


ONCOLOGY SYSTEMS

 Varian Oncology Systems is the world's leading supplier of radiotherapy systems for treating cancer. Its integrated medical systems include linear

accelerators and the broadest range of accessories and interconnected software tools for planning and delivering the most sophisticated radiation treatments available to cancer patients. Oncology Systems works closely with health care professionals in community clinics, hospitals, and universities around the world to improve cancer outcomes. Thousands of patients are treated daily on Varian systems. The business unit also supplies linear accelerators and components for industrial inspection, cargo screening, and sterilization.

2002 HIGHLIGHTS Oncology Systems again set records for annual net orders, sales, and operating earnings. It expanded its share of the worldwide radiation oncology market and became a leader in the treatment planning software market. The business also introduced the Acuity™ imaging system, a new product that for the first time integrates planning, simulation, and verification for treating cancer with radiation. The Acuity system pairs an X-ray tube and an amorphous silicon flat panel from Varian's X-Ray Products business to generate the high-resolution images needed for ultra-precise radiotherapy, including SmartBeam™ IMRT. As of the end of the fiscal year, Varian had equipped 840 radiation oncology clinics for SmartBeam IMRT and the number of clinics treating patients with SmartBeam IMRT had jumped to 188 – more than double the number that were offering this treatment last year.

OUTLOOK A record backlog and continuing growth in net orders point to the potential of another year of strong growth for Oncology Systems. Growth will continue to be driven by demand for IMRT-ready systems. More than 90 per-

cent of respondents to a recent survey of radiation oncology centers indicated that they are either offering or planning to offer patients IMRT within the next three years. Product development initiatives will focus on software upgrades that streamline all forms of radiotherapy, including IMRT, and on new “on-board” imaging capabilities that will continue to enhance the precision of radiotherapy.



The new Acuity imaging system for treatment planning, simulation, and verification.

PRODUCTS AND SERVICES

Oncology systems:

- Clinac® medical linear accelerators
- Millennium™ MLC multileaf collimators
- Exact™ treatment couches
- Acuity™ treatment planning/simulation/verification systems
- CadPlan PLUS™/ Helios™ / Eclipse™ treatment planning software
- Vision™ radiotherapy image management software
- PortalVision™ imaging systems
- VARIIS® clinical/data management software
- RPM™ respiratory gating systems
- Customer service and product support

Industrial inspection and security systems

- Linatron® linear accelerators

FACILITIES

- Baden, Switzerland
- Buc, France
- Crawley, England
- Helsinki, Finland
- Las Vegas, Nevada
- Milpitas, California
- Palo Alto, California (headquarters)
- Tokyo, Japan
- Zug, Switzerland

ONCOLOGY SYSTEMS

(Dollars in Millions)

	02	01	00
Net Orders	\$825	\$699	\$597
Sales – as Reported	\$725	\$614	\$534
Sales – Pro Forma ⁽¹⁾	n/a	n/a	\$522
Pretax Earnings – as Reported	\$159	\$113	\$ 93
Pretax Earnings – Pro Forma ⁽¹⁾	n/a	n/a	\$ 88
Pretax Earnings as % of Sales – as Reported	22.0%	18.5%	17.5%
Pretax Earnings as % of Sales – Pro Forma ⁽¹⁾	n/a	n/a	16.8%
Backlog – as Reported	\$650	\$550	\$424
Backlog – Pro Forma ⁽¹⁾	n/a	n/a	\$464
Capital Expenditures	\$ 14	\$ 8	\$ 8
Depreciation & Amortization	\$ 8	\$ 10	\$ 9

(1) FY00 is presented on a pro forma basis (assuming SAB 101 was applied retroactive to prior periods) for comparison purposes.

X-RAY PRODUCTS



Varian X-Ray Products is the world's premier independent supplier of X-ray generating tubes, serving manufacturers of imaging equipment for medical

diagnostics and industrial inspection as well as distributors of replacement tubes. This business provides the industry's broadest selection of X-ray tubes expressly designed for the most advanced diagnostic and inspection applications, including CT scanning, radiography, mammography, and baggage screening. X-Ray Products develops and manufactures tubes to meet evolving requirements for high-resolution imaging, faster patient throughput, longer tube life, smaller dimensions, and greater cost efficiency. X-Ray Products also supplies a new line of amorphous silicon flat-panel image detectors for medical and industrial applications.



PaxScan® 4030A flat-panel imager captures "live" X-ray images for fluoroscopy.

2002 HIGHLIGHTS X-Ray Products created several new business opportunities during the year. The group entered the security market, developing and securing orders from two customers for a new line of baggage screening tubes in record time. Engineers also developed a new cost-competitive replacement tube for a line of CT scanners. The business secured new supply agreements with two major customers. It increased sales of flat-panel imagers and initiated production of a new

PaxScan® 4030A imager for gastrointestinal diagnosis and digital subtraction angiography. A major equipment manufacturer has begun distributing a diagnostic imaging system utilizing this flat-panel technology in Japan. The business also improved product quality and factory efficiency, and established a new X-ray tube reload operation outside of Düsseldorf, Germany.

OUTLOOK The X-Ray Products unit will continue strengthening the business through the development and deployment of leading technology for high-power tubes and cost effective replacement tubes for the aftermarket. Through acquisitions and cooperative arrangements, the unit will continue to expand distribution of replacement X-ray tubes in Europe and Asia. The business is continuing work on the commercialization of amorphous silicon flat-panel imagers for fluoroscopic applications, and has supplied products to several equipment manufacturers who are considering incorporating this technology into their imaging systems.

PRODUCTS AND SERVICES

X-ray tubes for:

- All major segments of the CT scanning market
- Radiographic and fluoroscopic imaging
- Mammography
- Angiographic imaging
- Scientific instrumentation
- Airport baggage screening systems



A new X-ray tube for use in airport explosive detection systems (EDS).

PaxScan® amorphous silicon 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)

	02	01	00
Net Orders	\$123	\$134	\$147
Sales – as Reported	\$122	\$139	\$136
Pretax Earnings	\$ 12	\$ 18	\$ 18
Pretax Earnings as % of Sales	10.2%	13.0%	13.1%
Backlog	\$ 36	\$ 36	\$ 40
Capital Expenditures	\$ 4	\$ 4	\$ 6
Depreciation & Amortization	\$ 7	\$ 7	\$ 7

GINZTON TECHNOLOGY CENTER

 The Ginzton Technology Center serves as Varian Medical Systems' research and development organization. The Center's mandate is to create market

growth opportunities for Varian Medical Systems by developing technologies that eclipse current capabilities in radiation therapy and X-ray imaging and/or lead to entirely new businesses. An important repository of scientific and engineering expertise, the Center conducts research in support of product development for the company's business units, as well as contract research for other medical institutions.

This group passed several milestones in key research projects. It demonstrated the feasibility of acquiring 3D images using cone beam CT scanning on the Clinac linear accelerators and Acuity systems. It also advanced dynamic tracking and image-guided motion management technologies and algorithms that enhance the accuracy and precision of radiotherapy. Another project validated the use of implanted,

radio-opaque marker seeds for targeting prostate tumors. Researchers also devised a means for achieving respiration-synchronized 4D CT & PET image acquisition and supported the development of radiation-activated drug delivery systems.

The Center, which is headquartered in Mountain View, California, also acts as one of the company's financial segments, where results for contract research and for the BrachyTherapy business are reported.



The GammaMedPlus 3/24 remote afterloader for HDR brachytherapy.

BRACHYTHERAPY

The BrachyTherapy business supplies products for treating cancer patients by placing tiny radiation sources within tumors. A market leader, this business develops, manufactures, supplies, and services devices and software for planning and delivering all forms of brachytherapy.

2002 HIGHLIGHTS The BrachyTherapy business increased sales and net orders, and completed the acquisition of the GammaMed® line of afterloaders and accessories for high-dose-rate brachytherapy. This acquisition positioned Varian for growth in high-dose-rate brachytherapy with the broadest range of products, pricing, and support. The business also introduced a new version of the

VariSeed™ brachytherapy product, which enables doctors to improve treatment precision through intraoperative planning.

OUTLOOK The BrachyTherapy business is seeking to become a \$30 million annual enterprise by offering a wider range of products and services to an expanded customer base. Brachytherapy has proven its value in the treatment of cervical cancers, and hundreds of thousands of American men have been treated for early-stage prostate cancer, with excellent results. The market is expected to continue growing, as clinicians research the use of brachytherapy for treating cancer in an increasingly diverse range of disease sites.

BRACHYTHERAPY PRODUCTS AND SERVICES:

- GammaMedPlus™ and VariSource™ 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)

GINZTON TECHNOLOGY CENTER AND BRACHYTHERAPY BUSINESS

(Dollars in Millions)	02	01	00
Net Orders	\$26	\$25	\$18
Sales – as Reported	\$26	\$21	\$20
Sales – Pro Forma ⁽¹⁾	n/a	n/a	\$19
Pretax Losses – as Reported	\$ (2)	\$ (3)	\$ (5)
Pretax Losses – Pro Forma ⁽¹⁾	n/a	n/a	\$ (5)
Backlog – as Reported	\$12	\$12	\$ 8
Backlog – Pro Forma ⁽¹⁾	n/a	n/a	\$ 9
Capital Expenditures	\$ 1	\$ –	\$ 1
Depreciation & Amortization	\$ 1	\$ 2	\$ 2

(1) FY00 is presented on a pro forma basis (assuming SAB 101 was applied retroactive to prior periods) for comparison purposes.