities;
- the possibility of managed care initiatives or other healthcare reforms and/or limitations significantly changing third party reimbursement rates and the resulting pressure on pricing and demand for our products;
- the effect fluctuations in our operating results, including the result of changes in accounting policies, may have on the price of our common stock;
- the effect of environmental claims and clean-up expenses, including, product recycling and related regulatory requirements in European and other countries, on our costs and margins;
- the effect of terrorism concerns or the occurrence of disease outbreaks such as Severe Acute Respiratory Syndrome on travel, related business operations and business activity;
- the risk of experiencing more payment defaults from customers and increasing our accounts receivable days of sales outstanding as a result of offering longer or extended payment terms to a larger category of qualified customers;
- the risk of loss or interruption to our operations or increased costs due to natural disasters which may not be adequately covered by insurance, the availability and cost of power and energy supplies, strikes and other events beyond our control; and
- the possibility that provisions of our Certificate of Incorporation and stockholder rights plan might discourage a takeover and therefore limit the price of our common stock.

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

General

We, Varian Medical Systems, Inc., are a Delaware corporation and were originally incorporated in 1948 as Varian Associates, Inc. In 1999, we transferred our instruments business to Varian, Inc., or VI, a wholly owned subsidiary, and transferred our semiconductor equipment business to Varian Semiconductor Equipment Associates, Inc., or VSEA, a wholly owned subsidiary. We retained the medical systems business, principally the sales and service of oncology products and the sales of X-ray tubes and imaging subsystems. On April 2, 1999, we spun off VI and VSEA, which resulted in a non-cash dividend to our stockholders and which we refer to as the spin-offs in this Form 10-K. Immediately after the spin-offs, we changed our name to Varian Medical Systems, Inc. We have been engaged in aspects of the medical systems business since 1959.

An Amended and Restated Distribution Agreement dated as of January 14, 1999 and other agreements govern our ongoing relationships with VI and VSEA.

Overview

We are a world leader in the design and manufacture of advanced equipment and software solutions for treating cancer with radiation, as well as high quality, cost-effective X-ray tubes for original equipment manufacturers, or OEMs, replacement X-ray tubes and flat-panel digital subsystems for imaging in medical, scientific and industrial applications.

Our Oncology Systems business segment produces and sells advanced products for treating cancer with radiation, including linear accelerators, treatment simulation and verification products, information management and treatment planning software and other sophisticated accessory products and services. These products enable, and allow doctors to offer, advanced cancer treatment processes such as intensity modulated radiation treatment, or IMRT, and image guided radiation therapy, or IGRT. Our customers include comprehensive cancer treatment clinics, university research and community hospitals, private and governmental institutions, healthcare agencies, doctors' offices and cancer care clinics worldwide. Our X-ray Products business segment manufactures and sells (i) X-ray tubes for use in a range of applications including computed tomography, or CT, scanning, radioscopic/fluoroscopic imaging, special procedures, industrial applications and mammography, and (ii) flat panel imaging products (also commonly referred to as flat panel detectors) for digital X-ray image capture, which is an alternative to image intensifiers or X-ray film. Our X-ray tubes and flat panel imaging products are sold to most major medical diagnostic and industrial imaging systems equipment manufacturers and our X-ray tubes are also sold directly to end-users for replacement purposes. We report our Ginzton Technology Center, or GTC, and our BrachyTherapy operations as part of the "Other" category of our industry segments, see Note 16 "Industry Segments" of the Notes to Consolidated Financial Statements. Through GTC, we pursue new and potentially disruptive technologies, including next generation digital X-ray imaging technology, digital X-ray fluoroscopic imagers, and the potential of combining advances in focused energy and imaging technology with the latest breakthroughs in biotechnology. In addition, we are pursuing technologies and products that promise to improve disease management by employing targeted energy to enhance the effectiveness of molecular medicine. Our BrachyTherapy operations manufacture and sell advanced products for brachytherapy treatment procedures, which is the treatment of cancer through use of radioactive seeds, wires or ribbons inserted into a tumor or into a body cavity.

Our business is subject to various risks and uncertainties. You should carefully consider the factors described in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Factors Affecting Our Business" in conjunction with the description of our business set forth below and the other information included in this Form 10-K.

Radiation Therapy and the Cancer-Care Market

Radiation therapy, which is also referred to as radiotherapy, is commonly used in the treatment of cancer, either alone or in combination with surgery or chemotherapy. An important advantage of radiation therapy is that the radiation acts with some selectivity on cancer cells. When a cell absorbs radiation, the radiation affects the cell's genetic structure and inhibits its replication, leading to its gradual death. Cancerous cells must replicate in order to cause disease; therefore the radiation they absorb can disproportionately damage them. Currently, the most common type of radiotherapy uses X-rays delivered by external beams and is administered using linear accelerators. Linear accelerators are conventionally used for multiple or fractionated treatments of a tumor in up to 50 radiation sessions.

IMRT is an advanced form of radiation therapy in which the intensity and angle of the radiation beams from a linear accelerator are varied, or modulated, across the target area of the patient being treated. This conforms the radiation beams more closely to the shape of the tumor and allows doctors to deliver higher doses of radiation to tumors while limiting the amount of radiation directed at nearby healthy tissue. In this way, clinicians can design and deliver an individualized treatment plan for each patient, targeting the patient's tumor as closely as possible. IMRT can be used to treat head and neck, breast, prostate, pancreatic, lung, liver, gynecological and central nervous system cancers. IMRT is becoming a well-accepted standard of treatment for cancer and more clinics every year, from university hospitals to local community clinics, continue to adopt treatments using IMRT. We have been a leading provider of products to enable IMRT treatment of cancer.

While IMRT is helping doctors to deliver higher doses of radiation to tumors in a more effective manner, healthy tissues still receive doses of radiation as doctors are forced to treat areas around the tumors to accommodate for tumor movement both during and between treatments. IGRT complements IMRT and brings technologies that compensate for daily changes and movements in tumors and enables dynamic, real-time visualization and precise treatment of small, moving and changing tumors with greater intensity and accuracy, while sparing more of the surrounding healthy tissue. With this greater precision offered by IGRT, clinics and hospitals are potentially able to improve outcomes by concentrating even higher doses of radiation at the tumors. IGRT is now generally accepted as the next technology driver in the field of radiotherapy. We believe we are at the forefront of providing automated and clinically practical products for IGRT treatments and expect that IGRT will be one of our drivers of revenues growth in the coming years.

Linear accelerators, using IGRT technology, can also be employed to eradicate very small metastases or lesions, for example, in the brain, by delivering a single, very precisely placed, high dose beam of radiation in a procedure referred to as stereotactic radiosurgery. In addition to external beam radiation therapy, radioactive seeds, wires or ribbons are sometimes inserted into a tumor or into a body cavity. These modalities, known as brachytherapy, do not require the radiation to pass through surrounding healthy tissue in order to reach the tumor.

The radiation oncology market is growing globally and a number of factors are contributing to this expansion. Without preventative actions, annual cancer rates around the world are projected to increase by 50 percent to 15 million new cases in the year 2020, according to the World Cancer Report issued by the International Agency for Research on Cancer in the World Health Organization. According to the World Cancer Report, the predicted sharp increase in new cases will mainly be due to steadily aging populations in both developed and developing countries and also due to current trends in smoking prevalence and the growing adoption of unhealthy life styles. The U.S. chart data from the National Cancer Institute's Surveillance, Epidemiology, and End Results program also indicates that the number of cases diagnosed annually could double in the U.S. to 2.6 million by 2050.

The rise in cancer cases, together with the greater complexity 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, stereotactic radiotherapy and stereotactic radiosurgery, and media attention and educational efforts by hospitals should drive the demand for our products and services, in particular those of our Oncology Systems segment, as patients seek more effective treatments. Additionally, the drive by hospitals, clinics and radiotherapy centers to have the most modern systems in order to attract the top medical talent is also contributing to the demand for our products. We also believe there will be continued growth in the demand for information technology products as hospitals, clinics and radiotherapy centers automate and implement information management products, such as our VARiS software products, that can collect and manage patient data over different treatment procedures such as radiation oncology and medical oncology, thereby leading to greater efficiency.

The international markets in particular are under-equipped with radiation therapy systems to address the growing cancer incidence. Cancer patients in many foreign countries must frequently endure long waits for radiotherapy treatment. Many of these countries are expanding and upgrading their radiotherapy services to care for their cancer patients. The relatively weak U.S. dollar also effectively makes pricing more competitive for U.S.-based companies such as ours. The shortage of radiotherapy equipment in the international markets and the weak U.S. dollar represent additional drivers for continued growth in the international markets.

Products

Oncology Systems

Our Oncology Systems business segment designs, manufactures, sells and services equipment and software products for radiation treatment of cancer. We are a leading provider of advanced products such as linear accelerators, treatment simulators and treatment verification products, information management software, treatment planning and delivery software and other accessory products and services for conventional radiation therapy, IMRT and IGRT.

The radiotherapy process consists of examining the patient, planning the therapeutic approach, delivering treatment, verifying that the treatments are being delivered correctly, providing quality assurance for all the devices involved in the treatment process, recording the history and results of treatment and obtaining reimbursement for the radiotherapy services provided. We provide products that help perform most of these tasks. Our focus, however, is addressing the key concerns of the market for advanced cancer care systems, including the continuing demand for enhanced capabilities and quality of radiation therapy treatments and improved efficiency, precision, cost-effectiveness and ease of delivery of these treatments. A core element of our business strategy is to provide our customers with highly-versatile, clinically proven products that can be configured and integrated into automated systems that combine greater precision and greater cost effectiveness. We have designed our individual products so that they can be integrated into automated systems that enhance the entire process of treating a patient. By allowing for integration into automated systems, our products and technology are also more cost-effective since doctors are able to schedule and treat more patients within a set time period. Our IMRT-enabled and new IGRT-enabled products and accessories allow clinicians to very precisely track and treat tumors using shaped beams, thereby targeting the tumor as closely as possible and allowing the delivery of higher doses of radiation to the tumor while limiting exposure of nearby healthy tissue. With our treatment planning, verification and information management software products, treatment plans, patient treatment data and images are recorded and stored in a single database shared by each of our products, which enables effective communication among products. Additionally, the precision and versatility of our products and technology makes possible the use of radiation therapy to treat metastatic lesions, thereby allowing for multiple

medical specialties—radiation oncology, neurosurgery, imaging and medical oncology—to share equipment, resources and information in a more cost-effective and safe manner.

Our Clinac® series of medical linear accelerators are used to treat cancer by producing therapeutic electrons and X-ray beams that target tumors and other abnormalities in a patient. These devices are the core products for conventional radiation therapy, IMRT and IGRT treatment procedures. We produce versions of these devices to suit various facility requirements. We also manufacture and market accessory products that enhance the capabilities and efficiency of our linear accelerators in delivering radiotherapy treatments, in particular IMRT and IGRT. Our Millennium™ series of multi-leaf collimators are accessory devices that are used with a linear accelerator to define the size, shape and intensity of the radiation beams generated by the linear accelerator. We also offer an innovative real time patient position monitoring software product, the RPM™ respiratory gating system, which allows the Clinac to be synchronized with patient breathing to help compensate for tumor motion during the course of treatment.

Verification and documentation of all treatment procedures are also critical to treatment delivery. Our VARIIS® information management software system, records and verifies radiotherapy treatment procedures carried out on the linear accelerator, performs patient charting and manages patient information. Our Vision™ product line is integrated with the VARIIS product and manages patient image data. We also have our VARIIS MedOncology information management software system that records and stores patient data relating to chemotherapy treatment procedures. Therefore, clinics have the possibility to manage treatment and patient information across radiation oncology and medical oncology procedures.

Prior to treatment delivery, physicians must plan the course of radiation therapy for the patient. To assist physicians with developing these treatment plans, we offer a range of treatment planning products. Our Eclipse™ treatment planning system provides doctors with 3D image viewing, treatment simulation, radiation dosage calculation and verification and other tools for generating treatment plans for the patient, which can be reviewed and analyzed using our SomaVision™ workstations. Our Helios™ software module utilizes a sophisticated technique known as inverse planning to enable the physicians to rapidly develop optimal IMRT treatment plans based on a desired radiation dose outcome to the tumor and surrounding tissue.

Our treatment simulators enable physicians to simulate radiation therapy treatments prior to treatment delivery. We also manufacture and sell an electronic portal-imaging product, PortalVision™, which is used to verify a patient's treatment position, a critical component for accurate delivery of radiotherapy treatment. Our Argus line of software products allows the management of quality control data for radiation therapy products. We also manufacture and sell Acuity™, a simulator which uses advanced amorphous silicon imaging technology and has been designed to facilitate IMRT treatments by integrating simulation more closely with treatment planning and by helping physicians deal better with tumor motions caused by breathing.

Our most recent products have focused on enabling IGRT, the next generation in radiotherapy treatments. We recently introduced new classes of imaging products for IGRT such as the On-Board Imager System, or OBI, which enables dynamic, real-time imaging of tumors while on the treatment couch. Enhancements to existing products, such as our Clinac iX series of accelerators which facilitates more streamline treatment processes including IGRT, have also been recently introduced. In fiscal year 2004, we introduced 3D Imaging on Acuity™ for IGRT and received 510(k) clearance from the U.S. Food and Drug Administration, or FDA, for our cone-beam CT capability of the Acuity™ system, which enables radiation oncologists to enhance care for cancer patients by generating superior digital images for patient positioning as well as developing, simulating and verifying treatment plans. On November 1, 2004, the Company received 510(k) clearance from the FDA for our cone-beam computerized tomography for OBI, or CBCT. CBCT allows patient positioning based on soft-tissue anatomy. Using sophisticated image analysis tools, CBCT allows comparison of the CBCT scan with a reference CT scan to determine how the patient's treatment couch should be moved to fine-tune the treatment setup.

Also in fiscal year 2004, we introduced our Trilogy™ linear accelerator, which is normally accessorized with OBI, PortalVision and other IGRT-related hardware and software. Trilogy™ has been designed to be a very versatile, cost-effective, ultra-precise radiotherapy treatment product with a faster dose delivery rate and smaller isocenter. Trilogy™ is capable of delivering conventional, 3D conformal radiotherapy, IMRT, IGRT and fractionated stereotactic radiation therapy. Additionally, Trilogy, together with OBI, PortalVision and other IGRT-related accessories, will have the precision necessary to deliver stereotactic radiosurgery for neurosurgical treatments, which is a market that we have not participated in the past. We also added to our product portfolio the SonArray ultrasound imaging device for patient positioning and stereotactic treatment planning software for use in developing treatment plans for stereotactic radiosurgery.

In addition to offering our own suite of hardware and software products for planning and delivering radiation therapy treatments, we have partnered with General Electric Medical Systems, or GE, in North America and established a See and Treat Cancer Care™ program for radiation therapy. Through See and Treat Cancer Care, we can offer radiation oncology facilities an integrated suite of cancer treatment tools that combines our comprehensive set of radiation therapy products with GE's advanced diagnostic imaging systems.

We also manufacture and sell a line of linear accelerators that are used for industrial radiographic applications. Our Linatron-M® linear accelerators are used for nondestructive examination of objects, such as cargo or luggage, for security and customs purposes, and examination of heavy metallic structures for nondestructive quality control testing purposes. The primary use of our products delivered during fiscal year 2004 has been in overseas ports where customs offices are verifying cargo manifests. This technology may also be used to sterilize food and medical products.

Revenues from our Oncology Systems business segment represented 84%, 82% and 83% of total revenues in fiscal years 2004, 2003 and 2002, respectively. Our Oncology Systems business segment revenues also include revenues from our customer support and service organization within Oncology Systems. For a discussion of our customer support and service organization, see “—Customer Support and Services.” For a discussion of segment financial information, see Note 16 “Industry Segments” of the Notes to the Consolidated Financial Statements.

X-ray Products

Our X-ray Products business segment, or X-ray Products, is a world leader in designing and manufacturing subsystems for diagnostic radiology, including X-ray-generating tubes and flat panel imaging products. X-ray tubes are a key component of X-ray imaging subsystems, including new system configurations and replacement tubes 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 tube markets.

We manufacture tubes for four primary medical X-ray imaging applications: CT scanners, radiographic/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.

In addition to X-ray tubes, we design, manufacture and market flat panel imaging products. Our amorphous silicon imaging technologies can be broadly applied as an alternative to image intensifiers or X-ray film. We expect that imaging equipment based on amorphous silicon semiconductors may be more stable and reliable, have fewer adjustments, and suffer less degradation over time than image intensifiers. These panels are being incorporated into next generation medical diagnostic and industrial imaging systems and also serve as a key component of our OBI product, which helps enable IGRT. We believe that the flat panel imaging products will become a driver of revenues growth in this segment.

The fundamental driver of this business segment is the on-going success of key OEMs that incorporate our X-ray tube products and flat panel imaging devices into their medical diagnostic and industrial imaging systems. Revenues from the X-ray Products business segment represented 13%, 15% and 14% of total revenues in fiscal years 2004, 2003 and 2002, respectively. For a discussion of segment financial information, see Note 16 "Industry Segments" of the Notes to the Consolidated Financial Statements.

Other

The Ginzton Technology Center, our research facility, identifies and addresses new and potential markets for the Company. Through GTC, we are pursuing other potential new business lines, including next generation digital X-ray imaging technology, digital X-ray fluoroscopic imagers and the potential of combining advances in focused energy and imaging technology with the latest breakthroughs in biotechnology. We are pursuing technologies and products that promise to improve disease management by employing targeted energy to enhance the effectiveness of molecular medicine. In the area of industrial security, GTC is engaged in a joint research project with the Palo Alto Research Center, a subsidiary of Xerox Corporation, to develop technology for cargo screening at airports and seaports under a grant from the United States Department of Commerce. These efforts are designed to develop new products and technologies for our future business.

Our BrachyTherapy operation manufactures and sells our products for the growing brachytherapy market, including high dose rate products; the VariSource™ and GammaMed™ afterloaders, the BrachyVision™ treatment planning system, applicators and accessories. BrachyTherapy also develops and markets the VariSeed™ treatment planning system for permanent prostate seed implants.

GTC and BrachyTherapy report their results from operations as part of the "Other" category, see Note 16 "Industry Segments" of the Notes to the Consolidated Financial Statements. Revenues from these operations represented 3% of total revenues in fiscal years 2004, 2003 and 2002. For a discussion of segment financial information, see Note 16 "Industry Segments" of the Notes to the Consolidated Financial Statements.

Marketing and Sales

Revenues from our ten largest customers in fiscal years 2004, 2003 and 2002 accounted for approximately 13%, 12% and 12% of total revenues, respectively. However, we did not have a single customer in any of those years that represented 10% or more of our total revenues.

We maintain direct sales forces in North America, Europe, Australia and major parts of Asia and Latin America. We use our direct sales force to make all of our North American sales for our Oncology Systems segment and our BrachyTherapy operations. We sell through a combination of direct sales forces and independent distributors in the international markets for our Oncology Systems segment and our BrachyTherapy operations, as well as in the North American and international markets for our X-ray Products segment.

We sell our Oncology Systems products primarily to comprehensive cancer treatment clinics, university research and community hospitals, private and governmental institutions, healthcare agencies, doctors' offices and cancer care clinics worldwide. Sales cycles typically extend for 9 to 12 months, with shipment occurring when the customer is ready to take delivery, normally 9 to 12 months after the order is placed. Furthermore, as a consequence of ongoing technical developments, clinics, hospitals, institutions, healthcare agencies and doctor offices regularly replace equipment and upgrade their treatment capability.

Medicare and Medicaid reimbursement rates in the U.S. usually support a return on investment for a new system purchase in less than 24 months. U.S. reimbursement rates for IMRT, which are higher than reimbursement rates for standard radiotherapy treatments, continue to support its adoption of IMRT in this market. However, we believe that Medicare and Medicaid reimbursements for existing and new

treatment processes play a relatively minor role in the market for new external beam radiotherapy equipment and that the prospect of better clinical outcomes continues to be a driver for IMRT adoption, and in the future, will be a driver for IGRT adoption. See “—Government Regulation—Medicare and Medicaid Reimbursement.” International reimbursement rates for radiation therapy tend to be low in national health systems, yet these nations continue to invest in better treatment capability often after it has been proven in the North American market or in leading research centers.

Total revenues for Oncology Systems, including services were \$1.0 billion, \$856 million and \$725 million for fiscal years 2004, 2003 and 2002, respectively. We divide our market segments for Oncology Systems revenues into North America, Europe, Asia and rest of the world, and these regions constituted 59%, 28%, 9% and 4%, respectively, of Oncology Systems revenues during fiscal year 2004, 64%, 24%, 9% and 3%, respectively, of Oncology Systems revenues during fiscal year 2003 and 64%, 22%, 10% and 4%, respectively, of Oncology Systems revenues during fiscal year 2002.

Historically, our X-ray Products segment has sold a high proportion of its products to a limited number of OEMs that incorporate our products into their imaging systems. We expect that sales to relatively few customers will continue to account for a high percentage of X-ray Products' revenues in the foreseeable future. We supply X-ray tubes to companies such as Toshiba Corporation, Hitachi Medical Corporation, Shimadzu Corporation, Philips Medical Systems and GE, each of which accounted for 5% or more of X-ray tube product revenues in fiscal year 2004 and 4% or more of X-ray tube product revenues in fiscal years 2003 and 2002. These five OEMs represent 71% of our total X-ray Products segment revenues with the other 29% of revenues coming from a large number of small OEMs and independent services companies during fiscal year 2004. Total revenues for our X-ray Products segment was \$165 million, \$153 million and \$122 million for fiscal years 2004, 2003 and 2002, 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 35%, 13%, 49% and 3%, respectively, of X-ray Products revenues during fiscal year 2004, 36%, 13%, 48% and 3%, respectively, of revenues during fiscal year 2003 and 39%, 15%, 42% and 4%, respectively, of X-ray Products revenues during fiscal year 2002.

Customer Support and Services

We maintain service centers in Milpitas, California; DesPlaines, Illinois; Clark, New Jersey; Marietta, Georgia; Richardson, Texas; Corona, California; Buc, France; Crawley, England; Zug, Switzerland; Tokyo, Japan; and Beijing and Hong Kong, China; as well as field service forces throughout the world for Oncology Systems service support. Key logistics and education operations are located in Las Vegas, Nevada. Our network of service engineers and customer support specialists provide installation, warranty, repair, training and support services. We generate service revenues by providing service to customers on a time-and-materials basis and through comprehensive service contracts. Most of the field service engineers are our employees, but in a few foreign countries, field services are provided by employees of dealers and/or agents. Customers can access our extensive service network by calling any of our service centers located throughout North America, Europe, Asia, Australia and Latin America.

We warrant most of our Oncology Systems hardware and software for parts and labor for twelve months. We offer a variety of post-warranty equipment service agreements and software support agreements that permit customers to contract for the level of equipment maintenance and/or software support they require.

We believe customer service and support are an integral part of our competitive strategy. We believe, service capability, availability and responsiveness play an important role in marketing and selling medical equipment and systems, particularly as the technological complexity of the products increases. Nevertheless, many of our customers use their own internal service organizations and/or independent service organizations to service equipment after the warranty period expires. Therefore, we cannot depend on conversion to maintenance or service contracts after the warranty period expires.

We provide technical advice and consultation for X-ray tubes and imaging subsystems products to major OEM customers from our offices in Tokyo, Japan; Houten, The Netherlands; Salt Lake City, Utah; Charleston, South Carolina; 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 to meet the technical support requirements of independent tube installers that use our X-ray tube products.

Research and Development

Developing products, systems and services based on advanced technological concepts is essential to our ability to compete effectively. We maintain a product research and development and engineering staff responsible for product design and engineering. Research and development expenditures totaled \$72 million, \$59 million and \$48 million in fiscal years 2004, 2003 and 2002, respectively.

Our research and development are conducted both within the relevant product groups within the Oncology Systems and X-ray Products businesses and through GTC. GTC maintains technical competencies in X-ray 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 focused energy and imaging technology with the latest breakthroughs in biotechnology and the improvement of disease management by employing targeted energy to enhance the effectiveness of molecular medicine. GTC accepts some sponsored research contracts from external agencies such as the U.S. government or private sources.

Within Oncology Systems, we conduct research to enhance the reliability and performance of existing products and to develop new products. This research is conducted primarily in the U.S., Switzerland, the United Kingdom and Finland. In addition, we support selected research programs at selected hospitals and clinics. Current research areas within Oncology Systems include linear accelerator systems and accessories for medical and industrial applications, information systems, treatment planning software, imaging devices, simulation, patient positioning and equipment diagnosis and maintenance tools. Much of the Oncology Systems research relate to IGRT imaging and related technologies that will allow clinicians to more precisely treat small, moving and changing tumors with greater dose intensity and accuracy, such as our Trilogy™ linear accelerator, our 3-D cone beam imaging for our Acuity X-ray imaging device, our 3-D cone beam CT for OBI, our new Clinac iX series of accelerators, other technology such as our Monte Carlo and Triple A algorithms for our treatment planning software products and our new electronic health records within our VARIIS information management software.

Within X-ray Products, we conduct research at our Salt Lake City facility that is primarily focused on developing and improving X-ray tubes. Current research areas include bearing coating, to improve X-ray tube life and reduce tube noise, and ceramic design, to improve the high voltage stability of X-ray tubes. Research activity geared toward enhancing performance of our flat panel imaging technology and expanding our imager product portfolio is conducted primarily at our Mountain View facility.

Competition

The markets for radiation therapy equipment and software are characterized by rapidly evolving technology, intense competition and pricing pressure. We compete with companies worldwide. Some of our competitors have greater financial, marketing and management resources than we do. 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 rapid technological changes occurring in our markets will lead to the entry of new competitors such as Tomotherapy Incorporated as well as our encountering new competitors as we apply our technologies in new markets such as stereotactic radiosurgery for neurosurgical treatments. Also, our ability to compete may be adversely affected when purchase decisions are based solely upon price, since our products are generally sold on a total value to the customer basis. This may occur if hospitals and clinics give purchasing decision authority to group purchasing organizations that focus solely on pricing as the primary determinant in making buy decisions. Therefore, the impact of any such factors could have a negative effect on our pricing, sales, market share and gross margins and our ability to maintain or increase our operating margins.

Our customers' equipment purchase considerations typically include: reliability, servicing, patient throughput, precision, price and payment terms. We sell our products on a total value to the customer basis. We believe we compete favorably with our competitors based upon our strategy of providing a complete package of products and services in the field of radiation oncology and our continued commitment to global distribution and customer service, value-added manufacturing, technological leadership and new product innovation. We strive to provide technologically superior, clinically proven products for substantially all aspects of radiation therapy that deliver more precise, cost-effective, high quality clinical outcomes that meet or exceed customer quality and service expectations.

We are the leading provider of medical linear accelerators and related accessories. In radiotherapy and radiosurgery markets, we compete primarily with Siemens Medical Solutions, Elekta AB, Tomotherapy Incorporated and Accuray Incorporated. In our information and image management, simulation, treatment planning, and radiosurgery products we also compete with a variety of companies, such as IMPAC Medical Systems, Inc., Philips Medical Systems, Computerized Medical Systems, Inc., North American Scientific, Inc., Nucletron B.V., Siemens Medical Solutions and Elekta AB. In respect of our BrachyTherapy operations, our primary competitor is Nucletron B.V. For the service and maintenance business for our Oncology Systems products, we compete with independent service organizations and our customers' internal service organizations.

The market place for X-ray tube products is extremely competitive. All of the major diagnostic imaging systems companies, which are the primary customers of our X-ray Products business segment, also manufacture X-ray tubes for use in their own products. While we believe we are one of the leading independent suppliers of X-ray tubes, we must compete with these in-house X-ray tube 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 performance. We sell a significant volume of our X-ray tube products to companies such as Toshiba Corporation, Hitachi Medical Corporation, Shimadzu Corporation, Philips Medical Systems and GE, 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 and IAE Industria Applicazioni Elettroniche Spa. 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.

Manufacturing and Supplies

We manufacture our medical linear accelerators in Palo Alto, California, and our treatment simulator systems, some accelerator subsystems and the OBI in Crawley, England. In addition, we manufacture some of our accessory oncology systems products in Baden, Switzerland and Helsinki, Finland; and our industrial linear accelerators and certain radiographic products in Las Vegas, Nevada. We manufacture our X-ray tube products in Salt Lake City, Utah; Charleston, South Carolina; and Willich, Germany. We manufacture our high dose rate brachytherapy systems in Crawley, England and Haan, Germany and our brachytherapy treatment planning products in Charlottesville, Virginia. 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. They are certified under International Standards Organization, or ISO 9001, or ISO 9002, in the case of the Charleston facility.

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 material, purchased parts and assemblies through on-line inspection. We also get subassemblies from third-party suppliers and integrate them into a finished system. We outsource the manufacturing of many major subassemblies and perform system design, assembly and testing in-house. We believe outsourcing enables us to reduce 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 source wires for high-dose afterloaders, klystrons for linear accelerators, imaging panels, non-coated array sensors and coating for array sensors for the flat panels, specialized integrated circuits for imaging subassemblies, and some targets, housings and glass bulbs for X-ray tubes.

Backlog

Our backlog at the end of fiscal year 2004 was \$970 million, of which we expect to recognize approximately 60% to 65% into revenues in fiscal year 2005. Our backlog at the end of fiscal year 2003 was \$808 million, of which \$509 million was recognized as revenues in fiscal year 2004. Our Oncology Systems backlog represented 94% and 95% of the total backlog at the end of fiscal years 2004 and 2003, respectively. We include in backlog orders for products that are scheduled to be shipped within two years. We also include in backlog the amount of deferred revenue related to products that have been delivered but have outstanding contractual obligations or related to acceptance. Deferred revenue includes (i) the amount equal to the greater of the fair value of the installation services for hardware products or the amount of the payment that is contractually linked to acceptance and (ii) for a small number of products, the entire sale price applicable to products shipped but for which installation and/or final acceptance have not been completed. Orders may be revised or canceled, either according to their terms or as customers' needs change; consequently, it is impossible to predict with certainty the backlog that will result in revenues. In fiscal year 2004, we reversed \$43 million of orders due to revisions or cancellations. Our reported net orders included all backlog reversals.

Product Liability

Our business exposes us to potential product liability claims that are inherent in the manufacture and sale of medical devices. Because our products are involved in the delivery of radiation to the human body, collection and storage of patient treatment data and the diagnosing of medical problems, the possibility for significant injury and/or death exists with any of these products. As a result, we may face substantial

liability to patients and our customers for damages resulting from any faulty, or alleged faulty, design, manufacture and servicing of our products.

Government Regulation

Domestic Regulation

As a manufacturer and seller of medical devices and devices 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, and state and local regulatory agencies, such as the State of California, to ensure such devices are safe and effective. Such regulations, which include the U.S. Food, Drug and Cosmetic Act, or the FDC Act, and regulations promulgated by the FDA, govern the design, development, testing, manufacturing, packaging, labeling, distribution, import/export, possession, marketing, disposal, clinical investigations involving humans, sale and marketing of medical devices, post-market surveillance, repairs, replacements, recalls and other matters relating to medical devices, radiation producing devices and devices utilizing radioactive by-product material. State regulations are extensive and vary from state to state. Our Oncology Systems equipment and software (but not our industrial products) and our brachytherapy products constitute medical devices subject to these regulations. Our X-ray tube products and flat panel imaging products produced by X-ray Products are also considered medical devices. Future products in any of our business segments may constitute medical devices and be subject to regulation as such. These laws require that manufacturers adhere to certain standards designed to ensure that the medical devices are safe and effective. Under the FDC Act, each medical device manufacturer must comply with requirements applicable to good manufacturing practices.

Our manufacturing operations for medical devices are required to comply with the FDA's Quality System Regulation, or QSR, which addresses a company's responsibility for quality systems, the requirements of good manufacturing practices and relate to 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. Compliance with the QSR is necessary to receive FDA clearance or approval to market new products and is necessary for a manufacturer to be able to continue to market cleared or approved product offerings. Among other things, these regulations require that manufacturers establish performance requirements before production. The FDA makes announced and unannounced inspections of medical device manufacturers and may issue reports, known as FD 483 reports, listing instances where the manufacturer has failed to comply with applicable regulations and/or procedures, or Warning Letters which, if not adequately responded to, could lead to enforcement actions against the manufacturer, including fines and total shutdown of production facilities and criminal prosecution. Inspections usually occur every two years. Our last inspection occurred in May 2003.

The FDA requires that the manufacturer of a new medical device or a new indication for use of, or other significant change in, an existing medical device obtain either 510(k) pre-market notification clearance or an approved pre-market approval application, or PMA, before the manufacturer may take orders and distribute the product in the United States. The 510(k) clearance process is applicable when the new product being developed is substantially equivalent to an existing commercially available product. The process of obtaining 510(k) clearance generally takes at least one to three months from the date the application is filed and generally requires submitting supporting design data, which can be extensive and can extend the process for a considerable period of time beyond three months. After a product receives 510(k) clearance, any modification that could significantly affect its safety or effectiveness, or that would constitute a major change in the intended use of the device, technology, materials, 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. 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 must generally conduct at least one clinical protocol and submit extensive supporting data and clinical information in the PMA to prove the safety and effectiveness of the product. This process typically takes at least one to two years from the date the pre-market approval is accepted for filing, but can take longer for the FDA to review. To date, we have produced Class 1 medical devices, which require no pre-market approvals or clearances, and Class 2 medical devices, which require only 510(k) clearance. Our X-ray tubes and flat panel imaging products are Class 1 medical devices while all of the products produced by our Oncology Systems segment and our BrachyTherapy operations are Class 2 medical devices.

The FDA and the Federal Trade Commission, or FTC, also regulate the promotion and advertising of our products. In general, we may not promote or advertise our products for uses not within the scope of 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, or UL, the Canadian Standards Association, or CSA, and the International Electrotechnical Commission, or 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 Nuclear Regulatory Commission, or NRC, or an Agreement State registration certificate. Further, 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 imposing liability for the cleanup of contamination from these materials. For a further discussion of these laws and regulations, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Environmental Matters."

Beyond the above-mentioned regulations, the healthcare industry and we, as a participant in the healthcare industry, are subject to extensive federal, state and local laws and regulations on a broad array of additional subjects. Further, the Health Insurance Portability and Accountability Act of 1996, or HIPAA, sets national standards for some types of electronic health information transactions and the data elements used in those transactions and standards to ensure the integrity and confidentiality of patient health information.

The healthcare industry is also subject to a number of "fraud and abuse" laws and regulations, including physician self-referral prohibitions, anti-kickback laws, and false claims laws. See "—Medicare and Medicaid Reimbursement" for a description of these laws and regulations. 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.

Failure to comply with FDA and other applicable regulations could result in a wide variety of actions against us, such as:

- investigations, FD 483 reports of non-compliance or Warning Letters;
- fines, injunctions, and civil penalties;
- partial suspensions or total shutdown of production, or the imposition of operating restrictions;
- losses of clearances or approvals already granted, or delays in or refusals of requests for clearance or approval;

- seizures or recalls of our products;
- the inability to sell our products in the applicable jurisdiction; and
- criminal prosecutions.

The laws and regulations and their enforcement are constantly undergoing change, and we cannot predict what effect, if any, changes may have on our business. In addition, new laws and regulations may be adopted which adversely affect our business. There has been a trend in recent years, both in the United States and internationally, toward more stringent regulation and enforcement of requirements applicable to medical device manufacturers and requirements regarding protection and confidentiality of personal data.

Medicare and Medicaid Reimbursement

The U.S. federal government regulates reimbursement for diagnostic examinations and therapeutic procedures furnished to Medicare beneficiaries, including related physician services and capital equipment acquisition costs. For example, Medicare reimbursement for operating costs for radiation treatment performed on hospital inpatients generally is set under the Medicare prospective payment system, or PPS, diagnosis-related group, or DRG, regulations. Under PPS, Medicare pays hospitals a fixed amount for services provided to an inpatient based on his or her DRG, rather than reimbursing for the actual costs incurred by the hospital. Patients are assigned to a DRG based on their principal and secondary diagnoses, procedures performed during the hospital stay, age, gender and discharge status. Medicare also reimburses pursuant to PPS for capital costs which incorporates an add-on to the DRG-based payment to cover capital costs. Hospital outpatient services are also covered by PPS. Under the outpatient PPS system, Medicare reimburses outpatient services according to rates calculated by Medicare for groups of covered services known as "ambulatory payment classification," or APC, groups. Approximately fifteen APC groups involve radiation oncology services. The reimbursement for each APC group is derived from a complicated calculation that incorporates historical cost information, including capital acquisition costs. For physicians, Medicare reimburses all physicians based on two separate practice expense values for each physician service, one for when a service is furnished in a facility setting and another for when the service is performed in a physician's office. Typically, for a service that could be provided in either setting, the practice expense value would be higher when the service is performed in a physician's office, as it would cover a physician's costs such as equipment, supplies and overhead.

The federal government and the Congress from time to time consider various Medicare and other healthcare reform proposals that could significantly affect both private and public reimbursement for healthcare services in hospitals and freestanding clinics. The federal government reviews and adjusts reimbursement rates for medical procedures, including radiotherapy, on an annual basis.

Reimbursement for services rendered to Medicaid beneficiaries 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 Balanced Budget Act of 1997 has revised the Medicaid program to allow each state more control over coverage and payment issues. In addition, the Centers for Medicare and Medicaid Services, or CMS, has granted many states waivers to allow for greater control of the Medicaid program at the state level. The impact on our business of this greater state control on Medicaid payment for diagnostic services remains uncertain.

CMS has published a proposed modest increase in Medicare and Medicaid reimbursement rates for radiotherapy procedures, such as daily treatments, planning, positioning of patients and quality assurance, in U.S. hospitals. We do not expect these changes to have a material impact on our Oncology Systems business segment in the U.S. From calendar year 2004 to 2005, according to an analysis by American Medical Accounting & Consulting, Inc., or AMAC, reimbursement rates for IMRT should rise 4%, rates

for conventional treatments should increase by 5-6%, and rates for ancillary procedures should rise in the range of 7% to 12%. Overall, radiotherapy reimbursements should increase by an average of 7% for hospitals, according to AMAC. Separately, according to AMAC, rates for free standing clinics and physicians offices should rise by 1.5%. AMAC also advises that it believes IMRT will continue to be reimbursed at a premium over standard conventional treatments under the final rates. Some aspects of IGRT with an OBI will be reimbursed under existing codes for CT scanning and fluoroscopy. The CMS rates for 2005 could include a new reimbursement rate for daily X-rays with an OBI using a standard kV X-ray tube. If adopted this reimbursement rate would support adoption of IGRT processes. Proposed rates are scheduled to be finalized by December 2004 and go into effect on January 1, 2005. Reimbursement rates for other new IGRT procedures are not yet established, although we do expect that some of these procedures could begin to be reimbursed in calendar year 2006.

According to AMAC, there does not appear to be a significant impact on a hospital's return on investment for purchasing equipment under the new reimbursement rates as compared to the calendar year 2004 reimbursement rates. For free-standing cancer treatment clinics, there is no appreciable change in the calendar year 2005 reimbursement rates from calendar year 2004 so AMAC anticipates little impact on the time period to recover equipment investments in calendar year 2005 as compared to calendar year 2004. Therefore, we do not believe that these new reimbursement rates will have a material impact on our business in calendar year 2005.

Furthermore, the sale of medical devices, 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," including 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. The final regulations implementing Stark II became effective as of July 2004. The Stark II law and regulations, as well as general fraud and abuse laws and physician self-referral restrictions that exist in a number of states and apply regardless of whether Medicare or Medicaid patients are involved, may result in lower utilization of certain diagnostic or therapeutic procedures, which may affect the demand for our products. Anti-kickback laws make it illegal to solicit, offer, receive or pay any remuneration in exchange for, or to induce, 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 Regulation

Our operations 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 and the FTC. In addition, in foreign countries where we have operations or sell products, we are subject to laws and regulations applicable to manufacturers of medical devices, radiation producing devices and products utilizing radioactive materials and to the healthcare industry, and laws and regulation of general applicability relating to environmental protection, safe working conditions, manufacturing practices and

other matters. These laws and regulations are often comparable to or more stringent than United States laws and regulations. Our sales of products in foreign countries are also subject to regulation of matters such as product standards, packaging requirements, labeling requirements, import restrictions, tariff regulations, duties and tax requirements. We rely in some countries on our foreign distributors to assist us in complying with applicable regulatory requirements.

The European Union, or EU, implemented a medical device directive that requires us to affix the CE mark to our products in order to sell the products in member countries of the EU. The CE mark is an international symbol of adherence to certain essential principles of safety and effectiveness mandated in applicable European medical device directives, which once affixed, enables a product to be sold in member countries of the EU. The CE mark is also recognized in many countries outside the EU, such as 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 directives. The International Standards Organization, or ISO, promulgates standards for certification of quality assurance operations. We have previously been certified as complying with the ISO 9001 series of standards, but these standards have been significantly revised and we will be required to conform to these new standards, particularly ISO 13485, by July 2006. Several Asian countries, including Japan and China, have adopted regulatory schemes that are comparable, and in some cases more stringent, than the EU scheme.

A number of countries, including the members of the EU, are implementing regulations that would require manufacturers to dispose, or bear some of the costs of disposal, of their products at the end of their useful lives, and to restrict the use of some hazardous substances in certain products sold in those countries. For a further discussion of these proposed regulations, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Environmental Matters.” Also, many countries where we sell our products have legislation protecting the confidentiality of personal information and the circumstances under which such information may be released for inclusion in our databases, or released to third parties.

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 that are incorporated in our products or that fall within our fields of interest. As of October 1, 2004, we owned 122 patents issued in the United States and 65 patents issued throughout the rest of the world and we have 201 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 “Government Regulation—Foreign Regulation” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Environmental Matters.”

Financial Information about Geographic Areas

We do business globally with manufacturing in the United States and in Europe, sales operations and customers throughout the world and a high percentage of revenues generated from our international regions. In addition to the potentially adverse impact of foreign regulations, see “Government Regulation—Foreign Regulation,” we also may be affected by factors such as the fact that our sales to international regions, historically, have had lower average selling prices and profit margins. So to the extent that geographic distribution of our sales shifts more towards international regions, our overall revenues and margins may suffer. Also, there may be adverse consequences from fluctuations in foreign currency exchange rates, which may affect the affordability and competitiveness of our products and our profit margins since we sell our products internationally predominantly in local currencies but our cost structure is largely U.S. dollar based. We do engage in currency hedging strategies to offset the effect of currency exchange fluctuations, but the protection offered by such hedges are necessarily dependent upon timing of transactions, forecast volatility, effectiveness of such hedges and the extent of currency fluctuation.

We are also exposed to other economic, political and other risks inherent in doing business globally. For an additional discussion of these risks, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Factors Affecting Our Business.”

For a discussion of financial information about geographic areas, see Note 16 “Industry Segments” of the Notes to the Consolidated Financial Statements.

Employees

At October 1, 2004, we had a total of 3,283 full-time and part-time employees worldwide, 2,188 in the United States and 1,095 elsewhere. 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 subject to collective bargaining agreements. We currently consider our relations with our employees to be good.

Additional Information

We make available on our investor relations page of our website <http://www.varian.com>, free of charge, access to our annual reports on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K, and any amendments to those reports, and our proxy statements as soon as reasonably practicable after our filing or furnishing the information to the Securities and Exchange Commission, or SEC. Our Code of Business Ethics, Corporate Governance Guidelines and the charters of the Audit Committee, Compensation and Management Development Committee and Nominating and Corporate Governance Committee are also available on our investor relations page of our website. Additionally, we will provide copies of our reports, proxy statements, Code of Business Ethics, Corporate Governance Guidelines and committee charters, without charge, to any stockholder upon written request to the Secretary at our principal executive offices.

Item 2. Properties

Our executive offices and our oncology management and manufacturing facilities are located in Palo Alto, California on 30 acres of land under leaseholds which expire in 2056. We own these facilities which contain 248,902 square feet of aggregate floor space. GTC is located in Mountain View, California under a land and improvements lease that expires in 2009. Our other manufacturing facilities are located throughout the world, including Salt Lake City, Utah; Charleston, South Carolina; Las Vegas, Nevada; Charlottesville, Virginia; Crawley, England; Baden, Switzerland; Helsinki, Finland; Haan, Germany; and Willich, Germany. Our 55 service and sales facilities also are located in various parts of the world, with 37 located

outside of the United States, including Argentina, Australia, Austria, Brazil, China, Denmark, Finland, France, Germany, Hong Kong, India, Italy, Japan, Malaysia, The Netherlands, Singapore, Spain, Switzerland, and Thailand.

The following is a summary of our properties at October 1, 2004:

	Land (Acres)		Buildings (000's Sq. ft.)		Number of Buildings	
	Owned	Leased	Owned	Leased	Owned	Leased
United States	38	30	518	303	6	19
International	2	—	47	244	1	51
	<u>40</u>	<u>30</u>	<u>565</u>	<u>547</u>	<u>7</u>	<u>70</u>

Our facilities, as utilized by our various segments, are shown in the following table:

	Buildings (000's Sq. Ft.)				
	Manufacturing, Administrative and Research & Development			Marketing and Service	Total
	U.S.	Non-U.S.	Total		
Oncology Systems	282	79	361	290	651
X-ray Products	310	4	314	10	324
Other	27	20	47	10	57
Total operations	619	103	722	310	1,032
Other operations (including manufacturing support)	63	17	80	—	80
Total	<u>682</u>	<u>120</u>	<u>802</u>	<u>310</u>	<u>1,112</u>

We are utilizing substantially all of our currently available productive space to develop, manufacture and market our products. We believe that our facilities and equipment generally are well maintained, in good operating condition and adequate for present operations.

Item 3. Legal Proceedings

The following summarizes the current status of our previously reported legal proceedings.

After the spin-offs, we retained the liabilities related to the medical systems business before the spin-offs. In addition, under the agreement governing the spin-offs, we agreed to manage and defend liabilities related to legal proceedings and environmental matters arising from corporate or discontinued operations. Each of VI and VSEA must generally indemnify us for one-third of these liabilities (after adjusting for any insurance proceeds we realize or tax benefits we receive), including specified environmental-related liabilities and to fully assume and indemnify us for liabilities arising from each of their operations before the spin-offs. For a discussion of environmental-related liabilities, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Environmental Matters."

From time to time, we are involved in other legal proceedings arising in the ordinary course of our business. While we cannot be certain about the ultimate outcome of any litigation, management does not believe any pending legal proceeding will result in a judgment or settlement that will have a material adverse effect on our business.

Item 4. Submission of Matters to a Vote of Security Holders

None.

EXECUTIVE OFFICERS

Set forth below are biographical summaries of our executive officers as of December 10, 2004:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Richard M. Levy— Chairman of the Board, President and Chief Executive Officer	66	Dr. Levy became Chairman of the Board in February 2003, and President and Chief Executive Officer of the Company on April 3, 1999. Prior to April 2, 1999, he was the Executive Vice President of the Company responsible for the medical systems business. Dr. Levy also oversaw our Ginzton Technology Center in Palo Alto. He joined the Company in 1968, and became Executive Vice President in 1990.
Timothy E. Guertin— Executive Vice President	55	Mr. Guertin became Executive Vice President of the Company on October 1, 2002. He also continues to be President of our Oncology Systems business, a position he has held since 1990. He was Corporate Vice President of the Company from 1992 to October 1, 2002. Mr. Guertin has held various other positions in the medical systems business during his 29 years with the Company.
Robert H. Kluge— Corporate Vice President	58	Mr. Kluge became Corporate Vice President of the Company on April 3, 1999. Prior to April 2, 1999, he was Vice President and General Manager of our X-ray Products business, positions he held from 1993. Before joining the Company in 1993, he held various positions with Picker International (an X-ray systems manufacturer).
Elisha W. Finney— Corporate Vice President, Chief Financial Officer	43	Ms. Finney became Corporate Vice President and Chief Financial Officer of the Company on April 3, 1999. She was our Treasurer prior to April 2, 1999. From 1995 to 1998, Ms. Finney served as Assistant Treasurer. Ms. Finney has held various other positions during her 16 years with the Company.
Joseph B. Phair— Corporate Vice President, Administration, General Counsel and Secretary	57	Mr. Phair became Corporate Vice President, Administration of the Company on August 20, 1999. Between April 3, 1999 and August 20, 1999, he was a consultant to the Company. Prior to that, Mr. Phair had been Vice President General Counsel of the Company since 1990 and Secretary since 1991. Mr. Phair has held various other positions in our legal department during his 25 years with the Company.
Crisanto C. Raimundo— Corporate Vice President, Corporate Controller	57	Mr. Raimundo became Corporate Vice President on March 4, 2002 and has been Corporate Controller of the Company since April 5, 2000. For six months prior to April 5, 2000, he was the Company's Operations Controller. From 1995 to 2000, Mr. Raimundo was the Controller for the Oncology Systems business. Since joining the Company in 1979, Mr. Raimundo has held various finance positions including Director of Corporate Audit, and Manager of Corporate Financial Analysis and Planning.

PART II

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

Our common stock is traded on the New York Stock Exchange, or NYSE, and Pacific Exchange under the symbol "VAR." The following table sets forth the high and low sales prices for our common stock as reported in the consolidated transaction reporting system for the NYSE in fiscal years 2004 and 2003.

	<u>High</u>	<u>Low</u>
<i>Fiscal Year 2004</i>		
First Quarter	\$35.65	\$27.75
Second Quarter	\$44.56	\$33.98
Third Quarter	\$46.49	\$38.33
Fourth Quarter	\$40.38	\$29.63
<i>Fiscal Year 2003</i>		
First Quarter	\$25.66	\$20.92
Second Quarter	\$27.40	\$24.17
Third Quarter	\$29.73	\$23.70
Fourth Quarter	\$31.47	\$26.88

Since the spin-offs and becoming Varian Medical Systems, Inc., we have not paid any cash dividends on our common stock. We have no current plan to pay cash dividends on our common stock, and will review that decision periodically. Further, our existing unsecured term loan agreements contain provisions that limit our ability to pay cash dividends.

On June 14, 2004, our Board of Directors declared a two-for-one stock split in the form of a 100% stock dividend. The distribution of the shares was made on July 30, 2004 to stockholders of record as of June 30, 2004. Unless otherwise stated, all references to the number of shares and price per share of our common stock have been retroactively restated to reflect the increased number of shares resulting from the two-for-one stock split.

As of December 1, 2004, there were approximately 3,678 holders of record of our common stock.

Stock Repurchase Program

The following table provides information with respect to the shares of common stock repurchased by us for the periods indicated.

<u>Period</u>	<u>Total Number of Shares Purchased</u>	<u>Average Price Paid Per Share</u>	<u>Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs</u>	<u>Maximum Number of Shares that May Yet to Be Purchased Under the Plans or Programs</u>
July 3, 2004 - July 30, 2004	—	—	—	3,962,200
July 31, 2004 - August 27, 2004	1,900,000	\$32.58	1,900,000	2,062,200
August 28, 2004 - October 1, 2004	<u>602,200</u>	\$33.66	<u>602,200</u>	1,460,000
Total	<u>2,502,200</u>	\$32.84	<u>2,502,200</u>	1,460,000

As of September 26, 2003, we could repurchase up to 1,036,000 shares (on a post-July 30, 2004 stock split basis) of our common stock from previously announced Board of Directors' authorizations. On November 12, 2003, our Board of Directors announced a further repurchase of up to three million shares

(on a pre-July 30, 2004 stock split basis) of our common stock through the August 31, 2005. During fiscal year 2004, we repurchased 5,576,000 shares (on a post-July 30, 2004 stock split basis) of our common stock at an aggregate cost of approximately \$202 million. As of October 1, 2004, we could still repurchase up to 1,460,000 shares (on a post-July 30, 2004 stock split basis) of our common stock.

Item 6. Selected Consolidated Financial Data

We derived the following selected statements of earnings and balance sheet data as of and for the fiscal years ended October 1, 2004, September 26, 2003, September 27, 2002, September 28, 2001 and September 29, 2000 from our audited consolidated financial statements. The financial data set forth below should be read in conjunction with our consolidated financial statements and the accompanying notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere herein.

Summary of Operations:

(In millions, except per share amounts)	Fiscal Years				
	2004	2003	2002	2001	2000
Revenues	\$1,235.5	\$1,041.6	\$873.1	\$773.6	\$689.7
Earnings from operations before taxes(1)	257.3	201.4	146.3	107.0	84.9
Taxes on earnings	90.1	70.5	52.7	39.0	31.9
Earnings from operations before cumulative effect of changes in accounting principles	167.2	130.9	93.6	68.0	53.0
Cumulative effect of changes in accounting principles, net of taxes(2)	—	—	—	(13.7)	—
Net earnings	<u>\$ 167.2</u>	<u>\$ 130.9</u>	<u>\$ 93.6</u>	<u>\$ 54.3</u>	<u>\$ 53.0</u>
Net earnings per share—Basic(3)(4)					
Operations	\$ 1.23	\$ 0.96	\$ 0.69	\$ 0.52	\$ 0.43
Cumulative effect of changes in accounting principles, net of taxes	—	—	—	(0.11)	—
Net earnings per share—Basic(3)(4)	<u>\$ 1.23</u>	<u>\$ 0.96</u>	<u>\$ 0.69</u>	<u>\$ 0.41</u>	<u>\$ 0.43</u>
Net earnings per share—Diluted(3)(4)					
Operations	\$ 1.18	\$ 0.92	\$ 0.67	\$ 0.50	\$ 0.41
Cumulative effect of changes in accounting principles, net of taxes	—	—	—	(0.10)	—
Net earnings per share—Diluted(3)(4)	<u>\$ 1.18</u>	<u>\$ 0.92</u>	<u>\$ 0.67</u>	<u>\$ 0.40</u>	<u>\$ 0.41</u>
Pro forma amounts with the changes in accounting principles related to revenue recognition under Staff Accounting Bulletin No. 101 ("SAB 101") applied retroactively to fiscal years prior to 2001: (unaudited)					
Revenues					\$677.2
Net earnings					\$ 49.2
Net earnings per share:					
Basic					\$ 0.40
Diluted					\$ 0.38
Financial Position at Fiscal Year End:					
Working capital	\$ 423.8	\$ 396.1	\$293.3	\$334.1	\$200.7
Total assets	1,170.2	1,053.5	910.3	759.2	602.6
Short-term borrowings	—	—	0.1	0.2	0.6
Long-term borrowings (including current maturities)	58.5	58.5	58.5	58.5	58.5
Stockholders' equity	613.7	563.7	472.8	394.4	270.4

(1) Fiscal year 2000 results from operations include acquisition-related expenses of \$2.0 million (\$1.2 million after-tax or \$0.01 per diluted share.)

- (2) In fiscal year 2001, we recorded a net non-cash charge of \$13.7 million (after reduction for income taxes of \$7.9 million) or \$0.10 per diluted share, to reflect the cumulative net effect of the changes in accounting principles as of September 30, 2000. The cumulative net effect of the change in accounting principle related to the adoption of SAB 101, Revenue Recognition in Financial Statements, was \$13.8 million (after reduction for income taxes of \$8.0 million) or \$0.10 per diluted share, which was partially offset by the cumulative net effect of the change in accounting principle related to the Statement of Financial Accounting Standards No. 133, "Accounting for Derivative Instruments and Hedging Activities," of \$0.1 million credit (after reduction for income taxes credit of \$0.1 million).
- (3) On November 16, 2001, our Board of Directors declared a two-for-one stock split in the form of a 100% stock dividend. The distribution of the shares was made on January 15, 2002 to stockholders of record as of December 10, 2001. All references to the number of shares and per share amounts of our common stock have been retroactively restated to reflect the increased number of shares resulting from the two-for-one stock split.
- (4) On June 14, 2004, our Board of Directors declared a two-for-one stock split in the form of a 100% stock dividend. The distribution of the shares was made on July 30, 2004 to stockholders of record as of June 30, 2004. All references to the number of shares and per share amounts of our common stock have been retroactively restated to reflect the increased number of shares resulting from the two-for-one stock split.

Item 7. MANAGEMENT' DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

At the end of fiscal year 2004, we reported record net orders, revenues, net earnings and year-end backlog, driven by solid growth in well-established and new products. Worldwide sales of our products and accessories for IMRT fueled our fiscal year 2004 net orders and revenues growth. We also introduced the first of our products for IGRT in fiscal year 2004, which we believe are being well received.

Oncology Systems. Our largest business segment is Oncology Systems, which produces, sells and services hardware and software products for treating cancer with radiation, including linear accelerators, treatment simulation and verification products, information management and treatment planning software and other sophisticated accessory products and services. Our products enable, and allow doctors to perform, conventional radiotherapy treatments and offer the advanced treatment processes of IMRT and IGRT. We have continued to see growth in the number of clinics that are treating patients with IMRT and, in particular, IMRT using Varian products, driven by fundamental market factors including rising cancer incidence, underserved medical needs outside of the United States, technology advances that are leading to improvements in patient care, patient demand for more advanced and effective treatments (such as IMRT, IGRT and stereotactic treatments), educational efforts by hospitals and the media and radiotherapy centers motivated to have the most modern systems to improve clinical outcomes and attract top medical talent. Furthermore, these advanced treatment processes require additional accessories such as multi-leaf collimators, portal imaging devices, and respiratory gating tools which are helping to increase average sales prices for completely configured systems. Approximately 50% of our customer sites worldwide that use our equipment have the products and accessories necessary to perform the most advanced forms of IMRT. Although we believe that eventually over 90% of our customers using our equipment will be equipped to perform IMRT treatments, we expect that the rate of growth of orders and revenues for IMRT-related products will be lower in the future than what we have experienced in the last three fiscal years.

IGRT is now generally accepted as the next technology driver for radiotherapy. Our first IGRT-enabled products, namely, the Trilogy™ linear accelerator, our 3-D cone beam imaging for our Acuity X-ray imaging device, our new Clinac iX series of accelerators and our 3-D cone beam imaging for our OBI, were introduced towards the end of fiscal year 2004 and our IGRT technology is already in routine clinical use in a few medical centers domestically and internationally. While the level of orders and revenues for our IGRT-enabled products are still small compared to our IMRT-enabled products and IGRT is certainly still a nascent technology, early indications lead us to believe that the rate of acceptance and adoption of IGRT will be greater than that for IMRT. Therefore, we continue to expect that the long-term growth rate for Oncology Systems will be between 10% and 15%.

During fiscal year 2004 we acquired Zmed, Inc. for approximately \$34.8 million in cash, the Mitsubishi Electric Co. radiotherapy equipment service business for \$19.1 million in cash and the OpTx Corporation business for \$17.9 million in cash. We believe the new technology and services acquired from these entities will continue to contribute to the overall growth of our Oncology Systems business segment in the future.

Our success in Oncology Systems depends upon our ability to retain leadership in technological innovation, the cost effectiveness of our products, the efficacy of our treatment technology and macroeconomic influences. Factors affecting the adoption rate of new technologies such as IGRT could include our internal efficiency in design, documentation and testing. They may also include customer training, reimbursement and our ability to educate customers about new technology cost and clinical advantages. Macroeconomic factors could include hospital financial strength in the United States and governmental healthcare policies outside the United States.

X-Ray Products. Our other significant business segment is X-ray Products, which manufactures and sells (i) X-ray tubes for use in a range of applications including CT, scanning, radioscopic/fluoroscopic imaging, special procedures, industrial and mammography and (ii) flat panel imaging products (also commonly referred to as flat panel detectors) for digital X-ray image capture, which is an alternative to image intensifiers or X-ray film. In fiscal year 2004, we continued to view the fundamental driver for this business to be the on-going success of key OEMs that incorporate our X-ray tube products and flat panel imaging devices into medical diagnostic and industrial imaging systems. Our flat panel product is being incorporated into next generation imaging equipment, including equipment for IGRT such as OBI.

Other. Through GTC, our research facility, we are developing new business areas, including next generation digital X-ray imaging technology and technology for cargo screening. In addition, we are developing technologies and products that promise to improve disease management by employing targeted energy and molecular agents to enhance the effectiveness and broaden the application of radiation therapy. Our BrachyTherapy operations manufacture, sell and service advanced brachytherapy products.

This discussion and analysis of 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 “—Factors Affecting Our Business” below. We discuss our results of operations below. All figures given in this Annual Report on Form 10-K are based on actual reported results, unless otherwise stated as being on a pro forma basis assuming that SAB 101 was applied retroactively to prior years.

Critical Accounting Estimates

The preparation of our financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America, or 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 and estimates 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. Such accounting policies are impacted significantly by judgments, assumptions and estimates used in the preparation of the Consolidated Financial Statements, and actual results could differ materially from these estimates. For a discussion of how these estimates and other factors may affect our business, also see “—Factors Affecting Our Business.”

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 the proceeds received from an arrangement to the multiple elements of the arrangement, the determination of whether any undelivered elements are essential to the functionality of the delivered elements and the appropriate timing of revenue recognition are critical in respect to these arrangements to ensure compliance with GAAP. In addition, the amount of product revenues recognized is affected by our judgments as to whether objective and reliable evidence of fair value exists for hardware products and vendor-specific objective evidence of the fair value for software products in arrangements with multiple elements. Changes to the elements in an arrangement and the ability to establish objective and reliable evidence of fair value or vendor-specific objective evidence of the fair value for those elements could affect the timing of revenue recognition. Revenue recognition also depends on the timing of shipment and is subject to customer acceptance and the readiness of customers’ facilities. If shipments are not made on scheduled timelines or the products are not accepted by the customer timely, our reported revenues may differ materially from expectations.

Allowance for Doubtful Accounts

Credit evaluations are undertaken for all major sale transactions before shipment is authorized. Normal payment terms require payment of a small portion upon signing of the purchase order contract, a significant amount upon transfer of risk of loss 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 allowance in an amount we deem adequate for doubtful accounts. If our evaluation of our customers' financial conditions does not reflect the future ability to collect outstanding receivables, additional provisions may be needed and our future operating results could be negatively impacted. As of October 1, 2004, our allowance for doubtful accounts represented approximately 1.5% of total accounts receivable.

Inventories

Our inventories include high technology parts and components that may be specialized in nature or subject to rapid technological obsolescence. We have programs to minimize the required inventories on hand and we regularly review inventory quantities on hand 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.

Warranty Obligations

We warrant our products for a specific period of time, usually one year, 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, which fail while still under warranty. The amount of accrued estimated warranty costs is primarily based on historical experience as to product failures as well as current information on repair costs. 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 we were required to accrue additional warranty cost in the future, it would negatively affect 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 companies we have acquired have not had significant identified tangible assets and, as a result, a significant portion of the purchase price has been typically allocated 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 goodwill if indicators of potential impairment exist. As a result of business acquisitions, the allocation of the purchase price to goodwill and intangible assets could have a significant impact on our future operating results. The allocation of the purchase price of the acquired companies 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 these cash flows. Should conditions be different from management's current estimates, material write-downs of intangible assets and/or goodwill may be required, which would adversely affect our operating results. We will continue to make assessments of impairment on an annual basis in the fourth quarter of our fiscal years or more frequently if indicators of potential impairment arise. In fiscal years 2004 and 2003, we performed such evaluation and found no impairment. As of October 1, 2004, the carrying value of goodwill was \$113 million.

Environmental Matters

We are subject to a variety of environmental laws around the world regulating the handling, storage, transport and disposal of hazardous materials that do or may create increased costs for some of our operations. Environmental remediation liabilities are recorded when environmental assessments and/or remediation efforts are probable, and the costs of these assessments or remediation efforts can be reasonably estimated, in accordance with Statement of Financial Accounting Standards No. 5, *Accounting for Contingencies*, and the American Institute of Certified Public Accountants, or AICPA, Statement of Position 96-1, *Environmental Remediation Liabilities*. The accrued environmental costs represent our best estimate as to the total costs of remediation and the time period over which these costs will be incurred. On a quarterly basis, we review these accrued balances. If we were required to accrue additional environmental remediation costs in the future, it would negatively impact our operating results.

Taxes on Earnings

As a global taxpayer, significant judgments and estimates are required in evaluating our tax positions and determining our provision for taxes on earnings. The calculation of our tax liabilities involves addressing uncertainties in the application of complex tax regulations. We recognize liabilities for anticipated tax audit issues in the U.S. and other tax jurisdictions based on our estimate of whether, and the extent to which, additional taxes and interest may be due. These liabilities are adjusted in light of changing facts and circumstances, such as the closing of a tax audit. The provision for taxes on earnings includes the effect of changes to these liabilities that are considered appropriate.

In addition, the carrying value of our net deferred tax assets assumes that we will be able to generate sufficient future taxable earnings to fully 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, then our tax provision would increase in the period in which we make such a determination.

We are subject to taxes on earnings in both the U.S. and numerous foreign jurisdictions. Earnings derived from our international region are generally taxed at rates lower than U.S. rates. The ability to maintain our current effective rate is contingent upon existing tax laws in both the U.S. and in the respective countries in which our international subsidiaries are located. In addition, a decrease in the percentage of our total earnings from our international region, or a change in the mix of international regions among particular tax jurisdictions, could increase our effective tax rate. Also, our current effective tax rate does not assume U.S. taxes on 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 U.S.

Results of Operations

Fiscal Year

Our fiscal year is the 52- or 53-week period ending on the Friday nearest September 30. Fiscal year 2004 comprised the 53-week period ended on October 1, 2004, and fiscal years 2003 and 2002 were 52-week periods ended on September 26, 2003 and September 27, 2002, respectively.

On June 14, 2004, our Board of Directors declared a two-for-one stock split in the form of a 100% stock dividend. The distribution of the shares was made on July 30, 2004 to stockholders of record as of June 30, 2004. Unless otherwise stated, all references to the number of shares and per share amounts of our common stock have been retroactively restated to reflect the increased number of shares resulting from the two-for-one split.

Discussion of Financial Data for Fiscal Years ended 2004, 2003 and 2002

Total Revenues

Revenues by sales classification (Dollars in millions)	Fiscal Years				
	2004	% Change	2003	% Change	2002
Product	\$ 1,059	17%	\$ 908	20%	\$756
Service Contracts and Other	177	32%	134	15%	\$117
Total Revenues	<u>\$1,236</u>	19%	<u>\$1,042</u>	19%	<u>\$873</u>
<i>Product as a percentage of total revenues</i>	86%		87%		87%
<i>Service Contracts and Other as a percentage of total revenues</i>	14%		13%		13%
Revenues by region					
North America	\$ 693	11%	\$ 625	17%	\$533
Europe	319	35%	236	31%	180
Asia	179	19%	151	20%	126
Rest of world	45	46%	30	(10)%	34
Total International(1)	<u>543</u>	30%	<u>417</u>	23%	<u>340</u>
Total	<u>\$1,236</u>	19%	<u>\$1,042</u>	19%	<u>\$873</u>
<i>North America as a percentage of total revenues</i>	56%		60%		61%
<i>International as a percentage of total revenues</i>	44%		40%		39%

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

Total revenues for fiscal year 2004 increased over total revenues for fiscal year 2003 due primarily to the continuing growth in our Oncology Systems business segment. All of our business segments, as well as all of our geographic regions, contributed to our total revenues increase in fiscal year 2004. In particular, our Oncology Systems product growth was very solid, which was the primary contributor to the total product revenues growth, and it was complemented by strong growth in Oncology Systems service contracts and other revenues, which was the primary contributor to the total service contracts and other revenues growth. Oncology Systems contributed to the increase in percentage revenues growth for the international regions from fiscal years 2003 to 2004 as compared to fiscal years 2002 to 2003.

The increase in total revenues during fiscal year 2003 compared to fiscal year 2002 was primarily due to the strength in our Oncology Systems business segment and recovery of our X-ray Products business segment from an unusually weak fiscal year 2002.

Oncology Systems Revenues

Revenues by sales classification (Dollars in millions)	Fiscal Years				
	2004	% Change	2003	% Change	2002
Product	\$ 867	18%	\$732	18%	\$618
Service Contracts and Other	164	32%	124	16%	\$107
Total Oncology Systems	<u>\$1,031</u>	20%	<u>\$856</u>	18%	<u>\$725</u>
<i>Product as a percentage of Oncology Systems</i>	84%		86%		85%
<i>Service Contracts as a percentage of Oncology Systems ..</i>	16%		14%		15%
<i>As a percentage of total revenues</i>	84%		82%		83%

One primary reason for the Oncology System's product revenues increase for fiscal year 2004 was the continued market demand for our advanced technology products and accessories that enable IMRT treatments, as IMRT continues to penetrate the mainstream radiation oncology market, both in North America and internationally. Another reason for Oncology System's product revenues growth, especially in the international regions, was the relatively weak U.S. dollar that made our pricing more competitive with our foreign competitors.

The percentage product revenues growth of 18% from fiscal years 2003 to 2004 equaled that of the product revenues growth from fiscal years 2002 to 2003. The increase in service contracts and other revenues for fiscal year 2004 was due to a combination of factors, including growth in the installed base of our products, the increase in sophistication and complexity of our products (particularly software products which generate maintenance contracts) and the relatively weak U.S. dollar that effectively made our pricing more competitive with our foreign competitors. Additionally, the acquisition of the radiotherapy equipment service business of Mitsubishi Electric Co. in Japan contributed to the increase in service contracts and other revenues and a higher percentage growth in such revenues from fiscal years 2003 to 2004 as compared to fiscal years 2002 to 2003. The increase in service contracts and other revenues for fiscal year 2003 compared to that of fiscal year 2002 was primarily due to the growth in the installed base for our products.

Revenues by region (Dollars in millions)	Fiscal Years				
	2004	% Change	2003	% Change	2002
North America	\$ 611	11%	\$548	18%	\$466
Europe	286	37%	209	33%	157
Asia	96	26%	76	3%	74
Rest of world	38	68%	23	(18)%	28
Total International	420	37%	308	19%	259
Total Oncology Systems	\$1,031	20%	\$856	18%	\$725
<i>North America as a percentage of Oncology Systems</i>	<i>59%</i>		<i>64%</i>		<i>64%</i>
<i>International as a percentage of Oncology Systems</i>	<i>41%</i>		<i>36%</i>		<i>36%</i>
<i>As a percentage of total revenues</i>	<i>84%</i>		<i>82%</i>		<i>83%</i>

The growth in our revenues from North America continued to decelerate in fiscal year 2004 compared to fiscal year 2003 while the growth in our revenues from our international regions continued to accelerate, combining for an overall net increase in revenues growth in our Oncology Systems segment. North American revenues increased 11% for fiscal year 2004 over fiscal year 2003, as compared to an 18% increase for fiscal year 2003 over fiscal year 2002. This decrease in revenues growth rate for North America and the increase in revenues growth rate for our international regions are consistent with the orders growth patterns, and were due to the same factors, as discussed more fully in *Net Orders and Backlog* section of this Management's Discussion and Analysis of Financial Condition and Results of Operations.

International revenues increased 37% in fiscal year 2004 over fiscal year 2003, as compared to a 19% increase in fiscal year 2003 over fiscal year 2002. We have noted that international markets typically trail North America in the adoption of new technology and we are now seeing an increase in adoption rate of IMRT by our international customers similar to what we saw in North America several years ago. The growth in international revenues is also due in part to factors such as (i) the relatively weak U.S. dollar that effectively made our pricing more competitive with our foreign competitors and (ii) the acquisition of the radiotherapy equipment service business of Mitsubishi Electric Co. in Japan in February 2004.

For fiscal year 2003, Oncology Systems North American revenues increased 18% over fiscal year 2002 levels primarily due to the continued increase in demand for our IMRT technology and IMRT-related products, which resulted in higher overall sales volume. For fiscal year 2003, Oncology Systems

international revenues increased 19% over fiscal year 2002 levels due in part to the relatively weak U.S. dollar, that effectively made our pricing more competitive with our foreign competitors.

X-ray Products Revenues

<u>Revenues by region</u> (Dollars in millions)	<u>Fiscal Years</u>				
	<u>2004</u>	<u>% Change</u>	<u>2003</u>	<u>% Change</u>	<u>2002</u>
North America.....	\$ 57	3%	\$ 56	17%	\$ 48
Europe	22	10%	20	4%	19
Asia	82	12%	73	43%	51
Rest of world	4	9%	4	(6)%	4
Total International	<u>108</u>	11%	<u>97</u>	30%	<u>74</u>
Total X-ray Products	<u>\$165</u>	8%	<u>\$153</u>	25%	<u>\$122</u>
<i>As a percentage of total revenues</i>	<i>13%</i>		<i>15%</i>		<i>14%</i>

The 8% increase in X-ray Products revenues for fiscal year 2004 over fiscal year 2003 was attributable to the continuing demand by our largest OEM customers for our high power, anode grounded CT scanning tube and to increased revenues from our flat panel imaging products with a second major OEM beginning to purchase our flat panel imaging products in the second half of fiscal year 2004. With roughly \$15 million in annual revenues, the flat panel imaging product line was profitable in fiscal year 2004 for the first time. The growth rate for fiscal year 2004 is more consistent with, though still somewhat above, our long-term growth rate range for the X-ray Products segment.

The 25% increase in X-ray Products revenues for fiscal year 2003 over fiscal year 2002 was primarily attributable to unusually weak sales for the first half of fiscal year 2002 compared to historical levels because of excess inventory levels at our largest OEM customer as well as a general weakness in the X-ray tube market. Our business began to recover in the second half of fiscal year 2002 and continued to recover through the first half of fiscal year 2003 as this OEM customer replenished its inventory. During fiscal year 2003, we also experienced an increase in the volume of sales of our CT scanning tube products and replacement tubes for third party service organizations.

Other Revenues

<u>Revenues by sales classification</u> (Dollars in millions)	<u>Fiscal Years</u>				
	<u>2004</u>	<u>% Change</u>	<u>2003</u>	<u>% Change</u>	<u>2002</u>
Product	\$ 27	16%	\$ 23	42%	\$ 16
Service Contracts and Other	13	28%	10	6%	10
Total Other	<u>\$ 40</u>	20%	<u>\$ 33</u>	28%	<u>\$ 26</u>
<i>As a percentage of total revenues</i>	<i>3%</i>		<i>3%</i>		<i>3%</i>

For our combined Other segment, which comprised of GTC and our BrachyTherapy operations, the increase in revenues for fiscal year 2004 compared to fiscal year 2003 was due almost exclusively to BrachyTherapy and, within BrachyTherapy, primarily attributable to increased product sales of our HDR afterloaders in North America and Europe. The increase in service contracts and other revenues for fiscal year 2004 was due in part to the growth in the installed base of our brachytherapy products and increased sales of brachytherapy treatment planning software (products which generate maintenance contracts).

The net increase in combined revenues for GTC and our BrachyTherapy operations for fiscal year 2003 compared to fiscal year 2002 stemmed primarily from the addition of the GammaMed product line for high dose rate brachytherapy. The GammaMed product line was acquired in the fourth quarter of fiscal year 2002.

Gross Margin

Gross margin in absolute dollars (Dollars in millions)

	Fiscal Years				
	2004	% Change	2003	% Change	2002
Oncology Systems	\$442	25%	\$352	20%	\$293
X-ray Products	56	5%	54	53%	35
Other	19	20%	16	42%	11
Gross margin	<u>517</u>	23%	<u>422</u>	24%	<u>339</u>

Gross margin by segment

Oncology Systems	43%	41%	40%
X-ray Products	34%	35%	29%
Total Company	42%	41%	39%

Our gross margin increased by 1% from fiscal years 2003 to 2004 primarily due to a higher Oncology Systems gross margin offset partially by a lower X-ray Products gross margin. We also saw an increase in product and service contracts and other gross margins due to Oncology Systems product mix shift towards accessory and other products for IMRT, which typically have higher margins, and growth in higher margin software maintenance contracts in Oncology Systems. Product gross margin for the total company was 43% in fiscal year 2004, compared to 42% and 40% in fiscal years 2003 and 2002, respectively. Service contracts and other gross margin for the total company was 36% in fiscal year 2004, compared to 33% and 29% in fiscal years 2003 and 2002, respectively.

The increase of 2-percentage points in Oncology Systems gross margin for fiscal year 2004 from fiscal year 2003 resulted from several factors including higher sales volume yielding lower average product costs, improvements in service margins (partly reflecting the growth in higher margin software maintenance contracts), product mix shift towards accessory and other products for IMRT and higher amount of product acceptance revenues in fiscal year 2004 versus fiscal year 2003, all of which more than offset the shift in geographic mix for sales towards international sales, which typically have lower margins. This margin improvement in Oncology Systems may not necessarily continue in the future.

The decline in X-ray Products gross margin for fiscal year 2004 over fiscal year 2003 was due to a combination of increased warranty costs for an existing tube product that we sell exclusively to one OEM and start-up costs for a new tube product.

Oncology Systems gross margin increased 1% in fiscal year 2003 from fiscal year 2002 due principally to increased sales volume and the mix of products. X-ray Products gross margin increased to 35% in fiscal year 2003 from 29% in fiscal year 2002 due primarily from higher sales volume and improved manufacturing productivity.

Research and Development

(Dollars in millions)

	Fiscal Years				
	2004	% Change	2003	% Change	2002
Research and development	\$ 72	22%	\$ 59	22%	\$ 48
As a percentage of total revenues	6%		6%		6%

The increase in absolute dollars in research and development expenses for fiscal year 2004 was primarily attributable to increased spending of \$11.3 million in Oncology Systems. Our research and development efforts in Oncology Systems in fiscal year 2004 have been focused on the development of next generation products and accessories that enable IGRT, specifically our Trilogy™ linear accelerator, our 3-D cone beam imaging for our Acuity X-ray imaging device, our 3-D cone beam CT for OBI, our new Clinac iX series of accelerators, other technology such as our Monte Carlo and Triple A algorithms for our

treatment planning software products and our new electronic health records within our VARiS information management software. We anticipate that we will continue to devote significant resources to research and development in the future.

The increase in absolute dollars in research and development expenses for fiscal year 2004 compared to fiscal year 2003 was attributable primarily to: a) increased employee headcount, materials costs and consulting expenses of \$7.7 million in total; b) increased expenses of \$1.7 million related to research grants; and c) increased expenses of \$1.9 million related to the new projects from our recent acquisitions.

The increase in absolute dollars in research and development expenses for fiscal year 2003 compared to fiscal year 2002 was attributable primarily to: a) increased employee headcount, materials costs and consulting expenses of \$8.3 million in total; and b) increased expenses of \$2.4 million related to research grants.

Selling, General and Administrative

(Dollars in millions)	Fiscal Years				
	2004	% Change	2003	% Change	2002
Selling, general and administrative	\$189	15%	\$164	13%	\$146
<i>As a percentage of total revenues</i>	15%		16%		17%

The increase in absolute dollars, although lower as a percentage of total revenues, in selling, general and administrative expenses for fiscal year 2004 compared to fiscal year 2003 was attributable primarily to: a) increased employee-related expenses of \$9.5 million resulting from an increase in employee headcount in Oncology Systems and corporate headquarters to support our growing business activities; b) increased operating expenses of \$8.5 million related to our acquisitions of Zmed, Inc., the Mitsubishi Electric Co. radiotherapy equipment service business and the OpTx Corporation business; and c) increased expenses of \$4.0 million resulting from the relatively weak U.S. dollar for our foreign operations as the selling, general and administrative expenses are translated into U.S. dollar.

The increase in absolute dollars in selling, general and administrative expenses for fiscal year 2003 compared to fiscal year 2002 was attributable primarily to: a) increased employee-related expenses of \$8.6 million resulting from an increase in employee headcount to support our growing business activities; b) increased operating expenses of \$2.6 million related to our recent acquisitions; and c) increased expenses of \$2.4 million resulting from the relatively weak U.S. dollar for our foreign operations as the selling, general and administrative expenses are translated into U.S. dollar.

Reorganization Income, Net

The \$0.2 million of net reorganization income in fiscal year 2002 resulted from the release of an excess reorganization accrual for foreign taxes (excluding income taxes) established as part of the spin-offs, partially offset by reorganization charges primarily attributable to legal fees incurred in excess of the amounts previously accrued. There were no such amounts in fiscal years 2004 and 2003.

Interest Income, Net

(Dollars in millions)	Fiscal Years				
	2004	% Change	2003	% Change	2002
Interest income, net	\$1.3	(57)%	\$3.0	135%	\$1.3

The decline in interest income, net in fiscal year 2004 compared to fiscal year 2003 was primarily attributable to a one-time state income tax refund which contained an interest component of \$0.8 million that was received in fiscal year 2003, as well as decreases in the levels of cash and marketable securities and interest rates between the fiscal years 2004 and 2003.

The increase in interest income, net in fiscal year 2003 compared to fiscal year 2002 was attributable to a one-time state income tax refund which contained an interest component of \$0.8 million received in fiscal year 2003, as well as increases in the levels of cash and marketable securities between fiscal year 2003 and fiscal year 2002.

Taxes on Earnings

	Fiscal Years				
	2004	Change	2003	Change	2002
Effective tax rate	35%	—	35%	(1)%	36%

The effective tax rate in fiscal year 2004 was the same as in fiscal year 2003. The decrease in effective tax rate in fiscal year 2003 from fiscal year 2002 was primarily due to the settlement of a state tax audit, as well as tax-exemptions available on interest earned on our investments in municipal bonds. In general, our effective income tax rate differs from the statutory rates largely as a function of benefits realized from foreign taxes, tax-exempt interest and the extraterritorial income exclusion.

Earnings Per Diluted Share

	Fiscal Years				
	2004	% Change	2003	% Change	2002
Earnings per diluted share	\$1.18	28%	\$0.92	38%	\$0.67

The increase in earnings per diluted share in both fiscal years 2004 and 2003 can be attributed to the increase in total revenues, improvements in gross margins and slower growth in selling, general and administrative expenses as a percentage of total revenues.

Net Orders and Backlog

Total Net Orders (by segment and region) (Dollars in millions)	Fiscal Years				
	2004	% Change	2003	% Change	2002
Oncology Systems:					
North America	\$ 687	10%	\$ 623	15%	\$544
Europe	314	26%	249	36%	183
Asia	111	28%	87	14%	77
Rest of world	59	226%	18	(14)%	21
Total International	484	37%	354	26%	281
Total Oncology Systems	\$1,171	20%	\$ 977	18%	\$825
X-ray Products:					
North America	\$ 59	49%	\$ 40	1%	\$ 39
Europe	23	19%	20	(2)%	20
Asia	97	22%	79	35%	59
Rest of world	5	33%	3	(29)%	5
Total International	125	22%	102	22%	84
Total X-ray Products	\$ 184	30%	\$ 142	16%	\$123
Other:	\$ 43	32%	\$ 33	26%	\$ 26
Total Net Orders	<u>\$1,398</u>	21%	<u>\$1,152</u>	18%	<u>\$974</u>

The increase in our total net orders for fiscal year 2004 over fiscal year 2003 was primarily due to the 20% increase in Oncology Systems net orders. Oncology Systems international net orders increased by 37% during fiscal year 2004 over fiscal year 2003, while Oncology Systems North American net orders increased by 10% during fiscal year 2004 over fiscal year 2003. The increase in both Oncology Systems international net orders and Oncology Systems North American net orders was driven principally by the continued adoption of IMRT in North America and Europe and our introduction of new products facilitating IGRT and other new technologies introduced and acquired by us during the fiscal year 2004. The relatively weak U.S. dollar that effectively made our pricing more competitive with our foreign competitors also contributed to the net orders growth in the international regions. The increase in total net orders in fiscal year 2003 over fiscal year 2002 was primarily due to the 18% increase in Oncology Systems orders with Oncology Systems international net orders increasing by 26% and Oncology Systems net orders North American increasing by 15%.

The increase in Oncology Systems international net orders growth rate of 37% for fiscal year 2004 over fiscal year 2003 was due in part to the relatively weak U.S. dollar that effectively made our pricing more competitive with our foreign competitors. The Oncology Systems North American net orders growth rate has decelerated from 27% in fiscal year 2002 over fiscal year 2001, to 15% in fiscal year 2003 over fiscal year 2002, to 10% in fiscal year 2004 over fiscal year 2003. We believe the lower growth rate in Oncology Systems North American net orders was due primarily to the market for radiotherapy capital equipment, particularly equipment for IMRT, returning to normal growth after several years of robust double digit growth and to delays in orders as customers lengthen their decision-making while considering new technologies such as IGRT. The Oncology Systems North American net orders growth rate was 27% for fiscal year 2002 over fiscal year 2001 as compared to Oncology Systems international net orders growth rate of 4% over the same period. The lower growth rates in Oncology Systems North American net orders in fiscal year 2003 over fiscal year 2002 and in fiscal year 2004 over fiscal year 2003 have been more than offset by Oncology Systems international net orders growth rate of 26% in fiscal year 2003 over fiscal year 2002 and 37% in fiscal year 2004 over fiscal year 2003, respectively.

While we are seeing the orders growth rate in North America for IMRT-enabled equipment decelerating, we nevertheless expect 10% to 15% long-term growth for Oncology Systems as we see orders growth in North America for IGRT-related equipment and continued orders growth in our international markets. In any given period, orders growth in either North America or international markets could be outside of this range. Although orders usually result in future sales within twelve months, the actual timing of sales varies significantly based on the delivery requirements of individual orders and are shorter for some types of orders, such as upgrades (i.e. the addition of new features or accessories to existing equipment). Thus, orders in any fiscal year are not necessarily directly correlated to the level of sales in any particular future period.

X-ray Products net orders increased for fiscal year 2004 by 30% compared to fiscal year 2003 due to a long-term commitment for our flat panel image systems received during the last quarter of fiscal year 2004 and higher demand for our high power, anode grounded CT scanning tube. X-ray Products net orders increased for fiscal year 2003 by 16% compared to fiscal year 2002. Despite the strong increase in net orders, we continue to believe that our long-term orders growth for X-ray Products will be in the 0% to 5% range.

At October 1, 2004, we had a backlog of \$970 million, an increase of 20% compared to September 26, 2003.

Fiscal Year 2005 Outlook

Total Revenues: Our expectation at this early stage is that with our healthy backlog and successful addition of new products, total company revenues for fiscal year 2005 will increase in the 13% to 14% range over fiscal year 2004 totals.

Oncology Systems Revenues: We believe that revenues for fiscal year 2005 will increase in the mid-teens over fiscal year 2004 totals, consistent with our long-term growth expectations of 10% to 15% for this business.

X-ray Products Revenues: For fiscal year 2005, we expect a return to long-term growth rates of between 0% and 5%.

Earnings Per Diluted Share: For fiscal year 2005, we anticipate that earnings per diluted share will increase by nearly 20% over the earnings per diluted share for fiscal year 2004.

Taxes on Earnings: For fiscal year 2005, we estimate that our effective tax rate will be approximately 34%. The decrease of our effective tax rate of 1% from that of 35% in fiscal year 2004 is due primarily to expected increased proportion of pre-tax income in lower-taxed jurisdictions, as well as continued investment in municipal bonds (tax-exempt securities). Our future effective tax rate depends on various factors, such as tax legislation, the geographic composition of our pre-tax earnings, research and development credits and the effectiveness of our tax planning strategies.

The foregoing are forward-looking statements and projections that are subject to the factors, risks and uncertainties set forth or referred to under "—Factors Affecting Our Business" included in this Annual Report on Form 10-K. Actual results and the outcome or timing of certain events may differ significantly.

Liquidity and Capital Resources

Liquidity is the measurement of our ability to meet potential cash requirements, including ongoing commitments to repay borrowings, purchases of business assets and funding of continuing operations. Our sources of cash include sales, net interest income and borrowings. Our liquidity is actively managed on a daily basis to ensure the maintenance of sufficient funds to meet our needs.

Liquidity

The following table summarizes our cash and cash equivalents and marketable securities:

(In millions)	October 1, 2004	September 26, 2003	Increase/ (Decrease)
Cash, cash equivalents and marketable securities:			
Cash and cash equivalents	\$239	\$210	\$ 29
Marketable securities	154	197	(43)
Total	<u>\$393</u>	<u>\$407</u>	<u>\$(14)</u>

The net decrease in cash and cash equivalents and marketable securities during fiscal year 2004 was primarily a result of using cash and cash proceeds from maturities of marketable securities for the repurchase of common stock of \$202 million, acquisition of businesses of \$72 million and capital expenditures of \$24 million, significantly offset by cash provided by operating activities of \$234 million and cash provided by the issuance of common stock of \$46 million related to employee stock option exercises and employee stock purchases.

At October 1, 2004, approximately \$114 million or 29% of total cash, cash equivalents and marketable securities was held abroad and could be subject to additional taxation if it was repatriated to the U.S.

Cash Flows

(In millions)	Fiscal Years		
	2004	2003	2002
Net cash flow provided by (used in):			
Operating activities.....	\$ 234	\$ 210	\$ 156
Investing activities.....	(60)	(84)	(182)
Financing activities.....	(142)	(69)	(31)
Effects of exchange rate changes on cash and cash equivalents.....	(3)	(7)	(2)
Net increase (decrease) in cash and cash equivalents.....	<u>\$ 29</u>	<u>\$ 50</u>	<u>\$ (59)</u>

Our primary cash inflows and outflows for fiscal years 2004, 2003 and 2002 were as follows:

- We generated net cash from operating activities of \$234 million in fiscal year 2004, compared to \$210 million and \$156 million in fiscal years 2003 and 2002, respectively. The \$24 million increase in net cash from operating activities from fiscal years 2003 to 2004 was a result of an increase in net earnings of \$36 million and an increase in the tax benefit from employee stock options of \$6 million offset by the change in working capital and non-cash items, net, of \$18 million. The \$54 million increase in cash flow from operating activities from fiscal years 2002 to 2003 was a result of an increase in net earnings of \$37 million and an increase in tax benefit from employee stock options of \$11 million offset by the change in working capital and non-cash items, net, of \$6 million.

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, accounts receivable collections, inventory management, and the timing of tax and other payments. For additional discussion, see “—Factors Affecting our Business” below.

- Investing activities used \$60 million of net cash in fiscal year 2004, compared to \$84 million and \$182 million of net cash in fiscal years 2003 and 2002, respectively. Our net cash used to acquire businesses during fiscal year 2004 was \$72 million more than fiscal year 2003. Our net proceeds from maturities of marketable securities during fiscal year 2004 were \$42 million compared to net purchases of marketable securities of \$60 million during fiscal year 2003. Our net purchases of marketable securities during fiscal year 2003 were \$79 million less than fiscal year 2002. Our net cash used to acquire businesses during fiscal year 2003 was \$14 million less than fiscal year 2002.
- Financing activities used net cash of \$142 million in fiscal year 2004 compared to \$69 million and \$31 million in fiscal years 2003 and 2002, respectively. In fiscal year 2004, we received \$46 million in proceeds from employee stock option exercises and stock purchases and used \$202 million for repurchases of common stock. During fiscal year 2003, we received \$37 million in proceeds from employee stock option exercises and stock purchases and used \$105 million for the repurchases of common stock. In fiscal year 2002, we received proceeds of \$24 million from employee stock option exercises and stock purchases and used \$55 million for repurchases of common stock.

We expect our capital expenditures, which typically represent purchases of facilities, manufacturing equipment, office equipment and furniture and fixtures, to be around 3% of revenues in fiscal year 2005. We believe our current cash position and future cash generated from our operating activities will be sufficient to provide funds for our capital expenditures.

Our liquidity is affected by many factors, some of which are based on the normal ongoing operations of our business and some of which arise from uncertainties and conditions in the U.S. 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, cash to be generated from operations and our borrowing capability will be sufficient to satisfy anticipated commitments for capital expenditures and other cash

requirements through fiscal year 2005. We currently anticipate that we will continue to utilize our strong liquidity and cash flows from operations to repurchase our common stock, make strategic acquisitions, invest in the growth of our products and invest in systems and processes.

Performance Metrics

Trade accounts receivable days of sales outstanding, or DSO, were 74 at October 1, 2004, compared to 73 at September 26, 2003. Our accounts receivable and DSO are primarily impacted by timing of product shipments and collections performance. From time to time, we provide to our qualified customers extended payment terms as a competitive factor in winning customers and displacing our competitors. Such extended payment terms can negatively affect our DSO and can also increase the risk of collectibility of our accounts receivable as our customers' financial condition may change adversely during the extended payment period.

Stock Repurchase Program

On February 14, 2003, our Board of Directors authorized a repurchase of up to two million shares (on a pre-July 30, 2004 stock split basis) of our common stock through February 29, 2004. On November 12, 2003, our Board of Directors authorized an additional repurchase of up to three million shares (on a pre-July 30, 2004 stock split basis) of our common stock over the period through August 31, 2005. During fiscal years 2004, 2003 and 2002, we paid \$202 million, \$105 million and \$55 million, respectively, to repurchase on a post-July 30, 2004 stock split basis, 5,576,000 shares, 3,969,200 shares and 2,714,800 shares, respectively, of our common stock. All shares that have been repurchased have been retired. As of October 1, 2004, we could still repurchase up to 1,460,000 shares of our common stock.

Contractual Obligations

The following summarizes certain of our contractual obligations as of October 1, 2004 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 2005	Fiscal Years 2006 - 2007	Fiscal Years 2008 - 2009	Beyond
Debt obligation	\$ 58.5	\$ 5.3	\$10.2	\$16.5	\$26.5
Mandatorily redeemable instrument	12.6	—	12.6	—	—
Operating Leases obligation	32.8	12.5	12.8	5.1	2.4
Total	<u>\$103.9</u>	<u>\$17.8</u>	<u>\$35.6</u>	<u>\$21.6</u>	<u>\$28.9</u>

At October 1, 2004, we had \$58.5 million of debt. The fixed interest rates on the outstanding debt on this date ranged from 6.70% to 7.15% with a weighted average interest rate of 6.82%. This debt currently contains a covenant that requires the Company to pay prepayment penalties if the Company elects to pay off this debt before the maturity dates and the market interest rate is lower than the fixed interest rates of the debt at the time of repayment. It also contains covenants that limit future borrowings and cash dividend payments. The covenants also require us to maintain specified levels of working capital and operating results. For all fiscal years presented within the Consolidated Financial Statements included in this Annual report on Form 10-K, the Company was in compliance with all restrictive covenants of the unsecured term loan agreements.

Following a decision by Mitsubishi Electric Co., or MELCO, to exit the radiotherapy equipment and service business and its desire to do so in a nondisruptive manner with an established radiotherapy equipment service provider, we entered into two separate transactions with MELCO contemporaneously whereby (i) we purchased MELCO's radiotherapy equipment service business to service MELCO's existing customers and (ii) we formed a three-year joint venture, or JVA, in Japan with MELCO that was effective

as of February 3, 2004. The joint venture was accomplished through MELCO's purchase on February 3, 2004, of a 35% ownership interest in our Japanese subsidiary, VMS KK, for 1.4 billion Japanese Yen, or US\$13.5 million. At the end of the JVA period, MELCO is required to unconditionally sell and we are required to unconditionally repurchase MELCO's 35% ownership interest in VMS KK at the original price (1.4 billion Japanese Yen). We accounted for MELCO's 35% ownership interest as a mandatorily redeemable financial instrument and recorded such an instrument as long-term liabilities totaling \$12.6 million at October 1, 2004. For further discussion regarding these two transactions with MELCO, see Note 2 "Balance Sheet Components" of the Notes to the Consolidated Financial Statements.

Total debt as a percentage of total capital increased to 10.4% at October 1, 2004 compared to 9.4% at September 26, 2003 largely due to the addition to debt of the mandatorily redeemable instrument represented by our obligation to repurchase MELCO's 35% ownership interest in VMS KK during fiscal year 2004. The ratio of current assets to current liabilities decreased to 1.92 to 1 at fiscal year end 2004 from 1.97 to 1 at fiscal year end 2003.

Retirement Plans

As of October 1, 2004, we evaluated our key assumptions for our defined benefit plans and post-retirement benefit plans in response to the then-current conditions in the securities markets. For defined benefit plans, the discount rate of benefit obligation was increased from the range of 1.25%-5.30% at September 26, 2003 to the range of 2.25%-5.80% at October 1, 2004 based on the then-current yields on government and high quality corporate fixed-income investments with maturities corresponding to the expected duration of the benefit obligations. Additionally, the rate of projected compensation increase was adjusted from the range of 1.75%-4.00% at September 26, 2003 to the range of 1.75%-4.30% at October 1, 2004 reflecting expected inflation levels and future outlook. For post-retirement benefit plans, the discount rate was increased from 5.50% at September 26, 2003 to 5.75% at October 1, 2004 based on historical practice and changing duration of the benefit obligation. For defined benefit plans, the expected rate of return on assets used to determine net periodic benefit cost was decreased from the range of 0.50%-7.50% during fiscal year 2003 to the range of 0.50%-7.00% during fiscal year 2004. We conducted an expected long-term rate of return study on defined benefit plans assets. This study consisted of forward-looking projections for a risk-free rate of return, inflation rate and implied equity risk premiums for particular asset classes. Historical returns were not used. The results of this study were applied to the target asset allocation in accordance with our planned investment strategies. The expected long-term rate of return on plan assets was determined based on the weighted-average of projected returns on each asset class.

We recorded retirement and pension expense for all of our benefit plans totaling \$13.8 million, \$12.4 million and \$10.0 million for fiscal years 2004, 2003 and 2002, respectively. We believe the cost reductions associated with the Medicare Prescription Drug, Improvement and Modernization Act of 2003 will not have a significant effect on our consolidated financial position, results of operations or cash flows.

Environmental Matters

We are subject to a variety of environmental laws around the world regulating the handling, storage, transport and disposal of hazardous materials that do or may create increased costs for some of our operations. Although we follow procedures that we consider appropriate under existing regulations, these procedures can be costly and we cannot completely eliminate the risk of contamination or injury from these materials, and, in the event of such an incident, we could be held liable for any damages that result. In addition, we could be assessed fines or penalties for failure to comply with environmental laws and regulations. These costs, and any future violations or liability under environmental laws or regulations, could have a material adverse effect on our business.

In addition, we may be required to incur significant additional costs to comply with future changes in existing environmental laws and regulations or new laws and regulations. For example, several countries are proposing to require manufacturers to take back, recycle and dispose of products at the end of the equipment's useful life. The EU has adopted directives that when implemented will require medical equipment manufacturers to bear some or all of the cost of product disposal at the end of the products' useful life, thus creating increased costs for our operations. The EU has also adopted a directive that may require the adoption of restrictions on the use of some hazardous substances in certain of our products sold in the EU. This directive could create increased costs for our operations.

From the time we began operating, we handled and disposed of hazardous materials and wastes following procedures that were considered appropriate under regulations, if any, existing at the time. We also hired companies to dispose of wastes generated by our operations. Under various laws (such as the federal Superfund law) and under our obligations concerning operations before the spin-offs by the Company of VI and VSEA in 1999, we are overseeing environmental cleanup projects from our pre-spin-offs operations, and as applicable, reimbursing third parties (such as the U.S. Environmental Protection Agency or other responsible parties) for cleanup activities. Under the terms of the agreement governing the spin-offs, VI and VSEA are each obligated to indemnify us for one-third of these environmental cleanup costs (after adjusting for any insurance proceeds realized or tax benefits recognized by us). The cleanup projects we are overseeing are being conducted under the direction of or in consultation with relevant regulatory agencies. We estimate these cleanup projects will take up to approximately 30 years to complete. As described below, we have accrued a total of \$16.9 million at October 1, 2004 to cover our liabilities for these cleanup projects:

- Our estimate of future costs to complete certain cleanup activities ranges from \$3.9 million to \$7.3 million. For these estimates, we have not discounted the costs to present dollars because of the uncertainties that make it difficult to develop a best estimate and have accrued \$3.9 million, which is the amount at the low end of the range.
- For ten cleanup projects, we have sufficient knowledge to develop better estimates of our future costs. Formal agreements with other parties defining the Company's future liabilities or formal cleanup plans for these sites have been approved by or completed in accordance with requirements of the state or federal environmental agency with jurisdiction over the site. While our estimate of future costs to complete these cleanup projects, including third party claims, ranges from \$13.6 million to \$45.3 million, our best estimate within that range is \$19.8 million. For these projects we have accrued \$13.0 million; which is our best estimate of the \$19.8 million discounted to present dollars at 4%, net of inflation.

At October 1, 2004, our reserve for environmental liabilities, based upon future environmental related costs estimated as of that date, was calculated as follows:

(Dollars in millions)	<u>Recurring Costs</u>	<u>Non-Recurring Costs</u>	<u>Total Anticipated Future Costs</u>
Fiscal Year:			
2005	\$ 0.8	\$1.7	\$ 2.5
2006	0.8	1.2	2.0
2007	0.8	1.1	1.9
2008	0.8	0.5	1.3
2009	0.8	0.3	1.1
Thereafter	<u>12.7</u>	<u>2.2</u>	<u>14.9</u>
Total costs	<u>16.7</u>	<u>\$7.0</u>	23.7
Less imputed interest			<u>(6.8)</u>
Reserve amount			<u>\$16.9</u>

Recurring costs include expenses for such tasks as ongoing operation, maintenance and monitoring of cleanup while non-recurring costs include expenses for such tasks as soil excavation and treatment, injection/monitoring well installation and other costs for soil and groundwater *in situ* treatment by injection, ground and surface water treatment system construction, soil and groundwater investigation, certain governmental agency costs required to be reimbursed by us, governmental agency response costs (including agency costs required to be reimbursed by the responding company), treatment system and monitoring well removal and closure, and costs to defend against and settle pending and anticipated third party claims.

When we developed the estimates above, we considered the financial strength of other potentially responsible parties. These amounts are, however, only estimates and may be revised in the future as we get more information on these projects. We may also spend more or less than these estimates. Based on current information, we believe that our reserves are adequate. At this time, management believes that it is remote that any single environmental event would have a materially adverse impact on our consolidated financial statements in any single fiscal year. We spent \$2.1 million, \$1.9 million and \$3.9 million, net of amounts borne by VI and VSEA, during fiscal years 2004, 2003 and 2002, respectively.

We received cash payments in the form of settlements and judgments from various insurance companies, defendants and other third parties from time to time. In addition, we have an agreement with an insurance company to pay a portion of our past and future expenditures. As a result of this agreement, we have a \$3.3 million receivable included in "Other assets" as of October 1, 2004. We believe that this receivable is collectible because it is based on a binding, written settlement agreement with a financially viable insurance company and the insurance company has paid the claims that we have made to date.

Our present and past facilities have been in operation for many years, and over that time in the course of those operations, these facilities have used substances, that are or might be considered hazardous, and we have generated and disposed of wastes, that are or might be considered hazardous. Therefore, it is possible that additional environmental issues may arise in the future that we cannot now predict.

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 patent, copyright or any other intellectual property infringement claims by any third parties with respect to our products. The term of these indemnification arrangements is generally perpetual. The maximum potential amount of future payments we could be required to make under these agreements is unlimited. As of October 1, 2004, we have not incurred any costs since the spin-offs to defend lawsuits or settle claims related to these indemnification arrangements.

We have entered into indemnification agreements with our directors and officers that may require us to indemnify our directors and officers 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.

Generally, the maximum obligation under such indemnifications is not explicitly stated and, as a result, the overall amount of these obligations cannot be reasonably estimated. We believe that if we were to incur a loss in any of these matters, the loss would not have a material effect on our consolidated financial position, results of operations or cash flows.

Recent Accounting Pronouncements

The Financial Accounting Standards Board ("FASB") issued Interpretation No. 46 ("FIN No. 46"), Consolidation of Variable Interest Entities, in January 2003, and a revised interpretation of FIN No. 46

("FIN No. 46-R") in December 2003. FIN No. 46 requires certain variable interest entities ("VIEs") to be consolidated by the primary beneficiary of the entity if the equity investors in the entity do not have the characteristics of a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated financial support from other parties. The provisions of FIN No. 46 were effective immediately for all arrangements entered into after January 31, 2003. We have not invested in any entities that we believe are VIEs for which we are the primary beneficiary. FIN No. 46-R was effective for our second quarter of fiscal year 2004 and did not have an impact on our consolidated financial position, results of operations or cash flows.

In December 2003, the FASB issued a revision to SFAS No. 132 ("Revision"), *Employers' Disclosures about Pensions and Other Postretirement Benefits*. This Revision requires additional disclosures relating to the description of the types of plan assets, investment strategy, measurement dates, plan obligations, cash flows and components of net periodic benefit cost of defined benefit pension plans and other defined benefit postretirement plans recognized during interim periods. These disclosure requirements were effective for our second quarter of fiscal year 2004 and all future quarterly and annual reports.

In March 2004, the EITF reached a consensus on recognition and measurement guidance previously discussed under EITF No. 03-01, *The Meaning of Other-Than-Temporary Impairment and Its Application to Certain Investments*. The consensus clarifies the meaning of other-than-temporary impairment and its application to investments classified as either available-for-sale or held-to-maturity under FASB Statement No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, and investments accounted for under the cost method or the equity method. The recognition and measurement guidance is applied to other-than-temporary impairment evaluations in reporting periods beginning after June 15, 2004. This consensus did not have an impact on our consolidated financial position, results of operations or cash flows.

In March 2004, the FASB issued a proposed Statement, *Share-Based Payment, an amendment of FASB Statements Nos. 123 and 95*, that addresses the accounting for share-based payment transactions in which an enterprise receives employee services in exchange for either equity instruments of the enterprise or liabilities that are based on the fair value of the enterprise's equity instruments or that may be settled by the issuance of such equity instruments. The proposed Statement would eliminate the ability to account for share-based compensation transactions using APB 25 and would require that such transactions be accounted for using a fair-value-based method and recognized as expenses in our consolidated statement of earnings. The proposed Statement would require that the modified prospective method be used, which requires that the fair value of new awards granted from the beginning of the year of adoption, plus unvested awards at the date of adoption, be expensed over the applicable vesting period. In addition, the proposed Statement encourages companies to use the "binomial" model to value stock options, which differs from the Black-Scholes option pricing model that the Company currently uses. The recommended effective date of the proposed Statement for public companies is for all quarters beginning after June 15, 2005. We are currently evaluating option valuation methodologies and assumptions in light of the evolving accounting standards related to employee stock options. Current estimates of option values using the Black-Scholes method may not be indicative of results from valuation methodologies ultimately adopted in the final rules.

In May 2004, the FASB issued a FASB Staff Position ("FSP") No. 2 regarding SFAS No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions*. FSP 106-2, *Accounting and Disclosure Requirements Related to Medicare Prescription Drug, Improvement and Modernization Act of 2003*, discusses the effect of the Medicare Prescription Drug, Improvement and Modernization Act ("the Prescription Drug Act") enacted on December 8, 2003. FSP 106-2 considers the effect of the two new features introduced in the Act in determining the Company's accumulated postretirement benefit obligation ("APBO") and net periodic postretirement benefit cost, which may serve to reduce a company's postretirement benefit costs. FSP 106-2 was effective as of the first interim or annual period beginning

after June 15, 2004. In the fourth quarter of fiscal year 2004, we adopted FSP 106-2 with no material impact on our consolidated financial position, results of operations, or cash flows. See Note 12 "Retirement Plans" of the Notes to the Consolidated Financial Statements.

Factors Affecting Our Business

The following factors, in conjunction with the other information included in this Form 10-K, should be carefully considered.

IF WE ARE UNABLE TO ANTICIPATE OR KEEP PACE WITH CHANGES IN THE MARKETPLACE AND THE DIRECTION OF TECHNOLOGICAL INNOVATION AND CUSTOMER DEMANDS, OUR PRODUCTS MAY BECOME LESS USEFUL OR OBSOLETE AND OUR OPERATING RESULTS WILL SUFFER

The marketplace for our Oncology Systems products is characterized by rapid change and technological innovation. Because our products often have long development and government approval cycles, we must anticipate changes in the marketplace and the direction of technological innovation and customer demands. For example, most of our recent product introductions in our Oncology Systems business segment have related to IMRT, or the relatively new technology of IGRT, and enhancements of existing products through greater systems integration and simplification.

IMRT is a form of three-dimensional conformal radiation therapy that links treatment planning and information management software to the actual treatment delivery device, the linear accelerator. While we believe that IMRT is becoming a well-accepted standard of treatment in the radiation oncology market, if future studies fail to confirm the effectiveness of IMRT or our products or show negative side effects, or if other more effective technologies are introduced, our revenues could fail to increase or could decrease. Our success will depend upon the continued growth in awareness, acceptance and success of IMRT in general and acceptance of our products utilizing this technology in particular. There may be a point, however, as more institutions purchase IMRT-equipped linear accelerators or upgrade their existing accelerators with IMRT technology, that the market for IMRT-related products may eventually become saturated, and our future success will depend on our ability to accurately anticipate and capitalize on new customer demands through technological innovations and changes.

IGRT, is a very new cancer treatment methodology that allows for dynamic, real-time visualization and precise treatment of small, moving and changing tumors with greater dose intensity and accuracy while preserving healthy surrounding tissue. We are currently investing in product development to design new classes of imaging products for IGRT treatment and enhancements to existing products to enable IGRT treatment capabilities. We believe IGRT is the next generation in radiotherapy treatment of cancers, combining IMRT treatment with sophisticated real-time imaging and visualization systems, and that it will be a driver of growth in our Oncology Systems business over the next decade. IGRT, while recognized as the next technology driver in radiation therapy, is nevertheless a nascent technology that is not yet widely accepted or adopted. Our future success is dependent upon the wide spread awareness, acceptance and adoption by the radiation oncology market of IGRT and our IGRT products as an evolutionary technology and methodology for radiotherapy treatment of cancers. If our assumptions regarding the future importance of IGRT are incorrect, if IGRT fails to be effective as a treatment methodology or if IGRT fails to become widely accepted, our revenues could fail to increase or could decrease.

As radiation oncology treatment becomes more complex, our customers are increasingly concerned about the integration and simplicity of use of our various products for treating patients. For example, our linear accelerators, treatment simulators, treatment verification products and treatment planning and information management software products are highly sophisticated and require a high level of training and education in order to competently and safely use such products. The complexity and training requirements are further increased since our products are designed so that they are capable of operating together as integrated treatment systems. We have directed substantial product development efforts into

more tightly integrating our products so that they are capable of operating more seamlessly as a system and into simplifying the usability of our products through enhancement such as more intuitive user interfaces and greater software intelligence. We anticipate that these efforts to enable greater integration and enhance simplicity-of-use will increase the acceptance and adoption of IMRT and IGRT and will foster greater demand for our products from new customers and upgrades from existing customers. If we are unsuccessful in these efforts to enable greater integration and enhance simplicity-of-use efforts or if our assumptions about the importance of these features to customers are inaccurate, our revenues could fail to increase or could decrease.

Our X-ray Products business segment sells products primarily to large diagnostic imaging systems companies that also manufacture X-ray tubes for their own systems. We, therefore, compete with these in-house X-ray tube manufacturing operations for business from their affiliated systems businesses. To succeed, we must provide X-ray tube products that meet our customer demands for lower cost, better product quality and/or superior technology and performance. If we are unable to continue to innovate our X-ray tube technology and anticipate our customers' demands in the areas of cost, quality, technology and performance, then our revenues could fail to increase or could decrease as our customers purchase from their internal manufacturing operations or from other independent X-ray tube manufacturers.

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 improved products or processes, or the marketplace may conclude that the task our products were designed to do is no longer 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. Any development adversely affecting the market 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.

IF WE ARE UNABLE TO DEVELOP NEW GENERATIONS OF PRODUCTS AND ENHANCEMENTS TO EXISTING PRODUCTS, WE MAY BE UNABLE TO ATTRACT OR RETAIN CUSTOMERS OR GAIN ACCEPTANCE OF OUR PRODUCTS BY CUSTOMERS

Our success depends upon the successful development, introduction and commercialization of new generations of products, treatment systems and enhancements to and/or simplification of existing products. Our Oncology Systems and brachytherapy products are technologically complex and must keep pace with rapid and significant technological change, comply with rapidly evolving industry standards and compete effectively with new product introductions of our competitors. Our X-ray Products business segment must also continually innovate to develop products with lower cost, better product quality and superior technology and performance in order to effectively compete with the affiliated X-ray tube manufacturing operations of many of our customers. Accordingly, many of our products require significant planning, design, development and testing at the technological, product and manufacturing process levels. These activities require significant capital commitments and investments on our part, which we may be unable to recover. In addition, some of our research and development projects, particularly in GTC, are funded by government contracts. Changes in government priorities and our ability to attract such funding may affect our overall research effort and ultimately, our ability to develop successful new products and product enhancements.

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

- properly identify customer needs;
- prove feasibility of new products;
- limit the time required from proof of feasibility to routine production;

- 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;
- manufacture and deliver our products in sufficient volumes on time, and accurately predict and control costs associated with manufacturing, installation, warranty and maintenance of the products;
- manage customer acceptance and payment for products;
- limit customer demands for retrofits of both new and old products; and
- anticipate and compete successfully with competitors' efforts.

Additionally, our ability to gain healthcare market acceptance and demand for our new Oncology Systems products and treatment procedures may be also affected by the budgeting cycles of hospitals and clinics for capital equipment purchases which frequently fix budgets one or more years in advance. We cannot be sure that we will be able to successfully develop, manufacture and phase in new products, treatment systems or product enhancements. Without the successful introduction of new products and product enhancements, we may be unable to attract and retain customers and our revenues and operating results will suffer. In addition, even if customers accept new products or product enhancements, the revenues from such products may not be sufficient to offset the significant costs associated with making such products available to customers or we may have longer sales and ordering timeframes due to customer budgeting cycles.

A HIGH PERCENTAGE OF OUR SALES 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. International revenues accounted for approximately 44%, 40% and 39% of revenues in fiscal years 2004, 2003 and 2002, respectively. As a result, we must provide significant service and support on a worldwide basis, and we have sales and service offices located throughout Europe, Asia, Latin America and Australia. In addition, we have manufacturing and research operations in England, Germany, Switzerland and Finland. We have invested substantial financial and management resources to develop an international infrastructure to meet the needs of our customers. We intend to continue to expand our presence in international markets, although we cannot be sure we will be able to compete successfully in the international market or meet the service and support needs of such customers.

Accordingly, our future results could be harmed by a variety of factors, including:

- the difficulties in enforcing agreements and collecting receivables through many foreign country's legal systems;
- the longer payment cycles associated with many foreign customers;
- the possibility that foreign countries may impose additional withholding taxes or otherwise tax our foreign income, impose tariffs or adopt other restrictions on foreign trade;
- fluctuations in foreign currency exchange rates, which may affect product demand and adversely affect the profitability in U.S. dollars of products and services provided by us in foreign markets where payment for our products and services is made in the local currency;
- our ability to obtain U.S. export licenses and other required export or import licenses or approvals;
- changes in the political, regulatory, safety or economic conditions in a country or region; and

- the protection of intellectual property in foreign countries may be more difficult to enforce.

Also, historically our international sales have had lower average selling prices and gross margins. So, to the extent the geographic distribution of our sales shifts more towards our international regions, our overall sales and gross margins may be negatively affected.

OUR RESULTS MAY BE ADVERSELY AFFECTED BY CHANGES IN FOREIGN CURRENCY EXCHANGE RATES

Since we sell our products internationally and have international operations, we are also subject to market risk due to fluctuations in foreign currency exchange rates. We manage this risk through established policies and procedures that include the use of derivative financial instruments. We have historically entered into foreign currency forward exchange contracts to mitigate the effects of operational (sales orders) and balance sheet exposures to fluctuations in foreign currency exchange rates. Our forward exchange contracts generally range from one to twelve months in original maturity.

Although we engage in hedging strategies that may offset the effect of fluctuations in foreign currency exchange rates, the protection these strategies provide will be affected by the timing of transactions, the effectiveness of the hedges (measured by how closely the changes in fair value of the hedging instrument offset the changes in fair value of the hedged item), forecast volatility and the extent of movement of exchange rates. If our hedging strategies are not effective in offsetting the effect of fluctuations in foreign currency exchange rates, our operating results may be harmed.

In addition, long-term movements in currency rates could affect the competitiveness of our products. Even though sales of our products internationally occurs predominantly in local currencies, our cost structure is largely U.S. dollar based, and some of our competitors may have cost structures based in other currencies, so our overall margins and pricing competitiveness may be adversely affected. In fact, we have benefited from the relatively weak U.S. dollar that has made our pricing more competitive with our foreign competitors. This has been a primary contributor to our international orders and revenues growth. To the extent that the U.S. dollar strengthens against other countries' currencies, this will cease to be a positive factor for our international growth and may result in slower growth in our international orders and revenues, which then could negatively affect our overall financial performance and results. The relative weakness of the U.S. dollar against other currencies has been a subject of policy discussions within the U.S. government and among other countries' governments. Changes in monetary or other policies will likely affect such foreign currency exchange rates.

WE FACE SIGNIFICANT COSTS IN ORDER TO COMPLY WITH LAWS AND REGULATIONS APPLICABLE TO THE MANUFACTURE AND DISTRIBUTION OF OUR PRODUCTS, AND IF WE FAIL OR ARE DELAYED IN OBTAINING REGULATORY APPROVALS OR FAIL TO COMPLY WITH APPLICABLE REGULATIONS, WE MAY BE UNABLE TO DISTRIBUTE OUR PRODUCTS OR MAY BE SUBJECT TO CIVIL OR CRIMINAL PENALTIES

Many of our products and the products of OEMs that incorporate our products are subject to extensive and rigorous government regulation of the manufacture and distribution of our products, both in the United States and in foreign countries. Compliance with these laws and regulations is expensive and time-consuming, and changes to or failure to comply with these laws and regulations, or adoption of new laws and regulations, could adversely affect our business.

In the United States, as a manufacturer and seller of medical devices and devices 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 and state and local regulatory agencies, such as the State of California, to ensure such devices are safe and effective. Such regulations, which include the FDC Act and regulations promulgated by the FDA, govern the design, development, testing, manufacturing, packaging, labeling, distribution, import/export, possession, marketing, disposal, clinical investigations

involving humans, sale and marketing of medical devices, post-market surveillance, repairs, replacements, recalls and other matters relating to medical devices, radiation producing devices and devices utilizing radioactive by-product material. State regulations are extensive and vary from state to state. Our Oncology Systems equipment and software, but not industrial products, and our brachytherapy products constitute medical devices subject to these regulations. Our X-ray tube products and our flat panel imaging products are also considered medical devices. Future products in any of our business segments may constitute medical devices and be subject to regulation as such. These laws require that manufacturers adhere to certain standards designed to ensure that the medical devices are safe and effective. Under the FDC Act, each medical device manufacturer must comply with requirements applicable to manufacturing practices.

The FDA generally requires that medical devices receive FDA 510(k) pre-market notification clearance or an approved PMA before we, as a manufacturer of such devices, can take orders or distribute those products in the United States. In addition, modifications or enhancements to these products that could significantly affect safety or effectiveness, or constitute a major change in intended use, require further FDA clearance or approval. Obtaining FDA market clearances or approvals can be time consuming, expensive and uncertain. We may fail to obtain the necessary clearances or approvals or may be unduly delayed in doing so. Furthermore, even if we are granted regulatory clearances, the clearances may include significant limitations on the indicated uses of the product, which may limit the market for those products. The FDA review process typically requires extended proceedings pertaining to the safety and efficacy of new products, which may delay or hinder a product's timely entry into the marketplace. If we were unable to achieve required FDA approval or clearance for a product, or were limited or unduly delayed in doing so, our business would suffer. In addition, our products have either been Class 1 medical devices (our X-ray tube and flat panel imaging products), which require no pre-market approvals or clearances, or Class 2 medical devices (our Oncology Systems and brachytherapy products, with the exception of industrial products), which requires only the 510(k) pre-market notification clearance. The 510(k) clearance process is less time-consuming, expensive and uncertain than the PMA approval process. If we were required to use the PMA approval process for future products or product modifications, it could delay or prevent release of the proposed products or modifications, and could cause our business to suffer.

In addition to FDA-required market clearances and approvals, our manufacturing operations are required to comply with the FDA's QSR which addresses the quality program requirements such as a company's management responsibility for the company's quality systems, and good manufacturing practices, product design, controls, methods, facilities and quality assurance controls used in manufacturing, assembly, packing, storing and installing medical devices. Compliance with the QSR is necessary to receive FDA clearance or approval to market new products and is necessary for us to be able to continue to market cleared or approved product offerings. The FDA makes announced and unannounced inspections to determine compliance with the QSR and may issue 483 reports listing instances where we have failed to comply with applicable regulations and/or procedures or Warning Letters which, if not adequately responded to, could lead to enforcement actions against us, including fines, the total shutdown of our production facilities and criminal prosecution.

The FDA and the FTC also regulate the promotion and advertising of our products that are medical devices to ensure that the claims that are made are not "off-label" from the intended use stated in the 510(k) clearance for the products and also there is scientific data to substantiate such claim. The FDA and FTC determinations on these matters can be subjective, and we cannot assure you that the FDA or FTC would agree that all of our promotional claims are permissible. If the FDA or FTC determined that any of our promotional claims were not permissible, we may be required to revise our promotional claims or may be subject to enforcement actions.

As a manufacturer of medical devices utilizing radioactive byproduct material, we are subject to numerous federal, state and local laws and regulations relating to their manufacture, distribution, transportation, import/export, possession, use and disposal. Our medical devices utilizing radioactive byproduct material

are subject to the NRC clearance and approval requirements, and the manufacture and sale of these products are subject to state regulation that is extensive and varies from state to state. Our manufacture and distribution of medical devices utilizing byproduct material 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. 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 imposing liability for the cleanup of contamination from these materials.

As a participant in the healthcare industry, we are also subject to extensive laws and regulations in addition to FDA regulation on a broad array of additional subjects at the federal, state and local levels. These include laws and regulations protecting the privacy and integrity of patient medical information, including HIPAA, "fraud and abuse" laws and regulations such as physician self-referral prohibitions, anti-kickback laws, and false claims laws. 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.

If we or any of our suppliers or distributors fail to comply with FDA and other applicable regulatory requirements, it can result in a wide variety of actions, such as:

- investigations, 483 reports of non-compliance or Warning Letters;
- fines, injunctions, and civil penalties;
- partial suspensions or total shutdown of production, or the imposition of operating restrictions;
- losses of clearances or approvals already granted, or the refusal of future requests for clearance or approval;
- seizures or recalls of our products;
- the inability to sell our products in the applicable jurisdiction; and
- criminal prosecutions.

Government regulation also may delay for a considerable period of time or prevent the marketing and full commercialization of future products or services that we may develop, and/or impose costly requirements on our business. In addition, changes in existing regulations or adoption of new regulations could affect the timing of, or prevent us from obtaining, future regulatory approvals, or could otherwise adversely affect our business.

Our operations and sales 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 and the FTC. We are also subject to laws and regulations applicable to manufacturers of medical devices, 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, if not more stringent, than regulation in the United States. Our sales of products in foreign countries are also subject to regulation of matters such as product standards, packaging requirements, labeling requirements, environmental and product recycling requirements, import restrictions, tariff regulations, duties and tax requirements. We rely in some countries on our foreign distributors to assist us in complying with foreign regulatory requirements. We may be required to incur significant time and expense in obtaining and maintaining non-U.S. regulatory approvals and in complying with non-U.S. laws and regulations. Delays in receipt of or failure to receive such approvals, 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 the applicable country or subject us to a variety of enforcement actions, which would adversely affect our business.

It is also important that our products comply with electrical safety and environmental standards, such as those of Underwriters Laboratories, the Canadian Standards Association, and the International Electrotechnical Commission. If one or more of our products fail to comply with these standards, we may be unable to obtain or maintain registrations to sell our products, demand for our products may diminish, or we may be subject to other enforcement actions.

The laws and regulations applicable to us and our business and their enforcement are constantly undergoing change, and we cannot predict what effect, if any, changes may have on our business. In addition, new laws and regulations may be adopted which adversely affect our business. There has been a trend in recent years, both in the United States and abroad, toward more stringent regulation and enforcement of requirements applicable to medical device manufacturers. The continuing trend of more stringent regulatory oversight in product clearance and enforcement activities may cause medical device manufacturers to experience more uncertainty, greater risk and higher expenses. There is a continuing trend for governments around the world, including the U.S. and Canada, to start charging fees for the review of pre-market notification clearances.

A further discussion of government regulation of our industry and our products, see "Business—Government Regulation."

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

The markets for radiation therapy equipment and software are characterized by rapidly evolving technology, intense competition and pricing pressure. Our Oncology Systems products and services compete with those of a substantial number of foreign and domestic companies. Some of these companies have greater financial, marketing and other resources than we have. Also, we expect that the rapid technological changes occurring in our markets will lead to the entry of new competitors into our markets, as well as our encountering new competitors as we apply our technologies in new markets such as stereotactic radiosurgery for neurosurgical treatments. Our ability to compete successfully depends in part on our ability to provide technologically 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. Also, our ability to compete in radiation therapy market may be adversely affected when purchase decision are based solely upon price since our products are generally sold on a total value to the customer basis. This may occur if hospitals and clinics give purchasing decision authority to group purchasing organizations that focus solely on pricing as the primary determinant in making buy decisions. In our sales of linear accelerator products for radiotherapy and radiosurgery, we compete primarily with Siemens Medical Solutions, Elekta AB, Tomotherapy Incorporated and Accuray Incorporated. We compete with a variety of companies, such as IMPAC Medical Systems, Inc., Philips Medical Systems, Computerized Medical Systems, Inc., North American Scientific, Inc., Nucletron B.V. and Elekta AB, in our software systems, treatment simulation and verification products and accessories product lines. In respect of our BrachyTherapy operations, our primary competitor is Nucletron B.V. For the service and maintenance business for our products, we compete with independent service organizations and our customers' internal service organizations.

The market place for X-ray tube products is extremely competitive. All of the major diagnostic imaging systems companies, which are the primary customers of our X-ray Products business, also manufacture X-ray tubes for use in their own products. We must compete with these in-house X-ray tube manufacturing operations that are naturally favored by 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 performance. We sell a significant volume of our X-ray tube products to companies such as Toshiba Corporation, Hitachi Medical Corporation, Shimadzu Corporation, Philips Medical Systems and GE, all of which have in-house X-ray tube production capability. In addition, we compete against other stand-alone X-ray tube manufacturers such as Comet AG and IAE Industria Applicazioni Elettroniche Spa.

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 competitors' introduction of products into the market could affect the market acceptance and market share of our products. If we are unable to develop competitive products, gain regulatory approval and supply commercial quantities of such products to the market as quickly and effectively as our competitors, market acceptance of our products may be limited and our sales reduced. 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. 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 in our businesses. Therefore, the impact of any such competitive factors or our failure to achieve any of the above dependencies for success could have a negative affect on our pricing, sales, market share and gross margins and our ability to maintain or increase our operating margins. A further discussion of competition in our markets may be found in "Business—Competition."

INTEROPERABILITY OF OUR PRODUCTS WITH ONE ANOTHER AND THEIR COMPATIBILITY OF PRODUCTS WITH THIRD PARTY PRODUCTS IS BECOMING INCREASINGLY IMPORTANT, AND IF WE ARE UNABLE TO MAKE OUR PRODUCTS INTEROPERATE WITH ONE ANOTHER OR COMPATIBLE WITH WIDELY USED THIRD PARTY PRODUCTS, SALES OF OUR PRODUCTS COULD DECREASE

As radiation oncology treatment becomes more and more complex, our customers are increasingly concerned about the interoperability and compatibility of the various products they use in providing treatment to patients. For example, our linear accelerators, treatment simulators, treatment verification products and treatment planning and information management software products are designed to interoperate with one another, and to be compatible with other widely used third party radiation oncology products. Obtaining and maintaining this interoperability and compatibility is costly and time consuming, and when third parties modify the design or functionality of their products, it can require us to modify our products to ensure compatibility. In addition, our ability to obtain compatibility with third party products can depend on the third parties providing us with adequate information regarding their products. These third parties are in many cases our competitors and accordingly the timing of their product changes, and of sharing relevant information with us, may be made to place us at a competitive disadvantage. We could further be required to obtain additional regulatory clearances for any modification of our products. It is also possible that, despite our best efforts, we might be unable to make our products interoperable or compatible with widely used third party products or might only be able to do so at a prohibitive expense, making our products more costly or less attractive to our customers.

WE MAY INCUR SUBSTANTIAL COSTS IN PROTECTING OUR INTELLECTUAL PROPERTY, AND IF WE ARE NOT ABLE TO DO SO, OUR COMPETITIVE POSITION WOULD BE HARMED

We file applications as appropriate for patents covering new products and manufacturing processes. We cannot be sure, however, that our patents, patents that will be issued from any of our pending or future patent applications or patents for technologies licensed to us, or that the claims allowed under any issued patents, 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 patent may not provide us with competitive advantages. We could incur substantial costs and diversion of management resources if we have to assert our patent rights against others. An unfavorable outcome to any such litigation could harm us. In addition, we may not be able to detect infringement or may lose competitive position in the market before we 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 rights. We cannot assure you that such protections will prove adequate that contractual agreements will not be breached, that we will have adequate remedies for any such breaches, or that our trade secrets will not otherwise become known to or independently developed by others. We have trademarks, both registered and unregistered, that are maintained and enforced to provide customer recognition for our products in the marketplace. We cannot assure you that our trademarks will not be used by unauthorized third parties. We also have agreements with third parties that license to us certain patented or proprietary technologies. These agreements include royalty-bearing licenses and technology cross-licenses. 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

The industries in which we compete are characterized by a substantial amount of litigation over patent and other intellectual property rights. Our competitors, like companies in many high technology businesses, continually review other companies' products for possible conflicts with their own intellectual property 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, and we may be found to infringe those intellectual property rights. While we do not believe that any of our products infringe the valid intellectual property rights of third parties, 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 alleging infringement of patent or other intellectual property rights relating to their products. Any contest 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 cannot assure you that we will prevail in any such contest. We also do not maintain insurance for such intellectual property infringement. Therefore, if we are unsuccessful in defending any such infringement claim, we may be subject to significant damages or injunctions against development and sale of our products, or may be required to enter into costly royalty or license agreements. We cannot assure you that any licenses required would be made available on acceptable terms or at all.

SINCE WE DEPEND UPON A LIMITED GROUP OF SUPPLIERS, AND IN SOME CASES SOLE SOURCE SUPPLIERS, FOR SOME PRODUCT COMPONENTS, THE LOSS OF A SUPPLIER COULD REDUCE OUR ABILITY TO MANUFACTURE PRODUCTS, CAUSE MATERIAL 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 in some cases a single-source supplier; for example, the source wires for high-dose afterloaders, klystrons for linear accelerators, imaging panels, non-coated array sensors and coating for array sensors for the flat panels, specialized integrated circuits for imaging subassemblies, and some targets, housings and glass bulbs for X-ray tubes. If we lose any of these suppliers, we would be required to obtain and qualify one or more replacement suppliers, which may then also require us to redesign or modify our products to incorporate such new parts and/or further require us to obtain clearance, qualification or certification of such product by the FDA or other applicable regulatory approvals in other countries. Such an event will likely cause

material delays in delivery and significantly increase costs. Although we have obtained limited insurance to protect against business interruption loss, there can be no assurance that such coverage will be adequate or that such coverage will continue to remain available on acceptable terms, if at all. Disruptions or loss of any of our limited- or sole-source components or subassemblies, including the ones referenced above, could adversely affect our business and financial results and could result in damage to customer relationships.

WE SELL OUR X-RAY TUBES TO A LIMITED NUMBER OF OEM CUSTOMERS, MANY OF WHOM ARE ALSO OUR COMPETITORS, AND THE LOSS OR REDUCTION IN PURCHASING VOLUME BY ONE OR MORE OF THESE CUSTOMERS OR THE CONTINUED CONSOLIDATION AMONG OEMs IN THE X-RAY TUBE PRODUCTS MARKET COULD REDUCE OUR SALES OF X-RAY TUBE PRODUCTS

We sell our X-ray tube products to a limited number of OEM customers, many of whom are also our competitors, for incorporation into diagnostic imaging systems. The loss of, or reduction in purchasing volume by one or more of these customers would have a material adverse effect on our X-ray Products business. The sales of our OEM medical X-ray tube products declined in fiscal year 2002. We also have noticed a trend toward consolidation of diagnostic imaging systems manufacturers over the past few years. The ongoing consolidation of customers, who purchase our X-ray tube products, including the consolidation of these customers into companies that already manufacture X-ray tubes, could result in less predictable and reduced sales of our X-ray tubes products. In addition, our OEM customers' products, which use our tubes, could lose market share to competitive products or technologies and, thereby, result in a reduction in our orders and revenues.

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 Oncology Systems products, we are often required to educate physicians about the use of a new treatment procedure such as IMRT and IGRT, 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 our products. For example, the complexity and dynamic nature of IMRT and IGRT requires significant education of hospitals and physicians regarding the benefits of IMRT and IGRT and the required departures from their customary practices. We have expended and will continue to expend significant resources on marketing and educational efforts to create awareness of IMRT generally and to encourage acceptance and adoption of our IMRT-related products. We expect that IGRT will also require similar substantial education and training efforts to gain awareness, knowledge of benefits versus costs and widespread acceptance and use of IGRT and our products. The timing of our competitors' introduction of products and the market acceptance of their products may also make this educational process more difficult. We cannot be sure that any products we develop will gain any significant market acceptance and market share among physicians, patients and healthcare payors, even if required regulatory approvals are obtained.

WE MAY NOT BE ABLE TO MAINTAIN OR EXPAND OUR BUSINESS IF WE ARE NOT ABLE TO RETAIN, HIRE AND INTEGRATE SUFFICIENTLY QUALIFIED PERSONNEL

Our future success depends to a significant extent on the continued service of members of our key executive, technical, sales, marketing and engineering staff. It also depends on our ability to attract, expand, integrate, train and retain our management team, qualified engineering personnel and technical personnel. The loss of services of key employees could adversely affect our business. Competition for such personnel can be intense. We compete for key personnel with other medical equipment and software manufacturers and technology companies, as well as universities and research institutions. Because the competition for qualified personnel is intense, costs related to compensation could increase significantly if

supply decreases or demand increases. If we are unable to hire, train or retain qualified personnel, we will not be able to maintain and expand our business.

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

As a manufacturer of medical devices with a long production cycle, we need to anticipate demand for our products in order to ensure adequate manufacturing capacity. We cannot assure you that we will be successfully able to do so. If our manufacturing capacity does not keep pace with product demand, we will not be able to fulfill orders in a timely manner which in turn may have a negative effect on our financial results and overall business. Conversely, if demand for our products decreases, the fixed costs associated with excess manufacturing capacity may adversely affect our financial results.

WE MAY ATTEMPT TO ACQUIRE NEW BUSINESSES, PRODUCTS OR TECHNOLOGIES, AND IF WE ARE UNABLE TO SUCCESSFULLY COMPLETE THESE ACQUISITIONS OR TO INTEGRATE ACQUIRED BUSINESSES, PRODUCTS, TECHNOLOGY OR EMPLOYEES, WE MAY FAIL TO REALIZE EXPECTED BENEFITS OR HARM OUR EXISTING BUSINESS

Our success will depend, in part, on our ability to expand our product offerings and grow our businesses in response to changing technologies, customer demands and competitive pressures. In some circumstances, we may determine to do so through the acquisition of complementary businesses, products or technologies rather than through internal development. For example, in fiscal year 2002 we acquired Argus Software, a quality assurance software company, and the HDR brachytherapy business of MDS Nordion, a manufacturer of HDR brachytherapy afterloaders. In fiscal year 2004, we acquired Zmed, Inc, a provider of radiation oncology software and accessories for ultrasound-based, image-guided radiotherapy, stereotactic radiation treatments and image management to our suite of products, and OpTx Corporation, a medical oncology information systems software provider. In fiscal year 2004 we also acquired the service business of Mitsubishi Electric Corp.'s radiation therapy business. The identification of suitable acquisition candidates can be difficult, time-consuming and costly, and we may not be able to successfully complete identified acquisitions. Furthermore, even if we successfully complete an acquisition, we may not be able to successfully integrate newly acquired organizations, products or technologies into our operations, and the process of integration could be expensive, time consuming and may strain our resources. In addition, we may be unable to retain employees of acquired companies, or retain the acquired company's customers, suppliers, distributors or other partners who are our competitors or who have close relationships with our competitors. Consequently, we may not achieve anticipated benefits and could harm our existing business. In addition, future acquisitions could result in potentially dilutive issuances of equity securities or the incurrence of debt, contingent liabilities or expenses, or other charges such as in-process research and development, any of which could harm our business and affect our financial results.

WE UTILIZE DISTRIBUTORS FOR A PORTION OF OUR SALES, THE LOSS OF WHICH COULD HARM OUR SALES IN THE TERRITORY SERVICED BY THESE DISTRIBUTORS

We have strategic relationships with a number of key distributors for sales and service of our products, principally in foreign countries. If these strategic relationships are terminated and not replaced, our sales and/or ability to service our products in the territories serviced by these distributors could be adversely affected.

BECAUSE OUR PRODUCTS INVOLVE THE DELIVERY OF RADIATION AND DIAGNOSTIC IMAGING OF THE HUMAN BODY AND ARE SUBJECT TO EXTENSIVE REGULATION, PRODUCT DEFECTS MAY RESULT IN MATERIAL PRODUCT LIABILITY OR PROFESSIONAL ERRORS AND OMISSIONS CLAIMS, INVESTIGATION BY REGULATORY AUTHORITIES OR PRODUCT RECALLS THAT COULD HARM FUTURE SALES 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 software. Because our products involve the

delivery of radiation to the human body, collection and storage of patient treatment data for physicians' use, and diagnostic imaging of the human body, the possibility for significant injury and/or death exists. The tolerance for error in the design, manufacture, installation, servicing, support or use of our products may be small or nonexistent. As such, we may face substantial liability to patients for damages resulting from the faulty design, manufacture, installation, servicing and support of our products. We may also be subject to claims for property damages or economic loss related to or resulting from any errors or defects in our products, or the installation, servicing and support of our product, or any professional services rendered in conjunction with our products. In any accident case, we could be subject to legal costs whether or not our products or services were a factor.

In addition, if a product we designed or manufactured is defective, whether due to design or manufacturing defects, improper use of the product or other reasons, we may be required to notify regulatory authorities and/or to recall the product, possibly at our expense. A required notification to a regulatory authority or recall could result in an investigation by regulatory authorities of our products, which could in turn result in required recalls, restrictions on the sale of the products or other civil or criminal penalties. The adverse publicity resulting from any of these actions could cause customers to review and potentially terminate their relationships with us. These investigations or recalls, especially if accompanied by unfavorable publicity or termination of customer contracts, could result in our incurring substantial costs, losing revenues and damaging our reputation, each of which would harm our business.

We have historically maintained limited product liability insurance coverage in amounts we deem sufficient for our business and currently self-insure professional liability/errors and omission liability. The product liability insurance policies that we maintain are expensive and have high deductible amounts and self-insured retentions. In the future, these policies may not be available on acceptable terms or in sufficient amounts, if at all. In addition, the insurance coverage we have obtained may not be adequate. A successful material claim 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 would require us to pay damage amounts that could be substantial and have a material adverse effect on our financial position.

HEALTHCARE REFORMS, CHANGES IN HEALTHCARE POLICIES AND CHANGES TO THIRD PARTY REIMBURSEMENTS FOR RADIATION ONCOLOGY SERVICES MAY AFFECT DEMAND FOR OUR PRODUCTS

The U.S. government has in the past, and may in the future, consider (and state and local, as well as a number of foreign governments, are considering or have adopted) healthcare policies intended to curb rising healthcare costs. These policies have included, and may in the future include, rationing of government-funded reimbursement for healthcare services and imposing price controls on medical products and services providers. Future significant changes in the healthcare systems in the United States or elsewhere could have a negative impact on the demand for our products and services, and the way we conduct business. We are unable to predict what healthcare reform legislation or regulation, if any, will be enacted in the United States or elsewhere, whether other healthcare legislation or regulation affecting our business may be proposed or enacted in the future, or what effect any such legislation or regulation would have on our business.

In addition, sales of some of our products indirectly depend on whether adequate reimbursement is available to our customers for the treatment provided by those products from third-party healthcare payors, such as government healthcare insurance programs, including the Medicare and Medicaid programs, private insurance plans, health maintenance organizations and preferred provider organizations. 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 often adopt Medicare reimbursement policies and payment amounts. As a result, decisions by the CMS to reimburse for a treatment, or changes to Medicare's reimbursement policies or reductions in payment amounts with respect to a treatment would likely extend to third-party payor reimbursement policies and amounts for

that treatment as well. The availability of such reimbursement for treatments using our products and the relevant reimbursement rates can affect our customers' decisions to purchase our products or the products into which our X-ray tube and flat panel imaging products are integrated. For example, currently Medicare reimbursement rates for IMRT treatments are substantially higher than the reimbursement rates for standard radiotherapy treatments, and recent growth in our business has been driven in part by growth in sales of IMRT and IMRT-related products. Any material adverse change in Medicare's reimbursement policies regarding IMRT treatments or other procedures using our products, or material reduction in reimbursement rates for such procedures, could reduce demand for our products and have a material adverse effect on our revenues. In addition, the executive branch of the federal government and the Congress from time to time consider various Medicare and other healthcare reform proposals that could significantly affect both private and public reimbursement for healthcare services. If a proposal that significantly reduced reimbursement rates for our products or procedures using our products were enacted into law, it could adversely affect the demand for these products and our business would suffer.

As a general matter, third-party payors are increasingly challenging the pricing of medical procedures or limiting or prohibiting reimbursement for specific services or devices, and we cannot be sure that they will reimburse our customers at levels sufficient to enable us to achieve or maintain sales and price levels for our products. Without adequate support from third-party payors, the market for our products may be limited. There is no uniform policy on reimbursement among third-party payors, nor can we be sure that procedures using our products will qualify for reimbursement from third-party payors. Foreign countries also have their own healthcare reimbursement systems, and we cannot be sure that third-party reimbursement will be made available with respect to our products under any foreign reimbursement system.

A further discussion of healthcare reforms and government-funded reimbursement for healthcare products and services such as ours may be found in "Business—Government Regulation."

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

We have experienced and expect in the future to experience fluctuations in our operating results. Many of our products require significant capital expenditures by our customers. Accordingly, individual product orders and sales can be quite large in dollar amounts, and the timing of when individual orders or sales are made could have an effect on our quarterly earnings. Timing of order placement from customers and their willingness to commit to purchase products are inherently difficult to predict or forecast. However, once orders are received, factors that may affect timing of these orders becoming sales include:

- delay in shipment due, for example, to unanticipated construction delays at customer locations where our products are to be installed, cancellations by customers, natural disasters, port strikes or unexpected manufacturing difficulties;
- delay in the installation and/or acceptance of a product; or
- a change in a customer's financial condition or ability to obtain financing.

Furthermore, our quarterly operating results may also be affected by a number of other factors, including:

- changes in our or our competitors' pricing or discount levels;
- changes or anticipated changes in third-party reimbursement amounts or policies applicable to treatments using our products;
- seasonality of revenues;
- changes in foreign currency exchange rates;

- changes in the relative portion of our revenues represented by our various products;
- timing of the announcement, introduction and delivery of new products or product enhancements by us and by our competitors;
- disruptions in the supply or changes in the costs of raw materials, labor, product components or transportation services;
- changes in the general economic conditions in the regions in which we do business;
- the possibility that unexpected levels of cancellations of orders or backlog may affect certain assumptions upon which we base our forecasts and predictions of future performance; and
- the impact of changing levels of sales to sole purchasers of certain of our X-ray products.

Because many of our operating expenses are based on anticipated capacity levels and a high percentage of such 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.

We report on a quarterly and annual basis our net orders and backlog results. It is important to understand that, unlike revenues, net orders and backlog are not governed by the rules of generally accepted accounting principles and are not within the scope of our audit review; therefore, investors should not interpret our net orders or backlog results in such a manner. Also, our net orders and backlog cannot necessarily be relied upon as accurate predictors of future revenues as the timing of such revenues is dependent upon completion of customer site preparation and construction, installation scheduling, customer capital budgeting and financing, appropriate regulatory authorizations and other factors. Unexpected levels of cancellation of individual orders will reduce the quarterly net orders results and also affect the level of future revenues. Accordingly, we cannot be sure if or when orders will mature into revenues. Our operating results for net orders and backlog in one or more future periods may fall below the expectations of securities analysts and investors. In that event, the trading price of our common stock would almost certainly decline.

We prepare our financial statements to conform with generally accepted accounting principles in the United States, or GAAP. These principles are subject to interpretation by the FASB, AICPA, the SEC and various other 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.

THE NATURE OF OUR BUSINESS EXPOSES US TO ENVIRONMENTAL CLAIMS OR CLEANUP EXPENSES, WHICH COULD CAUSE US TO PAY SIGNIFICANT AMOUNTS

We are subject to a variety of environmental laws around the world regulating the handling, storage, transport and disposal of hazardous materials and imposing liability for the cleanup of contamination from these materials that do or may create increased costs for some of our operations. For example, several countries, including those in the EU, are implementing regulations that would require manufacturers to take back, recycle and dispose of products, or bear the cost of such disposal, at the end of the equipment's useful life and to restrict the use of some hazardous substances in certain products sold in those countries. These types of regulations impose additional costs for us to do business in such countries as compared to the costs we have today. In addition, we may be required to incur significant additional costs to comply with future changes in environmental laws and regulations or new laws or regulations. Although we follow procedures that we consider appropriate under existing regulations, these procedures can be costly and we cannot completely eliminate the risk of contamination or injury from these hazardous materials, and, in the event of such an incident, we could be held liable for any damages that result. Traditionally, we either have not maintained insurance for or have retained insurance policies with high deductibles or self-insured portions. In addition, we could be assessed fines or penalties for failure to comply with environmental laws

and regulations. These costs, and any future violations or liability under environmental laws or regulations, could have a material adverse effect on our business. For a further discussion of environmental matters relating to our business, see “—Environmental Matters.”

THE EFFECT OF TERRORISM OR AN OUTBREAK OF EPIDEMIC DISEASES MAY NEGATIVELY AFFECT SALES AND HINDER OUR OPERATIONS

Concerns about terrorism or an outbreak of epidemic diseases such as Severe Acute Respiratory Syndrome (SARs), especially in our major markets of North America or Europe, could have a negative effect on travel and our business operations, and result in adverse consequences on our revenues and financial performance. For example, during the third quarter of fiscal year 2003, our sales and business operations in Asia were negatively affected by the outbreak of SARs in Asia.

AS A STRATEGY TO UTILIZE OUR AVAILABLE CASH TO BETTER ASSIST OUR SALES EFFORTS, WE HAVE BEGUN OFFERING EXTENDED PAYMENT TERMS, WHICH MAY POTENTIALLY RESULT IN HIGHER DSO AND GREATER PAYMENT DEFAULTS

In light of the relatively low interest rates on short-term investments and in order to better utilize our strong cash position in a manner to better assist sales of our products, we have begun offering longer or extended payment terms for qualified customers in more circumstances. While we fully qualify customers to whom we offer such longer or extended payment terms, there can be no assurance that the financial positions of such customers will not change adversely over the longer time period given for payment. In such an event, we may experience an increase in payment defaults in our accounts receivable, which will adversely affect our revenues and financial performance. Also, such longer or extended payment terms will likely result in an increase in our DSO.

OUR OPERATIONS ARE VULNERABLE TO INTERRUPTION OR LOSS DUE TO NATURAL DISASTERS, POWER LOSS, STRIKES AND OTHER EVENTS BEYOND OUR CONTROL, WHICH WOULD ADVERSELY AFFECT OUR BUSINESS

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 in the past, as well as other natural disasters. We carry limited earthquake insurance for inventory only. Such coverage may not be adequate or continue to be available at commercially reasonable rates and terms. In the event of a major earthquake or other disaster affecting our facilities, it could significantly disrupt our operations, delay or prevent product manufacture and shipment for the time required to repair, rebuild or replace our manufacturing facilities, which could be lengthy, and result in large expenses to repair or replace the facilities. In addition, our facilities, particularly in the State of California may be subject to a shortage of available electrical power and other energy supplies. Such 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. In addition, our products are typically shipped from a limited number of ports, and any natural disaster, strike or other event blocking shipment from such ports could delay or prevent shipments and harm our business.

OUR STOCKHOLDER RIGHTS PLAN AND PROVISIONS OF OUR CERTIFICATE OF INCORPORATION MAY DISCOURAGE A TAKE-OVER AND THEREFORE LIMIT THE PRICE OF OUR COMMON STOCK

We have a stockholder rights plan that, under specific circumstances, would significantly dilute the equity interest in our company of a person (or persons) seeking to acquire control of our company without the prior approval of our Board of Directors. Our Certificate of Incorporation also includes provisions that may make an acquisition of control of our company without the approval of our Board of Directors more difficult. Such stockholder rights plan and provisions in our Certificate of Incorporation may discourage take-over attempts and limit the price of our common stock.

Item 7A. Quantitative and Qualitative Disclosure About Market Risk

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

Foreign Currency Exchange Rate Risk

As a global entity, we are exposed to movements in currency exchange rates. These exposures may change over time as business practices evolve and adverse movements could have a material adverse impact on our financial results. Historically, our primary exposures related to non-U.S. dollar denominated sales and purchases throughout Europe, Asia and Australia.

We have significant international transactions in foreign currencies and address related financial exposures through a controlled program of risk management that includes the use of derivative financial instruments. We sell products throughout the world, often in the currency of the customer's country, and adhere to a policy of hedging firmly committed sales orders. These firmly committed foreign currency sales orders, excluding the amounts relating to the products made outside of the United States, are hedged with forward exchange contracts. We primarily enter into foreign currency forward exchange contracts to reduce the effects of fluctuating currency exchange rates. We do not enter into forward exchange contracts for speculative or trading purposes. The forward exchange contracts range from one to twelve months in original maturity. As of October 1, 2004, we did not have any forward exchange contract with an original maturity greater than twelve months, but we may hedge beyond twelve months in the future.

We also hedge the balance sheet exposures from our various foreign subsidiaries and business units having U.S. dollar functional currencies. We enter into these monthly foreign exchange 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 exchange contracts are not a measure of our exposure. The fair value of forward exchange 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 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. Accordingly, we believe that our hedging strategy should yield no material net impact to our results of operations or cash flows.

The notional values of sold and purchased forward exchange contracts for both hedges of foreign currency denominated sales orders and balance sheet exposures from its subsidiaries outstanding at October 1, 2004 are as follows:

(In millions)	October 1, 2004			
	Notional Value Sold	Notional Value Purchased	Unrealized Gain (Loss)	Fair Value
Australian dollar	\$ 11.3	\$ —	\$ —	\$(0.2)
British pound	59.0	1.6	(0.3)	0.2
Canadian dollar	15.0	—	(0.4)	(0.5)
Danish krone	2.9	2.8	—	—
Euro	164.2	5.0	(0.5)	(0.5)
Japanese yen	24.8	—	0.2	0.2
Norwegian krone	4.6	—	—	—
Swedish krona	4.5	—	—	—
Swiss franc	7.4	20.1	—	—
Thailand baht	1.3	—	—	—
Singapore dollar	1.5	—	—	—
Iceland Krona	1.8	—	0.2	—
Totals	<u>\$298.3</u>	<u>\$29.5</u>	<u>\$(0.8)</u>	<u>\$(0.8)</u>

Interest Rate Risk

Our market risk exposure to changes in interest rates depends primarily on our investment portfolio. Currently, our investment portfolio consists of highly liquid instruments in short-term marketable securities, as well as a portion in long-term marketable securities. In the unlikely event that interest rates were to decrease substantially, we might reinvest a substantial portion of our investment portfolio at lower interest rates. We would consider additional debt obligations to support general corporate purposes, including working capital requirements, capital expenditures and acquisitions. To date, we have not used derivative financial instruments to hedge the interest rate in our investment portfolio or long-term debt, but may consider the use of derivative instruments in the future.

The principal amount of cash, cash equivalents and marketable securities at October 1, 2004 totaled \$393 million with a weighted average interest rate of 1.61% and an estimated average tax equivalent yield of 2.20%. The majority of our marketable securities were in municipal bonds. Our investment portfolio of municipal bonds and corporate debt securities is classified as held-to-maturity, and any gains or losses relating to changes in interest rates would occur in the unlikely event of liquidation of all or part of the investment portfolio. Our debt of \$58.5 million at October 1, 2004 carried a weighted average fixed interest rate of 6.82% with principal payments due in various installments over a ten-year period, beginning in April 2005.

The table below presents principal amounts and related weighted average interest rates by year for our cash and cash equivalents, marketable securities and debt obligations.

(Dollars in millions)	Fiscal Years						
	2005	2006	2007	2008	2009	Thereafter	Total
Assets:							
Cash and cash equivalents	\$239.5	\$ —	\$ —	\$ —	\$ —	\$ —	\$239.5
Average interest rate	1.40%	—	—	—	—	—	1.40%
Marketable securities	\$112.5	\$37.4	\$ 3.6	\$ —	\$ —	\$ —	\$153.5
Average interest rate	1.84%	2.21%	2.64%	—	—	—	1.95%
Liabilities:							
Debt obligation	\$ 5.3	\$ 2.5	\$ 7.7	\$ 8.8	\$ 7.7	\$26.5	\$ 58.5
Average interest rate	6.76%	7.15%	6.89%	6.83%	6.89%	6.75%	6.82%
Mandatorily redeemable instrument ..	\$ —	\$ —	\$12.6	\$ —	\$ —	\$ —	\$ 12.6
Average interest rate	—	—	0.17%	—	—	—	0.17%

The estimated fair value of our cash and cash equivalents and marketable securities (29% of which was held abroad at October 1, 2004 and could be subject to additional taxation if it was repatriated in the U.S.) approximated the principal amounts reflected above based on the maturities of these financial instruments.

The fair value of our debt is estimated based on the current rates available to us for debt of similar terms and remaining maturities. Under this method, the fair value of our debt is estimated to be \$64.6 million at October 1, 2004. We determined the estimated fair value amount by using available market information and commonly accepted valuation methodologies. However, it requires considerable judgment in interpreting market data to develop estimates of fair value. Accordingly, the fair value estimate presented is not necessarily indicative of the amount that we or holders of the instrument could realize in a current market exchange. The use of different assumptions and/or estimation methodologies may have a material effect on the estimated fair value.

Although payments under certain of our operating leases for our facilities are tied to market indices, we are not exposed to material interest rate risk associated with our operating leases.

Item 8. Financial Statements and Supplementary Data

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

(In thousands, except per share amounts)	Fiscal Years Ended		
	2004	2003	2002
Revenues:			
Product	\$1,058,702	\$ 907,668	\$756,657
Service contracts and other	176,821	133,889	116,435
Total revenues	<u>1,235,523</u>	<u>1,041,557</u>	<u>873,092</u>
Cost of revenues:			
Product	605,473	530,457	451,271
Service contracts and other	112,565	89,194	82,506
Total cost of revenues	<u>718,038</u>	<u>619,651</u>	<u>533,777</u>
Gross margin	517,485	421,906	339,315
Operating expenses:			
Research and development	72,106	59,176	48,442
Selling, general and administrative	189,378	164,380	146,088
Reorganization income	—	—	(192)
Total operating expenses	<u>261,484</u>	<u>223,556</u>	<u>194,338</u>
Operating earnings	256,001	198,350	144,977
Interest income	5,970	7,401	5,768
Interest expense	(4,668)	(4,383)	(4,486)
Earnings from operations before taxes	257,303	201,368	146,259
Taxes on earnings	90,060	70,480	52,650
Net earnings	<u>\$ 167,243</u>	<u>\$ 130,888</u>	<u>\$ 93,609</u>
Net earnings per share:			
Basic:	<u>\$ 1.23</u>	<u>\$ 0.96</u>	<u>\$ 0.69</u>
Diluted:	<u>\$ 1.18</u>	<u>\$ 0.92</u>	<u>\$ 0.67</u>
Shares used in the calculation of net earnings per share:			
Weighted average shares outstanding—Basic	<u>136,036</u>	<u>136,113</u>	<u>135,327</u>
Weighted average shares outstanding—Diluted	<u>142,215</u>	<u>142,153</u>	<u>140,477</u>

See accompanying notes to the consolidated financial statements.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(In thousands, except par values)	<u>October 1, 2004</u>	<u>September 26, 2003</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ 239,470	\$ 210,448
Short-term marketable securities	112,478	112,128
Accounts receivable, net	288,663	252,265
Inventories	127,701	116,815
Prepaid expenses and other	29,454	26,143
Deferred tax assets	<u>87,370</u>	<u>87,725</u>
Total current assets	885,136	805,524
Property, plant and equipment, net	85,377	81,172
Long-term marketable securities	40,970	84,820
Goodwill	112,653	59,979
Other assets	<u>46,056</u>	<u>21,992</u>
Total assets	<u>\$1,170,192</u>	<u>\$1,053,487</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 59,639	\$ 53,231
Accrued expenses	255,519	234,344
Current maturities of long-term debt	5,250	—
Product warranty	40,654	36,040
Advance payments from customers	<u>100,277</u>	<u>85,801</u>
Total current liabilities	461,339	409,416
Long-term accrued expenses and other	41,889	21,895
Long-term debt	<u>53,250</u>	<u>58,500</u>
Total liabilities	556,478	489,811
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock of \$1 par value: 1,000 shares authorized; none issued and outstanding	—	—
Common stock of \$1 par value: 189,000 shares authorized; 134,045 and 135,942 shares issued and outstanding at October 1, 2004 and at September 26, 2003, respectively	134,045	135,942
Capital in excess of par value	133,985	91,568
Deferred stock compensation	(1,110)	(2,281)
Retained earnings	346,794	341,863
Accumulated other comprehensive loss	<u>—</u>	<u>(3,416)</u>
Total stockholders' equity	613,714	563,676
Total liabilities and stockholders' equity	<u>\$1,170,192</u>	<u>\$1,053,487</u>

See accompanying notes to the consolidated financial statements.

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

(In thousands)	Common Stock		Capital in Excess of Par Value	Deferred Stock Compen- sation	Retained Earnings	Accumulated Other Comprehensive Loss	Total
	Shares	Amount					
Balances at September 28, 2001.	134,718	\$ 134,718	\$ 24,801	\$ (4,247)	\$ 239,124	\$ —	\$ 394,396
Net earnings	—	—	—	—	93,609	—	93,609
Minimum pension liability adjustment, net of taxes of \$1,424	—	—	—	—	—	(2,530)	(2,530)
Comprehensive earnings	—	—	—	—	—	—	91,079
Issuance of stock under omnibus stock, stock option, and employee stock purchase plans (including tax benefit of \$17,403)	3,576	3,576	37,787	—	—	—	41,363
Amortization of deferred stock compensation	—	—	—	1,057	—	—	1,057
Repurchase of common stock ..	(2,714)	(2,714)	(12,100)	—	(40,278)	—	(55,092)
Balances at September 27, 2002.	135,580	135,580	50,488	(3,190)	292,455	(2,530)	472,803
Net earnings	—	—	—	—	130,888	—	130,888
Minimum pension liability adjustment, net of taxes of \$415	—	—	—	—	—	(886)	(886)
Comprehensive earnings	—	—	—	—	—	—	130,002
Issuance of stock under omnibus stock, stock option, and employee stock purchase plans (including tax benefit of \$28,142)	4,326	4,326	60,470	—	—	—	64,796
Deferred stock compensation ..	6	6	140	(146)	—	—	—
Amortization of deferred stock compensation	—	—	—	1,055	—	—	1,055
Non-cash stock-based compensation	—	—	119	—	—	—	119
Repurchase of common stock ..	(3,970)	(3,970)	(19,649)	—	(81,480)	—	(105,099)
Balances at September 26, 2003.	135,942	135,942	91,568	(2,281)	341,863	(3,416)	563,676
Net earnings	—	—	—	—	167,243	—	167,243
Minimum pension liability adjustment	—	—	—	—	—	3,416	3,416
Comprehensive earnings	—	—	—	—	—	—	170,659
Issuance of stock under omnibus stock, stock option, and employee stock purchase plans (including tax benefit of \$33,916)	3,679	3,679	76,336	—	—	—	80,015
Amortization of deferred stock compensation	—	—	—	1,171	—	—	1,171
Repurchase of common stock ..	(5,576)	(5,576)	(33,919)	—	(162,312)	—	(201,807)
Balances at October 1, 2004.	<u>134,045</u>	<u>134,045</u>	<u>133,985</u>	<u>(1,110)</u>	<u>346,794</u>	<u>—</u>	<u>613,714</u>

See accompanying notes to the consolidated financial statements.

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

(In thousands)	Fiscal Years Ended		
	2004	2003	2002
Cash flows from operating activities:			
Net earnings	\$ 167,243	\$ 130,888	\$ 93,609
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Tax benefits from employee stock option exercises	33,916	28,142	17,403
Depreciation	20,751	19,482	19,090
Provision for doubtful accounts receivable	805	2,160	1,539
Loss on disposal of property, plant and equipment	179	44	237
Amortization of intangibles	4,372	832	759
Amortization of premium/discount on marketable securities, net ...	795	1,359	546
Amortization of deferred stock compensation	1,171	1,055	1,057
Deferred taxes	8,519	(9,071)	(15,681)
Net change in fair value of derivatives and underlying commitments	1,907	(10,172)	138
Noncash stock-based compensation	—	119	—
Other	496	(235)	(460)
Changes in assets and liabilities:			
Accounts receivable	(25,267)	(110)	(2,179)
Inventories	(8,705)	7,141	(10,172)
Prepaid expenses and other current assets	(6,530)	2,042	(4,592)
Accounts payable	4,122	5,205	(257)
Accrued expenses	15,666	25,421	35,845
Product warranty	4,256	4,912	7,154
Advance payments from customers	12,964	2,657	13,997
Long-term accrued expenses and other liabilities	(2,750)	(2,072)	(1,996)
Net cash provided by operating activities	<u>233,910</u>	<u>209,799</u>	<u>156,037</u>
Cash flows from investing activities:			
Proceeds from maturities of marketable securities	120,665	50,965	—
Purchases of marketable securities	(77,960)	(110,708)	(139,110)
Purchase of businesses, net of cash acquired	(71,770)	(135)	(14,086)
Purchases of property, plant and equipment	(24,218)	(18,888)	(25,907)
Proceeds from disposal of property, plant and equipment	311	189	437
Increase in cash surrender value of life insurance	(6,002)	(5,166)	(2,799)
Other, net	(976)	(378)	(385)
Net cash used in investing activities	<u>(59,950)</u>	<u>(84,121)</u>	<u>(181,850)</u>
Cash flows from financing activities:			
Repurchase of common stock	(201,807)	(105,099)	(55,092)
Proceeds from issuance of common stock to employees	46,099	36,654	23,960
Proceeds from sale of mandatorily redeemable financial instrument ..	13,457	—	—
Net repayments on short-term obligations	—	(58)	(116)
Net cash used in financing activities	<u>(142,251)</u>	<u>(68,503)</u>	<u>(31,248)</u>
Effects of exchange rate changes on cash and cash equivalents	(2,687)	(7,012)	(1,615)
Net increase (decrease) in cash and cash equivalents	29,022	50,163	(58,676)
Cash and cash equivalents at beginning of fiscal year	210,448	160,285	218,961
Cash and cash equivalents at end of fiscal year	<u>\$ 239,470</u>	<u>\$ 210,448</u>	<u>\$ 160,285</u>

See accompanying notes to the consolidated financial statements.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Description of Business

Varian Medical Systems, Inc. and subsidiaries (the "Company" or "VMS") designs and manufactures advanced equipment and software solutions for treating cancer with radiation, as well as high quality, cost-effective X-ray tubes for original equipment manufacturers, replacement X-ray tubes and flat-panel digital subsystems for imaging in medical, scientific and industrial applications.

Fiscal Year

The fiscal years of VMS as reported are the 52- or 53- week periods ending on the Friday nearest September 30. Fiscal year 2004 comprised the 53-week period ended on October 1, 2004, and fiscal years 2003 and 2002 were 52-week periods ended on September 26, 2003 and September 27, 2002, respectively.

Principles of Consolidation

The consolidated financial statements include those of the Company and its subsidiaries. Significant intercompany balances, transactions, and stock holdings have been eliminated in consolidation.

Distribution

On April 2, 1999, Varian Associates, Inc. reorganized into three separate publicly traded companies by spinning off, through a tax-free distribution, two of its businesses to stockholders (the "Distribution"). The Distribution resulted in the following three companies: 1) the Company (renamed from Varian Associates, Inc. to Varian Medical Systems, Inc. following the Distribution); 2) Varian, Inc. ("VI"); and 3) Varian Semiconductor Equipment Associates, Inc. ("VSEA"). The Distribution resulted in a non-cash dividend to stockholders.

In connection with the Distribution, the Company, VI and VSEA also entered into various agreements that set forth the principles to be applied in separating the companies and allocating certain related costs and specified portions of contingent liabilities (see Notes 7 and 14).

Use of Estimates

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

Fair Value of Financial Instruments

The carrying amounts of the Company's financial instruments including cash, cash equivalents, marketable securities, accounts receivable and accounts payable approximate fair value due to their short maturities.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Foreign Currency Translation

The Company uses the U.S. dollar as the functional currency for all of its foreign subsidiaries. Accordingly, gains and losses from translation of foreign currency financial statements into U.S. dollars are included in results of operations. The aggregate foreign exchange gain or (loss) included in "Cost of revenues" and "Selling, general and administrative expenses" was \$0.9 million, \$2.2 million and \$(0.8) million in fiscal years 2004, 2003 and 2002, respectively.

Cash and Cash Equivalents

The Company considers currency on hand, demand deposits, and all highly liquid investments with an original maturity of three months or less at the date of purchase to be cash and cash equivalents. Cash and cash equivalents are deposited in demand and money market accounts in various financial institutions in the United States and internationally.

Marketable Securities

The Company has classified its marketable securities as held-to-maturity as the Company has the intent and ability to hold these securities to maturity. The securities are carried at amortized cost using the specific identification method. Interest income is recorded using an effective interest rate, with the associated premium or discount amortized to interest income. Additionally, the Company assesses whether an other-than-temporary impairment loss on the investments has occurred due to declines in fair value or other market conditions. Declines in fair value that are considered other than temporary are recorded as charges in the consolidated statements of earnings. At October 1, 2004, all investments were in compliance with the corporate investment policy which requires a credit rating of A or better and a maturity of less than three years.

Concentration of Credit Risk

Financial instruments that potentially expose the Company to concentrations of credit risk consist principally of cash, cash equivalents, marketable securities and trade accounts receivable. Cash and cash equivalents held with financial institutions may exceed the amount of insurance provided by the Federal Deposit Insurance Corporation on such deposits. The Company has not experienced any losses on its deposits of cash and cash equivalents. Concentrations of credit risk with respect to trade accounts receivable are limited due to the large number of customers comprising the Company's customer base and their dispersion across many geographies. The Company performs ongoing credit evaluations of its customers and generally does not require collateral or other deposits of security from its customers. The Company maintains an allowance for doubtful accounts based upon the expected collectibility of all accounts receivable. No single customer represented more than 10% of the accounts receivable amount for any period presented.

Inventories

Inventories are valued at the lower of cost or market (realizable value) using last-in, first-out ("LIFO") cost for Oncology Systems' U.S. inventories. All other inventories are valued principally at cost being determined on the basis of an average or first-in, first-out ("FIFO") method. If the FIFO method had been used for those operations valuing inventories on a LIFO basis, inventories would have been higher than reported by \$16.7 million in fiscal year 2004 and \$16.0 million in fiscal year 2003.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Property, Plant and Equipment

Property, plant and equipment are stated at the lower of cost or realizable value. Major improvements are capitalized, while repairs and maintenance are expensed as incurred. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets. Land is not subject to depreciation but land improvements are depreciated over fifteen years. Leasehold improvements are amortized over the lesser of estimated useful lives or remaining lease terms. Buildings are depreciated over twenty years. Machinery and equipment are depreciated over their estimated useful lives, which range from three to seven years. Construction in progress will be depreciated over the estimated useful lives of the respective assets when they are ready for their intended use. Assets subject to lease are amortized over the lease term. When assets are retired or otherwise disposed of, the assets and related accumulated depreciation are removed from the accounts. Gains or losses resulting from retirements or disposals are included in operating earnings.

Long-Lived Assets

The Company reviews long-lived assets and identifiable intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. The Company assesses these assets for impairment based on estimated undiscounted future cash flows from these assets. If the carrying value of the assets exceeds the estimated future undiscounted cash flows, the Company recognizes an impairment loss based on the excess of the carrying amount over the fair value of the assets. The Company did not recognize any impairment loss for long-lived assets in fiscal years 2004, 2003 or 2002.

Goodwill and Intangible Assets

Purchased technology, patents, trademarks and goodwill are presented at cost, net of accumulated amortization. Pursuant to Statement of Financial Accounting Standards ("SFAS") No. 142 *Goodwill and Intangible Assets*, the Company performs an annual impairment test for goodwill and intangible assets with indefinite lives. Intangible assets with finite lives are amortized over their estimated useful lives of one to twenty years using the straight-line method.

Environmental Remediation Liabilities

Environmental remediation liabilities are recorded when environmental assessments and/or remediation efforts are probable, and the costs of these assessments or remediation efforts can be reasonably estimated. The Company records these liabilities in accordance with the American Institute of Certified Public Accountants' ("AICPA") Statement of Position ("SOP") 96-1, *Environmental Remediation Liabilities*.

Revenue Recognition

The Company's revenues are derived primarily from hardware and software products sales and contract services of Oncology Systems, X-ray Products and BrachyTherapy products.

Hardware Products

The Company recognizes revenues for hardware products in accordance with Staff Accounting Bulletin No. 104 ("SAB No. 104"), *Revenue Recognition* when persuasive evidence of an arrangement exists,

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

delivery has occurred or services have been rendered, the price is fixed or determinable and collectibility is reasonably assured. For an arrangement with multiple deliverables, the Company recognizes product sales in accordance with Emerging Issues Task Force (“EITF”) No. 00-21, *Revenue Arrangements with Multiple Deliverables* with revenues allocated among the different elements. The Company typically requires its customers to provide a down payment (usually 10% of purchase price) prior to transfer of risk of loss of ordered products or prior to performance under service contracts. These down payments are recorded as “Advance payments from customers” in the consolidated balance sheets.

For Oncology Systems and BrachyTherapy hardware products that do not include installation obligations, spare parts and X-ray tubes and imaging subsystems products (“X-ray Products”), the Company recognizes revenues upon the transfer of risk of loss, which is either at the time of shipment or delivery, depending upon the shipping terms of the contract, provided that all other criteria under EITF No. 00-21 and SAB No. 104 are met. The Company has no installation obligations for X-ray Products and such spare parts.

For Oncology Systems and BrachyTherapy hardware products with installation obligations, the Company recognizes as revenues a portion of the product purchase price upon transfer of risk of loss and defers revenue recognition on the portion associated with product installation until “acceptance” provided that all other criteria for revenue recognition under EITF No. 00-21 and SAB No. 104 are met. The portion deferred is the greater of the fair market value of the installation services for such products or the amount of payment contractually linked to the “acceptance.” However, when (a) all of the purchase price for the hardware product is conditioned upon “acceptance,” (b) the hardware product does not have value to the customer on a standalone basis, or (c) there is no objective and reliable evidence of the fair value of the undelivered item, the Company defers all revenues until “acceptance” in accordance with the treatment for “delivered items” under EITF No. 00-21.

Installation of Oncology Systems and BrachyTherapy hardware products involves the Company’s testing of each product at its factory prior to delivery of such product to ensure that the product meets the Company’s published specifications. Once these tests establish that the specifications have been met, the product is then disassembled and shipped to the customer’s site as specified in the customer contract. Risk of loss is transferred to the customer either at the time of shipment or delivery, depending upon the shipping terms of the contract. At the customer’s site, the product is reassembled, installed and retested in accordance with the Company’s installation procedures to ensure and demonstrate compliance with the Company’s published specifications for such product.

Under the terms of the Company’s hardware sales contract, “acceptance” of a hardware product with installation obligations is deemed to have occurred upon the earliest of (i) completion of product installation and testing in accordance with the Company’s standard installation procedures showing compliance with the Company’s published specifications for that product, (ii) receipt by the Company of an acceptance form executed by the customer acknowledging installation and compliance with the Company’s published specification for that product, (iii) use by the customer of the product for any purpose after its delivery or (iv) six months after the delivery of the product to the customer by the Company. The contract allows for cancellation only by mutual agreement, thus the customer does not have a unilateral right to return the delivered hardware product.

Software Products

The Company recognizes revenues for software products in accordance with SOP No. 97-2, *Software Revenue Recognition*, as amended by SOP No. 98-9, *Software Revenue Recognition with Respect to Certain*

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Agreements. The Company recognizes license revenues when all of the following criteria are met: persuasive evidence of an arrangement exists, the fee is fixed or determinable, collection of the related receivable is reasonably assured, delivery of the product has occurred and the Company has received from the customer an acceptance form acknowledging installation and substantial conformance with the Company's specifications (as set forth in the user manual) for such product, or upon verification of installation when customer acceptance is not required to be received, provided that all other criteria for revenue recognition under SOP No. 97-2 have been met. Revenues earned on software arrangements involving multiple elements are allocated to each element based on vendor-specific objective evidence of the fair value ("VSOE"), which is based on the price charged when the same element is sold separately. In instances when evidence of VSOE of all undelivered elements exists but evidence does not exist for one or more delivered elements, then revenues are recognized using the residual method. Under the residual method, the fair value of the undelivered elements is deferred and the remaining portion of the arrangement fee is recognized as revenue. Revenue allocated to maintenance and support is recognized ratably over the maintenance term (typically one year).

Installation of the Company's software products involves a certain amount of customer-specific implementation to enable the software product to function within the customer's operating environment (i.e., with the customer's IT network and other hardware equipment, with the customer's data interfaces and with the customer's administrative processes) and substantially in conformance with the Company's specifications (as set forth in the user manual) for such product. With the Company's software products, customers do not have full use of the software (i.e., functionality) until the software is installed as described above and functioning within the customer's operating environment. Therefore, the Company recognizes 100% of the software revenues upon receipt from the customer of the Company's acceptance form acknowledging installation and such substantial conformance, or upon verification of installation when the Company is not required to receive customer acceptance, or upon the expiration of an acceptance period, provided that all other criteria for revenue recognition under SOP No. 97-2 have been met.

Other

Revenues related to services performed on a time-and-materials basis are recognized when it is earned and billable. Revenues related to service contracts are recognized ratably over the period of the related contract.

The Company's products are subject to warranty, and the Company provides for the estimated future costs of warranty in cost of revenues when the related revenues are recognized.

Stock-Based Compensation

The Company accounts for stock-based employee compensation arrangements under the intrinsic value method of accounting as defined by Accounting Principles Board Opinion ("APB") No. 25, *Accounting for Stock Issued to Employees* and related interpretations, and complies with the disclosure provisions of SFAS No. 123, *Accounting for Stock-Based Compensation*, as amended by SFAS No. 148, *Accounting for Stock-Based Compensation—Transition and Disclosure*. Under APB No. 25, compensation expense is based on the difference, if any, on the date of the grant, between the fair value of the Company's stock and the exercise price.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The following table illustrates the effect on net earnings and earnings per share if the Company had accounted for the stock-based employee compensation under the fair value method of accounting:

(In thousands, except per share amounts)	Fiscal Years Ended		
	2004	2003	2002
Net earnings, as reported.....	\$167,243	\$130,888	\$ 93,609
Add: Stock-based employee compensation expense included in reported net earnings under APB No. 25, net of related tax effects .	762	764	676
Deduct: Total stock-based employee compensation determined under fair value based method for all awards, net of related tax effects	<u>(21,069)</u>	<u>(21,049)</u>	<u>(17,600)</u>
Pro forma net earnings.....	<u>\$146,936</u>	<u>\$110,603</u>	<u>\$ 76,685</u>
Net earnings per share—Basic:			
As reported	<u>\$ 1.23</u>	<u>\$ 0.96</u>	<u>\$ 0.69</u>
Pro forma	<u>\$ 1.08</u>	<u>\$ 0.82</u>	<u>\$ 0.56</u>
Net earnings per share—Diluted:			
As reported	<u>\$ 1.18</u>	<u>\$ 0.92</u>	<u>\$ 0.67</u>
Pro forma	<u>\$ 1.03</u>	<u>\$ 0.78</u>	<u>\$ 0.55</u>

We estimate the fair value of our options using a Black-Scholes option valuation model, which was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. Option valuation models require the input of assumptions, including the expected stock price volatility. Our options have characteristics significantly different from those of traded options, and changes in the input assumptions can materially affect the fair value estimates. The fair value of options granted and the option component of the employee stock purchase plan shares were estimated at the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions:

	Employee Stock Option Plans			Employee Stock Purchase Plan		
	2004	2003	2002	2004	2003	2002
Expected life (in years):						
Employees	4	4	4	0.5	0.5	0.5
Executive officers	4	7	7	0.5	0.5	0.5
Risk-free interest rate.....	3.0%	3.1%	4.3%	1.5%	1.1%	1.9%
Expected volatility.....	34.2%	36.9%	37.6%	19.1%	27.2%	37.6%
Expected dividend yield.....	—	—	—	—	—	—
Weighted average fair value at grant date	\$10.25	\$9.34	\$7.28	\$9.03	\$7.17	\$5.67

Research and Development

Research and development costs are expensed as incurred. These costs primarily include employees' salaries, consulting fees, material costs and research grants to universities.

Software Development Costs

Costs for the development of new software products and substantial enhancements to existing software products are expensed as incurred until technological feasibility has been established, at which time any

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

additional costs would be capitalized in accordance with SFAS No. 86, *Computer Software to be Sold, Leased, or Otherwise Marketed*. The costs to develop such software have not been capitalized as the Company believes its current software development process is essentially completed concurrent with the establishment of technological feasibility.

Comprehensive Earnings

Comprehensive earnings include all changes in equity (net assets) during a period from non-owner sources. The change in comprehensive earnings for all periods presented resulted from a minimum pension liability adjustment, net of taxes (see Note 12).

Taxes on Earnings

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

Computation of Earnings Per Share

Basic net earnings per share is computed by dividing net earnings by the weighted average number of shares of common stock outstanding for the period. Diluted net earnings per share is computed by dividing net earnings by the sum of the weighted average number of common shares outstanding and dilutive common shares under the treasury method. The following table sets forth the computation of basic and diluted earnings per share:

	Fiscal Years Ended		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
(In thousands, except per share amounts)			
Numerator:			
Net earnings	<u>\$ 167,243</u>	<u>\$ 130,888</u>	<u>\$ 93,609</u>
Denominator:			
Basic weighted average shares outstanding	136,036	136,113	135,327
Dilutive stock option shares	5,858	5,776	4,974
Dilutive restricted performance shares and restricted common stock	<u>321</u>	<u>264</u>	<u>176</u>
Diluted weighted average shares outstanding	<u>142,215</u>	<u>142,153</u>	<u>140,477</u>
Net earnings per Share:			
Basic	<u>\$ 1.23</u>	<u>\$ 0.96</u>	<u>\$ 0.69</u>
Diluted	<u>\$ 1.18</u>	<u>\$ 0.92</u>	<u>\$ 0.67</u>

The Company excludes options from the computation of diluted weighted average shares outstanding if the exercise price of the options is greater than the average market price of the shares because the inclusion of these options would be antidilutive to earnings per share. Accordingly, stock options to purchase 250,124 shares, 2,000 shares and 123,000 shares at weighted average exercise prices of \$42.25, \$29.19 and \$19.91, respectively, were excluded from the computation of diluted weighted average shares outstanding during fiscal years 2004, 2003 and 2002, respectively.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Reclassifications

Certain financial statement items have been reclassified to conform to the current year's format. These reclassifications had no impact on previously reported net earnings.

Recent Accounting Pronouncements

The Financial Accounting Standards Board ("FASB") issued Interpretation No. 46 ("FIN No. 46"), *Consolidation of Variable Interest Entities*, in January 2003, and a revised interpretation of FIN No. 46 ("FIN No. 46-R") in December 2003. FIN No. 46 requires certain variable interest entities ("VIEs") to be consolidated by the primary beneficiary of the entity if the equity investors in the entity do not have the characteristics of a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated financial support from other parties. The provisions of FIN No. 46 were effective immediately for all arrangements entered into after January 31, 2003. The Company has not invested in any entities that it believes are VIEs for which the Company is the primary beneficiary. FIN No. 46-R was effective for the Company's second quarter of fiscal year 2004 and did not have an impact on the consolidated financial position, results of operations or cash flows of the Company.

In December 2003, the FASB issued a revision to SFAS No. 132 ("Revision"), *Employers' Disclosures about Pensions and Other Postretirement Benefits*. This Revision requires additional disclosures relating to the description of the types of plan assets, investment strategy, measurement dates, plan obligations, cash flows and components of net periodic benefit cost of defined benefit pension plans and other defined benefit postretirement plans recognized during interim periods. These disclosure requirements were effective for the Company's second quarter of fiscal year 2004 and are applicable to all future quarterly and annual reports.

In March 2004, the EITF reached a consensus on recognition and measurement guidance discussed under EITF No. 03-01, *The Meaning of Other-Than-Temporary Impairment and Its Application to Certain Investments*. The consensus clarifies the meaning of other-than-temporary impairment and its application to investments classified as either available-for-sale or held-to-maturity under FASB Statement No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, and investments accounted for under the cost method or the equity method. The recognition and measurement guidance is applied to other-than-temporary impairment evaluations in reporting periods beginning after June 15, 2004. This consensus did not have an impact on the consolidated financial position, results of operations or cash flows of the Company.

In March 2004, the FASB issued a proposed Statement, *Share-Based Payment, an amendment of FASB Statements Nos. 123 and 95*, that addresses the accounting for share-based payment transactions in which an enterprise receives employee services in exchange for either equity instruments of the enterprise or liabilities that are based on the fair value of the enterprise's equity instruments or that may be settled by the issuance of such equity instruments. The proposed Statement would eliminate the ability to account for share-based compensation transactions using APB No. 25 and would require that such transactions be accounted for using a fair-value-based method and recognized as expenses in the Company's consolidated statement of earnings. The proposed Statement would require that the modified prospective method be used, which requires that the fair value of new awards granted from the beginning of the quarter of adoption, plus unvested awards at the date of adoption, be expensed over the applicable vesting periods. In addition, the proposed Statement encourages companies to use the "binomial" model to value stock options, which differs from the Black-Scholes option pricing model that the Company currently uses. The

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

recommended effective date of the proposed Statement for public companies is for all periods beginning after June 15, 2005. The Company is currently evaluating option valuation methodologies and assumptions in light of the evolving accounting standards related to employee stock options. Current estimates of option values using the Black-Scholes method may not be indicative of results from valuation methodologies ultimately adopted in the final rules.

In May 2004, the FASB issued a FASB Staff Position ("FSP") No. 2 regarding SFAS No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions*. FSP 106-2, *Accounting and Disclosure Requirements Related to Medicare Prescription Drug, Improvement and Modernization Act of 2003*, discusses the effect of the Medicare Prescription Drug, Improvement and Modernization Act (the "Prescription Drug Act") enacted on December 8, 2003. FSP 106-2 considers the effect of the two new features introduced in the Prescription Drug Act in determining the Company's accumulated postretirement benefit obligation and net periodic postretirement benefit cost, which may serve to reduce a company's postretirement benefit costs. FSP 106-2 is effective as of the first interim or annual period beginning after June 15, 2004. In the fourth quarter of fiscal year 2004, the Company adopted FSP 106-2 with no material impact on its consolidated financial position, results of operations, or cash flows. See Note 12 to the Consolidated Financial Statements.

2. BALANCE SHEET COMPONENTS

The following tables provide details of selected balance sheet components:

(In millions)	October 1, 2004	September 26, 2003
<i>Marketable securities:</i>		
Municipal bonds	\$ 148.4	\$ 171.8
Corporate debt securities	5.0	25.1
	153.4	196.9
Less: Short-term marketable securities	112.4	112.1
Long-term marketable securities	\$ 41.0	\$ 84.8

At October 1, 2004, scheduled maturities of held-to-maturity investments are as follows:

(In millions)	
Due within one year	\$ 112.4
Due after one year through three years	41.0
	\$ 153.4

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(In millions)	October 1, 2004	September 26, 2003
Accounts receivable:		
Gross accounts receivable	\$ 293.0	\$ 256.6
Allowance for doubtful accounts	(4.3)	(4.3)
Accounts receivable, net	\$ 288.7	\$ 252.3
Inventories:		
Raw materials and parts	\$ 79.8	\$ 81.6
Work-in-progress	7.4	5.9
Finished goods	40.5	29.3
Inventories, net	\$ 127.7	\$ 116.8
Property, plant and equipment:		
Land and land improvements	\$ 6.3	\$ 6.0
Buildings	76.3	71.9
Machinery and equipment	159.9	151.2
Construction in progress	8.6	3.4
Assets subject to lease	3.7	3.6
	254.8	236.1
Accumulated depreciation and amortization	(169.4)	(154.9)
Property, plant and equipment, net	\$ 85.4	\$ 81.2
(In millions)	October 1, 2004	September 26, 2003
Accrued expenses:		
Taxes, including taxes on earnings	\$ 46.1	\$ 25.3
Payroll and employee benefits	87.3	78.4
Deferred revenue	62.6	79.5
Other	59.5	51.1
Total accrued expenses	\$ 255.5	\$ 234.3

Long-term accrued expenses and other:

Long-term accrued expenses are comprised primarily of accruals for environmental costs that are not expected to be expended within the next fiscal year and the mandatorily redeemable financial instrument as discussed below. The current portion of the accruals for environmental costs is included within "other" in accrued expenses.

Mandatorily Redeemable Financial Instrument

Following a decision by Mitsubishi Electric Co. ("MELCO") to exit the radiotherapy equipment and service business and its desire to do so in a nondisruptive manner with an established radiotherapy equipment service provider, the Company entered into two separate transactions with MELCO contemporaneously whereby (i) the Company purchased MELCO's radiotherapy equipment service business (the "Service Business") to service MELCO's existing customers and (ii) the Company formed a three-year joint venture ("JVA") in Japan with MELCO that was effective as of February 3, 2004.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

On February 2, 2004, the Company's Japanese subsidiary ("VMS KK") purchased the Service Business in Japan and certain other Asian and South American countries for 2.0 billion Japanese Yen, or US\$19.1 million, plus a contingent "earn out" payable to MELCO at the end of the JVA period. At the time of the acquisition of the Service Business, the Company and MELCO were unable to agree upon the value of the Service Business. The Company therefore structured a payment, based on net profits or losses, to be made to or received from MELCO as an "earn out" adjustment to the purchase price to establish and verify the fair value of the Service Business. This "earn out" payment is equivalent to 100% of the net profits or losses of the Service Business for a three-year period and 50% of the net profits or losses from the sale of MELCO radiotherapy equipment products for a two-year period. As a result of this purchase, VMS KK services and supports the MELCO radiotherapy equipment products in Japan, as well as sells, services and supports the Company's products. The Company accounted for the purchase of the Service Business as an acquisition and 100% of the profits and losses from VMS KK are reflected in the Company's consolidated results. The Company accounts for the "earn out" payment equivalent to 100% of the net profits or losses of the Service Business during the three-year period as an adjustment to the purchase price of the acquisition at the end of the JVA period in accordance with SFAS No. 141, *Business Combinations* and EITF No. 95-8, *Accounting for Contingent Consideration Paid to the Shareholders of an Acquired Enterprise in a Purchase Business Combination*. For the eight-month period ended October 1, 2004, net profits for the Service Business totaled approximately \$0.2 million. Assuming no future profits and losses, \$0.2 million will be payable to MELCO at the end of the three-year JVA period.

In addition to purchasing the Service Business, the Company entered into a distributor arrangement to sell MELCO radiotherapy equipment products through VMS KK for two years to allow customers interested in purchasing MELCO radiotherapy equipment products to purchase such products for a limited period of time. After the two-year period, VMS KK will market and sell the Company's radiotherapy equipment products and both VMS KK and MELCO will cease selling MELCO radiotherapy equipment products. The Company agreed to factor sales of the MELCO radiotherapy equipment products into the "earn out" provision because the Company did not and does not expect that MELCO radiotherapy equipment products sales would be significant. Pursuant to EITF No. 95-8, the Company accounted for any payment it may pay to MELCO computed on the basis of 50% of the net profits from the sale of MELCO radiotherapy equipment products during the JVA's first two years as a VMS KK income statement adjustment. For the eight-month period ended October 1, 2004, VMS KK did not sell any MELCO radiotherapy equipment products.

The joint venture was accomplished through MELCO's purchase on February 3, 2004, of a 35% ownership interest in VMS KK for 1.4 billion Japanese Yen, or US\$13.5 million. During the three-year JVA period, MELCO is not entitled to any profits or losses generated by VMS KK. However, MELCO is entitled to elect one of the five members of VMS KK's Board of Directors. At the end of the three-year JVA period, MELCO is required to unconditionally sell and the Company is required to unconditionally repurchase MELCO's 35% ownership interest in VMS KK at the original sale price (1.4 billion Japanese Yen) and there are no settlement alternatives to such a repurchase obligation. The Company has accounted for MELCO's 35% ownership interest as a mandatorily redeemable financial instrument, which is included in "Long-term accrued expenses and other" in the consolidated balance sheets.

3. GOODWILL AND INTANGIBLE ASSETS

Pursuant to SFAS No. 142, *Goodwill and Intangible Assets*, the Company performs an annual impairment test for goodwill and intangible assets with indefinite lives. The impairment test for goodwill is a two-step

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

process. Step one consists of a comparison of the fair value of a reporting unit with its carrying amount, including the goodwill allocated to each reporting unit. If the carrying amount is in excess of the fair value, step two requires the comparison of the implied fair value of the reporting unit with 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 will be recorded as an impairment loss.

The Company performed its annual SFAS No. 142 goodwill impairment assessment for its three reporting units in the fourth quarter of fiscal year 2004 and determined that there was no impairment. However, the Company could be required to record impairment charges in future periods if indicators of potential impairment exist.

The impairment test for purchased intangible assets with indefinite useful lives 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. Intangible assets with finite useful lives are amortized over their useful lives, which range from one to twenty years.

The following table reflects the gross carrying amount and accumulated amortization of the Company's intangible assets included in "Other assets" on the consolidated balance sheets as follows:

(In millions)	October 1, 2004	September 26, 2003
Intangible Assets:		
Patents, licenses and other	\$ 13.5	\$ 12.6
Acquired existing technology	11.5	0.9
Customer contracts and supplier relationship	9.3	—
Accumulated amortization	<u>(12.7)</u>	<u>(9.1)</u>
Net carrying amount	<u>\$ 21.6</u>	<u>\$ 4.4</u>

Amortization expense for intangible assets required to be amortized under SFAS No. 142 was \$4.4 million, \$0.8 million and \$0.8 million for fiscal years 2004, 2003 and 2002, respectively. The Company estimates amortization expense on a straight-line basis for fiscal years 2005 through 2009 and thereafter, to be as follows (in millions): \$5.1, \$5.0, \$3.8, \$2.4, \$1.8, and \$3.5.

The following table reflects goodwill allocated to the Company's reportable segments:

(In millions)	October 1, 2004	September 26, 2003
Oncology Systems	\$ 100.0	\$ 47.3
X-ray Products	0.5	0.5
Other	12.2	12.2
Total	<u>\$ 112.7</u>	<u>\$ 60.0</u>

Increases during fiscal year 2004 to the goodwill and intangible assets balances were the result of the Company's acquisition of Zmed, Inc., the MELCO's radiotherapy equipment service business in Japan and the OpTx Corporation business. (See Note 15).

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

4. DEBT

Debt outstanding at October 1, 2004 and September 26, 2003 is summarized as follows:

(Dollars in millions)	October 1, 2004	September 26, 2003
Unsecured term loan, 6.70% due in installments of \$6.25 payable in fiscal years 2008, 2010, 2012, and 2014	\$25.0	\$25.0
Unsecured term loan, 6.76% due in semiannual installments of \$5.25 payable in fiscal years 2005, 2007, 2009, and 2011	21.0	21.0
Unsecured term loan, 7.15% due in installments of \$2.5 payable in fiscal years 2006 – 2010	12.5	12.5
	\$58.5	\$58.5
Less: current maturities of long-term debt	5.3	—
Long-term debt	\$53.2	\$58.5

The unsecured term loans contain covenants that limit future borrowings and require the Company to maintain certain levels of working capital and operating results. For all fiscal years presented within these consolidated financial statements, the Company was in compliance with all restrictive covenants of the unsecured term loan agreements. The unsecured term loan agreements also restrict the payment of cash dividends.

Interest paid on debt was \$4.1 million, \$4.0 million and \$4.1 million in fiscal years 2004, 2003 and 2002, respectively. At October 1, 2004, aggregate debt maturities for fiscal years 2005 through 2009 and thereafter are as follows (in millions): \$5.3, \$2.5, \$7.7, \$8.8, \$7.7, and \$26.5.

The fair value of the Company's debt was estimated to be \$64.6 million at October 1, 2004 based on the current rates available to the Company for debt of similar terms and remaining maturities. The Company determined the estimated fair value amount by using available market information and commonly accepted valuation methodologies. However, considerable judgment is required in interpreting market data to develop estimates of fair value. Accordingly, the estimate presented herein is not necessarily indicative of the amount that the Company or holders of the instrument could realize in a current market exchange. The use of different assumptions and/or estimation methodologies may have a material effect on the estimated fair value.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

5. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

Pursuant to SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, as amended by SFAS No. 149, *Amendment of SFAS No. 133 on Derivative Instruments and Hedging Activities*, the Company measures all derivatives at fair value on the consolidated balance sheets. The accounting for gains or losses resulting from changes in the fair values of those derivatives would be dependent upon the use of the derivative and whether it qualifies for hedge accounting. Changes in the fair value of derivatives that do not qualify for hedge accounting treatment must be recognized in earnings, together with elements excluded from effectiveness testing and the ineffective portion of a particular hedge. The Company's derivative instruments are recorded at their fair value in "Prepaid expenses and other current assets" and "Accrued expenses" on the Company's consolidated balance sheets.

The Company has significant international transactions in foreign currencies and addresses certain financial exposures through a controlled program of risk management that includes the use of derivative financial instruments. The Company enters into foreign currency forward exchange contracts primarily to reduce the effects of fluctuating foreign currency exchange rates. The forward exchange contracts generally range from one to twelve months in original maturity. The Company does not have any forward exchange contracts with an original maturity greater than one year.

The Company currently uses only derivatives that are designated as fair value hedges as prescribed by SFAS No. 133. For each derivative contract, the Company formally documents at the hedge's inception the relationship between the hedging instrument (forward contract) and hedged item (international firmly committed sales order), the nature of the risk being hedged, as well as its risk management objective and strategy for undertaking the hedge. The Company also formally assesses, both at the hedge's inception and on an ongoing basis, whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values of hedged items. As the terms of the forward contract and the underlying transaction are matched at inception, forward contract effectiveness is calculated by comparing the cumulative change in the fair value of the forward contract to the change in the spot rates of the related firm commitment. If a derivative qualifies as a fair value hedge, changes in the fair value of the derivative are offset against changes in the fair value of the underlying firm commitment, the difference of which is recognized currently in "cost of revenues." Hedges are tested for effectiveness by comparing the foreign currency forward rate at inception versus the current balance sheet rate forward adjusted. The change reflects the Company's conclusion that under SFAS No. 133, hedge effectiveness will not be impacted when time value is included in hedge effectiveness testing, as the critical terms of the contract and the underlying hedged item, including maturity, are matched. The Company could experience ineffectiveness on any specific hedge transaction if the hedged item (a previously firmly committed sales order) is cancelled or if the delivery date is re-scheduled.

The Company also hedges balance sheet exposures from its various foreign subsidiaries and business units. The Company enters into monthly foreign exchange forward contracts to minimize the short-term impact of foreign currency fluctuations on assets and liabilities denominated in currencies other than the U.S. dollar functional currency. These hedges of foreign-currency-denominated assets and liabilities do not qualify for hedge accounting treatment under SFAS No. 133. For derivative instruments not designated as hedging instruments, changes in their fair values are recognized in "selling, general and administrative expenses" in the current period.

Beyond foreign exchange hedging activities, the Company has no other freestanding or embedded derivative instruments.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

At October 1, 2004, the Company had foreign exchange forward contracts maturing throughout fiscal year 2005 to sell \$298.3 million and purchase \$29.5 million in various foreign currencies. At September 26, 2003, the Company had foreign exchange forward contracts matured throughout fiscal year 2004 to sell \$246.8 million and purchase \$35.6 million in various foreign currencies.

6. GUARANTEES

Indemnification Agreements

In conjunction with the sale of the Company's products in the ordinary course of business, the Company provides standard indemnification of business partners and customers for losses suffered or incurred for patent, copyright or any other intellectual property infringement claims by any third parties with respect to its products. The term of these indemnification arrangements is generally perpetual. The maximum potential amount of future payments the Company could be required to make under these agreements is unlimited. The Company has not incurred any costs since the Distribution to defend lawsuits or settle claims related to these indemnification arrangements. As a result, the Company believes the estimated fair value of these arrangements is minimal.

The Company has entered into indemnification agreements with its directors and officers that may require the Company to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers, and to advance their expenses incurred as a result of any legal proceeding against them as to which they could be indemnified.

Product Warranty

The Company warrants its products for a specific period of time, generally twelve months, against material defects. The Company provides for the estimated future costs of warranty obligations in cost of revenues when the related revenues are recognized. The accrued warranty costs represent the best estimate at the time of sale of the total costs that the Company expects to incur to repair or replace product parts which fail while still under warranty. The amount of accrued estimated warranty costs are primarily based on historical experience as to product failures as well as current information on repair costs. On a quarterly basis, the Company reviews the accrued balances and updates the historical warranty cost trends. The following table reflects the change in the Company's warranty accrual during fiscal years 2004 and 2003:

<i>(In millions)</i>	<u>October 1, 2004</u>	<u>September 26, 2003</u>
Product warranty accrual, beginning of period	\$ 36.0	\$ 30.7
Charged to cost of revenues	38.2	33.9
Actual product warranty expenditures	<u>(33.5)</u>	<u>(28.6)</u>
Product warranty accrual, end of period	<u>\$ 40.7</u>	<u>\$ 36.0</u>

7. COMMITMENTS AND CONTINGENCIES

Lease Commitments

At October 1, 2004, the Company was committed to minimum rentals under noncancelable operating leases for fiscal years 2005 through 2009 and thereafter, as follows (in millions): \$12.5, \$8.8, \$4.0, \$2.9, \$2.2, and \$2.4. Rental expense for fiscal years 2004, 2003 and 2002 (in millions) was \$16.7, \$13.4 and \$12.9, respectively.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Other Commitments

Following a decision by MELCO to exit the radiotherapy equipment and service business and its desire to do so in a nondisruptive manner with an established radiotherapy equipment service provider, the Company entered into two separate transactions with MELCO contemporaneously whereby (i) the Company purchased the Service Business to service MELCO's existing customers and (ii) the Company formed a JVA in Japan with MELCO that was effective as of February 3, 2004. See Note 2 for detailed discussion of the Company's three-year joint venture with MELCO.

On February 2, 2004, VMS KK purchased the Service Business in Japan and certain other Asian and South American countries for 2.0 billion Japanese Yen, or US\$19.1 million, plus a contingent "earn out" payable to MELCO at the end of the JVA period. At the time of the acquisition of the Service Business, the Company and MELCO were unable to agree upon the value of the Service Business. The Company therefore structured a payment, based on net profits or losses, to be made to or received from MELCO as an "earn out" adjustment to the purchase price to establish and verify the fair value of the Service Business. This "earn out" payment is equivalent to 100% of the net profits or losses of the Service Business for a three-year period and 50% of the net profits or losses from the sale of MELCO radiotherapy equipment products for a two-year period. As a result of this purchase, VMS KK services and supports the MELCO radiotherapy equipment products in Japan, as well as sells, services and supports the Company's products. The Company accounted for the purchase of the Service Business as an acquisition and 100% of the profits and losses from VMS KK are reflected in the Company's consolidated results. The Company accounts for the "earn out" payment equivalent to 100% of the net profits or losses of the Service Business during the three-year period as an adjustment to the purchase price of the acquisition at the end of the JVA period in accordance with SFAS No. 141 and EITF No. 95-8. For the eight-month period ended October 1, 2004, net profits for the Service Business totaled approximately \$0.2 million. Assuming no future profits and losses, \$0.2 million will be payable to MELCO at the end of the three-year JVA period.

In addition to purchasing the Service Business, the Company entered into a distributor arrangement to sell MELCO radiotherapy equipment products through VMS KK for two years to allow customers interested in purchasing MELCO radiotherapy equipment products to purchase such products for a limited period of time. After the two-year period, VMS KK will market and sell the Company's radiotherapy equipment products and both VMS KK and MELCO will cease selling MELCO radiotherapy equipment products. The Company agreed to factor sales of the MELCO radiotherapy equipment products into the "earn out" provision because the Company did not and does not expect that MELCO radiotherapy equipment products sales would be significant. Pursuant to EITF No. 95-8, the Company accounted for any payment it may pay to MELCO computed on the basis of 50% of the net profits from the sale of MELCO radiotherapy equipment products during the JVA's first two years as a VMS KK income statement adjustment. For the eight-month period ended October 1, 2004, VMS KK did not sell any MELCO radiotherapy equipment products.

Contingencies

The U.S. Environmental Protection Agency or third parties has named the Company as a potentially responsible party under the Comprehensive Environmental Response Compensation and Liability Act of 1980, as amended ("CERCLA"), at eight sites where the Company, as Varian Associates, Inc., is alleged to have shipped manufacturing waste for recycling or disposal. In addition, the Company is overseeing environmental cleanup projects and as applicable, reimbursing third parties for cleanup activities under the

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

direction of, or in consultation with, federal, state and/or local agencies at certain current VMS or former Varian Associates, Inc. facilities (including facilities disposed of in connection with the Company's sale of its electron devices business during 1995, and the sale of its thin film systems business during 1997). Under the terms of the agreement governing the Distribution, VI and VSEA, which were spun-off by the Company in 1999, are each obligated to indemnify the Company for one-third of these environmental cleanup costs (after adjusting for any insurance proceeds realized or tax benefits recognized by the Company). The Company spent \$2.1 million, \$1.9 million and \$3.9 million (net of amounts borne by VI and VSEA) during fiscal years 2004, 2003 and 2002, respectively, on environmental investigation, cleanup and third party claim costs.

For one of these sites and facilities, various uncertainties make it difficult to assess the likelihood and scope of further cleanup activities or to estimate the future costs of such activities (including cleanup costs, reimbursements to third parties, project management costs and legal costs) if undertaken. As of October 1, 2004, the Company nonetheless estimated that the Company's future exposure (net of VI's and VSEA's indemnification obligations) to complete the cleanup projects for these sites ranged in the aggregate from \$3.9 million to \$7.3 million. The time frame over which the Company expects to complete the cleanup projects varies with each site, ranging up to approximately 30 years as of October 1, 2004. Management believes that no amount in the foregoing range of estimated future costs is more probable of being incurred than any other amount in such range and therefore accrued \$3.9 million as of October 1, 2004. The amount accrued has not been discounted to present value due to the uncertainties that make it difficult to develop a best estimate of future costs.

As to other sites and facilities, the Company has gained sufficient knowledge based upon formal agreements with other parties defining the Company's future liabilities or formal cleanup plans for these sites that have either been approved by or completed in accordance with the requirements of the state or federal environmental agency with jurisdiction over the site to better estimate the scope and costs of future cleanup activities. As of October 1, 2004, the Company estimated that the Company's future exposure (net of VI's and VSEA's indemnification obligations) to complete the cleanup projects, including reimbursements to third party's claims, for these sites and facilities ranged in the aggregate from \$13.6 million to \$45.3 million. The time frame over which these cleanup projects are expected to be complete varies with each site and facility, ranging up to approximately 30 years as of October 1, 2004. As to each of these sites and facilities, management determined that a particular amount within the range of estimated costs was a better estimate of the future environmental liability than any other amount within the range, and that the amount and timing of these future costs were reliably determinable. The best estimate within the range was \$19.8 million at October 1, 2004. The Company accordingly accrued \$13.0 million, which represents its best estimate of the future costs of \$19.8 million discounted at 4%, net of inflation. This accrual is in addition to the \$3.9 million described in the preceding paragraph.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

At October 1, 2004, the Company's reserve for environmental liabilities, based upon future environmental-related costs estimated as of that date, was calculated as follows:

(In millions)	<u>Recurring Costs</u>	<u>Non-Recurring Costs</u>	<u>Total Anticipated Future Costs</u>
Fiscal Years:			
2005	\$ 0.8	\$ 1.7	\$ 2.5
2006	0.8	1.2	2.0
2007	0.8	1.1	1.9
2008	0.8	0.5	1.3
2009	0.8	0.3	1.1
Thereafter	<u>12.7</u>	<u>2.2</u>	<u>14.9</u>
Total costs	<u>\$16.7</u>	<u>\$7.0</u>	<u>23.7</u>
Less imputed interest			<u>(6.8)</u>
Reserve amount			<u>\$16.9</u>

Recurring costs include expenses for such tasks as ongoing operation, maintenance and monitoring of cleanup while non-recurring costs include expenses for such tasks as soil excavation and treatment, injection/monitoring well installation and other costs for soil and groundwater *in situ* treatment by injection, ground and surface water treatment system construction, soil and groundwater investigation, certain governmental agency costs required to be reimbursed by the Company, governmental agency response costs (including agency costs required to be reimbursed by the responding company), treatment system and monitoring well removal and closure, and costs to defend against and settle pending and anticipated third party claims.

The amounts set forth in the foregoing table are only estimates of anticipated future environmental-related costs to cover the known cleanup projects, and the amounts actually spent may be greater or less than such estimates. The aggregate range of cost estimates reflects various uncertainties inherent in many environmental cleanup activities, the large number of sites and facilities involved and the amount of third party claims. The Company believes that most of these cost ranges will narrow as cleanup activities progress. The Company believes that its reserves are adequate, but as the scope of its obligations becomes more clearly defined, these reserves (and the associated indemnification obligations of VI and VSEA) may be modified and related charges/credits against earnings may be made.

Although any ultimate liability arising from environmental-related matters described herein could result in significant expenditures that, if aggregated and assumed to occur within a single fiscal year, would be material to the Company's consolidated financial statements, the likelihood of such occurrence is considered remote. Based on information currently available to management and its best assessment of the ultimate amount and timing of environmental-related events (and assuming VI and VSEA satisfy their indemnification obligations), management believes that the costs of these environmental-related matters are not reasonably likely to have a material adverse effect on the consolidated financial statements of the Company in any fiscal year.

The Company evaluates its liability for environmental-related investigation and cleanup costs in light of the liability and financial wherewithal of potentially responsible parties and insurance companies with respect to which the Company believes that it has rights to contribution, indemnity and/or reimbursement (in addition to the obligations of VI and VSEA). Claims for recovery of environmental investigation and

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

cleanup costs already incurred, and to be incurred in the future, have been asserted against various insurance companies and other third parties. The Company received certain cash payments in the form of settlements and judgments from defendants, its insurers and other third parties from time to time. The Company has also reached an agreement with another insurance company under which the insurance company has agreed to pay a portion of the Company's past and future environmental-related expenditures, and the Company therefore has a \$3.3 million receivable included in "Other assets" at October 1, 2004. The Company believes that this receivable is recoverable because it is based on a binding, written settlement agreement with a solvent and financially viable insurance company and the insurance company has paid the claims that the Company has made to date.

Following the Distribution, the Company retained the liabilities related to the medical systems business prior to the Distribution. In addition, the Company agreed to manage and defend liabilities related to legal proceedings and environmental matters arising from corporate or discontinued operations of the Company prior to the Distribution. VI and VSEA generally are each obligated to indemnify the Company for one-third of these liabilities (after adjusting for any insurance proceeds realized or tax benefits recognized by the Company), including certain environmental-related liabilities described above, and to fully indemnify the Company for liabilities arising from the operations of the business transferred to each prior to the Distribution. The availability of such indemnities will depend upon the future financial strength of VI and VSEA. Given the long-term nature of some of the liabilities, the relevant company may be unable to fund the indemnities in the future. It is also possible that a court would disregard this contractual allocation of indebtedness, liabilities and obligations among the parties and require the Company to assume responsibility for obligations allocated to another party, particularly if such other party were to refuse or was unable to pay or perform any of its allocated obligations. In addition, the agreement governing the Distribution generally provides that if a court prohibits a company from satisfying its indemnification obligations, then the indemnification obligations will be shared equally between the two other companies.

The Company is also involved in other legal proceedings arising in the ordinary course of its business. While there can be no assurances as to the ultimate outcome of any litigation involving the Company, management does not believe any pending legal proceeding will result in a judgment or settlement that will have a material adverse effect on the Company's consolidated financial position, results of operations or cash flows.

8. STOCKHOLDER RIGHTS PLAN

The Company's Board has adopted a stockholder rights plan. The plan provides for a dividend distribution of one preferred stock purchase right (a "Right") for each outstanding share of common stock, distributed to stockholders of record on December 4, 1998 or issued thereafter. The Rights will be exercisable only if a person or group acquires 15% or more of the Company's common stock (an "Acquiring Person") or announces a tender offer for 15% or more of the common stock. Each Right entitles stockholders to buy one one-thousandth of a share of Participating Preferred Stock, par value \$1.00 per share, of the Company at an exercise price of \$210 per Right, subject to adjustment from time to time. However, if any person becomes an Acquiring Person, each Right will then entitle its holder (other than the Acquiring Person) to purchase at the exercise price common stock (or, in certain circumstances, Participating Preferred Stock) of the Company having a market value at that time of twice the Right's exercise price. These Rights holders would also be entitled to purchase an equivalent number of shares at the exercise price if the Acquiring Person were to control the Company's Board of Directors and cause the Company to enter into

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

certain mergers or other transactions. In addition, if an Acquiring Person acquired between 15% and 50% of the Company's voting stock, the Company's Board of Directors may, at its option, exchange one share of the Company's common stock for each Right held (other than Rights held by the Acquiring Person). Rights held by the Acquiring Person will become void. The Rights will expire on December 4, 2008, unless earlier redeemed by the Board at \$0.001 per Right.

9. STOCK SPLIT

On November 16, 2001 and June 14, 2004, the Company's Board of Directors declared two-for-one stock splits, each in the form of a 100% stock dividend. The distributions of the shares were made on January 15, 2002 and July 30, 2004 to stockholders of record as of December 10, 2001 and June 30, 2004, respectively. Unless otherwise stated, all references in the consolidated financial statements to the number of shares and per share amounts of the Company's common stock have been retroactively restated to reflect the increased number of shares resulting from the two-for-one stock splits.

10. STOCK REPURCHASE PROGRAM

On August 20, 2001, the Company announced that its Board of Directors had authorized the repurchase by the Company of up to one million shares (on a pre-January 15, 2002 and pre-July 30, 2004 stock split basis). The time period for the repurchase was extended by the Board of Directors until February 28, 2003. On February 14, 2003, the Company announced that its Board of Directors had authorized an additional repurchase of up to two million shares (on a pre-July 30, 2004 stock split basis) of its common stock through February 29, 2004. On November 12, 2003, the Company's Board of Directors authorized a further repurchase of up to three million shares (on a pre-July 30, 2004 stock split basis) of its common stock over the period through August 31, 2005. During fiscal years 2004, 2003 and 2002, the Company paid \$202 million, \$105 million and \$55 million, respectively, to repurchase 5,576,000 shares, 3,969,200 shares and 2,714,800 shares, respectively, of its common stock. All shares that had been repurchased were retired. As of October 1, 2004, the Company could still repurchase up to 1,460,000 shares of its common stock.

11. STOCK BASED COMPENSATION PLANS

During fiscal year 1991, the Company adopted the stockholder-approved Omnibus Stock Plan (the "Plan") under which shares of common stock can be issued to officers, directors, key employees and consultants. The Plan was amended and restated as of the Distribution. It was later amended and restated on January 15, 2002 and again on July 30, 2004 to reflect the Company's two-for-one stock splits in the form of a 100% stock dividend on each of these two dates. The exercise price for incentive and nonqualified stock options granted under the Plan may not be less than 100% of the fair market value of the common stock at the date of the grant. For employees holding more than 10% of the voting rights of all classes of stock, the exercise price of incentive stock options may not be less than 110% of the fair market value of the common stock at the date of grant. Options granted will be exercisable at such times and be subject to such restrictions and conditions as determined by the Compensation and Management Development Committee of the Company's Board of Directors, but no option shall be exercisable later than five years from the date of grant for incentive stock options for which the grantee owns greater than 10% of the voting power of all classes of stock and no longer than ten years from the date of grant for all other options. Options granted before November 2000 are generally exercisable in cumulative installments of one-third each year, commencing one year following date of grant, and expire if not exercised within ten years from date of grant. Options granted after November 2000 are generally exercisable in the following

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

manner: the first one-third one year from the date of grant, with the remainder vesting monthly during the following two-year period; and the options expire if not exercised within ten years from date of grant. Restricted stock grants may be subject to restrictions on transferability and continued employment as determined by the Compensation and Management Development Committee.

During November 2000, the Company adopted the Board-approved 2000 Stock Option Plan (the "2000 Plan"). The 2000 Plan was intended to supplement the Plan. The 2000 Plan is similar to the Plan in all material respects, with the exception that shares available for awards under the 2000 Plan may not be issued to directors or officers of the Company. On January 15, 2002 and then later on July 30, 2004, the Company amended and restated the 2000 Plan to reflect its two-for-one stock splits in the form of a 100% stock dividend on each of these two dates. The terms of the 2000 Plan generally mirror the Plan.

Option activity under the Plan and the 2000 Plan is presented below:

(In thousands, except per share amounts)	Shares Available for Grant	Outstanding Options	
		Number of Shares	Weighted Average Exercise Price
Options outstanding at September 28, 2001 (9,824 options exercisable at a weighted average exercise price of \$6.89)	15,018	17,708	\$ 8.54
Granted	(3,372)	3,372	17.98
Canceled or expired	168	(230)	8.76
Exercised	<u>—</u>	<u>(3,248)</u>	5.86
Options outstanding at September 27, 2002 (12,482 options exercisable at a weighted average exercise price of \$8.53)	11,814	17,602	\$10.84
Granted (included 6 shares of restricted stock granted)	(3,066)	3,060	24.41
Canceled or expired	66	(132)	11.70
Exercised	<u>—</u>	<u>(4,036)</u>	7.63
Options outstanding at September 26, 2003 (12,224 options exercisable at a weighted average exercise price of \$11.36)	8,814	16,494	\$14.13
Granted	(3,266)	3,266	32.90
Canceled or expired	102	(108)	25.35
Exercised	<u>—</u>	<u>(3,408)</u>	11.41
Options outstanding at October 1, 2004	<u>5,650</u>	<u>16,244</u>	\$18.40

During fiscal years 2004, 2003 and 2002, the Company excluded from shares available for grant 6,000 shares, 66,000 shares and 62,000 shares, respectively, of canceled or expired options that were granted before the Distribution under the Company's previous, now inactive, stock option plans.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The following table summarizes information about options outstanding and exercisable under the Plan and the 2000 Plan at October 1, 2004:

<u>Range of Exercise Prices</u> (Shares in thousands)	<u>Options Outstanding</u>			<u>Options Exercisable</u>	
	<u>Number of Shares Outstanding</u>	<u>Weighted Average Remaining Contractual Life (in years)</u>	<u>Weighted Average Exercise Price</u>	<u>Number of Shares Exercisable</u>	<u>Weighted Average Exercise Price</u>
\$3.88 – \$4.54.....	220	4.4	\$ 4.40	220	\$ 4.40
\$4.58	2,333	4.5	\$ 4.58	2,333	\$ 4.58
\$4.63 – \$6.35.....	348	3.3	\$ 5.53	348	\$ 5.53
\$6.66 – \$13.89.....	321	4.3	\$ 8.84	321	\$ 8.84
\$13.95	4,313	6.1	\$13.95	4,313	\$13.95
\$14.73 – \$21.27.....	2,722	7.0	\$17.92	2,548	\$17.92
\$21.50 – \$29.19.....	2,774	8.1	\$24.41	1,691	\$24.43
\$32.10 – \$46.07.....	3,213	9.1	\$32.92	179	\$41.32
Total	<u>16,244</u>	6.8	\$18.40	<u>11,953</u>	\$14.30

During fiscal year 2001, the Company granted 363,632 restricted performance shares to several of its senior executives and 12,000 shares of restricted common stock to a senior executive under the Plan at no cost to the employees. During fiscal year 2003, the Company granted 6,000 shares of restricted common stock to another senior executive under the Plan at no cost to the employee. The restricted performance shares will vest 100% five years from the date of grant subject to the employees' having satisfied defined performance objectives. Upon vesting, the Company will deliver one share of common stock for each performance share granted to the employee. In the event that the Company terminates an employee's service prior to the end of the vesting period or an employee retires more than three years prior to the end of the vesting period, any unvested performance shares are forfeited. However, if the employee's termination is by reason of death or disability or by the Company for any other reason other than for cause, the performance shares will become immediately vested. The restricted common stock granted to the senior executive in fiscal year 2001 will vest in the following manner: the first one-third three months from the date of grant; the second one-third fifteen months from the date of grant; and the last one-third twenty-seven months from the date of grant. The restricted common stock granted to the senior executive in fiscal year 2003 will vest in cumulative installments of one-fourth each year, commencing one year following date of grant. In the event that the Company terminates the employee's service prior to the end of the vesting period or the employee retires more than three years prior to the date such vesting is deemed to have occurred, any unvested restricted common stock is forfeited and automatically transferred to and reacquired by the Company at no cost to the Company. An employee may not sell or otherwise transfer unvested shares. Deferred stock compensation for both the restricted performance shares and the restricted common stock is measured at the stock's fair value on the date of grant and is being amortized over their respective vesting periods. In connection with these grants, the Company recorded deferred stock compensation of \$5.4 million. For fiscal years 2004, 2003 and 2002, the Company recognized in "cost of revenues" and "selling, general and administrative expenses" amortization of deferred stock compensation of \$1.2 million, \$1.1 million and \$1.1 million, respectively. The Company estimates that the remaining deferred compensation of approximately \$1.1 million at October 1, 2004 will be amortized as follows: \$1.0 million during fiscal year 2005 and \$0.1 million during fiscal year 2006. The amount of deferred compensation

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

expense recorded and to be recorded in future periods could decrease if restricted awards for which accrued but unvested compensation has been recorded are forfeited.

The Employee Stock Purchase Plan (the "ESPP") covers substantially all employees in the United States and Canada. The participants' purchase price of common stock is the lower of 85% of the closing market price on the first trading day of the each six-month period in the fiscal year or the last trading day of the same six-month period. During fiscal years 2004, 2003 and 2002, the Company issued approximately 270,000 shares, 290,000 shares and 332,000 shares, respectively, under the ESPP for \$7.2 million, \$5.9 million and \$5.0 million, respectively. On January 15, 2002 and July 30, 2004, the Company amended and restated the ESPP to reflect its two-for-one stock splits, on each of these two dates. At October 1, 2004, the Company had a balance of approximately 5,575,000 shares reserved for the ESPP.

12. RETIREMENT PLANS

The Company has a defined contribution retirement plan—the Varian Medical Systems, Inc. Retirement Plan (the "Retirement Plan")—covering substantially all of its United States employees. The Company's major obligation is to match eligible employee contributions up to a certain amount based on a percentage of each participant's eligible base pay. The Company is also obligated to contribute a percentage of each participant's Employee Incentive Plan ("EIP") allocations should the participant elect to contribute his or her EIP allocations to the Retirement Plan. Participants are entitled, upon termination or retirement, to their portion of the retirement fund assets, which are held by a third-party custodian. The Retirement Plan allows participants to invest up to 25% of their contributions in shares of common stock of the Company as an investment option. In addition, a number of the Company's foreign subsidiaries have defined benefit retirement plans for regular full-time employees. Total retirement and pension expense for all plans amounted to \$13.8 million, \$12.4 million and \$10.0 million, for fiscal years 2004, 2003 and 2002, respectively.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Obligations and Funded Status

The funded status of the defined benefit and post-retirement benefit plans as of the fiscal year-end are as follows:

(In millions)	Defined Benefit Plans		Post-Retirement Benefit Plans	
	2004	2003	2004	2003
Change in benefit obligation:				
Benefit obligation—beginning of fiscal year	\$ 57.9	\$ 47.0	\$ 9.1	\$ 6.8
Service cost	3.0	2.2	—	—
Interest cost	2.6	2.4	0.5	0.4
Plan participants' contributions	1.7	1.4	—	—
Actuarial (gain) loss	(0.6)	1.7	(1.6)	2.4
Foreign currency changes	4.5	4.6	—	—
Benefit payments	(2.0)	(1.4)	(0.6)	(0.5)
Value of employer subsidy	—	—	(0.7)	—
Benefit obligation—end of fiscal year	\$ 67.1	\$ 57.9	\$ 6.7	\$ 9.1
Change in plan assets:				
Plan assets—beginning of fiscal year	\$ 40.5	\$ 32.9	\$ —	\$ —
Employer contributions	7.1	2.7	0.6	0.5
Actual return on plan assets	3.5	1.6	—	—
Plan participants' contributions	1.7	1.4	—	—
Foreign currency changes	3.3	3.2	—	—
Benefit and expense payments	(1.9)	(1.3)	(0.6)	(0.5)
Plan assets—end of fiscal year	\$ 54.2	\$ 40.5	\$ —	\$ —
Funded status	\$(12.9)	\$(17.4)	\$(6.7)	\$(9.1)
Unrecognized transition obligation	—	—	2.7	3.1
Unrecognized prior service cost	1.6	1.7	—	—
Unrecognized net (gain) loss	12.5	14.0	(0.1)	2.4
Distributions	—	—	0.1	—
Net amount recognized	\$ 1.2	\$ (1.7)	\$(4.0)	\$(3.6)
Amounts recognized within the consolidated balance sheet:				
Prepaid (accrued) pension expense	\$ 5.2	\$ (1.7)	\$(4.0)	\$(3.6)
Accrued benefit liability	(4.1)	(5.3)	—	—
Intangible assets	0.1	—	—	—
Accumulated other comprehensive loss	—	5.3	—	—
Net amount recognized	\$ 1.2	\$ (1.7)	\$(4.0)	\$(3.6)

The accumulated benefit obligation for all defined benefit pension plans was \$55.3 million and \$46.6 million at October 1, 2004 and September 26, 2003, respectively.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The total fair value of plan assets, benefit obligation and accumulated benefit obligation for those plans where accumulated benefit obligation exceeds the fair value of plan assets are as follows:

(In millions)	Defined Benefit Plans	
	2004	2003
Projected benefit obligation	\$26.7	\$32.4
Accumulated benefit obligation	\$24.3	\$25.2
Fair value of plan assets	\$21.2	\$18.6

The Company's net pension and post-retirement benefit costs are composed of the following:

(In millions)	Defined Benefit Plans			Post-Retirement Benefit Plans		
	2004	2003	2002	2004	2003	2002
	Service cost	\$ 3.0	\$ 2.2	\$ 2.0	\$ —	\$ —
Interest cost	2.6	2.4	2.1	0.5	0.4	0.4
Expected return on assets	(2.2)	(2.1)	(1.9)	—	—	—
Net amortization and deferral:						
Transition amount	—	—	—	0.5	0.5	0.5
Prior service cost	0.1	0.1	—	—	—	—
Recognized actuarial loss	0.8	0.7	0.4	0.1	—	—
Net pension benefit cost	\$ 4.3	\$ 3.3	\$ 2.6	\$1.1	\$0.9	\$0.9

Additional Information

The Company evaluates each pension plan to determine whether any additional minimum liability is required. As a result of changes in interest rates and changes in investment returns, an adjustment to the additional minimum pension liability was required for certain plans. The adjustment in the liability is recorded as a charge or (credit) to Accumulated Other Comprehensive Loss, net of taxes, in stockholders' equity in the consolidated balance sheets.

(In millions)	Fiscal Years Ended		
	2004	2003	2002
Increase (decrease) in minimum liability included in other comprehensive earnings, net of taxes	\$(3.4)	\$0.9	\$2.5

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Assumptions

The assumptions used to determine net periodic benefit cost and to compute the expected long-term return on assets for the Company defined benefit and post-retirement benefit plans are as follows:

<u>Net Periodic Benefit Cost</u>	<u>Fiscal Years Ended</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
Defined benefit plans:			
Discount rates	1.25 to 5.30%	2.00 to 6.00%	2.00 to 6.50%
Rates of compensation increase	1.75 to 4.00%	2.00 to 4.50%	3.00 to 4.75%
Expected long-term return on assets	0.50 to 7.00%	0.50 to 7.50%	0.50 to 8.00%
Post-retirement benefit plans:			
Discount rate	5.50%	7.00%	7.25%
Expected long-term return on assets	—	—	—

The assumptions used to measure the benefit obligations for the Company defined benefit and post-retirement benefit plans are as follows:

<u>Benefit Obligations</u>	<u>October 1,</u>	<u>September 26,</u>
	<u>2004</u>	<u>2003</u>
Defined benefit plans:		
Discount rates	2.25 to 5.80%	1.25 to 5.30%
Rates of compensation increase	1.75 to 4.30%	1.75 to 4.00%
Post-retirement benefit plans:		
Discount rate	5.75%	5.50%

The assumptions in the above tables were reassessed as of October 1, 2004. For defined benefit plans, the discount rate was increased to the range of 2.25% to 5.80% based on the then-current yields on government and high quality corporate fixed-income investments with maturities corresponding to the expected duration of the benefit obligations. Additionally, the rate of projected compensation increase was adjusted to the range of 1.75% to 4.30% reflecting expected inflation levels and future outlook. For post-retirement benefit plans, the discount rate was increased to 5.75% based on historical practice and changing duration of the benefit obligation. The Company conducted an expected long-term rate of return study on defined benefit plans assets. This study consisted of forward-looking projections for a risk-free rate of return, inflation rate, and implied equity risk premiums for particular asset classes. Historical returns were not used. The results of this study were applied to the target asset allocation in accordance with the Company's planned investment strategies. The expected long-term rate of return on plan assets was determined based on the weighted-average of projected returns on each asset class.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The assumptions used to determine the assumed healthcare cost trend rates for post-retirement benefit plans are as follows:

<u>Assumed Healthcare Cost Trend Rates</u>	<u>Fiscal Years Ended</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
Post-retirement benefit plans:			
Current medical cost trend rate	9.00 to 15.00%	10.00 to 17.00%	10.00 to 17.00%
Ultimate medical cost trend rate	5.00%	4.75%	4.75%

Assumed healthcare cost trend rates could have a significant effect on the amounts reported for healthcare plans. A 1.0 percentage point increase in the assumed healthcare cost trend rates would have increased the total service cost and interest cost components reported in fiscal year 2004 by \$41,000 and would have increased the post-retirement benefit obligation reported in fiscal year 2004 by \$534,000. A 1.0 percentage point decrease in the assumed healthcare cost trend rates would have decreased the total service cost and interest cost components reported in fiscal year 2004 by \$36,000 and would have decreased the post-retirement benefit obligation in fiscal year 2004 by \$474,000.

Medicare Prescription Drug Act

In December 2003, the Prescription Drug Act was signed into law. The Prescription Drug Act introduces a prescription drug benefit under Medicare (Medicare Part D) as well as a federal subsidy to sponsors of retiree healthcare benefit plans that provide a benefit that is at least actuarially equivalent to Medicare Part D. The Company is impacted by the Act since it sponsors postretirement benefit plans that provide prescription drug benefits. In May 2004, the FASB issued FSP 106-2, *Accounting and Disclosure Requirements Related to Medicare Prescription Drug, Improvement and Modernization Act of 2003*, which discusses the effect of the Prescription Drug Act enacted in December 2003. FSP 106-2 considers the effect of the two new features introduced in the Act in determining the Company's accumulated postretirement benefit obligation and net periodic postretirement benefit cost, which may serve to reduce a company's postretirement benefit costs. Pursuant to FSP 106-2, the Company is required to disclose the effect of the subsidy on the measurement of net periodic postretirement benefit cost for the first period in which the Company includes the effects of the subsidy in the calculation. Beginning the fourth quarter of fiscal year 2004, the Company elected to apply FSP 106-2 using the prospective approach. For fiscal year 2004, amortization of actuarial loss and interest cost decreased by approximately \$17,000 and \$10,000, respectively as a result of including the subsidy on the measurement of net periodic postretirement benefit cost.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Plan Assets

The Company's defined benefit plans weighted-average asset allocations at October 1, 2004 and September 26, 2003 and target allocations for fiscal year-end 2004, by asset category, were as follows:

	Defined Benefit Plans		Target Allocations
	October 1, 2004	September 26, 2003	
Equity securities	45.7%	39.6%	43.5%
Debt securities	32.8	36.0	38.7
Real estate	3.3	3.3	5.1
Other(1)	18.2	21.1	12.7
Total	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

(1) The other category represents investments in money market funds and in portfolios of insurance companies.

The investment objectives of the plan assets ("the Portfolio") are designed to generate returns that will enable the Portfolio to meet its future obligations. The precise amount for which these obligations will be settled depends on future events, including the life expectancy of the benefit plans' members and salary inflation. The obligations are estimated using actuarial assumptions, based on the current economic environment. The investment strategy depends on the country where the Portfolio is. Some benefit plans are more conservative than the others. In general, the strategy balances the requirement to generate return, using higher-returning assets such as equity securities, with the need to control risk in the Portfolio with less volatile assets, such as fixed income securities. Risks include, among others, the likelihood of the defined benefit plans becoming underfunded, thereby increasing their dependence on contributions from the company. Within each asset class, careful consideration is given to balancing the portfolio among industry sectors, geographies, interest rate sensitivity, dependence on economic growth, currency and other factors that affect investment returns.

The post-retirement benefit plans are funded on a pay-as-you-go basis. The Company funds on a cash basis as benefits are paid. No assets have been segregated and restricted to provide postretirement benefits.

Estimated Contributions and Future Benefit Payments

The Company made contributions to the defined benefit plans of \$7.1 million during the fiscal year 2004. This amount was significantly greater than the contributions of \$2.7 million made for fiscal year 2003 due to a discretionary employer contribution of \$3.6 million made to the pension plan in the United Kingdom during the second half of fiscal year 2004. The Company expects total contributions to these defined benefit plans for fiscal year 2005 to be approximately \$3.6 million.

The Company expects total contributions to the post-retirement benefit plans for fiscal year 2005 to be approximately \$0.6 million.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Estimated future benefit payments at October 1, 2004 are as follows:

(In millions)	Defined Benefit Plans	Post-Retirement Benefit Plans	Employer Subsidy	Total
Fiscal Years:				
2005	\$ 2.0	\$0.6	\$ —	\$ 2.6
2006	2.2	0.6	—	2.8
2007	2.7	0.5	(0.1)	3.1
2008	2.9	0.7	(0.1)	3.5
2009	3.4	0.7	(0.1)	4.0
2010-2014	21.8	3.2	(0.3)	24.7
	<u>\$35.0</u>	<u>\$6.3</u>	<u>\$(0.6)</u>	<u>\$40.7</u>

13. TAXES ON EARNINGS

Taxes on earnings are based upon the geographic distribution of earnings as follows:

(In thousands)	Fiscal Years Ended		
	2004	2003	2002
Domestic	\$162,321	\$131,421	\$ 90,192
Foreign	94,982	69,947	56,067
	<u>\$257,303</u>	<u>\$201,368</u>	<u>\$146,259</u>

The Company accounts for income taxes using SFAS No. 109, *Accounting for Income Taxes*. SFAS 109 provides for an asset and liability approach under which deferred income taxes are based upon enacted tax laws and rates applicable to the periods in which the taxes become payable.

Taxes on earnings are as follows:

(In millions)	Fiscal Years Ended		
	2004	2003	2002
Current provision:			
Federal	\$47.5	\$51.8	\$ 48.1
State and local	7.5	7.3	6.5
Foreign	25.1	20.6	16.2
Total current	<u>80.1</u>	<u>79.7</u>	<u>70.8</u>
Deferred provision (benefit):			
Federal	11.1	(9.1)	(18.2)
State and local	0.8	(0.2)	(0.7)
Foreign	(1.9)	0.1	0.8
Total deferred	<u>10.0</u>	<u>(9.2)</u>	<u>(18.1)</u>
Taxes on earnings	<u>\$90.1</u>	<u>\$70.5</u>	<u>\$ 52.7</u>

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Significant components making up deferred tax assets and liabilities are as follows:

(In millions)	October 1, 2004	September 26, 2003
Assets:		
Product warranty	\$13.2	\$11.4
Deferred compensation	16.3	12.1
Environmental and other provisions	14.2	16.1
Inventory adjustments	16.2	14.4
Deferred revenue	24.0	27.9
State deferred taxes	2.0	2.9
Capitalized research and development	4.2	5.3
Other	5.9	6.4
	<u>96.0</u>	<u>96.5</u>
Liabilities:		
Accelerated depreciation	3.5	3.5
Goodwill amortization	5.6	4.3
Net undistributed profits of foreign subsidiaries	11.4	5.4
Other	3.0	0.8
	<u>23.5</u>	<u>14.0</u>
Net deferred tax assets	<u>\$72.5</u>	<u>\$82.5</u>

The classification of the net deferred tax assets on the consolidated balance sheet is as follows:

(In millions)	October 1, 2004	September 26, 2003
Net current deferred tax assets	\$ 87.4	\$87.7
Net long-term deferred tax liabilities (included in "Long-term accrued expenses")	(14.9)	(5.2)
Net deferred tax assets	<u>\$ 72.5</u>	<u>\$82.5</u>

The Company has not provided for U.S. federal income and foreign withholding taxes on \$140.1 million of cumulative undistributed earnings of non-U.S. subsidiaries. Such earnings are intended to be reinvested in the non-U.S. subsidiaries for an indefinite period of time. If such earnings were not considered to be reinvested indefinitely, additional deferred taxes of \$11.6 million would be provided. Where excess cash has accumulated in the Company's non-U.S. subsidiaries and it is advantageous for tax or foreign exchange reasons, subsidiary earnings are remitted.

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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

	<u>Fiscal Years Ended</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
Federal statutory income tax rate	35.0%	35.0%	35.0%
State and local taxes, net of federal tax benefit	2.1	2.3	2.6
Foreign taxes, net	(0.6)	(0.7)	(0.6)
Extra territorial income exclusion/Foreign Sale Corporation	(0.8)	(1.0)	(1.0)
Research and development credit	(0.2)	(0.2)	(0.2)
Other	<u>(0.5)</u>	<u>(0.4)</u>	<u>0.2</u>
Effective tax rate	<u>35.0%</u>	<u>35.0%</u>	<u>36.0%</u>

Income taxes paid are as follows:

<i>(In millions)</i>	<u>Fiscal Years Ended</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
Federal income taxes paid, net	\$10.2	\$42.3	\$24.4
State income taxes paid, net	2.7	8.0	4.4
Foreign income taxes paid, net	15.8	13.4	17.1
Total	<u>\$28.7</u>	<u>\$63.7</u>	<u>\$45.9</u>

14. REORGANIZATION CHARGES

The \$0.2 million of net reorganization income in fiscal year 2002 resulted primarily from the release of an excess reorganization accrual for foreign taxes (excluding income taxes) established as part of the Distribution, partially offset by reorganization charges primarily attributable to legal fees incurred in excess of amounts previously accrued.

15. PURCHASE BUSINESS COMBINATIONS

During fiscal year 2004, the Company acquired the assets and liabilities of three businesses. The consolidated financial statements include the operating results of each acquired business from the date of acquisition. Pro forma results of operations have not been presented, because none of these acquisitions were material to the consolidated financial statements.

Summary of purchase transactions in fiscal year 2004:

<u>Entity Name</u> <i>(In millions)</i>	<u>Consideration</u>	<u>Closing Date</u>
Zmed, Inc.	\$34.8	October 2003
Mitsubishi Radiotherapy Equipment Service Business	\$19.1	February 2004
OpTx Corporation	\$17.9	March 2004

The Company's methodology for allocating the purchase price to these purchase acquisitions was determined using commonly accepted valuation techniques in the high-technology industry. Valuation method used by the Company included the income approach which established the fair value of the assets based on the value of the cash flows that the assets can be expected to generate in the future using the discounted cash flow method. The purchase price of the transaction was allocated to the acquired assets

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

and liabilities based on their estimated fair values as of the date of acquisition, including identifiable intangible assets, with the remaining amount being classified as goodwill. In connection with these acquisitions, \$52.7 million was allocated to goodwill, \$21.5 million was allocated to intangible assets and \$(2.4) million was allocated to tangible net assets. This allocation is preliminary and is subject to change as additional information is received. Any adjustments to these amounts will be accounted for as a change in goodwill.

During fiscal year 2003, the Company acquired the remaining 5% of Nippon Oncology Systems, Ltd. for \$135,000, bringing the Company's total ownership interest to 100%.

During fiscal year 2002, the Company acquired the assets and liabilities of two businesses. The consolidated financial statements include the operating results of each acquired business from the date of acquisition. Pro forma results of operations have not been presented, because these acquisitions were not material on either an individual or aggregate basis.

Summary of purchase transactions in fiscal year 2002:

<u>Entity Name</u> (In millions)	<u>Consideration</u>	<u>Closing Date</u>
Argus Software, Inc.	\$ 3.2	January 2002
HDR, or High Dose Rate, brachytherapy business of MDS Nordion, a division of MDS Inc.	\$11.0	July 2002

In connection with these acquisitions, \$10.1 million was allocated to goodwill, \$2.0 million was allocated to intangible assets and \$2.1 million was allocated to tangible net assets.

16. INDUSTRY SEGMENTS

The Company's operations are grouped into two reportable industry segments: Oncology Systems and X-ray Products. These industry segments were determined based on how management views and evaluates the Company's operations. GTC and BrachyTherapy are reflected in the "Other" category. Other factors included in segment determination were similar economic characteristics, distribution channels, manufacturing environment, technology and customers. The Company evaluates performance and allocates resources primarily based on earnings before interest and taxes. The accounting policies of the reportable segments are the same as those disclosed in the summary of significant accounting policies.

Oncology Systems business segment produces and sells advanced products for treating cancer with radiation, including linear accelerators, treatment simulation and verification products, information management and treatment planning software and other sophisticated ancillary products and services. These products enable, and allow doctors to offer, advanced cancer treatment processes such as intensity modulated radiation treatment, or IMRT, and image guided radiation therapy, or IGRT. The Company's customers include comprehensive cancer treatment clinics, university research and community hospitals, private and governmental institutions, healthcare agencies, doctors' offices and cancer care clinics worldwide. X-ray Products business segment manufactures and sells (i) X-ray tubes for use in a range of applications including computed tomography, or CT, scanning, radioscopy/fluoroscopic imaging and special procedures, industrial and mammography and (ii) flat panel imaging products for digital X-ray image capture, which is an alternative to image intensifiers or film. X-ray tubes and flat panel imaging products are sold to most major medical diagnostic and industrial imaging systems equipment

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

manufacturers and X-ray tubes are also sold directly to end-users for replacement purposes. GTC and BrachyTherapy operations are reported as part of the "Other" category of the industry segments. Through GTC, the Company pursues potential new and possibly disruptive technologies, including next generation digital X-ray imaging technology, digital X-ray fluoroscopic imagers, the potential of combining advances in focused energy and imaging technology with the latest breakthroughs in biotechnology. In addition, the Company is pursuing technologies and products that promise to improve disease management by employing targeted energy to enhance the effectiveness of molecular medicine. BrachyTherapy operations manufacture and sell advanced products for brachytherapy treatment procedures, which is the treatment of cancer through use of radioactive seeds, wires or ribbons inserted into a tumor or into a body cavity.

Corporate includes shared costs of legal, tax, accounting, human resources, real estate, insurance, information technology, treasury, finance and other management costs. A portion of the indirect and common costs has been allocated through the use of estimates. Accordingly, the following information is provided for purposes of achieving an understanding of operations, but may not be indicative of the financial results of the reported segments were they independent organizations. In addition, comparisons of the Company's operations to similar operations of other companies may not be meaningful.

Information about Profit and Assets

(In millions)	Revenue			Operating Earnings		
	2004	2003	2002	2004	2003	2002
Oncology Systems	\$1,031	\$ 856	\$725	\$250	\$200	\$159
X-ray Products	165	153	122	31	29	12
Other	40	33	26	1	(2)	(2)
Total industry segments	\$1,236	\$1,042	\$873	\$282	\$227	\$169
Corporate	—	—	—	(26)	(29)	(24)
Total company	\$1,236	\$1,042	\$873	\$256	\$198	\$145

	Depreciation & Amortization			Capital Expenditures		
	2004	2003	2002	2004	2003	2002
Oncology Systems	\$ 13	\$ 8	\$ 8	\$ 16	\$ 8	\$ 14
X-ray Products	7	7	7	3	3	4
Other	1	1	1	1	1	1
Total industry segments	\$ 21	\$ 16	\$ 16	\$ 20	\$ 12	\$ 19
Corporate	4	4	4	4	7	7
Total company	\$ 25	\$ 20	\$ 20	\$ 24	\$ 19	\$ 26

	Total Assets			Goodwill		
	2004	2003	2002	2004	2003	2002
Oncology Systems	\$ 530	\$ 414	\$389	\$100	\$ 47	\$ 47
X-ray Products	77	70	79	1	1	1
Other	28	27	28	12	12	12
Total industry segments	\$ 635	\$ 511	\$496	\$113	\$ 60	\$ 60
Corporate	535	542	414	—	—	—
Total company	\$1,170	\$1,053	\$910	\$113	\$ 60	\$ 60

VARIAN MEDICAL SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Geographic Information

(In millions)	Revenue			Long-Lived Assets		
	2004	2003	2002	2004	2003	2002
United States	\$ 655	\$ 611	\$522	\$188	\$125	\$123
International	581	431	351	56	38	38
Total company	<u>\$1,236</u>	<u>\$1,042</u>	<u>\$873</u>	<u>\$244</u>	<u>\$163</u>	<u>\$161</u>

The Company operates various manufacturing and marketing operations outside the United States. Allocation between domestic and foreign revenues is based on final destination of products sold. No single foreign country represented 10% or more of the Company's total revenues for fiscal years 2004, 2003 and 2002. Revenues between geographic areas are accounted for at cost plus prevailing markups arrived at through negotiations between profit centers. Intercompany and intracompany profits are eliminated in consolidation.

17. SUBSEQUENT EVENT

On November 19, 2004, the Company announced that its Board of Directors had authorized the repurchase by the Company of up to an additional six million shares of its common stock over the period through December 31, 2005. The Company will fund the stock repurchases, which will be made from time to time at prices deemed appropriate by management, from its available working capital. Shares will be retired and canceled upon repurchase.

18. QUARTERLY FINANCIAL DATA (UNAUDITED)

(In millions, except per share amounts)	Fiscal Year 2004				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
Revenue	\$267.0	\$320.6	\$303.1	\$344.8	\$1,235.5
Gross margin	\$106.5	\$132.4	\$130.7	\$147.9	\$517.5
Net earnings	\$29.2	\$43.7	\$42.5	\$51.8	\$167.2
Net earnings per share:					
Basic	\$0.21	\$0.32	\$0.31	\$0.38	\$1.23
Diluted	\$0.21	\$0.30	\$0.30	\$0.37	\$1.18

(In millions, except per share amounts)	Fiscal Year 2003				
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
Revenue	\$206.7	\$266.2	\$265.4	\$303.3	\$1,041.6
Gross margin	\$80.1	\$106.0	\$105.1	\$130.7	\$421.9
Net earnings	\$21.0	\$34.2	\$32.1	\$43.6	\$130.9
Net earnings per share:					
Basic	\$0.15	\$0.25	\$0.24	\$0.32	\$0.96
Diluted	\$0.15	\$0.24	\$0.23	\$0.31	\$0.92

The four quarters for net earnings per share may not add to the total year because of differences in the weighted average number of shares outstanding during the quarters and the year.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
of Varian Medical Systems, Inc.:

In our opinion, the consolidated financial statements listed in the index appearing under Item 15(1) on page 104 present fairly, in all material respects, the financial position of Varian Medical Systems, Inc. and its subsidiaries at October 1, 2004 and September 26, 2003, and the results of their operations and their cash flows for each of the three years in the period ended October 1, 2004 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the index appearing under Item 15(2) on page 104 presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. These financial statements and the financial statement schedule are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements and the financial statement schedule based on our audits. We conducted our audits of these statements in accordance with auditing standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/ PRICEWATERHOUSECOOPERS LLP

San Jose, California
November 12, 2004

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

- (a) *Disclosure controls and procedures.* Based on their evaluation of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) under the Securities Exchange Act of 1934, as amended, (the "Exchange Act")) as of the end of the period covered by this Annual Report on Form 10-K, the Company's principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures are effective to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and include controls and procedures designed to ensure that information required to be disclosed by the Company in such reports is accumulated and communicated to the Company's management, including the principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Certificates with respect to disclosure controls and procedures by our Chief Executive Officer and Chief Financial Officer under Rule 13a - 14(a) of the Exchange Act are attached to this Annual Report on Form 10-K as Exhibits 31.1 and 31.2.

- (b) *Changes in internal control over financial reporting.* There were no changes that occurred during the fourth fiscal quarter of fiscal year 2004 that have materially affected, or are reasonable likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors and Executive Officers of the Registrant

The information required by this item with respect to our executive officers is set forth in Part I of this Annual Report on Form 10-K. The information required by this item with respect to our directors, our Audit Committee and audit committee financial expert is incorporated by reference from our definitive proxy statement for the 2005 Annual Meeting of Stockholders under the captions "Proposal One—Election of Directors." The information required by this item with respect to compliance with Section 16(a) of the Exchange Act is incorporated by reference from our definitive proxy statement for the 2005 Annual Meeting of Stockholders under the caption "Stock Ownership—Section 16(a) Beneficial Ownership Reporting Compliance."

We have adopted a Code of Business Ethics that applies to all executive officers and directors of the Company. The code of ethics is posted on our website. The Internet address for our website is <http://www.varian.com>, and the code of ethics may be found as follows:

1. From our main web page, first click "Investor Relations" on the left hand listing under "About Varian."
2. Next click on "Corporate Governance" in the right hand navigation bar.
3. Finally, click on "Code of Ethics."

Additionally, copies of our Code of Business Ethics may also be obtained by sending a written request to our Secretary at our executive offices.

We intend to satisfy the disclosure requirements under Item 10 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of this Code that applies to our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions by posting such information on our website, at the address and location specified above.

Furthermore, since our common stock is listed on the NYSE, our Chief Executive Officer is required to make, and he has made as of February 23, 2004, a CEO's Annual Certification to the NYSE in accordance with Section 303A.12 of the NYSE Listed Company Manual stating that he was not aware of any violations by us of the NYSE corporate governance listing standards.

Item 11. Executive Compensation

The information required by this item is incorporated by reference from our definitive proxy statement for the 2005 Annual Meeting of Stockholders under the caption "Compensation of Directors and the Named Executive Officers."

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

Equity Compensation Plan Information

The following table provides information as of October 1, 2004 with respect to the shares of the Company's common stock that may be issued under the Company's existing equity compensation plans.

<u>Plan Category</u>	<u>A</u>	<u>B</u>	<u>C</u>
	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column A)
Equity compensation plans approved by security holders(1).....	<u>9,869,018(2)</u>	<u>\$15.04</u>	<u>7,494,103(3)</u>
Equity compensation plans not approved by security holders(4).....	<u>6,374,722</u>	<u>\$23.59</u>	<u>3,731,371</u>
Total	<u>16,243,740</u>	<u>\$18.40</u>	<u>11,225,474</u>

- (1) Consists of the Omnibus Stock Plan and the Employee Stock Purchase Plan.
- (2) Excludes purchase rights accruing under the Company' Employee Stock Purchase Plan which had 5,575,351 shares of common stock available for future issuance.
- (3) Includes 5,575,351 shares available for future issuance under the Employee Stock Purchase Plan.
- (4) Consists of the 2000 Stock Option Plan.

The 2000 Stock Option Plan was intended to supplement the Omnibus Stock Plan. The 2000 Stock Option Plan is similar to the Omnibus Stock Plan in all-material respects, with the exception that shares available for awards under the 2000 Stock Option Plan may not be issued to directors or officers of the Company. For a description of the material features of the Omnibus Stock Plan and the 2000 Stock Option Plan, See Note 11 "Omnibus Stock and Employee Stock Purchase Plans" of the Notes to the Consolidated Financial Statements.

The information required by this item with respect to the security ownership of certain beneficial owners and the security ownership of management is incorporated by reference from our definitive proxy statement for the 2005 Annual Meeting of Stockholders under the caption "Stock Ownership—Beneficial Ownership of Certain Stockholders, Directors and Executive Officers."

Item 13. Certain Relationships and Related Transactions

The information required by this item is incorporated by reference from our definitive proxy statement for the 2005 Annual Meeting of Stockholders under the caption "Compensation of Directors and the Named Executive Officers."

Item 14. Principal Accountant Fees and Services

The information required by this item is incorporated by reference from our definitive proxy statement for the 2005 Annual Meeting of Stockholders under the caption "Independence of Accountants."

PART IV

Item 15. Exhibits and Financial Statement Schedules

The following documents are filed as part of this report:

(1) Consolidated Financial Statements:

- Consolidated Statements of Earnings
- Consolidated Balance Sheets
- Consolidated Statements of Stockholders' Equity and Comprehensive Earnings
- Consolidated Statements of Cash Flows
- Notes to the Consolidated Financial Statements
- Report of Independent Registered Public Accounting Firm

(2) Consolidated Financial Statement Schedule:

The following financial statement schedule of the Registrant and its subsidiaries for fiscal years 2004, 2003 and 2002 is filed as a part of this report and should be read in conjunction with the Consolidated Financial Statements of the Registrant and its subsidiaries.

Schedule

II Valuation and Qualifying Accounts

All other schedules are omitted because of the absence of conditions under which they are required or because the required information is given in the financial statements or the notes thereto.

(3) Exhibits:

<u>Exhibit Number</u>	<u>Description</u>
2	Amended and Restated Distribution Agreement, dated as of January 14, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 2 to the registrant's Form 8-K Current Report dated as of April 2, 1999, File No. 1-7598).
3.1	Registrant's Amended and Restated Certificate of Incorporation, as amended (incorporated by reference to Exhibit No. 3.1 to the registrant's Form 10-Q Quarterly Report for the quarter ended July 2, 2004, File No. 1-7598).
3.2	Registrant's By-Laws, as amended (incorporated by reference to Exhibit No. 3.2 to the registrant's Form 10-Q Quarterly Report for the quarter ended March 28, 2003, File No. 1-7598).
4.1	Specimen Common Stock Certificate (incorporated by reference to Exhibit No. 4.1 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).

**Exhibit
Number**

Description

- 4.2 Rights Agreement dated as of November 20, 1998 between registrant and First Chicago Trust Company of New York, as Rights Agent, including the Form of Rights Certificate (together with Election to Exercise) attached thereto as Exhibit A, the form of Certificate of Designation and Terms of Participating Preferred Stock of registrant attached thereto as Exhibit B (incorporated by reference to Exhibit No. 1 to the registrant's Registration Statement on Form 8-A filed on November 23, 1998 with respect to the NYSE, File No. 1-7598), the First Amendment to Rights Agreement dated as of April 1, 1999 (incorporated by reference to Exhibit No. 2 to the registrant's Amendment No. 1 to Registration Statement on Form 8-A/A filed on April 1, 1999 with respect to the NYSE, File No. 1-7598), the Second Amendment to Rights Agreement dated as of August 17, 2001 (incorporated by reference to Exhibit No. 3 to the registrant's Amendment No. 2 to Registration Statement on Form 8-A/A-2 filed on November 6, 2001 with respect to the NYSE, File No. 1-7598), the Third Amendment to Rights Agreement dated as of November 16, 2001 (incorporated by reference to Exhibit No. 4 to the registrant's Amendment No. 3 to Registration Statement on Form 8-A/A-3 filed on January 4, 2002 with respect to the NYSE, File No. 1-7598), the Fourth Amendment to Rights Agreement dated as of January 15, 2002 (incorporated by reference to Exhibit No. 5 to the registrant's Amendment No. 4 to Registration Statement on Form 8-A/A-4 filed on January 22, 2002 with respect to the NYSE, File No. 1-7598) and the Fifth Amendment to Rights Agreement dated as of July 30, 2004 (incorporated by reference to Exhibit No. 6 to the registrant's Amendment No. 5 to Registration Statement on Form 8-A/A-5 filed on July 30, 2004 with respect to the NYSE, File No. 1-7598).
- 10.1† Registrant's Amended and Restated Omnibus Stock Plan (incorporated by reference to Exhibit No. 10.1 to the registrant's Form 10-Q Quarterly Report for the quarter ended July 2, 2004, File No. 1-7598).
- 10.2† Registrant's Management Incentive Plan (incorporated by reference to Exhibit No. 10.2 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
- 10.3† Registrant's form of Indemnity Agreement with the directors and executive officers (incorporated by reference to Exhibit No. 10.3 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
- 10.4† Registrant's form of Change in Control Agreement with certain executive officers other than the Chief Executive Officer and the Chief Financial Officer (incorporated by reference to Exhibit No. 10.4 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
- 10.5† Registrant's Change in Control Agreement with the Chief Executive Officer (incorporated by reference to Exhibit No. 10.5 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
- 10.6† Registrant's Change in Control Agreement with the Chief Financial Officer (incorporated by reference to Exhibit No. 10.6 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
- 10.7† Registrant's Change in Control Agreement with General Counsel (incorporated by reference to Exhibit No. 10.7 to the registrant's Form 10-K Annual Report for the fiscal year ended October 1, 1999, File No. 1-7598).
- 10.8 Amended and Restated Note Purchase and Private Shelf Agreement, dated as of April 2, 1999, between registrant and Prudential Insurance Company of America (certain exhibits and schedules omitted) (incorporated by reference to Exhibit No. 10.7 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).

Exhibit Number	Description
10.9	Employee Benefits Allocation Agreement, dated April 2, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 99.1 to the registrant's Form 8-K Current Report dated as of April 2, 1999, File No. 1-7598).
10.10	Intellectual Property Agreement, dated April 2, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 99.2 to the registrant's Form 8-K Current Report dated as of April 2, 1999, File No. 1-7598).
10.11	Tax Sharing Agreement, dated April 2, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 99.3 to the registrant's Form 8-K Current Report dated as of April 2, 1999, File No. 1-7598).
10.12†	Description of Certain Compensatory Arrangements between the registrant and the directors (incorporated by reference to Exhibit No. 10.15 to the registrant's Form 10-K Annual Report for the fiscal year ended October 1, 1999, File No. 1-7598).
10.13†	Description of Certain Compensatory Arrangements between the registrant and the executive officers (incorporated by reference to Exhibit No. 10.16 to the registrant's Form 10-K Annual Report for the fiscal year ended October 1, 1999, File No. 1-7598).
10.14†	Registrant's Deferred Compensation Plan. (incorporated by reference to Exhibit No. 10.17 to the registrant's Form 10-K Annual Report for the fiscal year ended September 29, 2000, File No. 1-7598).
10.15†	Registrant's Amended and Restated 2000 Stock Option Plan (incorporated by reference to Exhibit No. 10.2 to the registrant's Form 10-Q Quarterly Report for the quarter ended July 2, 2004, File No. 1-7598).
10.16†	Registrant's Retirement Plan (incorporated by reference to Exhibit No. 99.1 to the registrant's Registration Statement on Form S-8 filed on March 14, 2001, and amended June 20, 2001, Registration No. 333-57012).
10.17†	Registrant's Amended and Restated Employee Stock Purchase Plan (incorporated by reference to Exhibit No. 10.3 to the registrant's Form 10-Q Quarterly Report for the quarter ended July 2, 2004, File No. 1-7598).
10.18	Form of Restricted Stock Agreement under Registrant's Amended and Restated Omnibus Stock Plan (incorporated by reference to Exhibit No. 99.1 to the registrant's Form 8-K Current Report dated as of October 19, 2004, File No. 1-7598).
10.19	Form of Nonqualified Stock Option Agreement under Registrant's Amended and Restated Omnibus Stock Plan (incorporated by reference to Exhibit No. 99.2 to the registrant's Form 8-K Current Report dated as of October 19, 2004, File No. 1-7598).
10.20	Form of Nonqualified Stock Option Agreement for Directors under Registrant's Amended and Restated Omnibus Stock Plan (incorporated by reference to Exhibit No. 99.3 to the registrant's Form 8-K Current Report dated as of October 19, 2004, File No. 1-7598).
10.21	Registrant's Description of Management Incentive Plan as Administered by the Compensation and Management Development Committee of the Board of Directors of Varian Medical Systems, Inc. for Fiscal Year 2005.
21	List of Subsidiaries.
23	Consent of Independent Registered Public Accounting Firm.
24	Power of Attorney by directors of the Company authorizing certain persons to sign this Annual Report on Form 10-K on their behalf.

<u>Exhibit Number</u>	<u>Description</u>
31.1	Chief Executive Officer Certification Pursuant to Rule 13a-14(a) of the Securities Exchange Act.
31.2	Chief Financial Officer Certification Pursuant to Rule 13a-14(a) of the Securities Exchange Act.
32.1	Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

† Management contract or compensatory arrangement.

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

<u>Fiscal Year</u>	<u>Description</u>	<u>Balance at Beginning of Period</u>	<u>Charged to Bad Debt Expense</u>	<u>Write-Offs/ Adjustments Charged to Allowance</u>	<u>Balance at End of Period</u>
			(In thousands)		
2004	Allowance for doubtful accounts receivable	\$4,306	\$ 805	\$ 767	\$4,344
2003	Allowance for doubtful accounts receivable	\$2,595	\$2,160	\$ 449	\$4,306
2002	Allowance for doubtful accounts receivable	\$2,591	\$1,539	\$1,535	\$2,595

EXHIBIT INDEX

Exhibit Number	Description
2	Amended and Restated Distribution Agreement, dated as of January 14, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 2 to the registrant's Form 8-K Current Report dated as of April 2, 1999, File No. 1-7598).
3.1	Registrant's Amended and Restated Certificate of Incorporation, as amended (incorporated by reference to Exhibit No. 3.1 to the registrant's Form 10-Q Quarterly Report for the quarter ended July 2, 2004, File No. 1-7598).
3.2	Registrant's By-Laws, as amended (incorporated by reference to Exhibit No. 3.2 to the registrant's Form 10-Q Quarterly Report for the quarter ended March 28, 2003, File No. 1-7598).
4.1	Specimen Common Stock Certificate (incorporated by reference to Exhibit No. 4.1 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
4.2	Rights Agreement dated as of November 20, 1998 between registrant and First Chicago Trust Company of New York, as Rights Agent, including the Form of Rights Certificate (together with Election to Exercise) attached thereto as Exhibit A, the form of Certificate of Designation of and Terms of Participating Preferred Stock of registrant attached thereto as Exhibit B (incorporated by reference to Exhibit No. 1 to the registrant's Registration Statement on Form 8-A filed on November 23, 1998 with respect to the NYSE, File No. 1-7598), the First Amendment to Rights Agreement dated as of April 1, 1999 (incorporated by reference to Exhibit No. 2 to the registrant's Amendment No. 1 to Registration Statement on Form 8-A/A filed on April 1, 1999 with respect to the NYSE, File No. 1-7598), the Second Amendment to Rights Agreement dated as of August 17, 2001 (incorporated by reference to Exhibit No. 3 to the registrant's Amendment No. 2 to Registration Statement on Form 8-A/A-2 filed on November 6, 2001 with respect to the NYSE, File No. 1-7598), the Third Amendment to Rights Agreement dated as of November 16, 2001 (incorporated by reference to Exhibit No. 4 to the registrant's Amendment No. 3 to Registration Statement on Form 8-A/A-3 filed on January 4, 2002 with respect to the NYSE, File No. 1-7598), the Fourth Amendment to Rights Agreement dated as of January 15, 2002 (incorporated by reference to Exhibit No. 5 to the registrant's Amendment No. 4 to Registration Statement on Form 8-A/A-4 filed on January 22, 2002 with respect to the NYSE, File No. 1-7598) and the Fifth Amendment to Rights Agreement dated as of July 30, 2004 (incorporated by reference to Exhibit No. 6 to the registrant's Amendment No. 5 to Registration Statement on Form 8-A/A-5 filed on July 30, 2004 with respect to the NYSE, File No. 1-7598).
10.1†	Registrant's Amended and Restated Omnibus Stock Plan (incorporated by reference to Exhibit No. 10.1 to the registrant's Form 10-Q Quarterly Report for the quarter ended July 2, 2004, File No. 1-7598).
10.2†	Registrant's Management Incentive Plan (incorporated by reference to Exhibit No. 10.2 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
10.3†	Registrant's form of Indemnity Agreement with the directors and executive officers (incorporated by reference to Exhibit No. 10.3 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
10.4†	Registrant's form of Change in Control Agreement with certain executive officers other than the Chief Executive Officer and the Chief Financial Officer (incorporated by reference to Exhibit No. 10.4 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).

Exhibit Number	Description
10.5†	Registrant's Change in Control Agreement with the Chief Executive Officer (incorporated by reference to Exhibit No. 10.5 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
10.6†	Registrant's Change in Control Agreement with the Chief Financial Officer (incorporated by reference to Exhibit No. 10.6 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
10.7†	Registrant's Change in Control Agreement with General Counsel (incorporated by reference to Exhibit No. 10.7 to the registrant's Form 10-K Annual Report for the fiscal year ended October 1, 1999, File No. 1-7598).
10.8	Amended and Restated Note Purchase and Private Shelf Agreement, dated as of April 2, 1999, between registrant and Prudential Insurance Company of America (certain exhibits and schedules omitted) (incorporated by reference to Exhibit No. 10.7 to the registrant's Form 10-Q Quarterly Report for the quarter ended April 2, 1999, File No. 1-7598).
10.9	Employee Benefits Allocation Agreement, dated April 2, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 99.1 to the registrant's Form 8-K Current Report dated as of April 2, 1999, File No. 1-7598).
10.10	Intellectual Property Agreement, dated April 2, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 99.2 to the registrant's Form 8-K Current Report dated as of April 2, 1999, File No. 1-7598).
10.11	Tax Sharing Agreement, dated April 2, 1999, by and among Varian Associates, Inc. (which has been renamed Varian Medical Systems, Inc.), Varian, Inc. and Varian Semiconductor Equipment Associates, Inc. (incorporated by reference to Exhibit No. 99.3 to the registrant's Form 8-K Current Report dated as of April 2, 1999, File No. 1-7598).
10.12†	Description of Certain Compensatory Arrangements between the registrant and the directors (incorporated by reference to Exhibit No. 10.15 to the registrant's Form 10-K Annual Report for the fiscal year ended October 1, 1999, File No. 1-7598).
10.13†	Description of Certain Compensatory Arrangements between the registrant and the executive officers (incorporated by reference to Exhibit No. 10.16 to the registrant's Form 10-K Annual Report for the fiscal year ended October 1, 1999, File No. 1-7598).
10.14†	Registrant's Deferred Compensation Plan. (incorporated by reference to Exhibit No. 10.17 to the registrant's Form 10-K Annual Report for the fiscal year ended September 29, 2000, File No. 1-7598).
10.15†	Registrant's Amended and Restated 2000 Stock Option Plan (incorporated by reference to Exhibit No. 10.2 to the registrant's Form 10-Q Quarterly Report for the quarter ended July 2, 2004, File No. 1-7598).
10.16†	Registrant's Retirement Plan (incorporated by reference to Exhibit No. 99.1 to the registrant's Registration Statement on Form S-8 filed on March 14, 2001, and amended June 20, 2001, Registration No. 333-57012).
10.17†	Registrant's Amended and Restated Employee Stock Purchase Plan (incorporated by reference to Exhibit No. 10.3 to the registrant's Form 10-Q Quarterly Report for the quarter ended July 2, 2004, File No. 1-7598).
10.18	Form of Restricted Stock Agreement under Registrant's Amended and Restated Omnibus Stock Plan (incorporated by reference to Exhibit No. 99.1 to the registrant's Form 8-K Current Report dated as of October 19, 2004, File No. 1-7598).

Exhibit Number	Description
10.19	Form of Nonqualified Stock Option Agreement under Registrant's Amended and Restated Omnibus Stock Plan (incorporated by reference to Exhibit No. 99.2 to the registrant's Form 8-K Current Report dated as of October 19, 2004, File No. 1-7598).
10.20	Form of Nonqualified Stock Option Agreement for Directors under Registrant's Amended and Restated Omnibus Stock Plan (incorporated by reference to Exhibit No. 99.3 to the registrant's Form 8-K Current Report dated as of October 19, 2004, File No. 1-7598).
10.21	Registrant's Description of Management Incentive Plan as Administered by the Compensation and Management Development Committee of the Board of Directors of Varian Medical Systems, Inc. for Fiscal Year 2005.
21	List of Subsidiaries.
23	Consent of Independent Registered Public Accounting Firm.
24	Power of Attorney by directors of the Company authorizing certain persons to sign this Annual Report on Form 10-K on their behalf.
31.1	Chief Executive Officer Certification Pursuant to Rule 13a-14(a) of the Securities Exchange Act.
31.2	Chief Financial Officer Certification Pursuant to Rule 13a-14(a) of the Securities Exchange Act.
32.1	Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

† Management contract or compensatory arrangement.