HELIX TECHNOLOGY CORP
Form 10-K
January 30, 2004

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One) ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

x

For the fiscal year ended December 31, 2003,
or

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

For the transition period from _____ to _____

Commission file number 0-6866

HELIX TECHNOLOGY CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	04-2423640
(State of Incorporation)	(I.R.S. Employer Identification No.)
Mansfield Corporate Center, Nine Hampshire Street, Mansfield, Massachusetts	02048-9171
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(508) 337-5500**

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

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

Common Stock, $1 Par Value

(Title of class)

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

x No o

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. x

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12b-2). Yes x No o

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant as of June 27, 2003, (computed by reference to the quoted last selling price of such stock in the over-the-counter market on June 27, 2003), was $339,863,716.

The number of shares outstanding of the registrant's Common Stock, $1 Par Value, as of January 15, 2004, was 26,103,204.

DOCUMENTS INCORPORATED BY REFERENCE

Document Description	Part of Form 10-K into Which Incorporated
Portions of the registrant's Definitive Proxy Statement with respect to the 2004 Annual Meeting of Stockholders to be filed with the SEC in March 2004	Part III

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PART I

ITEM 1. BUSINESS.

Helix is a world leader in the development, manufacture, and application of innovative vacuum technology solutions for the semiconductor, data storage, and flat panel display markets. Our vacuum systems provide enabling technology for several key steps within the semiconductor manufacturing process, including ion implantation, physical vapor deposition, chemical vapor deposition and etching. Semiconductor manufacturers use our systems to create and maintain a vacuum environment, which is critical to their manufacturing processes. We are a leading provider of vacuum systems technology to the world's largest semiconductor capital equipment and semiconductor manufacturers, placing us at a critical point in their advanced technology manufacturing process. We have long-standing customer relationships with many semiconductor capital equipment manufacturers, including Applied Materials, Axcelis, Novellus, Unaxis, Varian Semiconductor and Veeco, as well as semiconductor manufacturers such as Agere, AMD, Atmel, Fujitsu, Infineon, Intel, Motorola, NEC, Philips, Samsung, STMicroelectronics, Texas Instruments and TSMC. Our products are also used in a broad range of industrial manufacturing applications and advanced research and development laboratories.

We also provide an extensive range of global support and vacuum system monitoring services that lower our end-users' total costs of ownership. We increase our customers' system uptime through rapid response to potential operating problems. We also develop and deliver enhancements to our customers' installed base of production tools. Our service offerings include our TrueBlue℠ Service Agreements, our GUTS® (Guaranteed Up Time Support) customer response system and our GOLDLink® (Global On-Line Diagnostics) support system, which provides a remote e-diagnostics solution that allows us to monitor, in real time, the vacuum system performance of our customers' production tools. Our GOLDLink capability has made us a leading total solution provider in the emerging market for Internet-based, proactive e-diagnostics for the semiconductor and semiconductor capital equipment industries.

Industry Overview

In recent years the semiconductor industry has experienced significant growth in both the volume and complexity of devices manufactured. The growth in the volume of semiconductors produced has been driven by the increased demand for products historically using semiconductors, including telecommunications equipment, consumer electronics, personal computers and wireless communication devices, the incorporation of semiconductors into new product areas ranging from automobiles to children's toys, the growth of the Internet, and the proliferation of applications in the data storage and data transfer industry. Furthermore, growing consumer demand for smaller, more sophisticated electronic products, such as mobile phones, laptop computers and wireless networking equipment, has increased the complexity of the semiconductors integrated into these products.

To meet these demands, semiconductor manufacturers have sought volume and efficiency improvements through increased equipment utilization, higher manufacturing yields, the addition of manufacturing equipment in existing facilities and the construction of new fabrication facilities. To achieve greater economies of production, the semiconductor industry is currently transitioning from building semiconductor wafers that are 200 millimeters in diameter to wafers that are 300 millimeters in diameter, with the goal of producing more chips per wafer, thus lowering the cost per chip. This transition to new 300-millimeter equipment is expected to continue over the next several years and represents one of the primary drivers of growth in the semiconductor capital equipment industry in the near term.

The production of advanced semiconductor chips is an extremely complex and logistically challenging manufacturing activity. To create integrated circuits, or semiconductor chips, a semiconductor manufacturer uses several sequential process steps including ion implantation; chemical vapor deposition and physical vapor deposition, which are referred to as CVD and PVD; and etching. Ion implantation equipment injects charged ions into the wafer to change a material's characteristics. CVD and PVD equipment is used to deposit materials onto the surface of the wafer. Etching equipment removes unwanted materials from the wafer. These steps, which comprise the initial fabrication of the integrated circuit and are referred to in the industry as front-end processes, are repeated many times to create the desired pattern on the silicon wafer. Following these front-end processes, the wafer is cut into individual devices, or chips, which then undergo additional assembly and testing steps.

Removing unwanted gases and other impurities is an integral aspect of several stages of the semiconductor fabrication process, particularly the deposition, ion implantation and etching stages. In order to achieve optimal production yields, semiconductor manufacturers must also ensure that each process operates at carefully controlled pressure levels. Impurities in the fabrication process or incorrect pressure levels can lower production yields, thereby significantly increasing the cost per usable semiconductor chip produced. To meet their manufacturing objectives, semiconductor manufacturers require high vacuum pumps to remove all potentially contaminating gases from the manufacturing process. In addition, in light of the importance of proper pressure measurement throughout the fabrication process, vacuum measurement systems that are capable of monitoring and maintaining appropriate pressure levels are critical to ensuring high product yields and preventing device defects.

Helix Solution

We are a leading manufacturer of highly specialized vacuum pumping and measurement systems that meet the demanding process requirements of manufacturers in the semiconductor, data storage and flat panel display markets. We also provide original equipment manufacturers, or OEMs, and end-users of our systems an extensive range of global support services, from vacuum systems design assistance to vacuum process performance monitoring. We believe our vacuum technology solutions increase productivity in the fabrication facility, thereby increasing the value

of an OEM's production tool and increasing the device maker's return on investment. We also believe our leadership position in vacuum pumping and measurement systems stems from five key competitive advantages:

Comprehensive, Integrated Vacuum Solutions. We combine our innovative vacuum pumping and measurement components with our proprietary On-Board® diagnostic and control technology to provide comprehensive, high-performance vacuum solutions. Our On-Board technology is based upon a comprehensive control architecture that serves as a foundation for the development of highly integrated product offerings. We provide both the hardware and software elements that integrate process control, diagnostics and communication capabilities for all components within the vacuum system. This integration capability extends to vacuum system components manufactured by other suppliers and allows our products to interoperate with their products. Our integrated solutions directly address our end-users' concerns by increasing system uptime, lowering the total cost of ownership, and facilitating the move to remote e-diagnostics of critical enabling processes. We further leverage the information collected by our On-Board technology to provide enhanced customer support services and a range of information-based services.

Broad Customer Base. We have long-standing customer relationships with both OEMs and end-users of semiconductor capital equipment. Over the last three years, an average of approximately 49% of our net sales have come directly from end-users. We believe our strong relationships with end-users provide us with a competitive advantage over many other suppliers to the semiconductor capital equipment industry. Our work with both OEMs and end-users provides us with unique insights into emerging technologies and applications. We understand our customers' specific needs, and we incorporate our insights into our innovative product offerings. Our balanced mix of OEM and end-user customers and status as a supplier to essentially all of the major front-end OEMs in our segment demonstrates our leading position in the industry.

Superior Global Customer Service and Support. Continuous production tool operation is critical for our customers. We believe providing a high level of service and support gives us a competitive advantage and enhances our ability to build long-term customer relationships. We continue to build upon the solid relationships that have been established with our customers through the introduction of proactive TrueBlue Service Agreements. Helix TrueBlue Service Agreements allow our customers to realize the benefits of improved performance, increased productivity, ease of business transactions, and the application of knowledge in solving more of their problems. Our leading-edge technology and world-class customer support resources are leveraged as an integral part of our service and support capabilities. Through our GUTS rapid response offering, we provide our customers anywhere in the world access 24 hours a day to a trained Helix employee who can diagnose a problem and initiate a corrective action within one hour. GOLDLink allows us to help our customers monitor the operating performance of their manufacturing facilities and recommend preventative courses of action before problems occur. We have ten service and support offices around the world, and as of December 31, 2003, 174, or 31%, of our employees were dedicated to our global customer service and support activities.

World-Class, Responsive Manufacturing Operations. We have established a fast cycle-time manufacturing process that provides us with the flexibility to meet the rapidly changing requirements of our customers. We have harnessed our significant manufacturing expertise and our long-standing supplier relationships to build a "just-in-time" manufacturing process that utilizes outsourced subassembly for certain components and allows us to better manage the cyclicality of our business. Our "just-in-time" process allows us to respond to our OEM customers' rapidly changing product needs and help them operate their manufacturing processes at peak efficiency levels.

Technological Leadership in Complex Vacuum Solutions. Since our inception in 1967 we have participated in the vacuum technology industry and have applied this knowledge to the development of sophisticated vacuum systems for advanced technology applications, such as the building of integrated circuits. Our team of scientists, product development personnel, manufacturing specialists and hardware and software engineers are all focused on advancements in vacuum technology. Our customers recognize us as experts capable of assisting them in the design and selection of vacuum systems and components for their new product initiatives and fabrication facilities. As of December 31, 2003, we had 210 patents issued and 54 patents pending relating to the design and development of our

products and systems.

Products and Services

Vacuum Pumping Components and Systems

Our CTI-Cryogenics cryopumps and systems create an impurity-free vacuum environment for both the PVD and ion implantation markets. Our pumps offer customers rapid, customizable pump speeds, quick system pumpdown and impurity-free vacuum pumping processes without the use of fluids, lubricants or moving parts, ensuring high product yields and process throughputs. Our On-Board system enables central monitoring and control, either in-fab or at remote sites, of every significant function of both individual pumps and entire vacuum networks. We currently supply essentially all major front-end semiconductor capital equipment OEMs and semiconductor manufacturers.

We also provide waterpumps and turbopumps, under the TurboPlus® line of products, to support the CVD and etch processes. Our waterpumps are high-performance vacuum pumps that optimize the performance of CVD and etch systems by increasing water vapor pumping speed by a factor of five or more, improving system throughput and providing better process results. TurboPlus Vacuum Pumps offer the process advantages of throughput pumping from the turbopump and the uptime benefits of high-speed water vapor pumping, integrated into a compact package with a single, easy-to-use interface.

Over the last three years, net sales of our CTI-Cryogenics products and related support services represented the majority of our consolidated net sales.

Vacuum Measurement Components and Systems

Our Granville-Phillips STABIL-ION®, CONVECTRON® and MICRO-ION® vacuum measurement components and systems are used in the PVD, ion implantation, CVD, and etch processes. Our vacuum gauging products are also integrated into analytical instruments, primarily mass spectrometers. STABIL-ION, CONVECTRON and MICRO-ION systems are individually calibrated at numerous pressure values, resulting in a stable and accurate gauge that does not change calibration with time of use. This stable calibration is essential to starting the production process at the same true pressure on every production run. It also provides improved gauge-to-gauge reproducibility, which is essential for process replication.

Companies depend on our measurement systems to provide repeatable readings, ensuring that processes start at the desired pressure. Non-repeatable gauges can shift over time, causing two different effects:

- If the gauge reads lower than the actual pressure, a process can be started when the pressure is too high, possibly causing product defects.
- If the gauge reads higher than the actual pressure, the system will pump down to a pressure lower than necessary for a process. This is equivalent to system downtime.

Over the last three years, net sales of our Granville-Phillips products and related services represented between 18% and 20% of our net sales.

Global Support Services

To our customers, even a few minutes of production downtime is unacceptable. Given the magnitude of the investment in plant and equipment and the value of the work-in-process, which is expected to increase with the move to 300-millimeter production equipment, tool availability is a priority for our customers.

From the industry standard of GUTS to the pioneering e-Diagnostic implementation of GOLDLink support, we have continually demonstrated our commitment to serving our customer base with the most advanced, innovative tools available.

We introduced our GUTS rapid response system in 1986. Our GUTS rapid response system is broadly recognized for delivering superior responsiveness to problems whenever and wherever they may occur. Every call to our customer service center is answered by a capable, empowered Company employee who has the resources to diagnose a customer problem and initiate corrective action, including dispatching a technician or part to the customer in less than one hour.

While our GUTS rapid response system continues to be a leader in reactive customer support, the industry is moving toward enhanced service offerings that rely on proactive problem solving to boost customer productivity. Extended service agreements, which leverage

Helix core competencies and rely on key technology and capabilities, such as Internet-based remote e-diagnostics, can further enhance production efficiency and throughput. With the introduction of TrueBlue Service Agreements we are well positioned to extend the benefits of e-diagnostics using our On-Board Information Network and our GOLDLink capability. Coupled with our On-Board technology, the GOLDLink network provides us with the ability to access performance data of key vacuum system components, including third-party products, right at the production tool. GOLDLink consists of three key components: hardware and software located on tools in the manufacturing facility, our customer support center and support engineers, and the networks connecting the tools and our support operations.

Our GOLDLink capability allows our customers to redirect their employees to focus on their core competencies by leveraging our vacuum technology and control core competencies. Our ability to detect performance anomalies before they cause a system failure minimizes our customers' risk of significant tool downtime and can result in increased plant productivity.

In the past few years, we received approximately 30% to 37% of our net sales from our global support services, including the delivery and installation of spare parts, retrofits and upgrades.

Customers

We market and sell our products and services primarily to large original equipment and end-user manufacturers of semiconductor, data storage, flat panel display, and other industrial applications. Net sales to OEMs represented 49%, 50%, and 53% of our net sales for 2003, 2002 and 2001, respectively.

Semiconductor Customers

We sell our products and services primarily to semiconductor capital equipment manufacturers and end-users for incorporation into equipment used to make integrated circuits. Our products are currently used in a variety of applications including CVD, PVD, ion implantation and etch. We are also building products for use in the lithography process of semiconductor manufacturing. Precise vacuum pressure levels are critical in enabling the production of

integrated circuits. We anticipate that the semiconductor capital equipment industry will continue to be a substantial part of our business for the foreseeable future.

Data Storage Customers

We sell products and services to data storage equipment manufacturers and to data storage device manufacturers for use in producing a variety of products including CDs; computer hard disks, including both media and thin-film heads; CD-ROMs; and DVDs. These products use a PVD process to produce optical and magnetic thin-film layers, as well as a protective wear layer.

Flat Panel Display Customers

We sell our products and services to equipment manufacturers and manufacturers of flat panel displays, which have fabrication processes similar to those employed in manufacturing integrated circuits. Flat panel technology produces bright, sharp, large, color-rich images on flat screens for products ranging from hand-held computer games, to laptop and desktop computer monitors, to large-screen televisions.

Other Customers

We sell our products and services to OEMs and producers of end products in a variety of industrial markets. Our products are used in a variety of analytical instruments and industrial and scientific research products. Thin-film optical coatings are used in the manufacture of many industrial products including architectural glass, eyeglasses, lenses, and front surface mirrors. Thin films of diamond-like coatings and other materials are currently applied to products to strengthen and harden surfaces on such diverse products as tools, razor blades, automotive parts, and hip joint replacements.

The table below represents some of our customers in each of our primary target markets:

Semiconductors	Semiconductor Equipment	Data Storage
Agere	Applied Materials	Seagate
AMD	Axcelis	Unaxis
Atmel	Novellus	Veeco
Fujitsu	Varian Semiconductor	
Infineon	Veeco	
Intel		Flat Panel Displays
Motorola		
NEC		AKT
Philips		Philips
Samsung		
STMicroelectronics		
Texas Instruments		Analytical Instruments
TSMC		
		Agilent
		Riber

Our one reportable segment is the development, manufacture, sale and support of cryogenic and vacuum equipment. Our largest customer is Applied Materials, the world's largest manufacturer of semiconductor capital equipment, representing 20%, 27% and 22%, of our net sales for 2003, 2002 and 2001, respectively. Our 10 largest customers accounted for 44%, 43%, and 37%, of our net sales for 2003, 2002, and 2001, respectively.

Sales and Marketing

We sell our products and services, primarily through direct sales personnel, to customers in the United States, Europe, and the Pacific Rim. Our sales and service personnel are located at our headquarters in Mansfield, Massachusetts, and in regional offices in Longmont, Colorado; Santa Clara, California; Austin, Texas; Tempe, Arizona; Amsterdam, the Netherlands; Darmstadt, Germany; Orsay, France; Livingston, Scotland; Tokyo, Japan; Hsinchu, Taiwan; and Shanghai and Hong Kong, China. We also have distributors and representatives in other major markets. See Note I, "Segment Information," of the Notes to Consolidated Financial Statements for further discussion of our U.S. and international sales.

We market our products worldwide to companies in our target customer segments. We use several marketing programs focused on our targeted markets to support the sale and distribution of our products. We use exhibitions at a limited number of prominent tradeshows and conferences and presentations at technology seminars to promote awareness of the Company and its products. We also utilize promotional product literature and advertise and publish technical articles in select trade and technical journals.

Manufacturing

We manufacture our pump and compressor components at our facility in Mansfield, Massachusetts, and our measurement gauge components at our Longmont, Colorado, facility. Our use of a lean manufacturing organization, including fast cycle times, embedded quality control, and supply chain management, positions us to meet or exceed our customers' demands.

Our manufacturing activities consist of the assembly and testing of components and subassemblies, which are then integrated into our final products. Once final testing of all subassemblies is completed, the final product is subjected to a series of reliability enhancing operations prior to shipment to customers. We purchase a wide range of electronic, mechanical, and electrical components, some of which are designed to our specifications. We outsource some of our subassembly work. We consider our ability to meet our customers' significantly fluctuating product demands at consistently short lead times using demand flow and lean manufacturing techniques to be a distinct competitive advantage.

Our business is, generally, not dependent on the availability of raw materials or components from any single source. Certain components, however, may be available from only one or two qualified sources. Our policy is to develop alternative sources for components and, where possible, to avoid using scarce raw materials in our products.

Research and Development

Our industry continues to experience rapid technological change, requiring us to frequently introduce new products and enhancements. We believe that our success will depend upon our ability to identify and provide total systems solutions for our customers' problems. We seek to develop new products and enhancements to our existing products that meet changing customer requirements in our current and new markets. We have in the past made, and expect to

continue to make, substantial investments in product and technological development. We believe our experience and relationships will remain important factors to enable us to develop products to meet our customers' needs and penetrate our target markets. Through our direct sales process we monitor changing customer needs, changes in the marketplace and emerging industry standards, and are therefore better able to focus our research and development efforts to address these evolving industry requirements.

We expended $10.1 million in 2003, $14.7 million in 2002, and $16.1 million in 2001 on research and development efforts. We have continued our commitment to invest in new product development to maintain our technological and market leadership, including new products for commercial applications, projects for 300-millimeter products, and enhancements of our core products and GOLDLink support. We perform our research and product development activities at our headquarters facility in Mansfield, Massachusetts, and at our Longmont, Colorado, facility.

Joint Venture with ULVAC

We participate in a joint venture, ULVAC Cryogenics, Inc., or UCI, with ULVAC Corporation of Chigasaki, Japan. Formed in 1981, UCI manufactures and sells cryogenic vacuum pumps, principally to ULVAC, one of the largest semiconductor OEMs in Japan. Each company owns 50% of UCI and we made an initial cash investment of approximately $100,000, with no subsequent cash investments. The joint venture arrangement includes a license and technology agreement from us and a management and consultation agreement from ULVAC.

Competition

The markets for our products and services are highly competitive and are characterized by ongoing technological development and changing customer requirements. We believe that market-driven pressures on our customers to increase productivity and reduce costs are prevalent throughout the markets for our products. In markets in which we have an established presence, we compete primarily on the basis of product performance, applications expertise, and historical customer relationships and support. In new markets for our products, we compete primarily on the basis of product performance, price, and range of features. Other significant competitive factors in our markets include product reliability, on-time delivery, technology, and the ability to adaptively provide solutions for our customers' evolving needs.

We have foreign and domestic competitors for each of our product lines. Some of these competitors are subsidiaries or divisions of larger corporations and have greater resources than we have. If these competitors bring technologically superior products to market in the future, they could overcome our competitive advantages. Our ability to continue to compete successfully depends on our ability to make timely introductions of system enhancements and new products and services, particularly relating to the new 300-millimeter technology, while continuing to provide excellent pre- and post-sales support on existing products and services. We believe we will be required to maintain a high level of investment in research and development and sales and marketing in order to remain competitive.

We are among a relatively small number of companies in the vacuum technology market. If one of our competitors acquires, or is acquired by, another company in this sector, it could result in a stronger competitor with greater resources than we have. Alternatively, if one of our customers were to acquire a vacuum technology company so that it could supply its own requirements, our net sales would decrease.

Employees

As of December 31, 2003, we had 492 permanent and 69 temporary employees worldwide, of which 461 were employed in North America, 69 in Asia and 31 in Europe. As of December 31, 2003, none of our employees based in the United States was represented by a union, and we have never experienced a work stoppage, slowdown or strike. We consider our relationship with our employees to be good.

Environmental Affairs

We are subject to environmental laws and regulations in the countries in which we operate that regulate, among other things: air emissions; water discharges; and the generation, use, storage, transportation, handling and disposal of solid and hazardous wastes produced by our manufacturing, research and development and sales activities. As with other companies engaged in like businesses, the nature of our operations exposes us to the risk of environmental liabilities, claims, penalties and orders. We believe, however, that our operations are in substantial compliance with applicable environmental laws and regulations and that there are no pending environmental matters that would have a material impact on our business.

Intellectual Property

We rely on patent, copyright, trademark and trade secret protection, as well as contractual restrictions, in the United States and in other countries to protect our proprietary rights in our products and our business. As of December 31, 2003, we had 100 patents in the United States and 110 patents in other countries, as well as 54 patent applications (13 in the United States and 41 in other countries) on file with various patent agencies worldwide. These patents expire at various years through 2021.

We have a number of trademarks that we consider important to our business. These trademarks are protected by registration in the United States and other countries in which we market our products.

Backlog

We had approximately a $15.0 million backlog of orders that we believed to be firm at December 31, 2003, compared with $6.2 million at December 31, 2002. We expect to recognize revenue from essentially all of the December 31, 2003, backlog during 2004.

Available Information

Our Internet address is www.helixtechnology.com. We make available free of charge through our website our annual report on
Form10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Information contained on the website is not part of this report.

ITEM 2. PROPERTIES.

We occupy approximately 270,900 square feet worldwide, as described in the table below.

Location	Size (Sq. Ft.)	Lease Expires	Functions
Massachusetts	155,000	2006 (1)	Corporate headquarters, engineering, manufacturing, sales and marketing, customer support, repair center, and administration

Colorado	60,000	2015	Engineering, manufacturing, and sales and marketing
California	11,000	2005	Sales office, customer support, and repair center
Texas	6,000	2007	Sales office and customer support
Scotland	1,000	2004	Sales office and customer support
Germany	6,000	2008	Sales office and customer support
France	6,900	2006	Sales office, customer support, and repair center
Japan	8,100	2004	Sales office, customer support, and repair center
Taiwan	9,600	2004	Sales office, customer support, and repair center
China	8,300	2005	Sales office, customer support, and repair center

(1) The lease on this facility provides for renewal options for up to fifteen additional years.

We believe we have adequate facilities to meet our currently anticipated requirements and that suitable additional or substitute facilities will be available if required.

ITEM 3. LEGAL PROCEEDINGS.

We may be involved in the normal course in ordinary routine litigation incidental to the business. We are not a party to any proceedings that involve amounts that would have a material effect on our financial position or results of operations if such proceedings were resolved unfavorably.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS.

During the quarter ended December 31, 2003, no matters were submitted to a vote of security holders through the solicitation of proxies or otherwise.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS.

Our common stock is traded on the Nasdaq National Market under the symbol HELX. At December 31, 2003, there were 26,099,364 shares of common stock outstanding and approximately 544 common stockholders of record.

Price Range of Common Stock and Cash Dividend Per Common Share

The following table sets forth the high and low sale prices per share of our common stock during each of the quarters for the two most recent fiscal years.

		First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2003					
	High	$14.20	$14.28	$19.28	$22.28
	Low	$ 6.95	$ 8.35	$12.89	$14.90
	Cash dividends per share	$ 0.04	$ 0.04	$ 0.04	$ 0.04
2002					
	High	$26.25	$30.14	$20.78	$14.90
	Low	$18.05	$17.85	$ 8.47	$ 6.65
	Cash dividends per share	$ 0.08	$ 0.08	$ 0.08	$ 0.04

On January 23, 2004, the Board of Directors declared a quarterly cash dividend of $0.04 per common share payable on February 18, 2004, to common stockholders of record at the close of business on February 8, 2004.

ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

.

The following table summarizes certain selected consolidated financial data that should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes included elsewhere herein.

	December 31,				
(in thousands except per share data)	2003	2002	2001	2000	1999
Net sales	$ 105,883	$ 100,241	$ 112,994	$ 253,085	$ 139,389
Net (loss) income (1)	$ (11,136)	$ (19,418)	$ (5,940)	$ 45,870	$ 15,864
Basic net (loss) income per share	$ (0.43)	$ (0.77)	$ (0.26)	$ 2.04	$ 0.71
Diluted net (loss) income per share	$ (0.43)	$ (0.77)	$ (0.26)	$ 2.02	$ 0.70
Cash dividends per share	$ 0.16	$ 0.28	$ 0.44	$ 0.48	$ 0.48
Total assets	$ 145,990	$ 159,471	$ 113,580	$ 141,968	$ 93,655
Basic shares	26,099	25,364	22,565	22,498	22,336
Diluted shares	26,099	25,364	22,565	22,762	22,623

(1) Net loss for the year ended December 31, 2003, reflects a $10,674,000 charge to establish a full valuation allowance against net deferred tax assets. Net loss for the year ended December 31, 2002, reflects

$13,214,000 of a litigation settlement, restructurings and other charges. Net loss for the year ended December 31, 2001, reflects a restructuring charge of $1,047,000 related to workforce reductions. Net income for the year ended December 31, 1999, reflects the gain on sale of our Colorado facility of $1,397,000.

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

You should read the following discussion and analysis together with our financial statements, related notes and other financial information appearing elsewhere in this report. In addition to historical information, the following discussion and other parts of this report contain forward-looking information that involves risks and uncertainties. Our actual results could differ materially from those anticipated by such forward-looking information due to competitive factors and other factors discussed under "Forward-Looking Statements" below and under "Important Factors That May Affect Future Results" in Exhibit 99.1 to this Annual Report on Form 10-K.

Overview

We are a world leader in the development, manufacture, and application of innovative vacuum technology solutions for the semiconductor, data storage, and flat panel display markets. Our vacuum systems provide enabling technology for several key steps within the semiconductor manufacturing process, including ion implantation, physical vapor deposition, chemical vapor deposition and etching. Semiconductor manufacturers use our systems to create and maintain a vacuum environment, which is critical to their manufacturing processes. We are a leading provider of vacuum systems technology to the world's largest semiconductor capital equipment and semiconductor manufacturers, placing us at a critical point in their advanced technology manufacturing process. We have long-standing customer relationships with many semiconductor capital equipment manufacturers, including Applied Materials, Axcelis, Novellus, Unaxis, Varian Semiconductor and Veeco, as well as semiconductor manufacturers such as Agere, AMD, Atmel, Fujitsu, Infineon, Intel, Motorola, NEC, Philips, Samsung, STMicroelectronics, Texas Instruments, and TSMC. Our products are also used in a broad range of industrial manufacturing applications and advanced research and development laboratories.

We also provide an extensive range of global support and vacuum system monitoring services that lower our end-users' total costs of ownership. We increase our customers' system uptime through rapid response to potential operating problems. We also develop and deliver enhancements to our customers' installed base of production tools. Our service offerings include our TrueBlue Service Agreements, our GUTS (Guaranteed Up Time Support) customer response system and our innovative GOLDLink (Global On-Line Diagnostics) support system, which provides a remote e-diagnostics solution that allows us to monitor, in real time, the vacuum system performance of our customers' production tools. Our GOLDLink capability has made us a leading total solution provider in the emerging market for Internet-based, proactive e-diagnostics for the semiconductor and semiconductor capital equipment industries.

The principal market we serve is the global semiconductor capital equipment industry, a highly cyclical business. As a result, we have experienced significant variations in net sales, expenses, and results of operations in the periods presented and such variations are likely to continue.

Critical Accounting Policies

Our discussion and analysis of our results of operations and liquidity and capital resources are based on our consolidated financial statements which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates and judgments, including those related to revenue recognition, adequacy of reserves, valuation of investments and income taxes. We base our estimates on historical and anticipated results and trends and on various other assumptions that we believe are reasonable under the circumstances, including assumptions as to future events. These estimates form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. By their nature, estimates are subject to an inherent degree of uncertainty. Actual results may differ from our estimates. We believe that the following significant accounting policies and assumptions may involve a higher degree of judgment and complexity than others.

Revenue Recognition and Accounts Receivable. We recognize net sales from product sales upon shipment provided title and risk of loss have been transferred to the customer, there is persuasive evidence of an arrangement, fees are fixed or determinable, and collection is reasonably assured. Net sales from global support services is recognized as performed or ratably over the period of the related agreements. We recognize net sales from upgrade sales upon customer acceptance provided installation has been completed. Revenues from contracts with multiple-element arrangements, such as those including products and services, are recognized as each element is earned based on the relative fair value of each element. Amounts billed to customers that relate to shipping costs are included in net sales and in cost of sales. As part of a sale, we offer customers a warranty on defects in materials and workmanship.

We continuously monitor and track the related product returns and record a provision for the estimated amount of such future returns, based on historical experience and any notification we receive of pending returns. While such returns have historically been within our expectations and the provisions established, we cannot guarantee that we will continue to experience the same return rates that we have in the past. Any significant increase in material and workmanship defect rates and the resulting credit returns could have a material adverse impact on our operating results for the period or periods in which such returns materialize. We also maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. If the financial condition of our customers were to deteriorate resulting in an impairment of their ability to make payments, additional allowances may be required.

Inventory and Reserves for Excess and Obsolescence. We value inventory at the lower of cost (first-in, first-out method) or market. We regularly review inventory quantities on hand and record a provision to write down inventory to its estimated net realizable value, if less than cost, based upon management's assumptions of future material usage and obsolescence, which are a result of future demand and market conditions. If actual market conditions become less favorable than those projected by management, additional inventory provisions may be required. If inventory is written down to its net realizable value and subsequently there is an increased demand for the inventory at a higher value, the increased value of the inventory is not realized until the inventory is sold, which will result in improved margins in the period which the product is sold.

Tax Contingencies. Tax contingencies are recorded to address potential exposures involving tax positions we have taken that could be challenged by taxing authorities. These potential exposures result from the varying application of statutes, rules, regulations and interpretations. Our estimate of the value of our tax contingencies contains assumptions based on past experiences and judgments about potential actions by taxing jurisdictions. It is possible that the ultimate resolution of these matters may be greater or less than the amount that we have accrued.

Deferred Income Taxes. Each reporting period we estimate our ability to realize our net deferred tax assets. Realization of our net deferred tax assets is dependent upon our generating sufficient taxable income in the appropriate tax jurisdictions in future years to obtain benefit from the reversal of net deductible temporary differences and from tax loss and tax credit carryforwards. We reassessed our need for a valuation allowance and determined under applicable accounting criteria that a full valuation allowance was required in 2003. Until an appropriate level of profitability is reached, we will not record Federal tax benefits or provisions on future results of operations.

Restructuring Charges. During 2002 we recorded charges in connection with our restructuring programs. The related reserves reflect estimates, including those pertaining to severance costs and settlements of contractual obligations. We

reassess the reserve requirements to complete each individual plan under our restructuring programs at the end of each reporting period. Actual experience may be different from these estimates. For more information, see Note C to the consolidated financial statements.

Retirement Obligations. We have retirement obligations that are developed from actuarial valuations. Inherent in these valuations are key assumptions, including discount rates, rates of compensation increases, and expected long-term rates of return on plan assets, which are usually updated on an annual basis at the beginning of each fiscal year. We are required to consider current market conditions, including changes in interest rates, in making these assumptions. Changes in the related retirement benefit costs may occur due to changes in assumptions.

Investments. We own 50% of a joint venture, ULVAC Cryogenics, Inc., or UCI, which manufactures and sells cryogenic vacuum pumps in Japan, principally to ULVAC Corporation. We account for the joint venture using the equity method of accounting, and we also receive royalties from the joint venture under the terms of a license and technology agreement. The royalties we receive from UCI, as well as our equity in the income and losses of UCI, are both included in our financial statements under joint venture income.

Results of Operations

Fiscal Year Ended December 31, 2003, Compared to the Fiscal Year Ended December 31, 2002

For most of 2003, we continued to experience the significant slowdown in the global market for semiconductor capital equipment that began in 2001. In the last quarter of the year, however, we have seen an increase in both orders and sales as the industry begins to show signs of expansion. Net sales for 2003 were $105.9 million as compared with net sales for 2002 of $100.2 million, an increase of 5.7%.

In the fourth quarter of 2002, we initiated a worldwide cost-reduction program and the suspension of an internal-use software development program in response to the continued duration and severity of the slowdown in the semiconductor capital equipment industry. The cost-reduction program included severance and fringe benefits to terminate approximately 130 employees and included closure or consolidation of selected facilities worldwide. We recorded an $8.7 million charge for restructurings and other charges in the fourth quarter of 2002 and expect to save approximately $2.4 million quarterly which has significantly reduced our breakeven point. This program was substantially completed in the first quarter of 2003.

Cost of sales for 2003 was $69.8 million compared with $73.0 million for 2002, a decrease of 4.4%. The gross margin for 2003 was 34.0% compared with 27.1% for 2002. The improvement in gross margin for 2003 is primarily due to the lower overhead costs resulting from our cost reduction actions taken in the fourth quarter of 2002, offset by some temporary increases in production and customer support costs incurred in the middle of the year relating to our new generation of vacuum technology.

Research and development expenses were $10.1 million for 2003, or 9.5% of net sales, compared to $14.7 million for 2002, or 14.6% of net sales. The decrease in overall research and development expenses from the prior year is due to cost reduction actions taken in the fourth quarter of 2002, as well as the completion of several major research and development projects during the past year. We maintain a commitment to developing technologies to support a new generation of products for 300-millimeter-capable production tools, to expand our support service capability and to improve our core component product lines.

Total selling, general and administrative expenses for 2003 were $31.3 million, as compared with $37.7 million for 2002. Excluding the $2.8 million nonrecurring litigation charge included in 2002, total selling, general and administrative expenses declined from the prior year by 10.3%, reflecting cost savings realized from the restructuring

program implemented in the fourth quarter of 2002.

Royalty and equity income from our joint venture in Japan for 2003 increased to $1.2 million from $0.6 million in 2002. The improvement over 2002 reflects improvement in the Flat Panel Display portion of the semiconductor capital equipment market.

Interest and other income was $0.9 million for both 2003 and 2002. This reflects higher 2003 average cash balances offset by lower interest rates.

We had a pretax loss of $3.2 million in 2003, compared with a pretax loss of $32.4 million for 2002. In 2003 we recorded an income tax provision of $7.9 million. This provision is primarily attributable to the establishment of the valuation allowance against our deferred tax assets in accordance with SFAS 109, "Accounting for Income Taxes" and to record state and foreign income taxes for 2003. If we generate future taxable income domestically against which these tax attributes may be applied, some portion or all of the valuation allowance would be reversed and increase net income reported in future periods. The effective tax rate for 2002 was 40%. The tax rates differ from the U.S. statutory rate primarily due to tax credits and undistributed nontaxable equity income from our joint venture. These tax credits and equity income increase our tax rate on pretax losses and decrease our tax rate on pretax income.

Fiscal Year Ended December 31, 2002, Compared to the Fiscal Year Ended December 31, 2001

In 2002, we experienced a significant slowdown in the global market for semiconductor capital equipment that began in 2001. Net sales for 2002 were $100.2 million as compared with net sales for 2001 of $113.0 million, a decrease of 11.3%.

Cost of sales for 2002 was $73.0 million compared with $75.3 million for 2001, a decrease of 3.0%. The gross margin for 2002 was 27.1% compared with 33.4% for 2001. Cost of sales for 2002 included an additional fourth quarter charge for excess and obsolete inventory totaling $1.7 million resulting from the significant slowdown in the global market for semiconductor capital equipment and from expected efficiencies to be gained in our future delivery of global customer support. We monitor and forecast expected inventory needs based on our constantly changing sales forecast and write-down or write-off inventory when it becomes obsolete or when it is deemed excess. Excluding these charges, the gross margin for 2002 would have been 28.8%, a decline from 2001, primarily due to lower sales volume that reduced utilization of manufacturing capacity.

Research and development expenses were $14.7 million for 2002, or 14.6% of net sales, compared to $16.1 million for 2001, or 14.2% of net sales. We maintain a commitment to developing technologies to support a new generation of products for 300 millimeter- capable production tools, to expand our support service capability and to improve our core component product lines.

Total selling, general and administrative expenses for 2002 were $37.7 million, as compared with $35.1 million for 2001. The increase in selling, general and administrative expenses was primarily due to the nonrecurring litigation settlement charge of $2.8 million in 2002. Total selling, general and administrative expenses excluding the nonrecurring litigation settlement charge remained consistent with the prior year, reflecting a decrease in spending due to the restructuring program completed in the third quarter of 2001 offset by an increase in depreciation expense associated with our new global information system and associated startup costs.

Restructurings and other charges recorded during the fourth quarter of 2002 were associated with the initiation of a worldwide cost-reduction program and the suspension of an internal-use software development program in response to the continued duration and severity of the slowdown in the semiconductor capital equipment industry. The $8.7 million charged to restructurings and other charges is comprised of $3.0 million of employee severance costs; $2.8 million to consolidate leased facilities; and $2.9 million to write off certain software.

The employee costs of $3.0 million primarily consist of severance and fringe benefits to terminate approximately 130 employees. The affected employees, most of whom were located in the United States, were primarily full-time nonmanufacturing employees. Notification and termination benefits were communicated to employees in the fourth quarter of 2002. The majority of the terminations took place in 2002, and most of the remaining terminations occurred in the first quarter of 2003. We realized approximately $2.0 million in quarterly savings from the reduction in force.

The $2.8 million of net exit costs related to facility closures resulted from the planned consolidation of customer support facilities located in Massachusetts; facility reductions of satellite sales and customer support facilities located in Texas, Arizona, and California; and consolidation of sales and service centers located in Japan. These accrued costs reflect payments required under operating lease contracts in excess of expected sub lease rentals and costs for writing down related leasehold improvements at the affected facilities. The consolidation of these facilities is expected to result in quarterly cost savings of approximately $0.4 million.

We also suspended an internal-use software development program given current market conditions and timing of market application, resulting in a $2.9 million charge.

Royalty and equity income from our joint venture in Japan for 2002 decreased to $0.6 million from $2.4 million in 2001 due to the continued decline in the Japanese semiconductor capital equipment market.

Interest and other income was $0.9 million for both 2002 and 2001. In 2002, higher average cash, cash equivalent and investment balances resulting from the public offering completed in March 2002 were offset by lower interest rates.

We had a pretax loss of $32.4 million in 2002, resulting in a tax benefit of $12.9 million, compared with a pretax loss of $11.2 million and a tax benefit of $5.3 million for 2001. The effective tax rates for 2002 and 2001 were 40% and 47%, respectively. The tax rates differ from the U.S. statutory rate primarily due to tax credits and undistributed nontaxable equity income from our joint venture. These tax credits and equity income increase our tax rate on pretax losses and decrease our tax rate on pretax income. The decline in the 2002 tax rate was primarily attributable to the decline in the benefit received from lower undistributed nontaxable equity income from our joint venture.

Quarterly Financial Results

The following table presents selected unaudited financial information for the eight quarters in the period ended December 31, 2003. The results for any quarter are not necessarily indicative of future quarterly results and, accordingly, period-to-period comparisons should not be relied upon as an indication of future performance.

	Quarter Ended							
	March 29, 2002	June 28, 2002	Sept. 27, 2002	Dec. 31, 2002	March 28, 2003	June 27, 2003	Sept. 26, 2003	Dec. 31, 2003
(in thousands except per share data)								
Net sales	$ 20,380	$ 29,015	$ 27,395	$ 23,451	$ 23,623	$ 24,555	$ 25,973	$ 31,732
Cost of sales	15,541	19,653	19,279	18,564	15,806	17,027	17,133	19,870
Research and development	3,516	3,968	3,601	3,585	2,683	2,547	2,333	2,519

Selling, general and administrative	8,059	8,514	9,413	8,932	7,768	7,597	7,577	8,338
Litigation settlement costs	--	2,800	--	--	--	--	--	--
Restructuring and other charges	--	--	--	8,714	--	--	--	--
Operating income (loss)	(6,736)	(5,920)	(4,898)	(16,344)	(2,634)	(2,616)	(1,070)	1,005
Net income (loss)	(4,470)	(3,787)	(2,199)	(8,962)	(1,412)	(1,413)	(9,104)	793
Basic net income (loss) per share	(0.19)	(0.15)	(0.08)	(0.34)	(0.05)	(0.05)	(0.35)	0.03
Diluted net income (loss) per share	(0.19)	(0.15)	(0.08)	(0.34)	(0.05)	(0.05)	(0.35)	0.03

Liquidity and Capital Resources

Cash provided by operating activities in 2003 was $11.0 million, compared with cash used by operating activities of $7.1 million in 2002. The cash provided by operating activities for 2003 was primarily due to our receipt of $12.0 million in tax refunds, resulting from the carryback of the 2002 net operating loss, offset by the loss in 2003, by $3.7 million of severance and facility closure payments related to the 2002 restructuring activity, and by a $1.4 million payment to fund our pension plan.

In 2003 we spent $2.8 million to support the existing infrastructure and the implementation of our global information system in our European operations, which went live in October 2003. In 2002 we spent $5.5 million, principally for the implementation of our global information system in the U.S., which went live during July 2002. We continue to closely manage our capital expenditures.

Cash dividends paid to our stockholders during 2003 were $4.2 million, compared with $7.0 million for 2002. We paid a quarterly common stock dividend of $0.04 per share in 2003. After paying a quarterly dividend of $0.08 per share for the first three quarters of 2002, our Board of Directors reduced the quarterly dividend to $0.04 per share in October 2002, due to the continuing uncertain business environment and lack of visibility in the semiconductor capital equipment market.

We lease facilities and equipment under long-term operating leases. These contractual obligations entered into in the normal course of business are not required to be reflected in our consolidated balance sheets, but may impact our liquidity. The following table outlines our future minimum lease payments under non-cancelable operating leases.

	Totals	Less Than 1 Year	1 - 3 Years	3 - 5 Years	More than 5 Years
Operating leases	$ 15,588	$ 4,801	$ 6,073	$ 1,311	$ 3,403

We manage our foreign exchange rate risk arising from intercompany foreign currency denominated transactions through the use of foreign currency forward contracts. The gains and losses on these transactions are not material.

We believe that our existing funds and anticipated cash flow from operations will satisfy our working capital and capital expenditure requirements for at least the next 12 months.

Legal Proceedings

We may be involved in various legal proceedings in the normal course of business. We are not a party to any proceedings that involve amounts that would have a material effect on our financial position or results of operations if such proceedings were resolved unfavorably.

Recent Accounting Pronouncements

In November 2002, the EITF issued No. 00-21, "Accounting for Revenue Arrangements with Multiple Deliverables." EITF No. 00-21 addresses certain aspects of the accounting by a vendor for arrangements under which it will perform multiple revenue-generating activities. EITF No. 00-21 establishes three principles: revenue should be recognized separately for separate units of accounting; revenue for a separate unit of accounting should be recognized only when the arrangement consideration is reliably measurable and the earnings process is substantially complete; and consideration should be allocated among the separate units of accounting in an arrangement based on their fair values. We adopted the provisions of EITF No. 00-21 for all revenue arrangements entered into after June 15, 2003. The adoption of EITF No. 00-21 did not have a material impact on our results of operations or financial condition.

In January 2003, the FASB issued FIN No. 46 "Consolidation of Variable Interest Entities, an interpretation of ARB 51." FIN No. 46 provides guidance on the identification of entities for which control is achieved through means other than through voting rights called "variable interest entities" or "VIEs" and how to determine when and which business enterprise should consolidate the VIE (the "primary beneficiary"). This new model for consolidation applies to an entity in which either (1) the equity investors (if any) do not have a controlling financial interest or (2) the equity investment at risk is insufficient to finance that entity's activities without receiving additional subordinated financial support from other parties. In addition, FIN No. 46 requires that both the primary beneficiary and all other enterprises with a significant variable interest in a VIE make additional disclosures. We do not have any interests that would change our current reporting entity or require additional disclosure outlined in FIN No. 46.

In April 2003, the FASB issued Statement of Financial Accounting Standards No. 149 (SFAS 149), "Amendment of Statement 133 on Derivative Instruments and Hedging Activities." This statement amends SFAS 133 to provide clarification on the financial accounting and reporting of derivative instruments and hedging activities and requires contracts with similar characteristics to be accounted for on a comparable basis. The adoption of SFAS 149, which is effective for contracts entered into or modified after June 30, 2003, did not have a material effect on our financial condition or results of operations.

In December 2003, the FASB issued Statement of Financial Accounting Standards No. 132 (revised 2003) (SFAS 132), "Employers' Disclosures about Pensions and Other Postretirement Benefits," that improves financial statement disclosures for defined benefit plans. The change replaces existing SFAS 132 disclosure requirements for pensions and other postretirement benefits and revises employers' disclosures about pension plans and other postretirement benefit plans. It does not change the measurement of recognition of those plans required by SFAS 87, "Employers' Accounting for Pensions," SFAS 88, "Employers' Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits," and SFAS 132 revised retains the disclosure requirements contained in the original SFAS 132, but requires additional disclosures about the plan assets, obligations, cash flows, and net periodic benefit cost of defined benefit pension plans and other defined benefit postretirement plans. SFAS 132 revised is effective for annual and interim periods with fiscal years ending after December 15, 2003. We have adopted the revised disclosure provisions.

Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements. These forward-looking statements appear principally in the sections entitled "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Forward-looking statements may appear in other sections of this report as well. Generally, the forward-looking statements in this report use words like "expect," "anticipate," "plan," "intend," "believe," "seek," "estimate," and similar expressions.

The forward-looking statements include, but are not limited to, statements regarding:

- Our strategic plans;
- The outlook for our business and industry;
- Anticipated sources of future revenues;
- Anticipated expenses, spending and savings from our cost reduction program;
- Anticipated levels of capital expenditures; and
- The sufficiency of capital to meet working capital and capital expenditure requirements.

Forward-looking statements are not guarantees of future performance and involve certain risks, uncertainties, and assumptions. Important factors that could cause our future results to differ materially from those expressed in any forward-looking statements made by us or on our behalf include, but are not limited to, market acceptance of and demand for the Company's products, the success of the Company's strategic initiatives, including its global support operations and new product introductions, the health of the global semiconductor capital equipment market and the timing and scope of any change in the current industry conditions, the Company's success in sustaining order bookings, and the other risk factors contained in Exhibit 99.1 to this Annual Report on Form 10-K. As a result of the foregoing, we may experience material fluctuations in our operating results on a quarterly basis, which could materially affect our business, financial position, results of operations and stock price. We undertake no obligation to update the information contained in this report to reflect subsequently occurring events or circumstances.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Foreign Currency Exchange Rate Risk

A portion of our business is conducted outside the United States through our foreign subsidiaries. Our foreign subsidiaries maintain their accounting records in their local currencies. Consequently, fluctuations in exchange rates affect the period-to-period comparability of results. To reduce the risks associated with foreign currency rate fluctuations, we have entered into forward exchange contracts on a continuing basis to offset the currency exposures. The gains and losses on these transactions partially offset the unrealized and realized foreign exchange gains and losses of the underlying exposures. The net gains and losses were immaterial for the years presented and were included in cost of sales. We plan to continue to use forward exchange contracts to mitigate the impact of exchange rate fluctuations. The notional amount of our outstanding foreign currency contracts at December 31, 2003, was $6.7 million. The potential fair value loss for a hypothetical 10% adverse change in forward currency exchange rates at December 31, 2003, would be $0.7 million, which would be essentially offset by corresponding gains related to underlying assets. The potential loss was estimated calculating the fair value of the forward exchange contracts at December 31, 2003, and comparing that with the value calculated using the hypothetical forward currency exchange rates.

Credit Risk

We are exposed to concentration of credit risk in cash and cash equivalents, investments, trade receivables, and short-term foreign exchange forward contracts. We place our cash and cash equivalents with our primary bank, a major financial institution with a high-quality credit rating. Our investments consist of money market funds, municipal and other tax-free bonds, or investment-grade securities. We enter into short-term foreign currency exchange contracts with our primary bank.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY FINANCIAL DATA.

The Financial Statements appear in Item 15 of this report.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this annual Report on Form 10-K. Based on this evaluation, our principal executive officer and principal financial officer concluded that these disclosure controls and procedures are effective and designed to ensure that the information required to be disclosed in our reports filed or submitted under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the requisite time periods.

While the Company's disclosure controls and procedures provide reasonable assurance that the appropriate information will be available on a timely basis, this assurance is subject to limitations inherent in any control system, no matter how well designed and administered.

Changes in Internal Controls

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended) identified in connection with the evaluation of our internal control performed during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT.

Officers are elected annually by the Board and serve at the discretion of the Board.

Set forth below is information regarding our current executive officers who do not serve as our directors.

Name and Title	Age	Business Experience
James Gentilcore Executive Vice President and Chief Operating Officer	51	Mr. Gentilcore joined us as our Executive Vice President and Chief Operating Officer in December 2002. Prior to joining Helix, Mr. Gentilcore spent six years with Advanced Energy Industries, Inc., a manufacturer of integrated subsystems for the semiconductor industry, most recently as Chief Operating Officer. From 1990 to 1996, Mr. Gentilcore served as Corporate Vice President of Marketing at MKS Instruments Inc., a manufacturer of process instrumentation and subsystems for the semiconductor industry.
Jay Zager Senior Vice President and Chief Financial Officer	54	Mr. Zager joined us as our Senior Vice President and Chief Financial Officer in January 2002. From May 2000 to October 2001, Mr. Zager served as Executive Vice President and Chief Financial Officer of Inrange Technologies Corporation, a storage networking company. He served as a Vice President in the Enterprise Solutions Group of Compaq Computer Corporation from 1998 through 1999. From 1985 through 1998, Mr. Zager held several senior management positions with Digital Equipment Corporation, including Vice President and Chief Financial Officer, Worldwide Engineering and Research; Vice President, Business Development; and Group Controller of the U.S. Sales and Service division.
Robert E. Anastasi Executive Vice President	57	Mr. Anastasi has served as Executive Vice President since February 2001. Prior to that he served as a Senior Vice President from July 1997 until February 2001 and as a Vice President from June 1991 to July 1997.
Mark E. Jalbert Senior Vice President	51	Mr. Jalbert was elected as Senior Vice President in December 2002. Prior to that he served as Senior Vice President of Global Customer Operations from September 2001 until December 2002, Vice President of Sales from 1998 to September 2001, Director of Sales from 1997 to 1998, and Regional Sales Manager from 1988 to 1997.

Additional information required by this item is incorporated herein by reference to the registrant's Definitive Proxy Statement with respect to the 2004 Annual Meeting of Stockholders to be filed with the SEC in March 2004 pursuant to Regulation 14A.

We have adopted a Code of Business Conduct that applies to all our employees and directors. In addition, we have adopted a Code of Ethics for Senior Financial Officers which imposes additional standards on our principal executive officer and all senior financial officers. The Code of Business Conduct and the Code of Ethics for Senior Financial Officers are available through our website at www.helixtechnology.com. Information contained on the website is not part of this report. If we grant any waiver of either code with respect to the conduct of executive officers or directors, we will publicly disclose such waivers as required by applicable law.

ITEM 11. EXECUTIVE COMPENSATION.

Information required by this item is incorporated herein by reference to the registrant's Definitive Proxy Statement with respect to the 2004 Annual Meeting of Stockholders to be filed with the SEC in March 2004, pursuant to Regulation 14A.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT.

Information required by this item is incorporated herein by reference to the registrant's Definitive Proxy Statement with respect to the 2004 Annual Meeting of Stockholders to be filed with the SEC in March 2004, pursuant to Regulation 14A.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS.

Information required by this item is incorporated herein by reference to the registrant's Definitive Proxy Statement with respect to the 2004 Annual Meeting of Stockholders to be filed with the SEC in March 2004, pursuant to Regulation 14A.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

Information required by this item is incorporated herein by reference to the registrant's Definitive Proxy Statement with respect to the 2004 Annual Meeting of Stockholders to be filed with the SEC in March 2004, pursuant to Regulation 14A.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K.

a. The following documents are filed as part of this report:

	Page
1. Financial Statements	
Report of Independent Auditors	24
Consolidated Balance Sheets as of December 31, 2003 and 2002	25
Consolidated Statements of Operations for the Years Ended December 31, 2003, 2002, and 2001	26
Consolidated Statements of Stockholders' Equity for the Years Ended December 31, 2003, 2002, and 2001	27
Consolidated Statements of Cash Flows for the Years ended December 31, 2003, 2002, and 2001	28
Notes to Consolidated Financial Statements	29
2. Financial Statement Schedule for the Years Ended	46

December 31, 2003, 2002, and 2001

3. Exhibits

The Exhibits filed as part of this report are listed on the Exhibit Index immediately preceding the exhibits, which Exhibit Index is incorporated herein by reference.

b. Reports on Form 8-K:

1. A Report on Form 8-K was furnished on October 20, 2003 (Item 9.). The report contained information announcing Helix Technology Corporation's earnings release issued on October 20, 2003.*

*Information furnished under Item 9 or Item 12 of Form 8-K is not incorporated by reference, is not deemed filed and is not subject to liability under Section 11 of the Securities Act of 1933 or Section 18 of the Securities Exchange Act of 1934.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, this 30th day of January 2004.

Helix Technology Corporation

(Registrant)

By: /s/ Robert J. Lepofsky
Robert J. Lepofsky
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant on this 30th day of January 2004, in the capacities indicated.

Signatures	Titles
/s/ Robert J. Lepofsky	
Robert J. Lepofsky	President and Chief Executive Officer
	(Principal Executive Officer)

/s/ Jay Zager	
Jay Zager	Senior Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ Teodor Klowan, Jr.	Corporate Controller and Chief Accounting Officer
Teodor Klowan, Jr.	(Principal Accounting Officer)

/s/ Gideon Argov	
Gideon Argov	Director
/s/ Frank Gabron	
Frank Gabron	Director
/s/ Robert H. Hayes	
Robert H. Hayes	Director
/s/ Robert J. Lepofsky	
Robert J. Lepofsky	Director

/s/ Marvin G. Schorr

Marvin G. Schorr — Director and Chairman of the Board

/s/ Alfred Woollacott III

Alfred Woollacott III — Director

/s/ Mark S. Wrighton

Mark S. Wrighton — Director

REPORT OF INDEPENDENT AUDITORS

To The Board of Directors and Stockholders
of Helix Technology Corporation:

In our opinion, the consolidated financial statements listed in the index appearing under Item 15(a)(1) present fairly, in all material respects, the financial position of Helix Technology Corporation and its subsidiaries at December 31, 2003 and 2002 and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2003, 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(a)(2) 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 financial statement schedule are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America, which 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
PricewaterhouseCoopers LLP

Boston, Massachusetts
January 23, 2004

HELIX TECHNOLOGY CORPORATION
CONSOLIDATED BALANCE SHEETS

(in thousands except share data)	December 31, 2003	2002
ASSETS		
Current:		
Cash and cash equivalents	$ 24,448	$ 26,752
Investments	42,939	36,567
Receivables-net of allowances of $438 in 2003 and $641 in 2002	21,033	15,036
Inventories	22,032	23,946
Income tax receivable	--	10,246
Deferred income taxes	--	8,708
Other current assets	1,934	1,833
Total Current Assets	112,386	123,088
Property, plant, and equipment	64,908	64,900
Less: accumulated depreciation	(44,085)	(40,655)
Net property, plant, and equipment	20,823	24,245
Other assets	12,781	12,138
TOTAL ASSETS	$ 145,990	$ 159,471
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current:		
Accounts payable	$ 8,918	$ 8,759
Payroll and compensation	1,628	1,020
Accrued restructuring costs	689	4,344
Income taxes	4,383	3,692
Other accrued liabilities	1,456	486
Total Current Liabilities	17,074	18,301
Retirement costs	10,110	8,928
Total Liabilities	27,184	27,229
Commitments and contingencies (Note E)		
Stockholders' Equity:		
Preferred stock, $1 par value; authorized 2,000,000 shares;		
issued and outstanding: none	--	--

Common stock, $1 par value; authorized 60,000,000 shares;		
issued and outstanding: 26,103,204 in 2003 and 2002	26,103	26,103
Capital in excess of par value	76,405	76,405
Treasury stock, $1 par value; 3,840 shares in 2003 and 2002	(232)	(232)
Retained earnings	16,500	31,812
Accumulated other comprehensive loss	30	(1,846)
Total Stockholders' Equity	118,806	132,242
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 145,990	$ 159,471

The accompanying notes are an integral part of these consolidated financial statements.

HELIX TECHNOLOGY CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS

	For the years ended December 31,		
(in thousands except per share data)	2003	2002	2001
Net sales	$ 105,883	$ 100,241	$ 112,994
Costs and expenses:			
Cost of sales	69,836	73,037	75,275
Research and development	10,082	14,670	16,069
Selling, general and administrative	31,280	34,918	35,075
Litigation settlement costs	--	2,800	--
Restructurings and other charges	--	8,714	1,047
	111,198	134,139	127,466
Operating loss	(5,315)	(33,898)	(14,472)
Joint venture income	1,181	639	2,398
Interest and other income	913	896	867
Loss before taxes	(3,221)	(32,363)	(11,207)
Income tax (benefit) provision	7,915	(12,945)	(5,267)
Net loss	$ (11,136)	$ (19,418)	$ (5,940)
Net loss per share:			
Basic	$ (0.43)	$ (0.77)	$ (0.26)
Diluted	$ (0.43)	$ (0.77)	$ (0.26)

Number of shares used in per share calculations:			
Basic	26,099	25,364	22,565
Diluted	26,099	25,364	22,565

The accompanying notes are an integral part of these consolidated financial statements.

HELIX TECHNOLOGY CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(in thousands except share data)	Shares	Par Value	Capital in Excess of Par	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity	Statements of Comprehensive Income (Loss)
Balance, December 31, 2000	22,537,204	$22,537	$12,263	$(232)	$74,123	$(124)	$108,567	
Comprehensive income, net of tax								
Net loss		--	--	--	(5,940)	--	(5,940)	$(5,940)
Other comprehensive loss:								
Foreign currency translation adjustments		--	--	--	--	(1,462)	(1,462)	(1,462)
Unrealized gain on available-for-sale investment		--	--	--	--	35	35	35
Other comprehensive loss		--	--	--	--	(1,427)		(1,427)
Comprehensive loss								$(7,367)
Shares issued for stock options	74,000	74	1,480	--	--	--	1,554	

Income tax effect from exercise of stock options		--	135	--	--	--	135	
Cash dividends		--	--	--	(9,922)	--	(9,922)	
Balance, December 31, 2001	22,611,204	22,611	13,878	(232)	58,261	(1,551)	92,967	
Comprehensive income, net of tax:								
Net loss		--	--	--	(19,418)	--	(19,418)	$(19,418)
Other comprehensive loss:								
Foreign currency translation adjustments		--	--	--	--	(229)	(229)	(229)
Unrealized loss on available-for-sale investment		--	--	--	--	(66)	(66)	(66)
Other comprehensive loss		--	--	--	--	(295)		(295)
Comprehensive loss								$(19,713)
Shares issued for public offering	3,450,000	3,450	61,796	--	--	--	65,246	
Shares issued for stock options	42,000	42	670	--	--	--	712	
Income tax effect from exercise of stock options		--	61	--	--	--	61	
Cash dividends		--	--	--	(7,031)	--	(7,031)	
Balance, December 31, 2002	26,103,204	26,103	76,405	(232)	31,812	(1,846)	132,242	
Comprehensive income, net of tax:								
Net loss		--	--	--	(11,136)	--	(11,136)	$(11,136)
Other comprehensive								

income:							
Foreign currency translation adjustments	--	--	--	--	1,845	1,845	1,845
Unrealized gain on available-for-sale investment	--	--	--	--	31	31	31
Other comprehensive income	--	--	--	--	1,876		1,876
Comprehensive loss							$(9,260)
Cash dividends		--	--	--	(4,176)	--	(4,176)	
Balance, December 31, 2003	26,103,204	$26,103	$76,405	$(232)	$16,500	$30	$118,806	

The accompanying notes are an integral part of these consolidated financial statements.

HELIX TECHNOLOGY CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the years ended December 31,		
(in thousands)	2003	2002	2001
Cash flows from operating activities:			
Net loss	$ (11,136)	$ (19,418)	$ (5,940)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization	5,946	6,388	5,268
Deferred income taxes	8,708	(3,001)	737
Undistributed earnings of joint venture, other	1,203	(266)	(1,643)
Income tax effect from exercise of stock options	--	61	135
Noncash asset write-downs and other charges	293	6,033	--
Change in operating assets and liabilities:			

Receivables	(5,997)	(3,039)	28,246
Inventories	1,914	1,647	2,911
Income tax receivable	10,246	(2,902)	(7,344)
Other current assets	(101)	744	(369)
Accounts payable	159	(346)	(8,888)
Accrued restructuring costs	(3,655)	4,344	--
Other accrued expenses	3,451	2,618	(3,900)
Net cash provided by (used in)operating activities	11,031	(7,137)	9,213
Cash flows from investing activities:			
Capital expenditures	(2,817)	(5,465)	(15,944)
Purchase of investments	(71,572)	(117,255)	(36,624)
Sale of investments	65,230	89,893	44,077
Net cash used by investing activities	(9,159)	(32,827)	(8,491)
Cash flows from financing activities:			
Net proceeds from stock offering	--	65,246	--
Net cash provided by employee stock plans	--	712	1,554
Cash dividends paid	(4,176)	(7,031)	(9,922)
Net cash (used in) provided by financing activities	(4,176)	58,927	(8,368)
(Decrease) increase in cash and cash equivalents	(2,304)	18,963	(7,646)
Cash and cash equivalents, January 1	26,752	7,789	15,435
Cash and cash equivalents, December 31	$ 24,448	$ 26,752	$ 7,789
Income taxes paid	$ 612	$ 378	$ 3,929

The accompanying notes are an integral part of these consolidated financial statements.

HELIX TECHNOLOGY CORPORATION
NOTES TO CONSOLIDATED FINANCIAL SATEMENTS

A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries after elimination of all intercompany transactions. The investment in and operating results of the Company's 50%-owned joint venture are included on the basis of the equity method of accounting.

Use of Estimates

The preparation of these financial statements in conformity with accounting principles generally accepted in the United States of America requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and disclosure of contingent assets and liabilities. On an ongoing basis, management evaluates these estimates and judgments, including those related to revenue recognition, adequacy of reserves, valuation of investments and income taxes. The Company bases these estimates on historical and anticipated results and trends and on various other assumptions that the Company believes are reasonable under the circumstances, including assumptions as to future events. These estimates form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. By their nature, estimates are subject to an inherent degree of uncertainty. Actual results may differ from our estimates. Certain reclassifications have been made to prior year's consolidated financial statements to conform with the current presentation.

Foreign Currency Translation

Assets and liabilities of subsidiaries outside the United States of America are translated into U.S. dollars using current exchange rates. Revenue and expense accounts are translated at the average rates in effect during the year. The effects of foreign currency translation adjustments are included in accumulated other comprehensive income (loss) as a component of stockholders' equity. Transaction gains/losses were not material. The effect of foreign currency exchange rates on cash and cash equivalents was not material.

Cash, Cash Equivalents and Investments

Cash and cash equivalents include demand deposits, money market accounts, and other highly liquid investments with original maturities of three months or less at the date of purchase, and those with greater than three months are considered to be investments. The Company's investments are classified as available-for-sale securities, and the difference in the cost and fair value of these investments is included in other comprehensive income until maturity or sale of the investment, at which time it is included in interest and other income. Interest income was $1,066,000 in 2003, $1,025,000 in 2002 and $950,000 in 2001. The Company's investments consist of the following:

	December 31,			
	2003		2002	
(in thousands)	Cost	Fair Value	Cost	Fair Value
Municipal bonds and tax-free bonds	$ 42,934	$ 42,939	$ 36,592	$ 36,567
	$ 42,934	$ 42,939	$ 36,592	$ 36,567

A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash and cash equivalents, short-term investments, short-term foreign exchange contracts, and trade receivables. Cash and cash equivalents are placed with major financial institutions with high-quality credit ratings. The Company's investments consist of money market funds, municipal government agencies and tax-free bonds or investment-grade securities. The short-term foreign currency exchange contracts are entered into with the Company's primary bank. The Company's customers are concentrated primarily in one industry segment, the semiconductor manufacturing industry, and, historically, a significant portion of the Company's sales have been to a limited number of customers within this industry. The Company performs ongoing credit evaluations of its customers' financial condition and may require deposits on large orders but does not require collateral or other security to support customer receivables.

Inventories

(in thousands)	December 31, 2003	2002
Finished goods	$ 8,087	$ 7,879
Work in process	8,849	9,992
Materials and parts	5,096	6,075
	$ 22,032	$ 23,946

Inventories are stated at the lower of cost or market on a first-in, first-out basis. Cost includes material, labor and applicable manufacturing and engineering overhead costs. The Company regularly reviews inventory quantities on hand and records a provision to write down excess and obsolete inventory to its estimated net realizable value; if less than cost, based upon management's assumptions of future material usage and obsolescence, which are a result of future demand and market conditions. Total excess and obsolete inventory charges to cost of sales were $220,000 in 2003, $2,877,000 in 2002 and $421,000 in 2001.

Property, Plant, and Equipment

Property, plant, and equipment is stated at cost.

(in thousands)	December 31, 2003	2002
Machinery and equipment	$ 27,455	$ 29,763
Computers and equipment	29,386	26,391
Leasehold improvements	6,928	7,597
Construction in progress	1,139	1,149
	$ 64,908	$ 64,900

In the fourth quarter of 2002, the Company wrote off $1,319,000 of leasehold improvements related to facility reductions and $2,863,000 of in-process internal-use software related to a suspended internal-use software development program. The resulting total charge of $4,182,000 was included in restructurings and other charges.

A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Depreciation is provided on the straight-line method over the estimated useful lives of the assets. Leasehold improvements are amortized over the lesser of their useful life or the remaining life of the lease. Estimated useful lives of machinery and equipment, and computers and equipment, are from 3 to 5 years and 3 to 10 years, respectively.

Maintenance and repairs are charged to expense as incurred and betterments are capitalized. The cost of assets sold or retired and related depreciation are removed from the accounts at the time of sale and any resulting gain or loss is reflected in income.

Capitalized Software Costs

The Company capitalizes internal-use software development costs in accordance with the provisions of SOP 98-1, "Accounting for the Costs of Computer Software Developed or Obtained for Internal Use." The capitalized cost is amortized beginning when it is placed into service on a straight-line basis over its estimated life, ranging from 3 to 10 years.

Revenue Recognition

The Company recognizes net sales from product sales upon shipment provided title and risk of loss have been transferred to the customer, there is persuasive evidence of an arrangement, fees are fixed or determinable, and collection is reasonably assured. Net sales from global support services is recognized as performed or ratably over the period of the related agreements. We recognize net sales from upgrade sales upon customer acceptance provided installation has been completed. Revenues from contracts with multiple-element arrangements, such as those including products and services, are recognized as each element is earned based on the relative fair value of each element. As part of a sale, the Company offers customers a warranty on defects in materials and workmanship. The Company continuously monitors and tracks the related product returns and records a provision for the estimated amount of such future returns based on historical experience and any notification the Company receives of pending returns. While such returns have historically been within the Company's expectations and the provisions established, the Company cannot guarantee that it will continue to experience the same return rates that it has in the past. Any significant increase in material and workmanship defect rates and the resulting credit returns could have a material adverse impact on the Company's operating results for the period or periods in which such returns materialize. The Company also maintains allowances for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. If the financial condition of the Company's customers were to deteriorate resulting in an impairment of their ability to make payments, additional allowances might be required.

Research and Development Costs

Research and development costs are expensed as incurred.

Impairment of Long-Lived Assets

The Company periodically evaluates the recoverability of long-lived assets whenever events and changes in circumstances indicate that the carrying amount of an asset may not be fully recoverable. When indicators of impairment are present, the carrying values of the asset are evaluated in relation to the operating performance and future undiscounted cash flows of the underlying business. The net book value of the underlying asset is adjusted to fair value if the sum of the expected discounted cash flows is less than book value. Fair values are based on estimates of market prices and assumptions concerning the amount and timing of estimated future cash flows and assumed discount rates, reflecting varying degrees of perceived risk. The Company recorded $2,863,000 of impairment charges related to the suspension of an internal-use software development program in 2002.

A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Stock Compensation

Options for the purchase of the Company's stock have been granted to officers, directors and key employees under various nonqualified stock option agreements. The Company accounts for these grants under the recognition and measurement principles of APB Opinion No. 25, "Accounting for Stock Issued to Employees, and Related Interpretations." No stock-based employee compensation cost is reflected in net income, as all options granted under

those plans had an exercise price equal to the market value of the underlying common stock on the date of grant. If the recognition provisions of FASB Statement No. 148, Accounting for Stock-Based Compensation - Transition and Disclosure - an Amendment of FASB Statement No. 123, had been adopted, the effect on net loss and basic and diluted net loss per share would have been as follows:

	For the years ended December 31,		
(in thousands except per share data)	2003	2002	2001
Net loss, as reported	$ (11,136)	$ (19,418)	$ (5,940)
Deduct: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	998	648	507
Pro forma net loss	$ (12,134)	$ (20,066)	$ (6,447)
Earnings per share:			
Basic-as reported	$ (0.43)	$ (0.77)	$ (0.26)
Basic-pro forma	$ (0.46)	$ (0.79)	$ (0.29)
Diluted-as reported	$ (0.43)	$ (0.77)	$ (0.26)
Diluted-pro forma	$ (0.46)	$ (0.79)	$ (0.29)

The weighted average fair value of options granted during 2003, 2002, and 2001 was $4.54, $8.52 and $14.80, respectively. The fair value of each option grant is estimated on the date of grant using the Black-Scholes option-pricing model with the following weighted average assumptions:

	2003	2002	2001
Dividend yield	1.4%	2.1 %	1.8 %
Expected stock price volatility	60%	59 %	60 %
Risk-free interest rate	3.43%	4.49 %	5.13 %
Expected holding period (years)	6.3	6.3	6.4

A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Income Taxes

Deferred income taxes result from temporary differences in the recognition of revenues and expenses between financial statements and tax returns. Tax credits are recognized when realized for tax purposes using the "flow-through" method of accounting. The Company has not provided for federal income taxes applicable to undistributed earnings of its foreign subsidiaries and its 50%-owned joint venture since these earnings are indefinitely reinvested.

As a result of the Company's review performed during 2003, the Company, under SFAS 109, "Accounting for Income Taxes," was required to establish a full valuation allowance against net deferred tax assets. If the Company generates future taxable income domestically against which these tax attributes may be applied, some portion or all of the valuation allowance would be reversed and increase net income reported in future periods.

Net (Loss) Income Per Share

Basic net (loss) income per common share is based on the weighted average number of common shares outstanding during the year. Diluted net (loss) income per common share reflects the potential dilution that could occur if outstanding stock options were exercised and converted into common stock at the beginning of the period.

The following table sets forth the computation of basic and diluted net loss per common share:

	For the years ended December 31,		
(in thousands except per share data)	2003	2002	2001
Net loss	$ (11,136)	$ (19,418)	$ (5,940)
Basic shares	26,099	25,364	22,565
Add: Common equivalent shares (1)	--	--	--
Diluted shares	26,099	25,364	22,565
Basic net loss per share	$ (0.43)	$ (0.77)	$ (0.26)
Diluted net loss per share	$ (0.43)	$ (0.77)	$ (0.26)

(1) Common equivalent shares represent shares issuable upon exercise of stock options (using the treasury stock method). For 2003, 2002 and 2001, the Company had 757,000, 619,000 and 468,000 options outstanding, respectively, not included in the computation of diluted shares. The Company was in a net loss position, and the inclusion of such shares would be anti-dilutive.

B. OTHER ASSETS

The Company owns 50% of a joint venture company, Ulvac Cryogenics, Inc., with an unrelated Japanese manufacturer to produce cryogenic vacuum pumps in Japan.

Condensed results of operations for the joint venture for each of the three fiscal years ended September 30 are as follows:

(in thousands)	2003	2002	2001
Net sales	$ 28,309	$ 21,256	$ 36,233
Gross profit	$ 7,302	$ 5,133	$ 11,294
Net income	$ 1,159	$ 399	$ 3,284
Helix joint venture income, including royalty income and equity income	$ 1,181	$ 639	$ 2,398

The Company receives periodic distributions from the joint venture in the form of dividends. Dividends received were $192,000 in 2003, $88,000 in 2002 and $379,000 in 2001.

Condensed balance sheet information as of September 30 is as follows:

(in thousands)	2003	2002
Current assets	$ 31,899	$ 26,257
Noncurrent assets	5,877	5,606
Total assets	$ 37,776	$ 31,863
Current liabilities	$ 10,985	$ 7,546
Long-term liabilities	1,744	1,980
Stockholders' equity	25,047	22,337
Total liabilities and stockholders' equity	$ 37,776	$ 31,863

The Company's net investment in the joint venture of approximately $12,352,000 and $11,169,000 at December 31, 2003 and 2002, respectively, is reported in other assets. The Company's net investment at December 31, 2003 and 2002, reflects a cumulative translation gain of $491,000 and a cumulative loss of $318,000, respectively. This currency translation loss, which is included in stockholders' equity, resulted from translating the balance sheet of the joint venture into U.S. dollars.

C. RESTRUCTURINGS AND OTHER CHARGES

During the fourth quarter of 2002, restructuring and other charges recorded were associated with the initiation of a worldwide cost-reduction program and the suspension of an internal-use software development program in response to the continued duration and severity of the slowdown in the semiconductor capital equipment industry. The $8,714,000 charged to restructurings and other charges is comprised of $3,046,000 of employee severance costs; $2,805,000 to consolidate leased facilities; and $2,863,000 to write off certain software.

The employee costs of $3,046,000 primarily consist of severance and fringe benefits to terminate approximately 130 employees. The affected employees, most of whom were located in the United States, were primarily full-time nonmanufacturing employees. Notification and termination benefits were communicated to employees in the fourth quarter of 2002. The majority of the terminations took place in 2002 with the remaining terminations completed in 2003. The Company realized approximately $2,000,000 in quarterly savings from the reduction in force.

C. RESTRUCTURINGS AND OTHER CHARGES (continued)

The $2,805,000 of net exit costs related to facility closures resulted from the planned consolidation of customer support facilities located in Massachusetts; facility reductions of satellite sales and customer support facilities located in Texas and Arizona; and consolidation of sales and service centers located in Europe and Japan. These accrued costs reflect payments required under operating lease contracts in excess of expected sub-lease rentals and costs for writing down related leasehold improvements at the affected facilities. The consolidation of these facilities resulted in quarterly cost savings of approximately $400,000.

The Company suspended an internal-use software development program given current market conditions and timing of market application, resulting in a $2,863,000 charge.

The following table summarizes the components of the restructurings and other charges, the cash payments, non-cash activities, and the remaining accrual as of December 31, 2003:

(in thousands)	Employee Severance and Fringe Benefit Costs	Facility Closure Costs	Asset Write-Downs	Total Restructurings and Other Charges
2002 restructuring charges	$ 3,046	$ 1,486	$ 4,182	$ 8,714
Non-cash activity	--	20	(4,182)	(4,162)
Cash payments	(208)	--	--	(208)
Balance at December 31, 2002	2,838	1,506	--	4,344
Non-cash adjustments	(301)	301	--	--
Cash payments	(2,537)	(1,118)	--	(3,655)
Balance at December 31, 2003	$ --	$ 689	$ --	$ 689

D. EMPLOYEE BENEFIT PLANS

A noncontributory defined benefit pension plan and a Section 401(k) defined contribution plan function together as the Company's retirement program, covering substantially all of the Company's U. S. employees. Employees begin participating in the pension plan after completing one

year of service. They vest in the benefits after completing five years of service or reaching age 65 while still employed with the Company. The benefits under this plan are based on years of service and final average compensation.

The following tables set forth the funded status of the defined benefit pension plan and the amount reflected in the Company's consolidated balance sheets, projected benefit obligation, and fair value of assets of the plan.

D. EMPLOYEE BENEFIT PLANS (continued)

Reconciliation of Projected Benefit Obligation

(in thousands)	2003	2002
Benefit obligation January 1	$ 14,664	$ 10,490
Service cost	1,634	1,615
Interest cost	1,153	902
Plan amendments	--	114
Actuarial loss	2,442	3,566
Benefits paid	(1,895)	(502)
Settlements or curtailments	--	(1,521)
Benefit obligation December 31	$ 17,998	$ 14,664

The accumulated benefit obligation at December 31, 2003 and 2002 was $10,882,000 and $9,154,000, respectively.

Weighted-average assumptions used to determine benefit obligations, end of year

	December 31,	
	2003	2002
Discount rate	6.00%	6.75%
Rate of compensation increase	4.00%	4.25%

Reconciliation of Fair Value of Assets

(in thousands)	2003	2002
Fair Value of assets January 1	$ 6,273	$ 7,775
Actual return on plan assets	1,089	(1,000)
Employer contribution	1,394	--
Benefits paid	(1,895)	(502)
Fair value of assets December 31	$ 6,861	$ 6,273

Employer contributions and benefits paid in the above table include only those amounts contributed directly to, or paid directly from, plan assets.

D. EMPLOYEE BENEFIT PLANS (continued)

The asset allocation for the Company's pension plans at the end of 2003 and 2002, and the target allocation for 2004, by asset category, follows. The fair value of plan assets for these plans is $6,861 and $6,273 at the end of 2003 and 2002, respectively. The expected long-term rate of return on these plan assets was 9.0% in 2003 and 9.0% in 2002.

	Target Allocation	Percentage of Plan Assets at Year End	
Asset Category	2004	2003	2002
Equity securities	40%-70%	67 %	65 %
Fixed income securities	35%-55%	32 %	25 %
Cash	0%-10%	1 %	10 %
Total		100 %	100 %

The Company's pension plan assets are managed by outside investment managers; assets are rebalanced at the end of each quarter. The Company's investment strategy with respect to pension assets is to maximize return while protecting principal. The investment manager will have the flexibility to adjust the asset allocation and move funds to the asset class that offers the most opportunity for investment returns.

Reconciliation of Funded Status

	December 31,	
(in thousands)	2003	2002
Projected benefit obligation	$ (17,998)	$ (14,664)
Fair value of plan assets	6,861	6,273
Funded status	(11,137)	(8,391)
Unrecognized prior service cost	100	116
Unrecognized net transition asset	--	(27)
Unrecognized net actuarial gain	3,189	1,171
Accrued pension cost	$ (7,848)	$ (7,131)

At the end of 2003 and 2002, the projected benefit obligation, accumulated benefit obligation, and fair value of plan assets for the pension plan was as follows.

	December 31,	
(in thousands)	2003	2002
Projected benefit obligation	$ 17,998	$ 14,664
Accumulated benefit obligation	10,882	9,154
Fair value of plan assets	6,861	6,273

D. EMPLOYEE BENEFIT PLANS (continued)

Expected Cash Flows

Information about the expected cash flows for the pension plan follows:

(in thousands)	Pension Benefits
Employer Contributions	
2004	$ 1,758
Expected Benefit Payments	
2004	$ 573
2005	423
2006	579
2007	705
2008	1,350
2009-2013	7,753

The Company's net pension cost included the following components:

(in thousands)	2003	2002	2001
Service cost	$ 1,634	$ 1,615	$ 1,401
Interest cost	1,153	902	693
Expected return on assets	(666)	(669)	(669)
Net amortization of:			
Prior service cost	16	16	7
Net actuarial gain	--	(75)	(156)

Transition obligation	(27)	(39)	(39)
Curtailment gain	--	--	(236)
Net periodic pension cost	$ 2,110	$ 1,750	$ 1,001

Weighted-average assumptions used to determine net cost were:

	2003	2002	2001
Discount rate for obligations	6.75%	7.25 %	7.50 %
Rate of compensation increase	4.25%	5.00 %	5.00 %
Long-term rate of return on assets	9.00%	9.00 %	9.00 %

The long-term rate of return on assets was developed through analysis of historical market returns, current market conditions and the fund's past experience. Estimates of future market returns by asset category are lower than actual long-term historical returns in order to reflect current market conditions.

The Company's Employee Savings Plan is qualified under Section 401(k), and is designed to supplement retirement income. The Company contributes a percentage of the participants' contributions up to a defined maximum amount. Company matching

D. EMPLOYEE BENEFIT PLANS (continued)

contributions are made 50 percent in cash and 50 percent in the Company's common stock and become 50 percent vested at the end of an employee's second year of service and vest 25 percent per year of service thereafter until becoming fully vested at the end of four years of service. The contributions expense, net of forfeitures, was $2,110,000 in 2003, $1,750,000 in 2002 and $1,799,000 in 2001.

The Company has a Supplemental Key Executive Retirement Plan which is designed to supplement benefits paid to participants under Company-funded, tax-qualified retirement plans. The Company recorded additional retirement costs of $283,000 in 2003, $264,000 in 2002 and $167,000 in 2001 in connection with this plan. At the end of 2003 and 2002, the Company had $1,744,000 and $1,461,000, respectively, accrued for benefits payable under the Supplemental Key Executive Retirement Plan.

E. COMMITMENTS AND CONTINGENCIES

The Company leases certain facilities and equipment under long-term operating leases.

Future minimum lease payments under the noncancelable operating leases are:

(in thousands)	Operating Leases
2004	$ 4,801
2005	3,848
2006	2,225

2007	693
2008	618
Later years	3,403
Total	$ 15,588

Total rental expense under operating leases was $5,011,000 in 2003, $6,034,000 in 2002 and $5,777,000 in 2001.

The Company enters into short-term foreign currency forward contracts with its primary bank to minimize the effect of foreign currency exchange rate fluctuations on certain intercompany transactions with its wholly owned European, Taiwanese, and Japanese subsidiaries. These derivative instruments are not designated as hedging instruments; therefore, gains and losses on these transactions are recorded in cost of sales. The gains and losses on these instruments partially offset the realized and unrealized foreign exchange gains and losses of the underlying exposures. The net gains and losses were not material for the years ended December 31, 2003, 2002 and 2001. The notional amounts of the Company's outstanding foreign currency forward contracts at December 31, 2003 and 2002, were $6,653,000 and $9,984,000, respectively.

The Company had an agreement with a bank to sell specific Japanese Yen denominated receivables, subject to recourse provisions. In 2002 we terminated this agreement and as a result did not have any amounts outstanding at December 31, 2002.

The Company concluded a settlement with Raytheon Company pursuant to an Agreement in Principle dated July 11, 2002, in connection with an action brought in 1998 in Massachusetts Superior Court, and involving allegations of defects in certain components the Company discontinued selling in 1994. While the Company continuously denied all claims, the Company and its insurers concluded that it was in the Company's best interest to reach an out-of-court settlement to avoid the distraction and expense of a jury trial. Under the terms of the settlement, the Company paid $2.8 million, and insurance providers paid an additional $2.1 million and essentially all of the legal costs associated with the litigation.

E. COMMITMENTS AND CONTINGENCIES (continued)

The Company may be involved in the normal course in ordinary routine litigation incidental to the business. The Company is not a party to any proceedings that involve amounts that would have a material effect on our financial position or results of operations if such proceedings were resolved unfavorably.

The Company had a three-year revolving credit agreement with Fleet National Bank entered into in July 2000 that permitted the Company to borrow up to $25.0 million, subject to compliance with certain covenants. The Company never borrowed against this agreement and terminated it in April 2002.

Guarantees and Indemnification Obligations

In November 2002, the FASB issued FIN No. 45, "Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others," an interpretation of FASB Statements No. 5, 57, and 107 and rescission of FASB Interpretation No. 34. FIN No. 45 requires that a guarantor recognize, at the

inception of a guarantee, a liability for the fair value of the obligation undertaken by issuing the guarantee and requires additional disclosures to be made by a guarantor in its interim and annual financial statements about its obligations under certain guarantees it has issued. The adoption of FIN No. 45 did not have a material effect on our financial position or results of operations. The following is a summary of our agreements that we have determined are within the scope of FIN No. 45.

As permitted under Delaware law, the Company has agreements whereby it indemnifies its officers and directors for certain events or occurrences while the officer or director is or was serving in such capacity at the request of the Company. The term of the indemnification period is for the officer's or director's lifetime. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited; however, the Company has a Director and Officer insurance policy that limits its exposure and enables the Company to recover a portion of any future amounts paid. As a result of the Company's insurance policy coverage, management believes the estimated fair value of these indemnification agreements is minimal. Accordingly, the Company has not recorded any liabilities for these agreements as of December 31, 2003.

The Company enters into standard indemnification agreements in its ordinary course of business. Pursuant to these agreements, the Company indemnifies, holds harmless, and agrees to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally our business partners or customers, in connection with patent, copyright or other intellectual property infringement claims by any third party with respect to our current products, as well as claims relating to property damage or personal injury resulting from the performance of services by us or our subcontractors. The maximum potential amount of future payments we could be required to make under these indemnification agreements is unlimited. Historically, our costs to defend lawsuits or settle claims relating to such indemnity agreements have been minimal and we accordingly believe the estimated fair value of these agreements is immaterial.

The Company's products and services are generally sold with warranty coverage for periods ranging from 12 to 18 months after shipment. Parts and labor are covered under the terms of the warranty agreement. The warranty provision is based on historical experience by product family.

Changes in the warranty reserves during 2003 were as follows:

(in thousands)	
Balance at December 31, 2002	$ 293
Provisions for warranty	1,250
Consumption of reserves	(1,072)
Balance at December 31, 2003	$ 471

F. CAPITAL STOCK

On March 19, 2002, the Company completed a public offering of 3,450,000 shares of its common stock. The Company realized proceeds of $65.2 million, net of underwriting fees and discounts and offering expenses.

Options for the purchase of shares of the Company's common stock have been granted to officers, directors, and key employees under various nonqualified stock option agreements. The terms of these agreements provide that the options vest over a period of four years and are exercisable over a number of years from the date of grant for a maximum of ten years at not less than the fair market value at the date of grant.

Options expire at various dates through the year 2013. At December 31, 2003 and 2002, respectively, 1,800,250 and 800,250 shares of common stock were reserved for stock options. At December 31, 2003; 2002 and 2001, respectively, 316,625; 201,375 and 188,625 nonqualified stock options were exercisable.

The following table summarizes information concerning outstanding and exercisable options at December 31, 2003:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
$ 8.17 - $11.24	241,000	8.94	$9.41	26,750	$10.53
$15.00 - $20.10	174,750	6.75	$19.15	77,625	$18.16
$20.81 - $20.81	225,500	3.75	$20.81	125,500	$20.81
$23.11 - $28.83	105,500	6.07	$25.84	79,250	$25.24
$65.97 - $65.97	10,000	6.15	$65.97	7,500	$65.97
$ 8.17 - $65.97	756,750	6.45	$18.10	316,625	$21.47

At December 31, 2003, the Company had 1,043,500 shares available for future issuance under equity compensation plans for our employees and directors.

F. CAPITAL STOCK (continued)

The following table summarizes option activity for the years ended 2003, 2002, and 2001:

	Number of	Weighted Average

Options Outstanding	Common Shares	Exercise Price
January 1, 2001	544,875	$23.42
Options granted	98,500	$27.79
Options exercised	(74,000)	$21.01
Options canceled	(101,000)	$33.84
December 31, 2001	468,375	$22.47
Options granted	235,000	$16.93
Options exercised	(42,000)	$16.95
Options canceled	(42,375)	$25.99
December 31, 2002	619,000	$20.50
Options granted	153,000	$ 8.60
Options exercised	--	--
Options canceled	(15,250)	$20.45
December 31, 2003	756,750	$18.10

G. INCOME TAXES

The components of (loss) income before income taxes and the related (benefit from) provision for income taxes are presented below:

	For the years ended December 31,		
(in thousands)	2003	2002	2001
(Loss) income before income taxes:			
Domestic	$ (5,758)	$ (33,446)	$ (11,281)
Foreign	2,537	1,083	74
	$ (3,221)	$ (32,363)	$ (11,207)
Income tax (benefit) provision:			
Current:			
Federal	$ 100	$ (10,504)	$ (6,123)
Foreign	1,051	425	22
State	--	135	97

	1,151	(9,944)	(6,004)
Deferred:			
Federal	4,959	(2,135)	587
State	1,805	(866)	150
	6,764	(3,001)	737
Total	$ 7,915	$ (12,945)	$ (5,267)

HELIX TECHNOLOGY CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)

G. INCOME TAXES (continued)

The Company's deferred tax assets and (liabilities) are comprised of the following:

	December 31,	
(in thousands)	2003	2002
Deferred tax assets:		
Inventory valuation	$ 1,940	$ 1,819
Compensation and benefit plans	3,733	3,370
Leases	73	101
Depreciation	--	--
Net operating loss and tax credit carryforwards	6,253	1,711
Restructuring costs	200	2,653
Other	330	338
Total deferred tax assets	12,529	9,992
Deferred tax liabilities:		
Depreciation	(1,810)	(1,239)
Other	(45)	(45)
Total deferred tax liabilities	(1,855)	(1,284)
Less: valuation reserve	(10,674)	--
Net deferred tax assets	$ --	$ 8,708

As a result of the Company's review performed during 2003, the Company, under SFAS 109, "Accounting for Income Taxes," was required to establish a full valuation allowance against net deferred tax assets.

The table below reconciles the expected U.S. federal income tax (benefit) provision to the recorded income tax (benefit) provision in the statements of operations:

(in thousands)	December 31, 2003	2002	2001
Federal tax computed at statutory rate of 35%	$ (1,127)	$ (11,327)	$ (3,923)
State income taxes, net of federal income tax Benefit	(173)	(811)	160
Foreign sales corporation tax benefit	--	--	--
Foreign earnings not subject to U.S. income Taxes	(203)	(70)	(575)
R&D and foreign tax credits	(1,299)	(400)	(400)
Other, net	43	(337)	(529)
Income tax (benefit) provision before valuation reserve	(2,759)	(12,945)	(5,267)
Valuation reserve	10,674	--	--
Income tax (benefit) provision	$ 7,915	$ (12,945)	$ (5,267)

As of December 31, 2003, Helix Technology Corporation had a federal net operating loss ("NOL") and research and experimentation credit carryforwards of approximately $8,900,000 and $850,000, respectively, which may be available to offset future federal income tax liabilities and expire at various dates through 2023. Management of Helix Technology Corporation has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets and has established a full evaluation allowance of approximately $10,674,000 for such assets, which are comprised principally of net operating loss carryforwards and research and experimentation credit carryforwards.

G. INCOME TAXES (continued)

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible.

H. SEGMENT INFORMATION

Line of Business and Foreign Operations

The Company operates in one reportable segment: the development, manufacture, sale, and support of cryogenic and vacuum equipment. The Company's management currently uses consolidated financial information in determining how to allocate resources and assess performance.

The consolidated financial statements include the accounts of wholly owned international subsidiaries that operate customer support facilities to sell and service products manufactured in the United States. A summary of United States and international operations follows for the years ended December 31:

(in thousands)	United States	International	Consolidated
2003			
Net sales	$ 75,306	$ 30,577	$ 105,883
Long-lived assets	$ 30,811	$ 2,793	$ 33,604
2002			
Net sales	$ 76,228	$ 24,013	$ 100,241
Long-lived assets	$ 32,647	$ 3,736	$ 36,383
2001			
Net sales	$ 87,418	$ 25,576	$ 112,994
Long-lived assets	$ 37,114	$ 4,488	$ 41,602

Export Sales and Significant Customers

The Company's export sales of $9,374,000 in 2003, $10,212,000 in 2002 and $7,795,000 in 2001 are included in U.S. results.

The Company's largest customer, including outsourcing partners, represented 20%, 27%, and 22% of net sales for 2003, 2002, and 2001, respectively.

I. RECENT ACCOUNTING PRONOUNCEMENTS

In November 2002, the EITF issued No. 00-21, "Accounting for Revenue Arrangements with Multiple Deliverables." EITF No. 00-21 addresses certain aspects of the accounting by a vendor for arrangements under which it will perform multiple revenue-generating activities. EITF No. 00-21 establishes three principles: revenue should be recognized separately for separate units of accounting; revenue for a separate unit of accounting should be recognized only when the arrangement consideration is reliably measurable and the earnings process is substantially complete, and consideration should be allocated among the separate units of accounting in an arrangement based on their fair values. The Company adopted the provisions of EITF No. 00-21 for all revenue arrangements entered into after June 15,

2003. The adoption of EITF No. 00-21 did not have a material impact on the Company's results of operations or financial condition.

In January 2003, the FASB issued FIN No. 46 "Consolidation of Variable Interest Entities, an interpretation of ARB 51." FIN No. 46 provides guidance on the identification of entities for which control is achieved through means other than through voting rights called "variable interest entities" or "VIEs" and how to determine when and which business enterprise should consolidate the VIE (the "primary beneficiary"). This new model for consolidation applies to an entity in which either (1) the equity investors (if any) do not have a controlling financial interest or (2) the equity investment at risk is insufficient to finance that entity's activities without receiving additional subordinated financial support from other parties. In addition, FIN No. 46 requires that both the primary beneficiary and all other enterprises with a significant variable interest in a VIE make additional disclosures. The Company does not have any interests that would change our current reporting entity or require additional disclosure outlined in FIN No. 46.

In April 2003, the FASB issued Statement of Financial Accounting Standards No. 149 (SFAS 149), "Amendment of Statement 133 on Derivative Instruments and Hedging Activities." This statement amends SFAS 133 to provide clarification on the financial accounting and reporting of derivative instruments and hedging activities and requires contracts with similar characteristics to be accounted for on a comparable basis. The adoption of SFAS 149, which is effective for contracts entered into or modified after June 30, 2003, did not have a material effect on the Company's financial condition or results of operations.

In December 2003, the FASB has issued Statement of Financial Accounting Standards No. 132 (revised 2003) (SFAS 132), "Employers' Disclosures about Pensions and Other Postretirement Benefits," that improves financial statement disclosures for defined benefit plans. The change replaces existing SFAS 132 disclosure requirements for pensions and other postretirement benefits and revises employers' disclosures about pension plans and other postretirement benefit plans. It does not change the measurement of recognition of those plans required by SFAS 87, "Employers' Accounting for Pensions," SFAS 88, "Employers' Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits," and SFAS 132 revised retains the disclosure requirements contained in the original SFAS 132, but requires additional disclosures about the plan assets, obligations, cash flows, and net periodic benefit cost of defined benefit pension plans and other defined benefit postretirement plans. SFAS 132 revised is effective for annual and interim periods with fiscal years ending after December 15, 2003. The Company has adopted the revised disclosure provisions.

HELIX TECHNOLOGY CORPORATION

SCHEDULE II--VALUATION AND QUALIFYING ACCOUNTS

For the Years Ended December 31, 2003, 2002, and 2001 (in thousands)

Description	Balance at Beginning of Period	Additions Charged to Costs and Expenses	Deductions From Reserves	Balance at End of Period

Year ended December 31, 2003				
Allowance for doubtful accounts	$ 641	$ 174	$ 377	$ 438
Reserve for restructuring activities	$ 4,344	$ --	$ 3,655	$ 689
Year ended December 31, 2002				
Allowance for doubtful accounts	$ 400	$ 318	$ 77	$ 641
Reserve for restructuring activities	$ --	$ 8,714	$ 4,370	$ 4,344
Year ended December 31, 2001				
Allowance for doubtful accounts	$ 197	$ 328	$ 125	$ 400
Reserve for restructuring activities	$ --	$ 1,047	$ 1,047	$ --

EXHIBIT INDEX

2.1 Agreement and Plan of Merger dated as of April 16, 1998, among Helix Technology Corporation, Helix Acquisition Corporation, Granville-Phillips Company, and certain principal stockholders of Granville-Phillips Company. Filed as Exhibit 2.1 to the Company's Current Report on Form 8-K filed May 15, 1998, and incorporated herein by reference.

2.2 Escrow Agreement dated May 7, 1998. Filed as Exhibit 2.3 to the Company's Current Report on Form 8-K filed May 15, 1998, and incorporated herein by reference.

3.1 Restated Certificate of Incorporation, as amended on May 7, 1987, May 18, 1988, April 20, 1995, and April 29, 1998. Filed as Exhibit 3.1 to the Company's Current Report on Form 8-K filed May 15, 1998, and incorporated herein by reference.

3.2 Bylaws, as amended through December 9, 1987. Filed as Exhibit 3.2 to the Company's Form 10-K for the Year Ended

December 31, 2001, and incorporated herein by reference.

10.1 Basic agreement between the Company and Ulvac Corporation dated August 17, 1981. Filed as Exhibit 10.13 to a Registration Statement on Form S-2, Registration No. 2-84880, and incorporated herein by reference.

10.2 Lease agreement dated July 24, 1984, as amended July 26, 1999, between Long Gate LLC as Lessor and the Company as Lessee. Filed as Exhibit 10.2 to the Company's Form 10-K for the Year Ended December 31, 1999, and incorporated herein by reference.

10.3 Lease agreement dated May 23, 1991, between Mansfield Corporate Center Limited Partnership as Lessor and the Company as Lessee. Filed as Exhibit 10-(14) to the Company's Form 10-K for the Year Ended December 31, 1991 and incorporated herein by reference.

10.4 Lease agreement dated August 7, 1998, between Mitsubishi Jisho Co., Ltd. as Lessor and the Company as Lessee. Filed as Exhibit 10-(5) to the Company's Form 10-K for the Year Ended December 31, 1998, and incorporated herein by reference.

10.5 Lease agreement dated May 14, 1999, between MUM IV, LLC as Lessor and the Company as Lessee. Filed as Exhibit 10.6 to the Company's Form 10-K for the Year Ended December 31, 1999, and incorporated herein by reference.

10.6 The Company's informal incentive bonus plan. Filed as Exhibit 10.9 to a Registration Statement on Form S-2, Registration No. 2-84880 and incorporated herein by reference.*

10.7 The Company's Supplemental Key Executive Retirement Plan effective February 13, 1992. Filed as Exhibit 14-(14) to the Company's Form 10-K for the Year Ended December 31, 1992 and incorporated herein by reference.*

10.8 The Company's 1996 Equity Incentive Plan, as amended and restated. Included as Appendix B to the Company's Definitive Proxy Statement on Schedule 14-A filed on March 19, 2003, for its 2003 Annual Meeting of Stockholders held onApril 16, 2003, and incorporated herein by reference.*

10.9 The Company's Supplemental Benefit Plan of Helix Technology Corporation, effective April 1, 1999. Filed as

Exhibit 10.15 to the Company's Form 10-K for the Year Ended December 31, 1999, and incorporated herein by reference.*

10.10 Directors' Deferred Compensation Plan. Filed as Exhibit 10.15 to the Company's Form 10-K for the Year Ended December 31, 2001, and incorporated herein by reference.*

10.11 The Company's Amended and Restated Stock Option Plan for Non-Employee Directors. Filed as Exhibit 10.11 to the Company's Form 10-K for the Year Ended December 31, 2001, and incorporated herein by reference.*

10.12 Employment Agreement dated, November 10, 2003, between the Company and Robert J. Lepofsky (supersedes all other prior Agreements). Filed herewith.*

10.13 Employment Agreement dated August 1, 2002, between the Company and Robert E. Anastasi (supersedes all other prior Agreements). Filed as Exhibit 10.1 to the Company's Form 10-Q for the Quarter Ended September 27, 2002, and incorporated herein by reference.*

10.14 Employment Agreement dated June 2, 2003, between the Company and Jay Zager (supersedes all other prior agreements). Filed as Form 10-Q for the Quarter Ended June 27, 2003, and incorporated herein by reference.*

10.15 Employment Agreement dated November 1, 2002, between the Company and Mark E. Jalbert. Filed as Exhibit 10.15 to the Company's Form 10-K for the year ending December 31, 2002, and incorporated herein by reference.*

10.16 Employment Agreement dated December 9, 2002, between the Company and James Gentilcore. Filed as Exhibit 10.16 to the Company's Form 10-K for the year ending December 31, 2002, and incorporated herein by reference.*

21.1 Subsidiaries of the Registrant. Filed herewith.

23.1 Consent of Independent Accountants. Filed herewith.

31.1 Certification of the Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.

31.2 Certification of the Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.

32.1 Certification of the Principal Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. Filed herewith.

32.2 Certification of the Principal Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. Filed herewith.

99.1 Important Factors That May Affect Future Results. Filed herewith.

* Denotes management contract or compensation plan.

EXHIBIT 21. SUBSIDIARIES OF THE REGISTRANT

Subsidiary	Place Organized
Helix Securities Corporation	Massachusetts
CTI-Cryogenics, Inc.	Barbados
Helix Technology UK Limited	England
Helix Technology SA	France
Helix Technology GmbH	Germany
Helix Technology K.K.	Japan
Granville-Phillips Company	Delaware
Helix Vacuum Technology Ltd.	Taiwan
Helix Technology Limited	China (Hong Kong)
CTI-Nuclear, Inc.	Ohio
Helix Technology (Shanghai) Limited	China

EXHIBIT 23.1

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-104624, 333-09247 and
333-09245) of Helix Technology Corporation of our report dated January 23, 2004, relating to the financial statements and financial statement schedule, which appear in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP

Boston, Massachusetts
January 30, 2004

EXHIBIT 99.1

Important Factors That May Affect Future Results

From time to time, we may make forward-looking public statements, such as statements concerning our strategic plans; the outlook for our business and industry; anticipated expenses; anticipated sources of future revenues; and the sufficiency of capital to meet working capital and capital expenditure requirements, as well as other estimates relating to future operations. Forward-looking statements may be in reports filed under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), in press releases, or in informal statements made with the approval of an authorized executive officer. The words or phrases "will likely result," "are expected to," "will continue," "is anticipated," "estimate," "project," "believe," "could," "intend," "may," "opportunity," "plan," "potential" or similar terms and expressions are intended to identify "forward-looking statements" within the meaning of Section 21E of the Exchange Act and Section 27A of the Securities Act of 1933, as amended, as enacted by the Private Securities Litigation Reform Act of 1995.

We wish to caution you not to place undue reliance on these forward-looking statements that speak only as of the date on which they are made. In addition, we wish to advise you that the factors listed below, as well as other factors we have not currently identified, could affect our financial or other performance and could cause our actual results for future periods to differ materially from any opinions or statements expressed with respect to future periods or events in any current statement.

We will not undertake and we specifically decline any obligation to publicly release revisions to these forward-looking statements to reflect either circumstances after the date of the statements or the occurrence of events that may cause us to reevaluate our forward-looking statements.

In connection with the "Safe Harbor" provisions of the Private Securities Litigation Reform Act, we are hereby filing the following cautionary statements identifying important factors that could cause our actual results to differ materially from those projected in forward-looking statements made by us or on our behalf:

The semiconductor equipment industry is highly cyclical and unpredictable.

The semiconductor equipment industry is characterized by up and down business cycles; the timing, length and volatility of which are difficult to predict. Our business depends in large part upon the capital expenditures of

semiconductor manufacturers, which in turn depend on the current and anticipated market demand for integrated circuits and products utilizing integrated circuits. Sudden changes in demand for semiconductors have affected and will continue to affect the timing and amounts of our customers' capital equipment purchases and investments in new technology.

During periods of increasing demand for semiconductor manufacturing equipment, we must have sufficient manufacturing capacity and inventory to meet customer demand and must be able to attract, hire, assimilate and retain a sufficient number of qualified individuals. The semiconductor industry appears to be in the early stages of an upturn. However, management cannot predict the sustainability of a recovery, if any, and/or the industry's rate of growth in such a recovery, both of which will be affected by many factors, including the global uncertainties discussed below. If we are unable to effectively manage our resources and production capacity during an industry upturn, there could be a material adverse effect on our business, financial condition and results of operations. Conversely, in downturns, we must be able to appropriately align our cost structure with prevailing market conditions and effectively motivate and retain key employees.

We derive a significant portion of our sales from a limited number of customers, and our sales could decline significantly if we lose a customer or if a customer cancels, reduces or delays an order.

Historically, we have derived a significant portion of net sales from a limited number of customers. In 2003 our ten largest customers accounted for approximately 44% of our net sales and a single customer, Applied Materials, accounted for approximately 20% of our net sales. We anticipate that a small number of customers will continue to account for a large portion of our net sales for the foreseeable future. The loss, reduction or delay of any orders from these customers could significantly reduce our sales and harm our reputation in our industry.

Industry consolidation and outsourcing of the manufacture of semiconductors may reduce the number of our potential customers.

The substantial expense of building, upgrading or expanding a semiconductor fabrication facility is increasingly causing semiconductor companies to contract with foundries, which manufacture semiconductors designed by others. As manufacturing shifts to foundries, the number of our potential customers could decrease, which would increase our dependence on our remaining customers. In addition, consolidation within the semiconductor manufacturing industry is increasing. If semiconductor manufacturing is consolidated within a small number of foundries and other large companies, our failure to win any significant contracts to supply equipment to any of those customers could seriously harm our reputation and materially and adversely affect our results of operations. In addition, industry consolidation may cause delays in the purchase of our products and cause a reexamination of strategic and purchasing decisions by our current and potential customers. We could lose valuable relationships with key personnel of a customer due to budget cuts, layoffs or other disruptions caused by industry consolidation.

If we fail to develop and sell new or enhanced products and services for semiconductor manufacturers, we will not be able to compete effectively.

Rapid technological innovation in semiconductor manufacturing processes requires the semiconductor equipment industry to anticipate or respond quickly to evolving customer requirements and could render our current product offerings obsolete. We believe that our continued success will depend significantly on our ability to quickly develop, manufacture and introduce new products and product enhancements that address our customers' needs, including their customer support requirements. The timely development of new or enhanced products is a complex and uncertain process. We may experience design, manufacturing, marketing or other difficulties that could delay or prevent the development, introduction or commercialization of any new or enhanced products. We may not anticipate successfully and accurately technological or market trends, or manage successfully long development cycles. We may be required to collaborate with third parties to develop these products and may not be able to do so on a timely and cost-effective basis, if at all. If we are not successful in marketing and selling these products to customers with whom we have formed long-term relationships, our net sales could be adversely affected. If any of our new or enhanced products have reliability or quality problems, such problems may result in reduced orders, higher manufacturing costs, delays in collecting accounts receivable, and additional service and warranty expense. If we are not able to develop new products or enhancements to existing products on a timely and cost-effective basis, or if the new products or product enhancements that we introduce fail to achieve market acceptance, our ability to grow our business would be harmed and competitors could achieve greater market share.

If we are unable to continue to provide satisfactory levels of maintenance and warranty support to customers, our reputation may be adversely affected, we may be unable to attract new customers and we may lose existing customers.

We provide a high level of customer service and product support to help our customers maximize production yields by minimizing downtime due to scheduled and unscheduled maintenance. If our customer service personnel fail to continue to provide prompt and effective product maintenance and warranty support to our customers, or if our diagnostic solutions technology operates at less than the level of performance required to minimize maintenance downtime, then our reputation and the reputation of our products and services could be damaged, which would adversely affect our net sales.

If we fail to compete successfully in the highly competitive semiconductor equipment industry, our sales and profitability will decline.

We encounter aggressive competition in the market for semiconductor manufacturing equipment. Many of our current and potential competitors have greater resources than we have, including capital, name recognition, technical and marketing resources, customer service and support resources, and manufacturing capabilities. We believe that, to remain competitive, we must offer a broad range of products, maintain customer service and support centers worldwide, and invest significant resources in product and process research and development in order to develop new products and enhance our existing products in a timely manner. Competitors with substantially greater resources than we have may be better positioned to compete successfully in the industry.

We expect our current competitors to continue to improve the design and performance of their existing products and processes and to introduce new products and processes with improved price and performance characteristics. Our product sales may be threatened by new technologies, products or market trends, and we may have to adjust the prices of our products and services to stay competitive. In addition, new competitors may emerge in the markets we serve. Moreover, a relatively small number of firms compete in the vacuum technology market. An acquisition of or by, one of our competitors in the sector may result in a substantially strengthened competitor

with greater financial, engineering, manufacturing, marketing and customer service and support resources than we have. If our current or future competitors enter into strategic relationships with leading semiconductor manufacturers covering products similar to those sold or being developed by us, our ability to sell products to those manufacturers may be adversely affected. We cannot assure you that we will be able to compete successfully with our existing competitors or with new competitors.

Downturns in the semiconductor industry make it difficult to anticipate or expand sales.

We anticipate that a significant portion of any new orders will depend upon demand from semiconductor manufacturers that build, upgrade or expand fabrication facilities. If, as a result of an industry downturn, these prospective customers postpone or abandon their plans to build, upgrade or expand fabrication facilities, or otherwise reduce or fail to make capital expenditures, demand for our systems may decline. We may be unable to generate significant new orders for our systems, which would adversely affect our sales levels.

In addition, the high rate of technical innovation in the semiconductor industry requires continual investments in engineering, research and development, marketing and global support services to develop and sell new products and to maintain extensive customer service and support capabilities. These investments create significant fixed costs that limit our ability to reduce expenses during downturns in proportion to declining sales.

We do not have long-term purchase agreements with our customers, and as a result, our customers could stop purchasing our products and services at any time.

We generally do not obtain firm, long-term volume purchase commitments from our customers, and we generally experience short lead-times for customer orders. In addition, customer orders can be canceled and volume levels can be reduced or delayed. We may be unable to replace canceled, delayed, or reduced orders with new business.

Our dependence upon a limited number of suppliers for many components and subassemblies could result in increased costs or delays in the manufacture and sale of our products.

We rely to a substantial extent on outside vendors to manufacture many components and subassemblies for our products. We obtain many of these components and subassemblies from either a sole source or a limited group of suppliers. Because of our reliance on outside vendors generally, and on a limited group of suppliers in some cases, we may be unable to obtain an adequate supply of required components on a timely basis, at a price and on other terms acceptable to us, or at all.

In addition, we often quote prices to our customers and accept customer orders for our products prior to purchasing components and subassemblies from our suppliers. If our suppliers increase the cost of components or subassemblies, we may not have alternative sources of supply and may not be able to raise the prices of our products to cover all or part of the increased cost of components, which may harm our results of operations.

The manufacture of some of these components and subassemblies is a complex process and requires long lead times. As a result, we have in the past and may in the future experience delays or shortages. If we are unable to obtain adequate and timely deliveries of required components or subassemblies, we may have to seek alternative sources of supply or manufacture these components internally. This could delay our ability to manufacture or to ship our systems on a timely basis, causing us to lose sales, incur additional costs, delay new product introductions and suffer harm to our reputation.

Claims based on defects in our products or errors in performing product-related services could result in costly litigation against us.

Our products and services are used in several key steps in the fabrication of semiconductors, which is a complex and expensive process. As a result, any failure of our systems could interrupt our customers' production schedules, which would result in costly unscheduled downtime. We may be subject to significant liability claims or liquidated damages pursuant to contracts with our customers as a result of any malfunction of our systems. Our insurance may not, or may not be sufficient to, cover us against liability claims or may not continue to be available to us. Liability claims could also require us to spend significant time and money in litigation. As a result, any of these claims, whether or not successful, could seriously damage our reputation and harm our business, financial condition and results of operations.

Sales to foreign markets constituted approximately 37.7% of our net sales in 2003. Therefore our net sales and results of operations could be adversely affected by downturns in economic conditions in countries outside the United States and other risks associated with international operations.

Sales of our products and services to customers outside the United States, including exports from our U.S. facilities, accounted for approximately 37.7% of our net sales in 2003. We anticipate that international sales will continue to account for a significant portion of our net sales. We may expand the sales and marketing activities for our products and services to markets outside the United States, particularly the Asia-Pacific market, and hire additional international personnel. Because of our dependence upon international sales, we are subject to a number of risks, including:

- Unexpected changes in laws or regulations resulting in more burdensome governmental controls, tariffs, restrictions, embargoes or export license requirements;

- Difficulties in obtaining required export licenses;

- Volatility in currency exchange rates;

- Political and economic instability, particularly in the Asia-Pacific market;

- Difficulties in accounts receivable collections;

- Extended payment terms beyond those customarily offered in the United States;

- Difficulties in managing distributors or representatives outside the United States;

- Difficulties in staffing and managing foreign subsidiary operations; and

- Potentially adverse tax consequences.

Substantially all of our sales to date have been denominated in U.S. dollars. Our products become less price-competitive in countries with currencies that are declining in value in comparison to the dollar. This could cause us to lose sales or force us to lower our prices, which would reduce our gross margins. If it becomes necessary for us to make sales denominated in foreign currencies, we will become more exposed to the risk of currency conversion rate fluctuations.

Our proprietary technology is important to the continued success of our business. Our failure to protect this proprietary technology may significantly impair our competitive position.

Our ability to compete effectively with other companies depends, in part, on our ability to protect our technology assets by obtaining and enforcing patents. We have a number of patents in the United States and other countries and additional applications are pending for new developments in our equipment and processes. Although we seek to protect our intellectual property rights through patents, we cannot be certain that:

- We will be able to protect our technology adequately;

- Competitors will not be able to develop similar technology independently;

- Any of our pending patent applications will be issued;

- Claims allowed under any issued patents will be broad enough to protect our technology; or

- Intellectual property laws will protect our intellectual property rights.

Our competitive position is also dependent upon unpatented trade secrets. Trade secrets are difficult to protect. Our competitors may independently develop proprietary information and techniques that are substantially equivalent to ours or otherwise gain access to our trade secrets, such as through unauthorized or inadvertent disclosure of our trade secrets.

We may become involved in litigation relating to our intellectual property rights, which may result in substantial expense and may divert our attention from the implementation of our business strategy.

We believe that the success of our business depends, in part, on obtaining patent protection for our key technology,

defending our issued patents and preserving our trade secrets. Litigation may be necessary in order to enforce our patents, copyrights or other intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement. These types of litigation could result in substantial costs and diversion of resources and could harm our business, financial condition and results of operations. Moreover, litigation may not adequately protect our intellectual property rights.

In addition, we may be sued by third parties that claim our products infringe on their intellectual property rights. This risk is exacerbated by the fact that the validity and breadth of claims covered in vacuum technology patents involve complex legal and factual questions. Any litigation or claims against us, whether valid or not, could result in substantial costs, place a significant strain on our financial resources, divert management resources and harm our reputation. Such claims could result in awards of substantial damages, which could have a significant adverse effect on our results of operations. In addition, intellectual property litigation or claims could force us to:

- Cease selling, incorporating or using any of our products that incorporate the challenged intellectual property, which would adversely affect our net sales;

- Obtain a license from the holder of the infringed intellectual property right, which license may not be available on reasonable terms, if at all; and

- Redesign our products, which would be costly and time-consuming.

We may not be able to maintain and expand our business if we are not able to retain, hire and integrate additional qualified personnel.

Our success depends in large part upon our ability to attract and retain qualified, experienced employees to operate and expand our business. There is substantial competition for experienced engineering, technical, financial, sales and marketing personnel in our industry. In particular, we must attract and retain highly skilled design and process engineers. Competition for such personnel is intense. The cyclical nature of our business also causes our staffing needs to fluctuate unexpectedly. During periods when our need for employees increases, we often depend on temporary employees. Temporary employees become scarce during up business cycles and often require additional training. If we are unable to retain our existing key personnel, or attract and retain additional qualified personnel, we may from time to time experience inadequate levels of staffing to develop, manufacture and market our products and perform services for our customers. As a result, our growth could be limited due to our lack of capacity to develop and market our products to our customers, or we could fail to meet our delivery commitments or experience deterioration in service levels or decreased customer satisfaction, all of which could adversely affect us and cause the value of our common stock to decline.

We may seek to expand through acquisitions of complementary businesses, and we may not be able to successfully integrate acquired companies.

We may seek to acquire complementary companies in the future. In addition to the difficulties we may face in identifying and consummating acquisitions, we will also be required to integrate and consolidate any acquired businesses or assets with our existing operations. Managing an acquired business entails numerous operational and financial risks, including difficulties in integrating disparate administrative, accounting and finance, and information systems; difficulties in assimilating acquired operations and new personnel, diversion of management's attention from other business concerns; and potential loss of key employees or customers of any acquired operations. Accordingly, we may be unable to successfully identify, consummate and integrate future acquisitions or operate acquired businesses profitably. Our success will depend, to a significant extent, on the ability of our executive officers and other members of senior management to respond to these challenges effectively. If we are unable to integrate successfully an acquired company, our future growth may suffer, and our results of operations could be harmed.

Our sales and results of operations are subject to significant fluctuations, which could cause our stock price to decline.

Our sales and results of operations have fluctuated significantly from quarter to quarter in the past, and we expect them to continue to vary in the future due to the cyclical nature of the semiconductor equipment industry and a variety of other factors, many of which are beyond our control. Downward fluctuations in our quarterly results have historically resulted in decreases in the price of our common stock. Some of the factors that could affect our quarterly sales and results of operations include:

- Changes or slowdowns in economic conditions in the semiconductor and semiconductor capital equipment industries and other industries in which our customers operate;

- The timing and volume of orders placed by major customers;

- Customer cancellations of previously placed orders and shipment delays;

- Variations in customers' capital spending budgets or inventory management practices;

- Our ability to develop, manufacture, introduce and support our current product lines as well as new products and product enhancements;

- Announcements, new product introductions and reductions in the prices of products offered by our competitors;

- Our ability to obtain sufficient supplies of sole-or limited-source components and subassemblies for our products; and

- Our ability to realize forecasted sales for a particular period.

Our results of operations in one or more future quarters may fall below the expectations of analysts and investors. In those circumstances, the trading price of our common stock would likely decrease.

We may need additional financing in the future, and we may be required to issue additional securities. Any additional financing may result in restrictions on our operations or substantial dilution to our stockholders.

We may need to raise additional funds in the future, for example; to develop new technologies, support our expansion, respond to competitive pressures, acquire complementary businesses, or respond to unanticipated situations. We may try to raise additional funds through public or private financings, strategic relationships, or other arrangements. Our ability to obtain debt or equity funding will depend on a number of factors, including market conditions, our operating performance and investor interest. Additional funding may not be available to us on acceptable terms or at all. If adequate funds are not available, we may be required to revise our business plan to reduce expenditures, including curtailing our growth strategies, foregoing acquisitions or reducing our product development efforts. If we succeed in raising additional funds through the issuance of equity or convertible securities, the issuance could result in substantial dilution to existing stockholders. If we raise additional funds through the issuance of debt securities or preferred stock, these new securities would have rights, preferences and privileges senior to those of the holders of our common stock. The terms of these securities, as well as any borrowings under our credit agreement, could impose restrictions on our operations.

We may be unable to pay dividends in the future.

Our stockholders may receive dividends out of legally available funds if, and when, they are declared by our Board of Directors. Our policy has been to pay dividends out of cash in excess of the needs of the business. Currently, we declare dividends quarterly at a rate of $0.04 per share of common stock. We may incur additional indebtedness in the future that may prohibit or further restrict our ability to declare and pay dividends. We may also be restricted from

paying dividends in the future due to restrictions imposed by state corporation laws, our financial condition and results of operations, capital requirements, covenants contained in our financing agreements, management's assessment of future capital needs and other factors considered by our Board of Directors.

The war on terrorism and increasing political and social turmoil, including terrorist and military actions, increase the difficulty for us, our vendors and our customers to forecast accurately and plan future business activities, and could affect the current upturn of the semiconductor industry and have a material adverse effect on our business, financial condition and results of operation.

The war on terrorism and recent political and social turmoil can be expected to put further pressure on economic conditions in the United States and worldwide. These political, social and economic conditions make it difficult for us, our suppliers and our customers to forecast accurately and plan future business activities. The current upturn of the semiconductor industry could be affected, and our business, financial condition and results of operations may be materially adversely affected by a fluctuation in net sales relative to our forecasted value, as we may not be able to vary our incurred expenses in response to net sales actually realized.