

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

For the fiscal year ended December 31, 2002

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 000-30941

**AXCELIS TECHNOLOGIES, INC.**

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

34-1818596

(IRS Employer Identification No.)

55 Cherry Hill Drive

Beverly, Massachusetts 01915

(Address of principal executive offices, including zip code)

(978) 787-4000

(Registrant's telephone number, including area code)

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

Title of class

None

Name of each exchange on which registered

None

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

**Common Stock, \$0.001 par value  
Preferred Share Purchase Rights**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No .

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

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

Aggregate market value of the voting stock held by nonaffiliates of the registrant as of June 30, 2002: **\$1,107,390,847**

Number of shares outstanding of the registrant's Common Stock, \$0.001 par value, as of March 25, 2003: **98,395,258**

DOCUMENTS INCORPORATED BY REFERENCE:

## FORWARD LOOKING STATEMENTS:

Certain information contained or incorporated by reference in this Annual Report on Form 10-K is forward-looking in nature. All statements included or incorporated by reference in this Annual Report on Form 10-K or made by management of Axcelis Technologies, Inc., other than statements of historical fact, are forward-looking statements. Examples of forward-looking statements include statements regarding Axcelis' future financial results, operating results, business strategies, projected costs, product development or future sales, competitive positions and plans and objectives of management for future operations. We use terminology such as "anticipates," "believes," "plans," "expects," "future," "intends," "may," "will," "should," "estimates," "predicts," "potential," "continue," and similar expressions to identify such forward-looking statements. Our actual results could differ materially from the results contemplated by these forward-looking statements due to a number of important factors, including those discussed in Exhibit 99 to this Form 10-K and elsewhere in this Form 10-K. This Form 10-K also contains forward-looking statements attributed to third parties relating to their estimates regarding the growth of our markets. Forward-looking statements are subject to known and unknown risks, uncertainties, and other factors that may cause our actual results, as well as those of the markets we serve, levels of activity, performance, achievements and prospects to be materially different from those expressed or implied by the forward-looking statements.

## PART I

### Item 1: Business

#### Overview of Our Business

We are a worldwide producer of ion implantation, dry strip, thermal processing and photostabilization equipment used in the fabrication of semiconductor chips in the United States, Europe and Asia Pacific. We have been the market share leader, reported by Gartner Dataquest, in the ion implantation market segment in 5 of the last 7 years (through 2001) and have been the market leader in the photostabilization market since its inception in 1993. The ion implantation business comprises approximately 75% of our revenues in 2002 with the remaining 25% being the dry strip, thermal processing and photostabilization businesses. In addition to equipment, we provide extensive aftermarket service and support, including spare parts, equipment upgrades, maintenance services and customer training. We sell to all the top 20 semiconductor chip manufacturers worldwide. We have a 50-50 joint venture with Sumitomo Heavy Industries, Ltd. in Japan. This joint venture, formed in 1982, is known as Sumitomo Eaton Nova Corporation, or SEN. SEN licenses technology from us for ion implantation, has exclusive rights to the territory of Japan and is the leading producer of ion implantation equipment in Japan.

Axcelis was incorporated in the state of Delaware in December 1995 as a subsidiary of Eaton Corporation. Axcelis completed an initial public offering of approximately 18% of its shares in July 2000 and in December 2000, Eaton distributed the other 82% of its shares to its shareholders. Axcelis is headquartered in Beverly, Massachusetts. We maintain an Internet site at <http://www.axcelis.com>. We make available free of charge on and through this website our annual report on Form 10-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 Securities and Exchange Commission. Our website and the information contained therein or connected thereto shall not be deemed to be incorporated into this Form 10-K.

#### Industry Overview

Semiconductor chips, also known as integrated circuits, are used in personal computers, telecommunication equipment, digital consumer electronics, wireless communication products and other applications. Types of semiconductor chips include memory chips (which store and retrieve information), microprocessors (general purpose logic devices programmable to take instructions from software) and "system on chip" devices (which have both logic and memory features). Most semiconductor chips are built on a wafer of silicon up to twelve inches in diameter. Each semiconductor chip is made up of millions of tiny transistors or "switches" to control the functions of the device. The transistors are created by forming electrically active regions beneath the silicon surface to inhibit or prohibit electrical current flow. Later, metal interconnections are formed on top of the silicon that connect the transistor components together.

Semiconductor chip manufacturers utilize many different types of process tools in the making of integrated circuits. There are over 300 process steps utilizing over 50 different types of process tools required in the making of a single device like a microprocessor. Semiconductor chip manufacturers seek efficiency improvements through increased throughput, equipment utilization and higher manufacturing yields. Capacity is added by increasing the amount of manufacturing equipment in existing fabrication facilities and by constructing new fabrication facilities. During the period from early 1999 through 2000, semiconductor manufacturers met the increased demand for chips mostly by building new fabrication facilities, and by making additional equipment purchases to expand existing fabrication facilities. Periodic downturns in demand for electronic devices, such as that experienced in 2001 and 2002 have had a severe adverse impact on the semiconductor industry and on suppliers to the semiconductor industry.

Periodically, and historically every seven or eight years, the semiconductor industry adopts a larger silicon wafer size to achieve lower manufacturing costs. By increasing the wafer size, semiconductor manufacturers can produce more chips per wafer, thus reducing the overall manufacturing cost per chip. The majority of wafer fabrication facilities today are using wafers with a diameter of 200 millimeters (8 inches). Currently, the industry is in the midst of a transition to 300 millimeter (12 inches) wafers. Some semiconductor manufacturers have launched pilot and production lines using 300 millimeter wafers. New manufacturing equipment is required to handle these larger wafers. It is anticipated that additional manufacturers will add new 300 millimeter production capabilities over the next two to five years, which will lead to increased demand for 300 millimeter equipment.

The customer base is also changing. Given the magnitude of the investment needed to build a new fabrication facility (often referred to as a "fab"), which today exceeds \$1 billion and can be as high at \$3 billion for a new 300 mm fab, and the very large volume of product each fab can produce, contract semiconductor manufacturers, or foundries, have emerged. Foundries provide out-sourced manufacturing of chips for chip designers and device manufacturers who may use foundries for all or part of their chip manufacturing requirements. Foundries, which are predominantly located in Taiwan and Singapore, have become significant purchasers of semiconductor equipment. Recently, new foundries are being built in China to rival Taiwan and Singapore as more chip production is being outsourced. China is predicted to be one of the fastest growing regions for semiconductor manufacturing.

#### Axcelis' Strategy

Our mission is to be a worldwide supplier of semiconductor processing equipment and services. Our vision is to be one of the top 10 semiconductor equipment companies, ranked by sales revenue, and to have the largest or second largest market share in each of our product markets. In 2001, Gartner Dataquest ranked us, together with SEN, 12th among semiconductor equipment manufacturers based on aggregated sales revenues for us and SEN of \$680 million.

We seek to provide best-in-breed semiconductor manufacturing equipment for selected front-end-of-line (transistor formation) as well as back-end-of-line (interconnect) process steps. Our primary strength is in the front-end transistor sequence, given our more than 20 year history in ion implantation, an important front-end-of-line process step. Our growth strategy involves expanding our product offering beyond implant. Through acquisitions completed in 1996 and 1997, we added complementary tool sets (cleaning, curing, and thermal processing) that are adjacent to the ion implant process sequence. By adding these complementary products to our ion implantation product base, the total available market for all of our products has tripled, based on Dataquest's forecast for 2005, to over \$3.0 billion. Our revenues from these complementary products represented 25% of our total 2002 revenues. We intend to continue growing our complementary product businesses, while maintaining our leadership position in ion implantation. In addition to offering adjacent front-end-of-line process steps around ion implant, these complementary tools led us to the back-end-of-line as these cleaning, curing and thermal processing tools are also used in the formation of interconnect layers. We believe the use of new materials for interconnects, such as copper conductors and new insulating materials called low-k dielectrics, will increase the appeal of our cleaning and curing products for back-end-of-line applications.

Operationally, we manage our business based on three main tenets:

- technology leadership
- operational excellence, and
- customer partnerships.

We have continued to invest in research and development through the industry cycles to assure our products meet the needs of our customers. We continue to add to our portfolio of patents and unpatented proprietary technology to ensure that our investment in technology leadership is translated into unique product advantages. We take pride in our staff of very talented scientists and engineers that represent over 50% of our workforce. We strive for operational excellence by focusing on ways to lower our manufacturing and design cost and to improve our delivery times to our customers. Finally, we have invested to improve our customer support infrastructure and have established Global Customer Teams, a very focused account management structure, to improve our customer relationships and increase customer satisfaction.

### Ion Implantation Systems

Ion implantation is a principal step in the transistor formation cycle of the semiconductor manufacturing process. An ion implanter is a large, technically advanced machine that injects charged particles, or dopants, such as arsenic, boron or phosphorus, into a silicon wafer through an accurately controlled electric and magnetic field, with a precisely defined amount of energy ranging between several hundred and three million volts. Certain areas of the silicon wafer are blocked off by a polymer material known as photoresist which acts as a "stencil" to pattern devices so that the dopants will only enter the wafer where needed. The dopants change the electrical properties of the silicon wafer to create the active components of a chip called the transistors. The amount of energy used to implant the ions determines the depth to which the dopant penetrates the wafer, and the amount of dopant or dose determines how much the electrical properties of the silicon wafer are changed.

There are three types of ion implantation machines: high energy, high current and high tilt/medium current. Each type injects ions either at greater dose, creating more ions per area (such as in high current tools), or with more energy, driving the ions deeper into the silicon (such as in high energy tools). The manufacturing processes for virtually all types of chips requires the use of all three types of ion implanters. Typically, a wafer will receive from 10 to 35 ion implant steps as it is manufactured, depending on the complexity of the device. The industry trend is to design and build more complex, highly integrated chips which require more implants. An embedded memory device or "system on chip" is an example of a highly complex chip with multiple functions that will replace stand-alone chips in certain applications. We have designed our products to enhance the manufacturers' flexibility during the implant process thus reducing the cost of production.

A high energy implanter is typically used to implant dopants deep in the wafer, which allows improved isolation of adjoining transistors on the same chip. The high-energy segment is relatively new, with mainstream application being adopted in the mid to late 1990's. The use of high energy implanters has expanded into the manufacture of virtually all types of chips. They are used in the manufacture of smaller, more complex chips, such as those used in cellular phones and other hand held devices because they enable more functionality with less power consumption. They are also used for non-volatile memory applications such as FLASH memories and embedded technologies like system on chip (SOC) to allow for multiple voltages on the same chip. These devices are typically manufactured using multi-wafer or "batch" implanters which process up to 13 wafers at one time, leading to increased productivity. Trends in this segment include the use of the high energy implanter for shallower implants that have typically been processed by a medium current implanter, which increases the capacity utilization of the machine, thus reducing its cost of ownership.

For implants that require high concentration of dopants- at medium to very shallow depths, a high current/low energy implanter is most often used. These implants are used to enable the electrical connections from the silicon to the metal lines for the subsequent interconnect cycle. In some applications, very shallow, high-dose implants result in faster chips, an important feature for certain microprocessors, digital signal processors and other types of logic chips. Machines with very low energy are required to make very shallow implants. These low energy systems typically require multi-wafer or "batch" end stations which allow for a shorter beam line length, minimizing beam dispersion problems that arise from the low energy. As the demand for these faster chips requiring very shallow implants grows, we expect the number of implanter tools per fab to increase, since productivity is greatly reduced at these lower energy levels. As a result, the high current market is predicted by industry analysts to be the fastest growing implant segment over the next few years. During 2002, we introduced our Ultra High Current / Low Energy line of ion implanters as an extension of our existing high current products. These implanters use proprietary technology to increase the throughput of the machine thus lowering its cost of ownership.

Most ion implant steps occur with the ion beam perpendicular to the wafer. A high tilt/medium current implanter, however, is primarily used for the implant step that requires the ion beam to be positioned at less than a 90 degree angle to the wafer to implant dopants below preexisting features. The use of the high tilt/medium current implanter extends into some high energy applications to allow customers greater flexibility in selecting the optimal combination of implanters for their needs. These systems are typically single wafer machines to allow for the high tilt capability. We are also seeing an increasing need for high tilt lower energy implants for advanced devices, as chips become more complex.

Together with SEN, we offer a complete line of high energy, high current and high tilt/medium current implanters for all chips and for all implant steps. We have sold over 2500 implanters worldwide. The following chart lists our principal products:

Product Category	Axcelis Product Name	Description
High Energy	GSD/HE	• 200mm high energy implantation for logic and memory chips
	GSD/VHE	• 200mm very high energy implantation for logic, memory chips and FLASH memory chips

	<b>HE3</b>	• 300mm high energy implantation for all types of chips
	<b>GSD/HEmc</b>	• 200mm high energy/medium current applications
<b>High Current</b>	<b>GSD/200E2</b>	• 200mm standard high current implanter
	<b>GSDIII/LED</b>	• First generation 200mm high current implanter for low energy applications
	<b>HC3 Ultra</b>	• Second generation 300mm high current implanter with low energy capability introduced in April 2002
	<b>GSD Ultra</b>	• Second generation 200mm low energy implanter with higher throughput for advanced devices introduced in April 2002
<b>High Tilt/Medium Current</b>	<b>8250HT</b>	• 200mm high tilt and medium current applications for all chips
	<b>MC3</b>	• 300mm high tilt and medium current applications for all chips

All of our ion implantation systems share modular subsystems for efficiency and convenience. The subsystems for wafer handling robot, ion source, vacuum system and operator interface are common among our three implanter types. This common platform reduces our design, production time and costs, as well as overall cost of ownership for our customers by minimizing training, spare parts inventory and maintenance.

### Curing and Cleaning Systems

*Dry Strip and Photostabilization Systems.* We entered the dry strip and photostabilization product markets through our acquisition of Fusion Systems Corporation in August 1997. Fusion pioneered the development of photostabilization in 1993. In the process steps prior to ion implantation, a light sensitive, polymer-based liquid, called photoresist, is spread in a uniformly thin film on the wafer in a pattern creating a "stencil" effect. Photostabilization uses ultraviolet light to harden, or "cure", the photoresist so that it is more effective in maintaining the desired pattern during the subsequent implant processes and etch steps (in which the top layer of the surface of the wafer not covered by photoresist is removed). After these steps, the photoresist is no longer necessary and must be removed. The primary means of removing photoresist and residue is a process called "dry strip" or "ashing." Our dry strip machines, also called ashers, use microwave and rf energy to turn process gases into plasma, which then acts to "clean" the surface of the wafer by removing the photoresist and unwanted residue.

In addition to the use of photoresist prior to the front-end-of-line implant and etch processes, photoresist is also applied and removed during back-end-of-line processes. Stripping photoresist during the front-end of line transistor sequence is relatively simple and therefore, the equipment required is characterized by high throughput and low cost. Stripping photoresist in the back-end of line interconnect sequence, requires more complicated tools and cleaning chemistries due to the advanced materials being used at smaller geometries. One key process is the stripping of the photoresist lying on top of the low-k dielectric film used for copper lines. Since the low-k materials are easily damaged during the photoresist removal process, tools must be designed to minimize this damage. Because of these differing requirements for the front-end and back-end-of-line tools, we believe that over the next several years, the market for dry-strip tools will divide into two segments of equal market size, addressing these two different applications.

Some of our customers use our photostabilization system for removing unwanted electrostatic charges that build up on the wafer during processing. This process, known as "charge erasure" is used to eliminate or reduce charges that may damage sensitive devices such as FLASH memory devices.

The following chart lists our principal products in each category:

Product Category	Axcelis Product Name	Description
<b>Dry Strip</b>	<b>Gemini ES</b>	• 200mm photoresist strip system
	<b>Fusion ES3</b>	• 300mm/200mm photoresist strip system
	<b>Fusion ES3i</b>	• Second generation 300mm photoresist strip system for strip photo resist over low-k dielectrics
<b>Photostabilizers</b>	<b>Gemini PS</b>	• 200mm photostabilization system for photoresist curing
	<b>Fusion PS3</b>	• 300mm/200mm photostabilization system for photoresist curing
		• Low-k curing and charge erasure applications

Our Gemini dual chamber platform is the foundation for both our dry strip and our photostabilizer products. Fusion pioneered photostabilization technology, and we believe that our products remain the industry standard. Our dry strip tools are capable of removing bulk photoresist from the wafer, as well as the residue left behind after bulk strip. This reduces or eliminates the need for further wet chemical stripping by eliminating the use of hazardous chemicals traditionally used for this step. Manufacturing cost is further reduced by the fact that our ashers do not require side access, conserving expensive cleanroom space.

Our photostabilizers are used by integrated circuit manufacturers worldwide because of our proprietary ultraviolet light source and the high throughput of the Gemini dual chamber platform. Through several joint development efforts with third parties our photostabilizers also have been used for several applications in the interconnect processes such as for hardening low-k dielectric materials.

## Thermal Processing Systems

At a number of points during the manufacturing process, silicon wafers need to be heated rapidly, often to 900 degrees centigrade or higher, in order to complete chemical or electronic reactions. This heating process is referred to as rapid thermal processing, or RTP. This step is used in both the transistor formation and interconnect formation processes of semiconductor manufacturing.

We acquired key technology in the area of rapid thermal processing through our 1996 acquisition of High Temperature Engineering Corporation. In 1999, we introduced our first rapid thermal processing products. Our RTP machine employs a patented design to process a single wafer in a hot wall vertical reactor. The reactor has three zones that are heated by resistive coils, as well as an actively cooled base, which create a uniform temperature gradient from top to bottom. Rapid heating and cooling of the wafer is achieved by simply adjusting the vertical position of the wafer within the reactor. The technology in our RTP system differs from most other RTP equipment, which regulate temperature through a lamp-based system.

The following chart lists our principal RTP products:

Product Category	Axcelis Product Name	Description
RTP	Summit 200	• 200mm thermal processing system
	Summit 300XT	• Second generation 300mm thermal processing system used for front end and back end of line applications

Our Summit series of RTP systems has a flexible design, offering both single and dual chamber systems. Its engineering incorporates recent developments in furnace design, temperature measurement, emission correction techniques and wafer handling. The machine is suited particularly well for lower temperature processing where lamp-based systems may have difficulty controlling the temperature. One of the trends in this market segment is the migration to lower temperature nickel silicide formation for advanced devices at 0.13 micron and below.

## Post Sales Support and Services

We offer our customers extensive post sales service and support throughout the lifecycle of the equipment we manufacture. We believe that more than 3,500 of our products, including products shipped by SEN, are in use in 50 countries worldwide. The service and support that we provide include spare parts, equipment upgrades, maintenance services and customer training. We offer service out of 38 field offices in eleven countries. Revenues generated through our service and support business represented about 38% of net revenues in 2002 and 33% of revenues in 2001.

Our customer support network includes over 500 sales and marketing personnel and service engineers, including field service engineers, spare parts support staff and applications engineers. An additional 150 persons located at our manufacturing facilities work with our customers to provide advanced equipment support, applications support, customer training and documentation.

Most of our customers maintain spare parts inventories for our machines. In 1997, we launched a web-based spare parts management and replenishment tracking program, or SMART, to facilitate internet communication and e-commerce with our customers. The implementation of our SMART program has helped us to achieve reduced order fulfillment costs and cycle times resulting in an expanded customer base for this service offering. Our Productivity Plus program launched in 2001 provides equipment optimization capabilities through on-site networking and internet technology.

## Sales and Marketing

We primarily sell our equipment and services through our direct sales force. We have 12 sales offices in eight countries. Aftermarket service and support is also offered at all of these offices. In the United States, we conduct sales and marketing activities from five locations. Outside of the United States, our sales offices are located in Taiwan, South Korea, China, Israel, Germany, Singapore, and Italy. In addition, isolated sales are made in smaller markets through distributors and manufacturing representatives.

In Japan, we market our products through two channels: one, we sell our ion implant products only through our SEN joint venture, which sells its machines and services directly to semiconductor manufacturers (see "SEN Joint Venture" below); and two, since 1999, we have sold our photostabilizers, dry strip and rapid thermal processing products in Japan through an exclusive distribution agreement with Sumitomo Heavy Industries, Ltd. (SHI). SHI is currently assisting us in a transition of this distribution arrangement to a new distributor.

In China, we historically marketed our products through a distribution arrangement with the semiconductor division of Tritek International. In September 2002, we acquired Tritek's operations in this area and are currently directly selling and servicing our equipment in that market.

International sales, including export sales from our U.S. manufacturing facilities to foreign customers and sales by our foreign subsidiaries and branches, accounted for 52.0% of total net sales in 2002, 62% in 2001, and 69.4% of total net sales in 2000. Substantially all of our sales are denominated in U.S. dollars. SEN's sales are denominated in Japanese yen. See Note 13 to our Consolidated Financial Statements contained in Item 8 of this Form 10-K for a breakdown of our net sales and long-lived assets in the United States, Europe and Asia.

## Customers

In 2002, the top 20 semiconductor manufacturers accounted for approximately 72.5% of total semiconductor industry capital spending. These manufacturers are from the four largest semiconductor manufacturing regions in the world: the United States, Asia Pacific (Taiwan, South Korea and Singapore), Japan and Europe. We and SEN together, serve all of the 20 largest semiconductor manufacturers. We believe that more than 3,500 of our products, including products shipped by SEN, are in use worldwide.

Net sales to our ten largest customers accounted for 63.5%, 50.6%, and 56.3%, of net sales, respectively, in 2002, 2001, and 2000. We expect that sales of our products to relatively few customers will continue to account for a high percentage of net sales for the foreseeable future. In 2002, IBM represented 14.2% percent of net sales. In 2001, no customer represented more than 10% of net sales and in 2000, STMicroelectronics N.V. accounted for 13.9 % of net sales.

## SEN Joint Venture

For more than 20 years, we have exclusively licensed our ion implantation technology in Japan to SEN, a Japanese corporation of which Axcelis owns 50%. The other 50% of SEN is owned by Sumitomo Heavy Industries, Ltd. SEN has 555 employees based in Tokyo and Toyo, Japan and manufactures, sells and services

ion implanters in Japan. Each of Axcelis and SHI has equal representation on SEN's Board of Directors. In addition, Naoki Takahashi, one of Axcelis' directors, is a director and officer of SHI.

SEN holds an exclusive royalty-bearing license to use our current and future ion implantation technology to manufacture, use and sell products in Japan and has granted us a royalty-free world-wide (except for Japan) license to use any technology SEN develops which is an improvement to our technology. SEN may sell its products outside Japan only with our consent and coordination. From time to time, we have sold our equipment into Japan to our non-Japanese customers and SEN has sold equipment outside of Japan primarily to its Japanese customers and their joint ventures.

SEN is obligated to pay us royalties on their net sales of ion implantation products in accordance with the rates set forth in the license agreement, which vary depending on the type of implanter sold. These royalty payments were \$8.1 million in 2002, \$5.8 million in 2001, and \$13.5 million in 2000. The license agreement will renew on December 31, 2004 for an additional 5 year term unless terminated by either party prior to the end of 2003. SEN has been very successful in achieving its business purpose to manufacture and sell ion implanters using our technology in Japan. We continue to seek to streamline our operations and to optimize the value of SEN, which could result in modifications to the SEN license agreement. However, as of the filing of this Form 10-K, no modifications have been agreed to, and therefore we currently expect to renew our license to SEN at the end of 2003.

We also have a trademark license agreement with SEN which will terminate on December 31, 2004 and which obligates SEN to pay us an additional 0.5% royalty on net sales.

## **Research and Development**

Our industry continues to experience rapid technological change, requiring us to frequently introduce new products and enhancements. Our ability to remain competitive in this market will depend in part upon our ability to develop new and enhanced systems and to introduce these systems at competitive prices and on a timely and cost effective basis.

We devote a significant portion of our personnel and financial resources to research and development programs and seek to maintain close relationships with our customers to remain responsive to their product needs. We have also sought to reduce the development cycle for new products through a collaborative process whereby our engineering, manufacturing and marketing personnel work closely together with one another and with our customers at an earlier stage in the process. We also use 3D, computer-aided design, finite element analysis and other computer-based modeling methods to test new designs. We conduct our research and development programs at our facilities in Beverly, Massachusetts and in Rockville, Maryland. SEN also conducts research and development in Toyo, Japan.

Our expenditures for research and development during 2002, 2001, and 2000, were \$72.0 million, \$76.5 million, and \$68.8 million respectively, or 23%, 21.0%, and 10.1%, of net sales, respectively. In 2002, we maintained an equivalent level of R&D expenditures to that in 2001 as we made several new product introductions at 200 mm and 300mm. We expect in future years that research and development expenditures will continue to represent a substantial percentage of net sales.

## **Manufacturing**

We manufacture ion implant, photostabilization, dry strip and rapid thermal processing products at our facility in Beverly, Massachusetts. In addition, SEN manufactures ion implant and flat panel products at its facility in Toyo, Japan. From time to time, SEN acts as an out-sourced manufacturer for us in the case of those products currently manufactured by SEN and not by Axcelis, including our MC3 medium current implanter. In the fourth quarter of 2002, we completed the consolidation of our manufacturing operations from Rockville, Maryland (where we had previously manufactured our Curing and Cleaning products) to Beverly, Massachusetts. We expect this manufacturing consolidation to improve operational efficiencies.

In early 2002, we completed construction of a 135,000 square foot addition to our Beverly facility, called our Advanced Technology Center, which houses an advanced process development, product demonstration and customer training center for all of our products. In 1999, we completed an 80,000 square foot expansion of the Beverly facility to provide for Class 10,000 clean manufacturing.

Our manufacturing facilities employ advanced manufacturing methods and technologies, including lean manufacturing, Six Sigma controls and processes and web-enabled inventory purchase systems. We manufacture our products in cleanroom environments that are similar to the cleanrooms used by semiconductor manufacturers for wafer fabrication. Most of our systems are designed and tailored to meet the customer's specifications as outlined in the sales contract.

To ensure that the customer's specifications are satisfied, per contract terms, the majority of systems are tested at our facilities prior to shipment, normally with the customer present, under conditions that substantially replicate the customer's production environment, and the customer's criteria are confirmed to have been met. These environmental conditions include power requirements, toxic gas usage, air handling requirements including humidity and temperature, equipment bay configuration, wafer characteristics and other factors. These procedures are intended to reduce installation and production qualification times and the amount of particulates and other contaminants in the assembled system, which in turn improves yield and reduces downtime for the customer.

After testing, the system is disassembled and packaged to maintain cleanroom standards during shipment. Installation is itself not a complex process and does not require specialized skills. It is typically performed by a team of assemblers from the customer and ourselves. It includes placing and leveling the equipment at its installation site, connecting it to sources of gas, water and electricity and recalibrating it to specifications that had previously been tested and met.

To reduce our labor expense and the time to installation for our customers, beginning in 1999, we adopted a new manufacturing technique for our ion implanter that we refer to as Ship from Cell (SFC). This technique allows us to avoid fully integrating and testing the integrated implanters on our factory floor prior to shipment. We assemble the implanters in 5 or 6 separate modules. The modules are then tested using specially developed software and are shipped directly to the customer bypassing the factory integration step. As a result, the implanter system is integrated for the first time on the customer's factory floor and tested for quality assurance. This technique saves an average of 4 weeks in our manufacturing cycle time thus improving lead-times for our customers. Currently all of our 200 mm ion implanters can be shipped using the Ship from Cell technique. By the end of 2003, we expect that all of our 300 mm tools will be qualified for Ship from Cell manufacturing. For 2002, 23% of our ion implant shipments were manufactured via SFC.

We purchase materials, components and subassemblies, such as pumps, machine components, power supplies and other electrical components, from various suppliers. These items are either standard products or built to our specifications. Some of the components and subassemblies included in our products are obtained either from a sole source or a limited group of suppliers, which could result in disruptions to our operations. We have installed a web-based supply chain system in order to increase efficiency and cut costs associated with obtaining materials and components. This system electronically exchanges information with our vendors as to purchase orders, forecasts and automatic delivery updates.

## **Competition**

The semiconductor wafer fabrication equipment market is highly competitive and is characterized by a small number of medium to large size participants. We compete in four principal product markets in both the front-end and back end of the semiconductor wafer fabrication process: ion implantation, dry strip, photostabilization and rapid thermal processing. Preexisting relationships have a significant influence on a customer's choice of equipment supplier. Other significant competitive factors in the semiconductor equipment market include price/cost of ownership, equipment performance, customer support, breadth of product line, distribution and financial viability.

**Ion Implantation.** In high energy equipment our principal competitor is Varian Semiconductor Equipment Associates, Inc. In high current products, we and Applied Materials Inc. have substantial market shares. In high tilt/medium current equipment, where we have a small market share, Varian has a commanding market position. SEN is the largest manufacturer of ion implantation equipment in Japan and competes with Nissin Electric Co., Ltd., Ulvac Technologies, Inc., Varian and Applied Materials for sales in that market.

**Curing and Cleaning Systems.** Our principal competitors in the dry strip product market are Mattson Technology Inc., and Novellus Systems, Inc. and our principal competitor in photostabilization is Ushio in Japan, to whom we have granted a royalty-bearing patent license in this field.

**Thermal Processing Systems.** Our chief competitors in the rapid thermal processing equipment market are Applied Materials Inc. and Mattson Technology Inc.

### 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 February 5, 2003, we had 166 patents issued in the United States and 376 patents granted in other countries, as well as 454 patent applications (73 in the United States and 381 in other countries) on file with various patent agencies worldwide. We intend to file additional patent applications as appropriate. Although patents are important to our business, we do not believe that we are substantially dependent on any single patent or any group of patents.

We have trademarks, both registered and unregistered, that are maintained to provide customer recognition for our products in the marketplace.

From time to time, we enter into license agreements with third parties under which we obtain or grant rights to patented or proprietary technology. Except for our license agreement with SEN (described above under "SEN Joint Venture"), none of our current licenses is material to us.

There has been substantial litigation regarding patent and other intellectual property rights in semiconductor-related industries. We have a pending patent litigation action against Applied Materials, Inc. (See Item 3. "Legal Proceedings".)

We can give no assurance that we, our licensors, licensees, customers or suppliers will not be subject to claims of patent infringement or claims to invalidate our patents, or that any such claims will not be successful, requiring Axcelis to pay substantial damages or delete certain features from our products or both.

### Backlog

As of December 31, 2002, our systems backlog was \$60.0 million, as compared to \$73.9 million, and \$211.0 million, respectively, for the years ended 2001 and 2000. Our policy is to include in backlog only those system orders for which we have accepted purchase orders and typically are due to ship within 6 months. Backlog does not include orders received for our service business (spare parts, consumables and service contracts) due to the turn rate associated with that business. Generally, orders for service or parts revenue received during the quarter are performed or shipped within the same quarter. All orders are subject to cancellations or rescheduling by customers with limited or no penalties. Due to possible changes in system delivery schedules, cancellations of orders and delays in systems shipments, our backlog at any particular date is not necessarily indicative of our actual sales for any succeeding period. In addition, our backlog at the beginning of a quarter typically does not include all orders required to achieve our sales objectives for that quarter and is not a reliable indicator of our future sales.

### Employees

As of December 31, 2002, we had 1,774 full-time and 64 temporary employees worldwide, of which 1,519 were employed in North America, 192 in Asia and 127 in Europe. We consider our relationship with our employees to be good.

### Environmental

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. We are ISO-14001 certified in our Beverly, MA. and Rockville, MD. facilities and re-certification is scheduled for 2003.

## Item 2: Properties

We have a total of 40 properties, of which 19 are located in the United States and the remainder are located in Asia and Europe, including offices in Taiwan, Singapore, South Korea, China, Malaysia, Italy, Germany, France and the United Kingdom. Of these properties, two are owned and 38 are leased. We own our 54,600 square foot corporate headquarters in Beverly, Massachusetts located adjacent to our Beverly manufacturing facility.

Our principal facilities are listed below:

Facility Location	Principal Use	Square Footage (Owned/Leased)
Beverly, Massachusetts	Manufacturing of ion implantation and rapid thermal processing, dry strip and photostabilization products, research and development, sales/marketing and customer support	445,200 (owned)
Rockville, Maryland	Research and development, marketing and customer support.	117,328(leased)

Our Japanese joint venture manufactures ion implantation products in a 300,300 square foot owned facility located in Toyo, Japan.

The Beverly facility includes a 135,000 square foot advanced process development, product demonstration and customer training center for all of the equipment we produce.

In 2002, we completed the relocation of the manufacturing and support functions for our Curing and Cleaning products from our Rockville, MD facility to our Beverly, MA facility. As a result, we completed this relocation in 2002, and lowered our leased square footage at our Rockville facility to 117,328 square feet.

We do not believe there is any material long-term, excess capacity in our manufacturing facilities, although utilization is subject to change based on customer demand. We believe that our manufacturing facilities and equipment generally are well maintained, in good operating condition, suitable for our purposes, and adequate for our present operations. Our Beverly, Massachusetts and Rockville, Maryland facilities are ISO 9001 and ISO 14001 certified.

### **Item 3: Legal Proceedings**

On January 8, 2001, we filed a lawsuit against Applied Materials, Inc. ("Applied") in the United States District Court for the District of Massachusetts. The complaint alleges that Applied's medium current/high energy ion implanter machine launched in November 2000 infringes our patent for ion implantation equipment using radio frequency linear accelerator technology. We have also alleged that Applied unlawfully interfered with our existing and future contracts. On January 18, 2001, we filed a motion for a preliminary injunction for the reason, among others, that infringement at the time of transition between equipment capable of handling 200 mm wafers and equipment capable of handling 300 mm wafers would irreparably harm us. Through this motion, we asked the court to stop Applied from manufacturing, selling or offering to sell its medium current/high energy ion implanter machine and to order Applied to remove all Axcelis patented technology from implanters that Applied may have placed in chipmakers' plants for process development trials. Applied filed counterclaims of unfair competition, defamation, and tortious interference with prospective economic advantage, all of which it contends arise from certain communications allegedly made by Axcelis about the lawsuit and its claims of infringement.

Hearings on summary judgment motions began in December 2001 and rulings are expected prior to trial, which has been scheduled for May 2003. We believe our claims are meritorious and intend to pursue the matter vigorously. Although there can be no assurance of a favorable outcome, and while we are incurring significant legal expenses to pursue this litigation, we do not believe that our pursuit of this matter will have a material adverse effect on our financial condition, results of operations or liquidity. In the event that Applied is found not to have infringed, we expect that Applied will continue to use its medium current/high energy implanter as a new and substantial competitor for sales of high energy/medium current ion implantation equipment.

### **Item 4: Submission of Matters to a Vote of Security Holders**

None

#### **Executive Officers and Key Management**

##### **Executive Officers**

**Mary G. Puma**, 45, has been the Company's Chief Executive Officer since January 2002. From May 2000 until January 2002, Ms. Puma was the Company's President and Chief Operating Officer, prior to which she served as a Vice President of the Company from February 1999. In 1998, she became General Manager and Vice President of the Implant Systems Division of Eaton Corporation, a global diversified industrial manufacturer. In May 1996, she joined Eaton as General Manager of the Commercial Controls Division. Prior to joining Eaton, Ms. Puma spent 15 years in various marketing and general management positions for General Electric Company. Ms. Puma is a director of Nordson Corporation.

**Michael J. Luttati**, 47, has been the Company's Executive Vice President and Chief Operating Officer since January 2002 and a Senior Vice President since July 2000. Mr. Luttati was General Manager, Ion Implant and Rapid Thermal Processing Systems from January 2000 until January 2002, prior to which he served as Director, Sales and Service from November 1998. Prior to joining us, Mr. Luttati served as Vice President, North America Sales Operations of Teradyne Inc., a manufacturer of semiconductor test and interconnection products, from 1996 to 1998 and, from 1983 to 1996, he held several other sales and marketing positions with Teradyne.

**Cornelius F. Moses III**, 44, has been our Executive Vice President and Chief Financial Officer since October 2000. Prior to that, Mr. Moses was Senior Vice President, Chief Financial Officer of Bradlees, Inc., a discount retail chain, from 1995. From 1990 to 1995, Mr. Moses had various positions with Ames Department Stores, Inc., most recently as Senior Vice President, Finance.

**David Duff, Ph.D.**, 42, has been our Vice President and General Manager of our Ion Implant and Rapid Thermal Processing business since April, 2002. Prior to that, Dr. Duff held several management positions at Axcelis since joining us in 1997, most recently, as Director of Marketing, Implant and Thermal Products. Prior to Axcelis, Dr. Duff worked in the capital equipment industry in variety of marketing management positions and prior to that, worked as a research scientist.

**Lynnette C. Fallon**, 43, is our Senior Vice President, Human Resources and Legal, General Counsel and corporate Secretary. Ms. Fallon joined Axcelis in April 2001 as Senior Vice President and General Counsel. Prior to that, Ms. Fallon was a partner in the Boston law firm of Palmer & Dodge LLP since 1992, where she was head of the Business Law Department from 1997 to 2001.

**Kevin M. Bisson**, 41, has been our Vice President, Controller and Treasurer since June 2002 and Vice President and Controller since June 2000. From January 2000 to May 2000, Mr. Bisson served as the Director of Finance. Prior to joining Axcelis, Mr. Bisson was Director of Finance for Hamilton Sundstrand Corporation, a subsidiary of United Technologies Corporation and a global supplier of aerospace and industrial products, from 1999 and he held various other financial management positions at UTC since 1989.

**Jan-Paul van Maaren**, 41, has been our Vice President and General Manager of our Curing and Cleaning business since December 2001. Prior to that, Dr. van Maaren held several management positions at Axcelis since joining us in 1997, most recently, as Director of Business Excellence for Ion Implantation and Rapid Thermal Processing systems. Prior to joining Axcelis, Dr. van Maaren held various marketing and management positions at Honeywell.

##### **Key Management**

**Craig Halterman**, 39, has been our Vice President and Chief Information Officer since July 2000 and was our Director of Information Technology since the beginning of 2000. Prior to joining us, Mr. Halterman was Information Technology Director at Honeywell/Allied Signal in its space and defense systems business

since 1997. Prior to that, Mr. Halterman held various information technology positions at The Dow Chemical Co., Thompson Consumer Electronics, General Electric Co. and RCA Consumer Electronics.

**John M. Poate**, 62, has been our Vice President and Chief Technology Officer since June 2000. From 1997 until he joined Axcelis, Dr. Poate held the joint positions of Dean of the College of Science and Technology and Dean of Liberal Arts at the New Jersey Institute of Technology. From 1971 to 1997, he held several senior research positions, including head of silicon processing research, with Bell Laboratories.

**Matthew Flynn**, 46, became our Vice President Global Customer Operations in October 2002, prior to which Mr. Flynn was our Director of Sales, Ion Implant and RTP systems. Prior to joining Axcelis in 1996, Mr. Flynn held executive and management roles at Cherry Semiconductor, an integrated circuit manufacturer and at Teradyne Inc., a manufacturer of semiconductor test and interconnection products.

**Kevin Brewer**, 44, became our Vice President of Manufacturing Operations in October 2002, prior to which Mr. Brewer was Axcelis' Director of Operations. Prior to joining Axcelis in 1999, Mr. Brewer was Director of Operations, Business Jets at Raytheon Aircraft Company, a leading manufacturer of business and special mission aircraft owned by Raytheon Company, a manufacturer of defense, government and commercial electronics, as well as aircraft. Prior to that, Mr. Brewer held various management positions in operations and strategic planning in Raytheon Company's Electronic Systems and Missile Systems groups. .

## PART II

### Item 5: Market for Registrant's Common Equity and Related Stockholder Matters

Our common stock has traded on the Nasdaq stock market under the symbol ACLS since our initial public offering on July 11, 2000. The following table sets forth the high and low closing sale prices as reported on the Nasdaq stock market during each of the quarters for the two most recent fiscal years. As of March 25, 2003, we had approximately 11,178 stockholders of record. Other than the \$300 million cash dividend paid to Eaton out of the proceeds from our initial public offering in 2000, Axcelis has not paid any cash dividends. We do not anticipate paying cash dividends in the future and, in any event, would be restricted from doing so by the terms of our bank credit agreement.

	Common Stock Price	
	High	Low
<b>Fiscal 2001</b>		
First quarter	\$12.88	\$ 8.44
Second quarter	18.39	9.38
Third quarter	15.25	8.77
Fourth quarter	14.91	9.01
<b>Fiscal 2002</b>		
First quarter	16.04	11.34
Second quarter	15.36	9.80
Third quarter	11.46	4.46
Fourth quarter	8.66	3.54

### Item 6: Selected Financial Data

The following selected consolidated statements of operations data for each of the three years ended December 31, 2002, 2001 and 2000 and the consolidated balance sheet data as of December 31, 2002 and 2001 has been derived from the audited consolidated financial statements contained in Item 8 of Part II of this Form 10-K. The selected consolidated statements of operations data for the years ended December 31, 1999 and 1998 and the consolidated balance sheet data as of December 31, 1999 and 1998 have been derived from the audited financial statements contained in our registration statement on Form S-1 filed on May 5, 2000, as amended.

The historical financial information set forth below may not be indicative of our future performance and should be read together with "Management's Discussion and Analysis" and our historical consolidated financial statements and notes to those statements included in Items 7 and 8 of Part II of this Form 10-K.

	Years Ended December 31,				
	2002	2001	2000	1999	1998
	(In thousands, except per share amounts)				
<b>Consolidated statements of operations data:</b>					
Net sales	\$309,705	\$365,264	\$680,401	\$397,267	\$ 265,709
Gross profit	103,965	131,025	299,309	157,082	64,229
Operating income (loss)	(58,318)	(62,245)	104,637	12,333	(137,909)
Net income (loss)	(26,150)	(20,163)	99,115	14,428	(82,047)
Net income (loss) per share:					
Basic	\$ (0.27)	\$ (0.21)	\$ 1.13	\$ 0.18	\$ (1.03)
Diluted	\$ (0.27)	\$ (0.21)	\$ 1.13	\$ 0.18	\$ (1.03)
Shares used in computing per share amounts:					
Basic	97,920	97,215	88,063	80,000	80,000
Diluted	97,920	97,215	88,064	80,000	80,000
<b>Consolidated balance sheet data:</b>					
Cash and cash equivalents	\$150,651	\$124,177	\$168,157	\$ 3,530	\$ 3,338
Working capital	292,386	226,412	297,348	169,759	91,028
Total assets	669,451	551,396	672,331	422,835	341,121
Long-term debt	125,000	—	—	—	—

During fiscal 2000, the Company paid a dividend of \$300 million (\$3.75 per share) to Eaton Corporation. In addition, refer to "Separation from Eaton Corporation" and "Basis of Presentation" below for discussion of comparability of operating results.

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

The following discussion should be read in conjunction with the consolidated financial statements and notes thereto included elsewhere in this Annual Report on Form 10-K. The following discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from the results contemplated by these forward-looking statements due to certain factors, including those discussed in this Management's Discussion and Analysis under the heading "Outlook," and in Exhibit 99 to this Form 10-K (which is incorporated herein by reference) and elsewhere in this Annual Report on Form 10-K.

### Overview

We are a leading producer of ion implantation, dry strip and photostabilization equipment used in the fabrication of semiconductors. We also manufacture rapid thermal processing equipment, which is used in semiconductor manufacturing primarily before and after the ion implantation process. In addition, we provide extensive aftermarket service and support, including spare parts, equipment upgrades, maintenance services and customer training. We have a 50-50 joint venture with Sumitomo Heavy Industries, Ltd. in Japan.

### Separation from Eaton Corporation

Prior to the initial public offering on July 10, 2000, we were a wholly owned subsidiary of Eaton Corporation (Eaton). On June 30, 2000, Eaton substantially completed the transfer to us of all of the assets of its semiconductor equipment operations that were not previously owned by us, and we assumed the related liabilities. On December 29, 2000, Eaton completed the divestiture of its investment in Axcelis by distributing its remaining 82% ownership interest in Axcelis in the form of a spin-off to Eaton shareholders. We also entered into various other agreements with Eaton which provided for transitional services and support, including those associated with voice and data transmissions and other data-related operations, accounts receivable, accounts payable, fixed assets, payroll, general accounting, financial accounting consolidation, cash management, human resources, tax, legal and real estate. Under these agreements, we reimbursed Eaton for its direct and indirect costs of providing these services until completion of the divestiture, and thereafter, for a limited time, we reimbursed Eaton for its costs plus an additional fee. The transition periods covered by these agreements generally expired on December 29, 2001. The agreements did not necessarily reflect the costs of obtaining these services from unrelated third parties or of providing the applicable services in-house. However, management believed that purchasing these services from Eaton provided an efficient means of obtaining these services during the transition period.

### Basis of Presentation

On June 30, 2000, Eaton substantially completed the transfer of all the assets and related liabilities of its semiconductor equipment operations to us. Prior to the transfer, the financial statements of the semiconductor equipment operations were presented on a combined basis. Prior to the initial public offering, Eaton did not account for or operate Axcelis as a separate, stand-alone entity and, as a result, the financial information included herein may not reflect what our consolidated financial position, operating results and cash flows would have been during the periods presented prior to the initial public offering, if we had been a separate, stand-alone entity.

### Critical Accounting Policies

Management's discussion and analysis of our financial condition and results of operations are based upon Axcelis' 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 management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, the Company evaluates its estimates, including those related to revenue recognition, income taxes, accounts receivable, inventory and warranty and installation obligations. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The Company believes the following accounting policies are critical in that they both are most important for portrayal of our financial condition and results of operations and require management's most significant judgments and estimates in the preparation of our consolidated financial statements.

#### *Revenue Recognition*

The Company's revenue recognition policy involves significant judgment by management. The Company's revenue recognition policy is described in detail in Note 2 to the consolidated financial statements. As Note 2 describes in detail, the Company considers a broad array of facts and circumstances in determining when to recognize revenue, including the complexity of the customer's post delivery acceptance provisions and the installation process. In the future, if the post delivery acceptance provisions and installation process become more complex or result in a materially lower rate of acceptance than we now experience, the Company may have to revise its revenue recognition policy, which could affect the timing of revenue recognition.

#### *Deferred Tax Assets*

As of December 31, 2002, we have approximately \$73.7 million of deferred tax assets related principally to domestic loss carryforwards and tax credit carryforwards that expire at various times through 2022, for which a \$0.9 million valuation allowance has been recorded. The realization of these assets is based upon estimates of future taxable income. Projections of future earnings are based on revenue assumptions consistent with industry forecasts for the next three years along with the necessary operating expenses to support our revenue assumptions. Based on these projections, we estimate that the loss carryforwards will be fully utilized within three years. We update these projections quarterly based on current industry trends and company-specific events. Should trends within our industry or specific to the Company cause our projections not to materialize and future taxable losses continue, a valuation allowance of up to \$73.7 million may be required. Such a valuation allowance, if required, would result in a non-cash charge to earnings.

#### *Goodwill and Other Intangible Assets*

We account for our acquisitions under the purchase method of accounting pursuant to Statement of Financial Accounting Standard (SFAS) No. 141, "Business Combinations". Goodwill represents the excess of cost over net assets, including all identifiable intangible assets of acquired businesses that are consolidated. Pursuant to SFAS No. 142, "Goodwill and Other Intangible Assets," goodwill is not amortized. Other intangible assets that are separable from goodwill and have

determinable useful lives are valued separately and amortized over their useful lives. Such other identifiable intangible assets consist mainly of developed technology and are generally amortized over approximately ten years. We have determined that all of our intangible assets have finite lives.

During 2002, in accordance with SFAS No. 142, we ceased to amortize goodwill arising primarily from our 1997 acquisition of our curing and cleaning business. In lieu of amortization, we perform an impairment review of our goodwill. Impairment tests are performed annually, or more frequently if there are other indicators of impairment. The annual impairment test consists of determining the fair market value of the business unit through a discounted cash flow analysis. Management's best judgments are employed in determining future market conditions that impact this discounted cash flow analysis. As a result of our annual review, we determined that there was no impairment of our goodwill as of December 31, 2002. In the future, we will conduct an annual impairment review. If we determine through the impairment review process that goodwill has been impaired, we would record the impairment charge in our statement of operations as a non-cash charge to earnings. Net goodwill amounted to \$40.7 million as of December 31, 2002.

We assess the impairment of identifiable intangibles whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important that could trigger an impairment review include the following:

- a significant underperformance relative to expected historical or projected future operating results;
- a significant change in the manner of our use of the acquired asset or the strategy for our overall business;
- a significant negative industry or economic trend; and
- our market capitalization relative to net book value.

As part of this assessment, we would review the expected future undiscounted cash flows to be generated by the assets. When we determine that the carrying value of intangibles may not be recoverable, we measure any impairment based on a projected discounted cash flow method using a discount rate determined by our management to be commensurate with the risk inherent in our current business model. Net intangible assets amounted to \$13.1 million as of December 31, 2002.

#### *Accounts Receivable*

Axcelis records an allowance for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. If the financial condition of Axcelis' customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances may be necessary.

#### *Inventory*

Axcelis records an allowance for estimated excess and obsolete inventory. The allowance is based upon management's assumptions of future materials 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 write-downs may be required.

#### *Product Warranty and Installation Costs*

Axcelis provides for the estimated cost of product warranties and installations at the time of shipment. The Company's warranty and installation obligation is affected by product failure rates, material usage and service labor costs incurred in correcting a product failure or installing a system at a customer's site. If actual product failure rates, material usage or service labor costs differ from management's estimates, revisions to the estimated warranty and installation liability may be required.

## **Results of Operations**

The following table sets forth our results of operations as a percentage of net sales for the periods indicated:

	Years Ended December 31,		
	2002	2001	2000
Net sales	100.0 %	100.0 %	100.0 %
Gross profit	33.6	35.9	44.0
Other costs and expenses:			
Research and development	23.3	21.0	10.1
Selling	14.2	13.5	8.3
General & administrative	14.4	15.9	8.9
Amortization of goodwill and intangible assets	0.5	2.5	1.4
Income (loss) from operations	(18.8)	(17.0)	15.4
Other income (expense):			
Royalty income	2.7	1.8	2.2
Equity income of SEN	1.6	3.3	2.9
Interest income	1.2	1.5	0.8
Interest expense	(1.9)	—	—
Other—net	(0.8)	(0.6)	(0.1)
Income (loss) before income taxes	(16.1)	(11.1)	21.2
Income taxes (credit)	(7.6)	(5.5)	6.6
Net income (loss)	(8.4)%	(5.5)%	14.6 %

**Fiscal year ended December 31, 2002 in comparison to the fiscal year ended December 31, 2001**

## **Net Sales**

Net sales were \$309.7 million in fiscal 2002, a decrease of \$55.6 million, or 15.2%, as compared to net sales of \$365.3 million in fiscal 2001. The decrease in net sales was attributable to lower levels of capital investment by our semiconductor manufacturing customers resulting in reduced sales of our products and services.

Sales of ion implant products and services accounted for \$233.2 million in total sales in fiscal 2002 a decrease of \$59.1 million, or 20.2%, as compared to \$292.3 million in fiscal 2001. Sales of other products and services, including dry strip products, photostabilization products and rapid thermal processing systems, accounted for \$76.5 million in total sales in fiscal 2002 an increase of \$3.5 million, or 4.8%, as compared to \$73.0 million in fiscal 2001.

## **Gross Profit**

Gross profit was \$104.0 million in fiscal 2002, a decrease of \$27.0 million, or 20.6%, as compared to gross profit of \$131.0 million in fiscal 2001. The decrease in gross profit was due mainly to lower sales volume.

Gross profit as a percentage of net sales decreased to 33.6% in fiscal 2002 from 35.9% in fiscal 2001. This decrease was due principally to lower manufacturing capacity utilization caused by lower sales volume and an increasing mix of 300mm sales which currently carry lower average gross margins. 300mm sales comprised 41.0% of systems sales in fiscal 2002 compared to only 19% of total system sales in fiscal 2001.

## **Research and Development**

Research and development expense was \$72.1 million in fiscal 2002, a decrease of \$4.4 million, or 5.8%, as compared to \$76.5 million in fiscal 2001. The decrease in research and development expense between years is due principally to a lower investment in our 300mm product development efforts consistent with the completion of the launch of our 300mm products during the year.

As a percentage of net sales, research and development expense increased to 23.3% in fiscal 2002 from 21.0% in fiscal 2001 as decreased costs between years were more than offset by lower revenues.

## **Selling**

Selling expense was \$44.0 million in fiscal 2002, a decrease of \$5.4 million, or 10.9%, as compared to \$49.4 million in fiscal 2001. The decrease in selling expense was primarily due to lower sales commissions and lower marketing expenses associated with lower overall sales volume and lower headcount and related expenses, net of severance costs.

As a percentage of net sales, selling expense increased to 14.2% in fiscal 2002 as compared to 13.5% in fiscal 2001 as decreased costs between years were more than offset by lower revenues.

## **General and Administrative**

General and administrative expense was \$44.7 million in fiscal 2002, a decrease of \$13.3 million, or 22.9%, as compared with \$58.0 million in fiscal 2001. The decrease in general and administrative expense was primarily attributable to a decrease in expenses incurred in connection with the Company's patent litigation with Applied Materials, Inc. of \$7.2 million (See Part I, Item 3. "Legal Proceedings"), a decrease in headcount related expenses net of severance costs of \$2.0 million and a decrease in expenses associated with transitioning to a stand-alone company of \$3.4 million.

As a percentage of net sales, general and administrative expense decreased to 14.4% in fiscal 2002 as compared with 15.9% in fiscal 2001 as decreased costs between years were more than offset lower revenues.

## **Amortization of Goodwill and Intangible Assets**

Amortization of goodwill and intangible assets was \$1.5 million in fiscal 2002, a decrease of \$7.8 million, or 83.8%, as compared with \$9.3 million in fiscal 2001. The decrease was due to the Company's adoption of Statement of Financial Accounting Standard (SFAS) No. 142, "Goodwill and Other Intangible Assets" as described under Notes 2 and 6 to the Consolidated Financial Statements contained in Item 8 of this Form 10-K.

## **Income (Loss) from Operations**

Loss from operations was \$58.3 million in fiscal 2002 as compared to loss from operations of \$62.2 million in fiscal 2001, primarily as a result of the factors described above.

## **Other Income (Expense)**

Total other income was \$8.6 million in fiscal 2002 as compared to \$21.8 million in fiscal 2001. Other income consists primarily of royalty income and equity income from SEN. Royalty income, primarily from SEN, was \$8.2 million in fiscal 2002 as compared to \$6.5 million in fiscal 2001. Equity income attributable to SEN was \$4.8 million in fiscal 2002 compared to \$12.2 million in fiscal 2001. The equity income decline was attributable to lower SEN sales volume due primarily to the continuing weakness in the Japanese semiconductor market. Despite the decline in SEN revenues between years, royalty income increased between years due to a more favorable mix of SEN products shipped in fiscal 2002 compared to 2001. Interest expense of \$5.8 million in fiscal 2002 relates to the Company's long-term debt issued in January 2002. See Note 8. to the Consolidated Financial Statements contained in Item 8 of this Form 10-K.

## **Income Taxes (Credit)**

The company had an income tax credit of \$23.6 million in fiscal 2002 as compared to \$20.2 million in fiscal 2001. Our effective income tax rate was (47.4)% in fiscal 2002 as compared to (50.1)% in fiscal 2001. The tax rate in both periods differs from the U.S. federal statutory rate primarily due to undistributed nontaxable equity income from SEN and credits from increased research activities. See Note 14 to the Consolidated Financial Statements contained in Item 8 of this Form 10-K.

## **Net Income (Loss)**

The company incurred a net loss of \$26.2 million in fiscal 2002 as compared to a net loss of \$20.2 million in fiscal 2001, principally as a result of the factors discussed above.

## **Net Sales**

Net sales were \$365.3 million in fiscal 2001, a decrease of \$315.1 million, or 46.3%, as compared to net sales of \$680.4 million in fiscal 2000. The decrease in net sales was attributable to lower levels of capital spending by our semiconductor manufacturing customers resulting in reduced sales of our products and services.

Sales of ion implant products and services accounted for \$292.3 million in total sales in fiscal 2001, a decrease of \$242.1 million, or 45.3%, as compared to \$534.4 million in fiscal 2000. Sales of other products and services, including dry strip products, photostabilization products and rapid thermal processing systems, accounted for \$73.0 million in total sales in fiscal 2001, a decrease of \$73.0 million, or 50.0%, as compared to \$146.0 million in fiscal 2000.

## **Gross Profit**

Gross profit was \$131.0 million in fiscal 2001, a decrease of \$168.2 million, or 56.2%, as compared to gross profit of \$299.3 million in fiscal 2000. The decrease in gross profit was due mainly to lower sales volume.

Gross profit as a percentage of net sales decreased to 35.9% in fiscal 2001 from 44.0% in fiscal 2000. This decrease was due principally to lower manufacturing capacity utilization caused by lower sales volume and an increasing mix of 300 mm sales which currently carry lower average gross margins.

## **Research and development**

Research and development expense was \$76.5 million in fiscal 2001, an increase of \$7.8 million, or 11.3%, as compared to \$68.8 million in fiscal 2000. The increase in research and development expense between years is due principally to continued investments in our next generation 300 mm tools. We continue to invest significantly in both current product enhancements and new product development. As a percentage of net sales, research and development expense increased to 21.0% in fiscal 2001 from 10.1% in fiscal 2000 as increased costs between years was spread over a lower revenue base.

## **Selling**

Selling expense was \$49.4 million in fiscal 2001, a decrease of \$7.0 million, or 12.4%, as compared to \$56.4 million in fiscal 2000. The decrease in selling expense was primarily due to lower sales commissions and lower marketing and advertising expenses associated with lower overall sales volume.

As a percentage of net sales, selling expense increased to 13.5% in fiscal 2001 as compared to 8.3% in fiscal 2000 as these costs were spread over a lower revenue base.

## **General and Administrative**

General and administrative expense was \$58.0 million in fiscal 2001, a decrease of \$2.2 million, or 3.6%, as compared with \$60.2 million in fiscal 2000. The decrease in general and administrative expense was primarily attributable to a decrease in headcount and related expenses due to lower sales volume of \$8.1 million and a decrease in expenses related to the transition to a stand-alone public company of \$2.1 million offset by an increase in expenses related to our patent litigation with Applied Materials, Inc. of \$8.0 million. (see Part I, Item 3. "Legal Proceedings".)

As a percentage of net sales, general and administrative expense increased to 15.9% in fiscal 2001 as compared with 8.9% in fiscal 2000 as these costs were spread over a lower revenue base.

## **Amortization of Goodwill and Intangible Assets**

Amortization of goodwill and intangible assets was \$9.3 million in fiscal 2001, consistent with fiscal 2000.

## **Income (Loss) from Operations**

Loss from operations was \$62.2 million in fiscal 2001 as compared to income of \$104.6 million in fiscal 2000, primarily as a result of the factors described above.

## **Other Income (Expense)**

Total other income was \$21.8 million in fiscal 2001 as compared to \$39.6 million in fiscal 2000. Other income consists primarily of royalty income and equity income from SEN. Royalty income, primarily from SEN, was \$6.5 million in fiscal 2001 as compared to \$15.1 million in fiscal 2000. Equity income attributable to SEN was \$12.2 million in fiscal 2001 compared to \$19.6 million in fiscal 2000. Both decreases in fiscal 2001 were due to lower SEN sales volume due primarily to the downturn in the Japanese semiconductor market which began in the second half of 2001.

## **Income Taxes**

The company had an income tax credit of \$20.2 million in fiscal 2001 as compared to income tax expense of \$45.2 million in fiscal 2000. Our effective income tax rate was 50.1% in fiscal 2001 as compared to 31.3% in fiscal 2000. The tax rate in both periods differs from the U.S. federal statutory rate primarily due to undistributed nontaxable equity income from SEN and credits from increased research activities. See Note 14 to the Consolidated Financial Statements contained in Item 8 of this Form 10-K.

## **Net Income (Loss)**

The company incurred a net loss of \$20.2 million in fiscal 2001 as compared to net income of \$99.1 million in fiscal 2000, principally as a result of the factors discussed above.

## **Liquidity and Capital Resources**

Cash, cash equivalents and short-term investments at December 31, 2002 were \$185.7 million, compared to \$124.2 million at December 31, 2001. The increase in cash, cash equivalents and short-term investments between years was due mainly to the net proceeds of \$121.6 million received from the Company's convertible subordinated note offering in January 2002 offset by cash used in operations of \$56.0 million and purchases of plant and equipment of \$11.8 million. Net working capital was \$292.4 million at December 31, 2002 as compared to net working capital of \$226.4 million at December 31, 2001. The increase in net working capital was due mainly to the increase in cash, cash equivalents and short-term investments at December 31, 2002 compared to December 31, 2001.

Cash used by operating activities was \$56.0 million for fiscal 2002 as compared to \$16.6 million for fiscal 2001. The cash used by operating activities for fiscal 2002 was primarily due to the Company's pre-tax loss.

Capital expenditures were \$11.8 million in fiscal 2002 and \$29.6 million in fiscal 2001. The decrease in capital expenditures was principally due to the completion of the Company's addition to its Beverly, Massachusetts facility during the first fiscal quarter of 2002. The amount of future capital requirements will depend on a number of factors, including the timing and rate of the expansion of our business.

Net cash provided by financing activities amounted to \$127.4 million in fiscal 2002 due mainly to the Company's completion of an offering in January 2002 of \$125.0 million of 4.25% Convertible Subordinated Notes ("the Notes"), which mature on January 15, 2007. Interest on the Notes is payable on January 15 and July 15 of each year, commencing July 15, 2002. The Notes are convertible into shares of Axcelis common stock at any time prior to the close of business on the maturity date, unless previously redeemed, at a conversion price of \$20.00 per share, subject to certain adjustments. The Notes are redeemable, in whole or in part, at the option of the Company beginning on January 19, 2005 with at least 30 days notice at redemption prices starting at 101.7% and at diminishing prices thereafter, plus accrued interest. The Notes are unsecured and subordinated in right of payment in full to all existing and future senior indebtedness, as defined, of the Company. In the fourth quarter of 2001, the Company established a \$45 million secured, three-year Revolving Credit Facility comprised of a \$13 million, 364 day tranche and a \$32 million, three year tranche. The \$13 million, 364 day tranche was renewed in the fourth quarter of 2002. In January 2003, the overall facility was increased to \$50 million and is comprised of a \$15 million, 364 day tranche and a \$35 million, three year tranche. The purpose of this facility is to provide funds for working capital and general corporate purposes. Borrowings under this credit arrangement are limited to the lesser of \$50 million or the sum of a percentage of certain eligible domestic accounts receivable and inventory and bear interest at LIBOR plus an applicable spread. There are no borrowings currently outstanding under this facility.

The facility contains certain financial and other restrictive covenants including minimum profitability, liquidity and leverage ratios as well as maximum capital expenditure levels. The Company is in compliance with all covenants.

The following represents the contractual obligations and commercial commitments of the Company as of December 31, 2002 (in thousands):

Contractual Obligations	Total	Payments Due by Period			
		2003	2004-2005	2006-2007	Thereafter
Long-Term Debt	\$125,000	\$ —	\$ —	\$125,000	\$—
Purchase Order Commitments	28,712	28,498	214	—	—
Operating leases	16,471	6,110	7,070	3,291	—
<b>Total Contractual Cash Obligations</b>	<b>\$170,173</b>	<b>\$34,608</b>	<b>\$ 7,284</b>	<b>\$128,291</b>	<b>\$—</b>
		Amount of Commitment Expiration Per Period			
Other Commercial Commitments	Total	2003	2004-2005	2006-2007	Thereafter
Unused Line of Credit	\$ 45,000	\$13,000	\$32,000	\$ —	\$—
Standby Letters of Credit	1,602	1,057	545	—	—
Guarantees	4,064	17	27	3,987	33
<b>Total Commercial Commitments</b>	<b>\$ 50,666</b>	<b>\$14,074</b>	<b>\$32,572</b>	<b>\$ 3,987</b>	<b>\$33</b>

Axcelis' liquidity is affected by many factors. Some of these factors are based on normal operations of the business and others relate to the uncertainties of global economies and the semiconductor equipment industry. Although our cash requirements fluctuate based on the timing and extent of these factors, we believe that our existing cash and cash equivalents and our borrowing capacity will be sufficient to satisfy our anticipated cash requirements for the foreseeable future.

## Recent Accounting Pronouncements

In June 2002, the Financial Accounting Standards Board (FASB) issued SFAS No. 146 "Accounting for Costs Associated with Exit or Disposal Activities". SFAS No. 146 addresses the financial accounting and reporting for costs associated with exit or disposal activities and effectively nullifies EITF Issue No. 94-3, "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity, (including Certain Costs Incurred in a Restructuring)." (EITF 94-3). SFAS No. 146 requires that a liability be recognized for a cost associated with an exit or disposal activity when the liability is incurred. Under EITF 94-3, a liability for an exit cost was recognized at the date of an entity's commitment to an exit plan. SFAS No. 146 also requires that a liability recorded in connection with an exit or disposal activity shall be measured initially at fair value. SFAS No. 146 is effective for exit or disposal activities that are initiated after December 31, 2002. The Company will adopt SFAS No. 146 in the first quarter of fiscal year 2003.

In November 2002, the FASB issued Interpretation No. 45, "Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Interest Guarantees of Indebtedness of Others" (the Interpretation). The Interpretation requires certain guarantees to be recognized as a liability on the consolidated balance sheet. The liability shall be measured initially at the fair value of the obligation which the guarantee supports. The Interpretation's initial recognition and initial measurement provisions are applicable on a prospective basis to guarantees issued or modified after December 31, 2002. The Interpretation's disclosure requirements are effective for financial statements of interim or annual periods ending after December 15, 2002. The Company has included the new disclosure requirements in the Notes to the Consolidated Financial Statements (see Note 7. Product Warranties).

In December 2002, the FASB issued SFAS No. 148 "Accounting for Stock-Based Compensation - Transition and Disclosure,". SFAS No. 148 amends SFAS No. 123, "Accounting for Stock-Based Compensation," to provide alternative methods of transition to SFAS No. 123's fair value method of accounting for stock-based employee compensation. SFAS No. 148 also amends the disclosure provisions of SFAS No. 123 and APB Opinion No. 28, "Interim Financial Reporting," to require disclosure in the summary of significant accounting policies of the effects of an entity's accounting policy with respect to stock-based employee compensation on reported net income and earnings per share in annual and interim financial statements. The disclosure provisions of SFAS No. 148 are applicable to all companies with stock-based employee compensation, regardless of whether they account for that compensation using the fair value method of SFAS No. 123 or the intrinsic value method of APB Opinion No. 25, "Accounting for Stock Issued to Employees." SFAS No. 148's amendment of the transition and annual disclosure requirements of SFAS No. 123 are effective for fiscal years ending after December 15, 2002. SFAS No. 148's amendment of the disclosure requirements of APB No. 28 is effective for financial reports containing condensed consolidated financial statements for interim periods beginning after

December 15, 2002. The Company currently uses the intrinsic value method of accounting for stock-based employee compensation and has included the new disclosure requirements in the Notes to the Consolidated Financial Statements (see Note 10. Stock Option Plans).

## **Outlook**

The Company's performance in fiscal year 2002 was directly related to the continuing low levels of capital expenditures by semiconductor manufacturers, especially manufacturers opening new or expanding existing fabrication facilities. The level of capital expenditures by these manufacturers depends upon the current and anticipated market demand for semiconductors and the products utilizing them, the available manufacturing capacity in manufacturers' fabrication facilities, and the ability of manufacturers to increase productivity in existing facilities without incurring additional capital expenditures. Currently, management believes that its customers see limited growth in important end markets such as telecommunications and personal computers. As a result, management took actions to reduce manufacturing costs, research and development expense and SG&A expense during 2002.

On January 23, 2003, the Company announced its expectation that its revenues for the first quarter of fiscal 2003 will be in the range of \$75 to \$85 million, an increase over the \$65 million in revenues that the Company reported in the fourth quarter of 2002. On these forecast revenues, management stated on January 23, 2003 that gross margins would be approximately 30% and the net loss for the first quarter of fiscal 2003 was expected to be \$0.06 to \$0.08 per share. Management is continuing to manage the Company's cost structure on a quarterly basis with the objective of improving profitability, while at the same time making sure that the Company has the right resources for an upturn in demand for its systems.

It is difficult for us to predict our customers' capital spending plans, which can change very quickly. In addition, at our current sales level, each sale, or failure to make a sale, could have a material effect on us in a particular quarter.

## **Risk Factors**

As defined under Safe Harbor provisions of The Private Securities Litigation Reform Act of 1995, some of the matters discussed in this filing contain forward-looking statements regarding future events that are subject to risks and uncertainties. The following important factors, among others, could cause actual results to differ materially from those described by such statements. These factors include, but are not limited to: the cyclical nature of the semiconductor industry, our ability to keep pace with rapid technological changes in semiconductor manufacturing processes, the highly competitive nature of the semiconductor equipment industry, quarterly fluctuations in operating results attributable to the timing and amount of orders for our products and services, dependence on SEN (our Japanese joint venture) for access to the Japanese semiconductor equipment market, and those risk factors contained in the section titled "Outlook" and Exhibit 99.1 of this Form 10-K. If any of those risk factors actually occurs, our business, financial condition and results of operations could be seriously harmed and the trading price of our common stock could decline.

## **Item 7a: Quantitative and Qualitative Disclosures about Market Risk**

### **Interest Rate Sensitivity**

Axcelis' exposure to market risk for changes in interest rates relates primarily to our investment portfolio, which consists entirely of cash-equivalents and short-term investments as of December 31, 2002. The primary objective of our investment activities is to preserve principal while maximizing yields without significantly increasing risk. This is accomplished by investing in marketable high investment grade securities, and by limiting exposure to any one issue or issuer. We do not use derivative financial instruments in managing our investment portfolio and, due to the nature of our investments, we do not expect our operating results or cash flows to be affected to any significant degree by any change in market interest rates. As of December 31, 2002, all investments mature within 90 days and are carried at cost, which approximates fair value.

### **Foreign Currency Exchange Risk**

Prior to our separation from Eaton, our exposure to foreign currency exchange rate risk was managed on an enterprise-wide basis as part of Eaton's risk management strategy. We now manage our exchange rate risk on an independent basis. Currently, substantially all of our sales are billed in U.S. dollars, thereby reducing the impact of fluctuations in foreign exchange rates on our results. Our investment in SEN and our royalty and equity income from SEN are subject to foreign currency exchange risks. The effect of a 10% depreciation of the Japanese yen compared to the U.S. dollar would result in a write-down in the Company's investment in SEN and a corresponding increase in accumulated other comprehensive loss (included in stockholders' equity) of \$5.8 million at December 31, 2002.

## **Item 8: Financial Statements and Supplementary Data**

Response to this Item is submitted as a separate section of this report immediately following Item 15.

## **Item 9: Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

None

## **PART III**

## **Item 10: Directors and Executive Officers of the Registrant**

The information required by Item 10 of Form 10-K is incorporated by reference from the information contained in the sections captioned "Election of Directors" and "Section 16(a) Beneficial Ownership Reporting Compliance" in Axcelis' Proxy Statement for the Annual Meeting of Stockholders to be held June 26, 2003 (the "Proxy Statement"), a copy of which will be filed with the Securities and Exchange Commission on or prior to April 30, 2003, and the remainder of such information is set forth under the heading "Executive Officers and Key Management" at the end of Part I of this report.

Philip S. Paul, a member of the Company's Board of Directors, submitted his resignation effective January 13, 2003. William C. Jennings was elected as a member of the Board of Directors effective February 13, 2003.

## Item 11: Executive Compensation

The information required by Item 11 of Form 10-K is incorporated by reference from the information contained in the section captioned "Executive Compensation" in the Proxy Statement.

## Item 12: Security Ownership of Certain Beneficial Owners and Management

The information required by Item 12 of Form 10-K is incorporated by reference from the information contained in the sections captioned "Share Ownership of 5% Stockholders" and "Share Ownership of Directors and Executive Officers" and "Equity Plan Reserves Disclosure" in the Proxy Statement.

## Item 13: Certain Relationships and Related Transactions

The information required by Item 13 of Form 10-K is incorporated by reference from the information contained in the sections captioned "Executive Agreements" and "Compensation Committee Interlocks and Insider Participation" in the Proxy Statement.

## PART IV

## Item 14. Controls and Procedures

(a) Evaluation of disclosure controls and procedures. Our chief executive officer and our chief financial officer, after evaluating the effectiveness of our "disclosure controls and procedures" (as defined in the Securities Exchange Act of 1934 Rules 13a-14(c) and 15d-14(c)) as of a date (the "Evaluation Date") within 90 days before the filing date of this annual report, have concluded that, as of the Evaluation Date, our disclosure controls and procedures were adequate and designed to ensure that the information required to be disclosed in the reports filed or submitted by us under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the requisite time periods.

(b) Changes in internal controls. There were no significant changes in our internal controls or in other factors that could significantly affect our internal controls subsequent to the Evaluation Date.

(c) Effectiveness of Control Systems. It should be noted that any system of controls, however well designed and operated, can provide only reasonable, and not absolute, assurance that the objectives of the system are met. In addition, the design of any control system is based in part upon certain assumptions about the likelihood of future events. Because of these and other inherent limitations of control systems, there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions, regardless of how remote.

## Item 15. Exhibits, Financial Statement Schedules and Reports on Form 8-K

(a) The following documents are filed as part of this Report:

(1) Financial Statements:

[Report of Ernst & Young LLP - Independent Auditors](#)

[Consolidated Statements of Operations-For the fiscal years ended December 31, 2002, 2001 and 2000](#)

[Consolidated Balance Sheets-December 31, 2002 and 2001](#)

[Consolidated Statements of Stockholders' Equity-For the fiscal years ended December 31, 2002, 2001 and 2000](#)

[Consolidated Statements of Cash Flows-For the fiscal years ended December 31, 2002, 2001 and 2000](#)

[Notes to Consolidated Financial Statements](#)

(2) Financial Statement Schedules:

[Schedule II - Valuation and Qualifying Accounts for the fiscal years ended December 31, 2002, 2001 and 2000](#)

All other schedules for which provision is made in the applicable regulation of the Securities and Exchange Commission are not required under the related instructions or are inapplicable, and therefore have been omitted.

(b) Reports on Form 8-K

A Current Report on Form 8-K dated December 11, 2002, was filed with the Securities and Exchange Commission on December 12, 2002, and amended by a Form 8-K/A filed on December 13, 2002. These filings relate to our pending patent infringement litigation. No other reports on Form 8-K were filed by the Company during the quarter ended December 31, 2002.

(c) Exhibits

The exhibits filed as part of this Form 10-K are listed on the Exhibit Index immediately preceding such Exhibits, which Exhibit Index is incorporated herein by reference.

(d) Financial Statement Schedules

The response to this portion of Item 15 is submitted as a separate section of this report.

## Report of Ernst & Young LLP, Independent Auditors

Board of Directors and Stockholders

Axcelis Technologies, Inc.

We have audited the accompanying consolidated balance sheets of Axcelis Technologies, Inc. (the "Company") as of December 31, 2002 and 2001, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2002. Our audits also included the financial statement schedule listed in the Index at Item 15a. These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Axcelis Technologies, Inc. at December 31, 2002 and 2001, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2001, in conformity with accounting principles generally accepted in the United States. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

As discussed in Notes 2 and 6 to the consolidated financial statements, effective January 1, 2002, the Company adopted Statement of Financial Accounting Standards No. 142 "Accounting for Goodwill and other Intangible Assets."

/s/ ERNST & YOUNG LLP

Boston, Massachusetts  
January 23, 2003

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### Axcelis Technologies, Inc. Consolidated Statements of Operations (In thousands, except per share amounts)

	Years Ended December 31,		
	2002	2001	2000
Net sales	\$309,705	\$365,264	\$680,401
Cost of products sold	205,740	234,239	381,092
Gross profit	103,965	131,025	299,309

Operating expenses:			
Research and development	72,069	76,538	68,768
Selling	44,038	49,439	56,427
General and administrative	44,716	58,014	60,198
Amortization of goodwill & intangible assets	1,460	9,279	9,279
	<hr/>	<hr/>	<hr/>
Income (loss) from operations	(58,318)	(62,245)	104,637
Other income (expense):			
Royalty income	8,194	6,463	15,054
Equity income of Sumitomo Eaton Nova Corporation	4,806	12,205	19,570
Interest income	3,691	5,400	5,801
Interest expense	(5,803)	—	—
Other income (expense)—net	(2,313)	(2,224)	(790)
	<hr/>	<hr/>	<hr/>
Income (loss) before income taxes	(49,743)	(40,401)	144,272
Income taxes (credit)	(23,593)	(20,238)	45,157
	<hr/>	<hr/>	<hr/>
Net income (loss)	\$ (26,150)	\$ (20,163)	\$ 99,115
	<hr/>	<hr/>	<hr/>
Basic net income (loss) per share	\$ (0.27)	\$ (0.21)	\$ 1.13
Diluted net income (loss) per share	\$ (0.27)	\$ (0.21)	\$ 1.13
Shares used in computing:			
Basic net income (loss) per share	97,920	97,215	88,063
Diluted net income (loss) per share	97,920	97,215	88,064

See accompanying Notes to Consolidated Financial Statements

**Axcelis Technologies, Inc.**  
**Consolidated Balance Sheets**  
(In thousands, except per share amounts)

	December 31,	
	2002	2001
	<hr/>	<hr/>
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$150,651	\$124,177
Short-term investments	34,992	—
Accounts receivable	60,311	63,057
Inventories	115,290	105,339
Deferred income taxes & other current assets	18,329	18,622
	<hr/>	<hr/>
Total current assets	379,573	311,195
Property, plant & equipment, net	93,597	92,618
Investment in Sumitomo Eaton Nova Corporation	57,868	48,183
Goodwill	40,682	39,282
Intangible assets	13,141	14,601
Deferred income taxes	57,136	17,172
Other assets	27,454	28,345
	<hr/>	<hr/>
	\$669,451	\$551,396
	<hr/>	<hr/>

**LIABILITIES AND STOCKHOLDERS' EQUITY**

Current liabilities:		
Accounts payable	\$ 32,594	\$ 32,602
Accrued compensation	6,745	6,966
Warranty reserve	16,625	24,218
Income taxes payable	12,823	—
Other current liabilities	18,400	20,997
	<hr/>	<hr/>
Total current liabilities	87,187	84,783
Long-term debt	125,000	—
Other long-term liabilities	4,756	3,752
Stockholders' equity:		
Preferred stock, \$0.001 par value, 30,000 shares authorized; none outstanding		
Common stock, \$0.001 par value, 300,000 shares authorized; 98,359 shares issues and 98,239 shares outstanding at December 31, 2002; 97,495 shares issues and 97,375 shares outstanding at December 31, 2001	98	97
Additional paid-in capital	447,533	440,638
Deferred compensation	(782)	—
Treasury stock - at cost	(1,218)	(1,218)
Retained earnings	12,369	38,519
Accumulated other comprehensive loss	(5,492)	(15,175)
	<hr/>	<hr/>
Total stockholders' equity	452,508	462,861
	<hr/>	<hr/>
	\$669,451	\$551,396
	<hr/>	<hr/>

See accompanying Notes to Consolidated Financial Statements.

**Axcelis Technologies, Inc.**  
**Consolidated Statements of Stockholders' Equity**  
(In thousands, except per share amounts)

	Common Stock		Additional Paid-in Capital	Deferred Compensation	Treasury Stock	Parent Company Investment	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total
	Shares	Amount							
Balance at December 31, 1999	80,000	\$ 80	—	—	—	\$ 347,745	—	\$ (5,529)	\$ 342,296
Comprehensive income:									
Net income	—	—	—	—	—	40,433	\$ 58,682	—	99,115
Foreign currency translation adjustments	—	—	—	—	—	—	—	647	647
									<hr/>
Total comprehensive income	—	—	—	—	—	—	—	—	99,762
Initial public offering	17,050	17	\$348,568	—	—	—	—	—	348,585
Dividend paid to Eaton Corporation (\$3.75 per share)	—	—	—	—	—	(300,000)	—	—	(300,000)
Net transfers from Eaton Corporation	—	—	—	—	—	726	—	—	726
Reclassification of parent company investment to additional paid-in capital	—	—	88,904	—	—	(88,904)	—	—	—
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Balance at December 31, 2000	97,050	97	437,472	—	—	—	58,682	(4,882)	491,369
Comprehensive loss:									
Net loss	—	—	—	—	—	—	(20,163)	—	(20,163)
Foreign currency translation adjustments	—	—	—	—	—	—	—	(10,293)	(10,293)
									<hr/>
Total comprehensive loss	—	—	—	—	—	—	—	—	(30,456)
Exercise of stock options	133	—	2,296	—	—	—	—	—	2,296
Issuance of shares under Employee Stock Purchase Plan	312	—	870	—	—	—	—	—	870
Acquisition of treasury shares	—	—	—	—	\$(1,218)	—	—	—	(1,218)
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Balance at December 31, 2001	97,495	97	440,638	—	(1,218)	—	38,519	(15,175)	462,861
Comprehensive loss:									
Net loss	—	—	—	—	—	—	(26,150)	—	(26,150)
Foreign currency translation adjustments	—	—	—	—	—	—	—	9,683	9,683
									<hr/>
Total comprehensive loss	—	—	—	—	—	—	—	—	(16,467)
Exercise of stock options	23	—	152	—	—	—	—	—	152
Issuance of shares under	735	1	5,621	—	—	—	—	—	5,622

Employee Stock Purchase Plan									
Issuance of restricted common shares	106	—	1,122	\$(1,122)	—	—	—	—	—
Deferred stock-based compensation expense	—	—	—	340	—	—	—	—	340
Balance at December 31, 2002	98,359	\$ 98	\$447,533	\$ (782)	\$(1,218)	\$ —	\$ 12,369	\$ (5,492)	\$ 452,508

See accompanying Notes to Consolidated Financial Statements.

**Axcelis Technologies, Inc.**  
**Consolidated Statements of Cash Flows**  
(In thousands)

	Years Ended December 31,		
	2002	2001	2000
Operating activities:			
Net income (loss)	\$ (26,150)	\$ (20,163)	\$ 99,115
Adjustments to reconcile to net cash provided (used) by operating activities:			
Depreciation	10,298	11,936	8,535
Amortization of goodwill & intangible assets	1,460	9,279	9,279
Stock compensation expense	340	—	—
Deferred income taxes	(39,648)	(16,017)	(8,355)
Undistributed income of Sumitomo Eaton Nova Corporation	(4,806)	(12,205)	(19,570)
Changes in operating assets & liabilities, excluding acquisition of a business & non-cash restructuring charges:			
Accounts receivable	4,727	86,446	(50,097)
Inventories	(7,327)	15,822	(39,431)
Other current assets	(118)	(327)	—
Accounts payable and other current liabilities	(12,657)	(27,464)	44,824
Payable to Eaton Corporation	—	(25,818)	25,818
Income taxes payable	12,823	(31,153)	31,153
Other assets	3,484	(7,505)	(2,765)
Other—net	1,590	592	1,177
Net cash provided (used) by operating activities	(55,984)	(16,577)	99,683
Investing activities:			
Purchases of short-term investments, net	(34,992)	—	—
Expenditures for property, plant & equipment	(11,751)	(29,577)	(21,848)
Proceeds from sale of Austin, Texas facility	—	—	10,967
Other—net	(260)	677	(138)
Net cash used by investing activities	(47,003)	(28,900)	(11,019)
Financing activities:			
Proceeds from the exercise of stock options	152	2,296	—
Issuance of common stock under Employee Stock Purchase Plan	5,622	870	—
Acquisition of treasury shares	—	(1,218)	—
Net proceeds from sale of Axcelis common shares	—	—	348,585
Payment of previously declared dividend to Eaton Corporation	—	—	(300,000)
Net transfers from Parent Company	—	—	27,378
Proceeds from long-term debt, net	121,578	—	—
Net cash provided by financing activities	127,352	1,948	75,963
Effect of exchange rate changes on cash & cash equivalents	2,109	(451)	(302)
Net increase (decrease) in cash & cash equivalents	26,474	(43,980)	164,627
Cash & cash equivalents at beginning of period	124,177	168,157	3,530
Cash and cash equivalents at end of period	\$150,651	\$124,177	\$ 168,157

Cash payments for interest were \$2,656 for fiscal 2002.

See accompanying Notes to Consolidated Financial Statements

## **Axcelis Technologies, Inc.**

### **Notes to Consolidated Financial Statements**

#### **Note 1. Nature of Business and Basis of Presentation**

Axcelis Technologies, Inc. ("Axcelis" or the "Company"), is a leading producer of ion implantation, dry strip and photostabilization equipment used in the fabrication of semiconductors in the United States, Europe and Asia Pacific. The Company also produces rapid thermal processing equipment, which is used in semiconductor manufacturing primarily before and after the ion implantation process. In addition, the Company provides extensive aftermarket service and support, including spare parts, equipment upgrades, maintenance services and customer training. The Company has a 50-50 joint venture with Sumitomo Heavy Industries, Ltd. in Japan. This joint venture, which is known as Sumitomo Eaton Nova Corporation, or SEN, licenses technology from the company for ion implantation, has exclusive rights to the territory of Japan and is the leading producer of ion implantation equipment in Japan.

Prior to July 10, 2000, Axcelis was a wholly-owned subsidiary of Eaton Corporation ("Eaton"). On April 26, 2000, Eaton announced its plan to reorganize its semiconductor equipment operations into an independent, publicly-held company, Axcelis Technologies, Inc. On June 30, 2000, Eaton substantially completed the transfer of all the assets and related liabilities of its semiconductor equipment operations to the Company. Prior to the transfer, the financial statements of the semiconductor equipment operations were presented on a combined basis. On July 10, 2000, the Company commenced its initial public offering (IPO) of 15,500,000 shares of common stock. On July 20, 2000, the IPO was completed when the underwriters of the IPO exercised their over-allotment option to purchase an additional 1,550,000 shares. A portion of the net proceeds of the offering of \$348.6 million was used to pay a previously declared \$300 million dividend to Eaton. Subsequent to the IPO, Eaton owned approximately 82 percent of Axcelis' outstanding common stock. On October 25, 2000, Eaton announced that its board of directors had declared a stock dividend of all remaining shares of Axcelis held by Eaton. The dividend was distributed on December 29, 2000. The distribution was made on the basis of 1.179023 shares of Axcelis for each Eaton common share outstanding.

Axcelis' legal separation from Eaton occurred on June 30, 2000, at which time the Company began to operate independently from Eaton. Subsequent to June 30, 2000, the Company's financial statements are prepared on a consolidated basis. Although prior periods have been prepared on a combined basis, all statements presented are referred to as consolidated statements for simplicity. For periods prior to the separation date, the consolidated financial statements reflect historical results of operations and cash flows of Eaton's semiconductor equipment operations during each respective period, and include allocations of certain Eaton expenses, as discussed in Note 17 to the consolidated financial statements. Beginning in the third quarter of fiscal year 2000, Axcelis' consolidated financial statements no longer include an allocated portion of Eaton's corporate services and infrastructure costs. However, the Company continued to incur amounts payable to Eaton in connection with transitional agreements, under which Eaton provided services, such as voice and data transmissions and other data-related operations, accounts receivable, accounts payable, fixed assets, payroll, general accounting, financial accounting consolidation, cash management, human resources, tax, legal and real estate.

#### **Note 2. Significant Accounting Policies**

##### **Principles of Consolidation**

The consolidated financial statements include the accounts of Axcelis and its subsidiaries. All significant intercompany balances and transactions are eliminated in consolidation. The equity method of accounting is used to account for the 50% investment in SEN.

##### **Use of Estimates**

The preparation of consolidated financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

##### **Foreign Currency**

The functional currency for all operations outside the United States is the local currency. Financial statements for these operations are translated into United States dollars at year-end rates as to assets and liabilities and average exchange rates as to revenues and expenses. The resulting translation adjustments are recorded in stockholders' equity as the only element of accumulated comprehensive income (loss). Foreign currency transaction gains and losses recorded in the consolidated statements of operations are not material for all periods presented.

##### **Cash, Cash Equivalents and Short-Term Investments**

Cash and cash equivalents are highly liquid investments (primarily time deposits) acquired with a remaining maturity of three months or less at the time of acquisition. Short-term investments are highly liquid investments with a remaining maturity greater than three months at the time of acquisition. The carrying values of cash equivalents and short-term investments in the consolidated balance sheets approximated their estimated fair values because of the short maturities of these financial instruments.

##### **Inventories**

Inventories are carried at lower of cost, determined using the first-in, first-out (FIFO) method, or market.

Axcelis records an allowance for estimated excess and obsolete inventory. The allowance is based upon management's assumptions of future materials 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 write-downs may be required.

##### **Property, Plant and Equipment**

Property, plant and equipment are recorded at cost. Depreciation is computed by the straight-line method for financial statement purposes. The historical cost of buildings is depreciated over forty years and machinery and equipment principally over three to ten years. Expenditures for maintenance and repairs are expensed as incurred. Expenses for renewals and betterments are capitalized.

## Goodwill and Intangible Assets

For fiscal years 2001 and 2000 substantially all goodwill was amortized over fifteen years while intangible assets, consisting of developed technology, were amortized over seven years. Beginning in fiscal year 2002, the Company adopted Statement of Financial Accounting Standard (SFAS) No. 142, "Goodwill and Other Intangible Assets" which eliminated the requirement to amortize goodwill. In addition, the Company determined that based on an examination of the economic life of its intangible assets as of January 1, 2002, the amortization of these assets should be approximately ten years from that date. See Note 6 below for further discussion.

## Impairment of Long-Lived Assets

Long-lived assets (primarily property, plant and equipment and intangible assets) are reviewed for impairment losses whenever events or changes in circumstances indicate the carrying amount may not be recoverable. Events or circumstances that would result in an impairment review primarily include operations reporting sustained losses or a significant change in the use of an asset. An impairment loss would be recognized based on the amount by which the carrying value of the asset exceeds its fair value.

## Concentration of Credit Risk

Financial instruments, which potentially expose Axcelis to concentrations of credit risk, consist principally of accounts receivable, cash equivalents and short-term investments. Axcelis' customers consist of semiconductor manufacturers located throughout the world. Axcelis' net sales to its ten largest customers accounted for 63.5%, 50.6% and 56.3% of net sales in 2002, 2001 and 2000, respectively. Axcelis performs ongoing credit evaluations of its customers' financial condition and generally requires no collateral to secure accounts receivable. For selected overseas sales, Axcelis requires customers to enter into letters of credit. Axcelis maintains a reserve for potentially uncollectible accounts receivable based on its assessment of the collectibility of accounts receivable.

## Fair Value of Financial Instruments

The fair values of the Company's cash, cash equivalents and short-term investments approximate their carrying values (cost) at December 31, 2002 and 2001 respectively. The fair value of the Company's convertible subordinated notes is estimated based on quoted market prices and approximated \$98,750.

## Revenue Recognition

Axcelis generally recognizes the full sale price at the time of shipment to the customer. The costs of system installation at the customer's site are accrued at the time of shipment. Customer payment terms typically provide that the majority of the purchase price is paid upon shipment, but these terms also contain delayed payment arrangements for a portion of the purchase price, which are primarily time-based. In addition, the Company incurs installation and acceptance testing performance obligations at the time of sale.

Management believes the customer's post delivery acceptance provisions and installation process have been established to be routine, commercially inconsequential and perfunctory because the process is a replication of the pre-shipment procedures. The majority of Axcelis' systems are designed and tailored to meet the customer's specifications as outlined in the contract between the customer and Axcelis. To ensure that the customer's specifications are satisfied, per contract terms, the majority of customers request that the systems are to be tested at Axcelis' facilities prior to shipment, normally with the customer present, under conditions that substantially replicate the customer's production environment and the customer's criteria are confirmed to have been met. Pre-shipment testing is generally not required by customers for mature products. Axcelis has never failed to successfully complete a system installation. Should an installation not be successfully completed, the contractual provisions do not provide for forfeiture, refund or other purchase price concession beyond those prescribed by the provisions of the Uniform Commercial Code applicable generally to such transactions. Installation is non-complex and does not require specialized skills, and the related costs are predictable and insignificant to the total purchase price. Axcelis has a demonstrated history of customer acceptance subsequent to shipment and installation of these systems.

In the small number of instances where Axcelis is unsure of meeting the customer's specifications upon shipment of the system, Axcelis will defer the recognition of revenue until written customer acceptance of the system. This deferral period is generally within twelve months of shipment.

## Shipping and Handling Costs

Shipping and handling costs are included in cost of products sold.

## Stock-Based Compensation

As permitted under SFAS No. 123, Accounting for Stock-Based Compensation, Axcelis has elected to follow Accounting Principles Board (APB) No. 25 in accounting for stock-based awards to employees. Under APB No. 25, the Company recognizes no compensation expense with respect to such awards, since on the date the options were granted, the option price equaled the market value of the common shares.

Pro forma information regarding net income (loss) is required by SFAS No. 123. This information is required to be determined as if Axcelis had accounted for stock-based awards to its employees granted subsequent to 1995 under the fair value method of that Statement. The fair values of the options granted under the Axcelis stock option plan and the Eaton stock option plans have been estimated at the date of grant using the Black-Scholes options pricing model with the following assumptions:

	Axcelis Stock Option Plan		
	2002	2001	2000
Dividend yield	0%	0%	0%
Expected volatility	80%	139%	93%
Risk-free interest rate	2.8% to 4.5%	4.3% to 4.8%	5.1% to 6.3%
Expected option life in years	4	4	4 or 5
Weighted average fair value per share of options granted during the year	\$6.08	\$11.77	\$14.66

The Black-Scholes options valuation model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions, including the expected stock price volatility. Because Axcelis' options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in the opinion of management, the existing models do not necessarily provide a reliable single measure of the fair value of the Company's options.

For purposes of pro forma disclosures under SFAS No. 123, the estimated fair values of the options are assumed to be amortized to expense over the options' vesting periods. Although some Eaton stock options were granted to Axcelis employees during the period January 1, 2000 to July 11, 2000, the number of such options was not significant and, therefore, have not been included in the pro forma presentation below. Pro forma information related to options granted follows (in thousands, except per share amounts):

	Year Ended December 31,		
	2002	2001	2000
Net income (loss), as reported	\$(26,150)	\$(20,163)	\$99,115
Deduct: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	(14,730)	(12,645)	(4,680)
Pro forma net income (loss)	<u>\$(40,880)</u>	<u>\$(32,808)</u>	<u>\$94,435</u>
Net income (loss) per share			
Basic - as reported	\$ (0.27)	\$ (0.21)	\$ 1.13
Basic - pro forma	\$ (0.42)	\$ (0.34)	\$ 1.07
Diluted - as reported	\$ (0.27)	\$ (0.21)	\$ 1.13
Diluted - pro forma	\$ (0.42)	\$ (0.34)	\$ 1.07

### Income Taxes

Prior to 2001, Axcelis' results had been included in Eaton's consolidated U.S. and state income tax returns and in tax returns of certain Eaton foreign subsidiaries. The provision for income taxes in Axcelis' consolidated financial statements had been determined on a separate-return basis before 2001 and on a stand-alone basis beginning in 2001. For all years presented, deferred tax assets and liabilities are recognized for the expected tax consequences of temporary differences between the tax bases of assets and liabilities and their reported amounts.

Through December 29, 2000, Eaton accounted and paid for all United States income taxes. Axcelis' taxable income (loss) related to its United States operations was included in Eaton's consolidated income tax returns for 2000. Beginning in 2001, Axcelis' taxable loss related to its United States operations was included in its own separate tax return.

Consistent with the terms of the tax sharing agreement with Eaton, the consolidated statements of operations for 2000 include an allocation of Eaton's United States income taxes in amounts generally equivalent to the provisions which would have resulted had the Company filed separate income tax returns for the years presented. The Company has also been allocated United States deferred income taxes based on the estimated differences between the book and tax bases of its assets and liabilities.

Beginning in 2001, all of Axcelis' operations outside the United States account and pay for income taxes related to their operations. Prior to 2001, for those operations which have not accounted and paid for income taxes related to their operations, the consolidated statements of operations include an allocation of Eaton's foreign income taxes in amounts generally equivalent to the provisions which would have resulted had Axcelis filed separate income tax returns for the years presented. These operations have also been allocated foreign deferred income taxes based on the estimated differences between the book and tax bases of their assets and liabilities.

### Net Income (Loss) Per Share

Basic net income (loss) per share is calculated based on the weighted average shares of common stock outstanding during the period. Diluted net income (loss) per share is calculated based on the weighted average shares of common stock outstanding, plus the dilutive effect of stock options, calculated using the treasury stock method. There were 709,803 and 1,165,276 shares of common stock equivalents calculated using the treasury stock method that were not included in the calculation of diluted EPS in 2002 and 2001, respectively, because the effect would be antidilutive.

### Reclassifications

Certain prior year balances have been reclassified to conform with the current year presentation.

### Recent Accounting Pronouncements

In June 2002, the Financial Accounting Standards Board (FASB) issued SFAS No. 146 "Accounting for Costs Associated with Exit or Disposal Activities". SFAS No. 146 addresses the financial accounting and reporting for costs associated with exit or disposal activities and effectively nullifies EITF Issue No. 94-3, "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity, (including Certain Costs Incurred in a Restructuring)." (EITF 94-3). SFAS No. 146 requires that a liability be recognized for a cost associated with an exit or disposal activity when the liability is incurred. Under EITF 94-3, a liability for an exit cost was recognized at the date of an entity's commitment to an exit plan. SFAS No. 146 also requires that a liability recorded in connection with an exit or disposal activity shall be measured initially at fair value. SFAS No. 146 is effective for exit or disposal activities that are initiated after December 31, 2002. The Company will adopt SFAS No. 146 in the first quarter of fiscal year 2003.

In November 2002, the FASB issued Interpretation No. 45, "Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Interest Guarantees of Indebtedness of Others" (the Interpretation). The Interpretation requires certain guarantees to be recognized as a liability on the consolidated balance sheet. The liability shall be measured initially at the fair value of the obligation for which the guarantee supports. The Interpretation's initial recognition and initial measurement provisions are applicable on a prospective basis to guarantees issued or modified after December 31, 2002. The Interpretation's disclosure requirements are effective for financial statements of interim or annual periods ending after December 15, 2002. The Company has included the new disclosure requirements in the Notes to the Consolidated Financial Statements (see Note 7).

In December 2002, the FASB issued SFAS No. 148 "Accounting for Stock-Based Compensation - Transition and Disclosure". SFAS No. 148 amends SFAS No. 123, "Accounting for Stock-Based Compensation", to provide alternative methods of transition to SFAS No. 123's fair value method of accounting for stock-based employee compensation. SFAS No. 148 also amends the disclosure provisions of SFAS No. 123 and APB Opinion No. 28 "Interim Financial Reporting", to require disclosure in the summary of significant accounting policies of the effects of an entity's accounting policy with respect to stock-based employee

compensation on reported net income and earnings per share in annual and interim financial statements. The disclosure provisions of SFAS No. 148 are applicable to all companies with stock-based employee compensation, regardless of whether they account for that compensation using the fair value method of SFAS No. 123 or the intrinsic value method of APB Opinion No. 25, "Accounting for Stock Issued to Employees." SFAS No. 148's amendment of the transition and annual disclosure requirements of SFAS No. 123 are effective for fiscal years ending after December 15, 2002. SFAS No. 148's amendment of the disclosure requirements of APB No. 28 is effective for financial reports containing condensed consolidated financial statements for interim periods beginning after December 15, 2002. The Company currently uses the intrinsic value method of accounting for stock-based employee compensation and has included the new disclosure requirements in the Notes to the Consolidated Financial Statements.

### Note 3. Accounts Receivable

The Company records an allowance 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 may be necessary. The components of accounts receivable follow (in thousands):

	December 31,	
	2002	2001
Trade	\$63,260	\$66,758
Sumitomo Eaton Nova Corporation	695	401
	<u>63,955</u>	<u>67,159</u>
Allowance for doubtful accounts	(3,644)	(4,102)
	<u>\$60,311</u>	<u>\$63,057</u>

### Note 4. Inventories

The components of inventories follow (in thousands):

	December 31,	
	2002	2001
Raw materials	\$ 80,642	\$ 75,821
Work in process	13,401	8,889
Finished goods	35,939	31,996
	<u>129,982</u>	<u>116,706</u>
Inventory allowances	(14,692)	(11,367)
	<u>\$115,290</u>	<u>\$105,339</u>

### Note 5. Property, Plant & Equipment

The components of property, plant and equipment follow (in thousands):

	December 31,	
	2002	2001
Land & buildings	\$ 72,806	\$ 52,697
Machinery & equipment	67,899	63,496
Construction in progress	5,164	32,364
	<u>145,869</u>	<u>148,557</u>
Accumulated depreciation	(52,272)	(55,939)
	<u>\$ 93,597</u>	<u>\$ 92,618</u>

### Note 6. Goodwill & Intangible Assets

During the fiscal first quarter ended March 31, 2002, the Company adopted SFAS No. 142 which eliminates the requirement to amortize goodwill and indefinite-lived intangible assets, addresses the amortization of intangible assets with a definite life and addresses the impairment testing and recognition for goodwill and intangible assets. The adoption of SFAS No. 142 in the fiscal first quarter of 2002 and subsequently updated in the fiscal fourth quarter of 2002, did not require the recognition of a loss due to goodwill impairment, and resulted in no amortization of goodwill for the twelve months ended December 31, 2002. The Company also determined that based on an examination of the economic life of its intangible assets as of January 1, 2002, the amortization period for these intangible assets should be ten years from that date.)

The changes in the carrying value of goodwill are as follows:

Balance as of January 1, 2002	\$39,282
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Goodwill acquired during the period	1,400
Balance as of December 31, 2002	\$40,682

The components of intangible assets, are as follows (in thousands):

	December 31,	
	2002	2001
Intangible assets	\$ 40,000	\$ 40,000
Accumulated amortization	(26,859)	(25,399)
	<u>\$ 13,141</u>	<u>\$ 14,601</u>

Aggregate amortization expense for the year ended December 31, 2002 was 1,460,116. Estimated amortization expense for the fiscal year ending December 31, 2003 and for each of the four succeeding fiscal years is \$1,460,116.

Had SFAS No. 142 been adopted for the years ended December 31, 2002, 2001 and 2000, the impact on net income and earnings per share would have been as follows:

	Year Ended December 31,		
	2002	2001	2000
<i>(000's except for earnings per share amounts)</i>			
Reported net income (loss)	\$(26,150)	\$(20,163)	\$ 99,115
Add back: Goodwill amortization, net of tax	—	1,780	2,451
Adjust: Intangible asset amortization, net of tax	—	2,122	2,921
Adjusted net income (loss)	<u>\$(26,150)</u>	<u>\$(16,261)</u>	<u>\$104,487</u>
Basic and diluted earnings (loss) per share:			
Reported net income (loss) per share	\$ (0.27)	\$ (0.21)	\$ 1.13
Add back: Goodwill amortization, net of tax	—	0.02	0.03
Adjust: Intangible asset amortization, net of tax	—	0.02	0.03
Adjusted net income (loss) per share	<u>\$ (0.27)</u>	<u>\$ (0.17)</u>	<u>\$ 1.19</u>

#### Note 7. Product Warranty and Installation Costs

The Company offers a one to three year warranty for all of its products, the terms and conditions of which vary depending upon the product sold. The Company estimates the costs that may be incurred under its warranty and product installation obligation and records a liability in the amount of such costs at the time product revenue is recognized. Factors that affect the Company's warranty and installation liability include the number of installed units, historical and anticipated product failure rates, material usage and service labor costs. The Company periodically assesses the adequacy of its recorded warranty and installation liability and adjusts the amount as necessary.

Changes in the Company's product warranty and installation liability for the year ended December 31, 2002 are as follows (in thousands):

Balance at December 31, 2001	\$ 24,218
Warranties and installations issued during the period	19,079
Settlements made during the period	(25,936)
Changes in liability for pre-existing warranties and installations during the period	<u>(736)</u>
Balance as of December 31, 2002	<u>\$ 16,625</u>

#### Note 8. Financing Arrangements

##### Revolving Credit Facility

In the fourth quarter of 2001, the Company established a \$45 million secured, three-year Revolving Credit Facility comprised of a \$13 million, 364 day tranche and a \$32 million, three year tranche. The \$13 million, 364 day tranche was renewed in the fourth quarter of 2002. In January 2003, the overall facility was increased to \$50 million and is comprised of a \$15 million, 364 day tranche and a \$35 million, three year tranche. The purpose of this facility is to provide funds for working capital and general corporate purposes. Borrowings under this credit arrangement are limited to the lesser of \$50 million or the sum of a percentage of certain eligible domestic accounts receivable and inventory and bear interest at LIBOR plus an applicable spread. There are no borrowings currently outstanding under this facility.

The facility contains certain financial and other restrictive covenants including minimum profitability, liquidity and leverage ratios as well as maximum capital expenditure levels. The Company is in compliance with all covenants.

## Convertible Subordinated Notes

In January 2002, the Company completed an offering of \$125.0 million of 4.25% Convertible Subordinated Notes ("the Notes"), which mature on January 15, 2007. Interest on the Notes is payable on January 15 and July 15 of each year, commencing July 15, 2002. The Notes are convertible into shares of Axcelis common stock at any time prior to the close of business on the maturity date, unless previously redeemed, at a conversion price of \$20.00 per share, subject to certain adjustments. The Notes are redeemable, in whole or in part, at the option of the Company beginning on January 19, 2005 with at least 30 days notice at redemption prices starting at 101.7% and at diminishing prices thereafter, plus accrued interest. The Notes are unsecured and subordinated in right of payment in full to all existing and future senior indebtedness, as defined, of the Company. Expenses associated with the offering of approximately \$3.6 million have been deferred in other assets and are being amortized to interest expense using the straight line method, which approximates the effective interest method, over the term of the Notes.

## Note 9. Defined Contribution Plan

During 2000, the Company established the Axcelis Long-Term Investment Plan, a defined contribution plan that became effective on January 1, 2001. All regular employees are eligible to participate and may contribute up to 17% of their eligible compensation, subject to limitations set by federal income tax regulations. During fiscal year 2001, the Company matched 50% of contributions for the first 6% of eligible pay contributed by each employee. Beginning in January of 2002, the Company's matching contribution was changed to reflect a guaranteed match of 100% of contributions for the first 6% of eligible pay with a maximum match of \$1,000. Starting in January of 2003, the Company's matching contribution was again changed to reflect a guaranteed match of the greater of 100% of contributions for the first 6% of eligible pay or \$1,000. Under this plan, \$1.3 million and \$2.7 million was recognized as expense in 2002 and 2001, respectively. No expense was recognized in 2000.

Prior to the Company's separation from Eaton, Axcelis employees participated in defined benefit and defined contribution plans of Eaton. Expense recorded during 2000 for all defined benefit and defined contribution plans was \$9.2 million. In connection with the separation from Eaton on December 29, 2000, Axcelis employees participating in Eaton's domestic pension plan fully vested, and the pension and post retirement obligations for these employees remained with Eaton. Axcelis continues to provide pension benefits to employees in certain foreign locations, primarily Germany. The obligations related to these benefits are not significant.

## Note 10. Stock Award Plans

### Axcelis Stock Plan

During 2000, the Company adopted the Axcelis Technologies, Inc. 2000 Stock Plan (the Plan), a stock award and incentive plan which permits the issuance of options, stock appreciation rights, restricted stock, and performance awards to selected employees, directors and consultants of the Company. The Plan originally reserved 18.5 million shares of common stock for grant under the Plan, which original maximum amount increases annually by the lesser of (i) five percent (5%) of the then number of outstanding shares of Common Stock, (ii) 5,000,000 shares or (iii) such lesser amount as may be determined by the Board. The effect of this provision was to increase the shares available for grant under the Plan by 4,868,765 and 4,852,500 in 2002 and 2001, respectively. Expiration of options or stock appreciation rights are based on award agreements, or in the case of incentive stock options, awards expire ten years from the date of grant. Non-qualified stock options may, if approved by the Board of Directors, have a stated term in excess of ten years. Generally, awards terminate upon termination of employment (or 90 days thereafter) for options granted to employees. Under the terms of the Plan, the exercise price, determined by the Board of Directors, may not be less than the fair market value of a share of the Company's common stock on the date of grant.

The following tables summarize information about Axcelis' stock option activity as of and for the years ended December 31, 2002, 2001 and 2000:

	2002		2001		2000	
	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price
Outstanding at beginning of year	9,364,091	\$15.05	7,695,026	\$15.33	—	—
Granted	4,973,307	10.04	2,264,620	13.89	7,803,321	\$15.36
Exercised	(22,419)	6.79	(133,163)	8.84	—	—
Forfeited	(1,299,094)	15.31	(462,392)	14.08	(108,295)	22.00
Outstanding at end of year	13,015,885	\$13.12	9,364,091	\$15.05	7,695,026	\$15.33
Available for grant at end of year	14,943,571		13,724,519		10,804,974	

The following table summarizes information with respect to stock options outstanding and exercisable at December 31, 2002:

Range of Exercise Price	Outstanding at December 31 2002	Weighted-Average Exercise Price	Exercisable at December 31 2002	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life
\$ 4.63-\$ 6.88	1,650,124	\$ 5.83	180,696	\$ 6.23	9.2 Years
\$ 7.13-\$10.65	4,360,792	9.18	1,863,988	8.54	7.2
\$10.75-\$16.12	3,856,341	13.52	1,181,302	13.53	8.7
\$16.40-\$22.00	3,148,628	21.94	1,550,433	21.90	7.5
	13,015,885	\$13.12	4,776,419	\$14.02	6.8

At December 31, 2002 and 2001, there were 106,227 and 130,727 shares of restricted stock outstanding under the Plan, respectively.

## Note 11. Stockholders' Equity

### Common and Preferred Stock

Prior to June 2000, Axcelis had authorized common stock of 1,000 shares with a par value of \$1.00 per share; 100 shares were outstanding and owned by Eaton. In June 2000, the Axcelis Board of Directors authorized the conversion of the 100 shares of Axcelis common stock owned by Eaton into 80 million shares and increased the number of authorized shares to 300 million with a par value of \$0.001 per share. Stockholders' equity at December 31, 1999 has been restated to give retroactive recognition for the stock split by reclassifying from Parent Company Investment to common stock the par value of additional shares arising from the split. In addition, all references in the financial statements to the number of shares and per-share amounts of the Company's common stock have been restated.

In connection with Eaton's distribution of Axcelis shares to Eaton shareholders, Axcelis transferred the net Parent Company Investment of \$88.9 to paid-in capital.

In June 2000, the Board also authorized the establishment of 30 million shares of preferred stock with a par value of \$0.001. No shares of preferred stock have been issued.

At December 31, 2002, 24,447,821 shares of common stock were reserved for issuance under Axcelis stock plan, employee stock purchase plan and for conversion of the Notes.

### Employee Stock Purchase Plan

In June 2000, the Board of Directors approved the adoption of the 2000 Employee Stock Purchase Plan, which provides effectively all Axcelis employees the opportunity to purchase common stock of the Company at less than market prices. Purchases are made through payroll deductions up to 10% of the employee's salary. Generally, employees may purchase Axcelis common stock at 85% of the market value of the Company's common stock on the first trading day of each offering period or on the day the stock is purchased, whichever is lower. The purchase price may be adjusted by a committee of the Board of Directors. Compensation expense is not recognized by the Company because the plan is a non-compensatory plan under Section 423 of the Internal Revenue Code. The number of shares of common stock that may be issued under the stock purchase plan is 2.5 million shares, plus an annual increase to be added on the last day of each fiscal year beginning in 2001 equal to one percent of the outstanding shares on such date, or a lesser amount approved by the Board of Directors. The maximum shares that may be issued under the plan may not exceed 7.5 million shares. The Company issued 735,400 and 312,132 shares under the plan in 2002 and 2001, respectively.

## Note 12. Lease Commitments

At December 31, 2002, the Company had lease commitments into 2007. Minimum rental commitments under noncancelable operating leases, which expire at various dates and in most cases contain renewal options, are as follows (in millions): 2003, \$6.1; 2004, \$4.4; 2005, \$2.6; 2006, \$2.1; 2007, \$1.2; thereafter, \$0.

Rental expense in 2002, 2001, and 2000 (in millions) was \$9.2, \$8.8 and \$7.8, respectively.

## Note 13. Business Segment and Geographic Region Information

Axcelis operates in only one business segment, which is the manufacture of capital equipment for the semiconductor manufacturing industry. The principal market for semiconductor manufacturing equipment is semiconductor manufacturers. Substantially all sales are made directly by Axcelis to customers located in the United States, Europe and Asia Pacific.

Axcelis' ion implantation systems product line includes high and medium current implanters and high energy implanters and services. Other products include dry strip equipment, photostabilizers, thermal processing systems and other products and services. Net sales by product line follow (in thousands):

	2002	2001	2000
Ion implantation systems & services	\$233,157	\$292,263	\$534,428
Other products & services	76,548	73,001	145,973
	<u>\$309,705</u>	<u>\$365,264</u>	<u>\$680,401</u>

Net Sales and long-lived assets by geographic region based on the physical location of the operation recording the sales or the asset, follow (in thousands):

	Net Sales	Long-Lived Assets*
<b>2002</b>		
United States	\$263,772	\$91,709
Europe	23,557	362
Asia Pacific	22,376	1,526
	<u>\$309,705</u>	<u>\$93,597</u>
<b>2001</b>		
United States	\$314,567	\$90,489
Europe	33,996	359
Asia Pacific	16,701	1,770
	<u>\$365,264</u>	<u>\$92,618</u>

**2000**

United States	\$596,934	\$74,276
Europe	58,351	458
Asia Pacific	25,116	919
	<u>\$680,401</u>	<u>\$75,653</u>

\* Long-lived assets consist of property, plant and equipment - net.

International sales, including export sales from our U.S. manufacturing facilities to foreign customers and sales by our foreign subsidiaries and branches, (in thousands) were \$161,132 (52.0%) in 2002, \$226,483 (62.0%) in 2001 and \$472,146 (69.4%) in 2000.

**Note 14. Income Taxes**

Income (loss) before income taxes for the years ended December 31 follows (in thousands):

	December 31,		
	2002	2001	2000
United States	\$(55,038)	\$(58,643)	\$108,296
Foreign	489	6,037	16,406
Equity income of Sumitomo Eaton Nova Corporation	4,806	12,205	19,570
	<u>\$(49,743)</u>	<u>\$(40,401)</u>	<u>\$144,272</u>

Income taxes (credit) for the years ended December 31 follows (in thousands):

	December 31,		
	2002	2001	2000
Current:			
United States			
Federal	\$ 8,683	\$ (6,859)	\$44,761
State	2,929	(556)	3,546
Foreign	4,443	3,194	5,205
	<u>16,055</u>	<u>(4,221)</u>	<u>53,512</u>
Deferred:			
United States	(37,093)	(14,708)	(8,355)
Foreign	(2,555)	(1,309)	—
	<u>(39,648)</u>	<u>(16,017)</u>	<u>(8,355)</u>
	<u>\$(23,593)</u>	<u>\$(20,238)</u>	<u>\$45,157</u>

Reconciliations of income taxes (credit) at the United States Federal statutory rate to the effective income tax rate for the years ended December 31 follow (in thousands):

	2002		2001 Rate	2000 Rate
	Amount	Rate		
Income taxes (credit) at the United States statutory rate	\$(17,410)	(35.0)%	35.0%	35.0%
State taxes, net of federal income tax benefit	(997)	(2.0)	(2.6)	1.6
Change in valuation allowance	900	1.8	—	0.9
Amortization of goodwill	—	—	3.2	(2.1)
Current and prior years' foreign sales corporation benefit	—	—	—	(0.7)
Current and prior years' credit for increasing research activities	(5,791)	(11.6)	(5.1)	(0.4)
Foreign income tax rate differentials	(229)	(0.5)	(0.6)	—
Income tax rate differential related to Sumitomo Eaton Nova Corporation	(1,682)	(3.4)	(10.6)	(4.6)
Other—net	1,616	3.3	0.6	1.6
	<u>\$(23,593)</u>	<u>(47.4)%</u>	<u>(50.1)%</u>	<u>31.3%</u>

Significant components of current and long-term deferred income taxes at December 31 follow (in thousands):

Current

Long-term

	Assets	Assets
<b>2002</b>		
Inventories	\$10,105	—
Accrued warranty	3,685	—
Accrued vacation	592	—
Valuation allowance	—	\$ (900)
Property, plant & equipment	—	(2,071)
Intangible assets	3	(6,819)
Net operating loss carryforwards	—	47,904
Tax credit carryforwards	—	17,219
Other items	2,165	1,803
	<u>\$16,550</u>	<u>\$57,136</u>
<b>2001</b>		
Inventories	\$10,819	—
Accrued warranty	5,645	—
Accrued vacation	1,280	—
Property, plant & equipment	—	\$ (4,472)
Intangible assets	—	(5,144)
Net operating loss carryforwards	—	22,148
Tax credit carryforwards	—	3,048
Other items	(879)	1,592
	<u>\$16,865</u>	<u>\$17,172</u>

As of December 31, 2002, we have approximately \$73.7 million of deferred tax assets related principally to domestic loss carryforwards and tax credit carryforwards that expire at various times through 2022, for which a \$0.9 million valuation allowance has been recorded. The realization of these assets is based upon estimates of future taxable income. Projections of future earnings are based on revenue assumptions consistent with industry forecasts for the next three years along with the necessary operating expenses to support our revenue assumptions. Based on these projections, we estimate that the loss carryforwards will be fully utilized within three years. We update these projections quarterly based on current industry trends and company-specific events. Should trends within our industry or specific to the Company cause our projections not to materialize and future taxable losses continue, a valuation allowance of up to \$73.7 million may be required. Such a valuation allowance, if required, would result in a non-cash charge to earnings.

As of December 31, 2002, the Company has federal, state and foreign tax net operating loss carryforwards, the tax effect of which is approximately \$47.9 million. These carryforwards may be utilized on various dates through 2022. The company also has tax credit carryforwards of approximately \$17.2 million. These carryforwards may be utilized through 2022.

No provision has been made for income taxes on undistributed earnings of operations outside the United States of \$93.8 million at December 31, 2002, which includes \$58.9 million for Sumitomo Eaton Nova Corporation, since the earnings retained have been reinvested by the operations. If distributed, such remitted earnings may be subject to withholding taxes.

#### Note 15. Significant Customers

One customer individually accounted for 14.2% of net sales in fiscal 2002. No single customer represented more than 10% of net sales in 2001. One customer individually accounted for 13.9% of net sales in fiscal 2000.

#### Note 16. Sumitomo Eaton Nova Corporation

Sumitomo Eaton Nova Corporation (SEN) was established in 1982 under the Commercial Code of Japan and is owned equally by Sumitomo Heavy Industries, Ltd., a Japanese corporation, and Axcelis. SEN designs, manufactures, sells and services ion implantation equipment in Japan under a license agreement with Axcelis. Summary financial information follows (in thousands):

	2002	2001	2000
Twelve months ended November 30:			
Net sales	\$138,690	\$185,841	\$261,351
Income from operations	15,510	41,716	73,022
Net income	9,611	24,410	39,139
November 30:			
Current assets	122,596	113,963	185,116
Noncurrent assets	36,955	40,797	44,909
Current liabilities	42,522	57,472	140,178
Noncurrent liabilities	952	577	615

The fiscal year end for SEN is March 31. The consolidated statements of operations for Axcelis include the results of SEN for the twelve-month periods ended November 30, which represents a one-month lag. The information above has been presented as of and for the twelve months ended November 30 to conform to Axcelis' equity accounting for SEN.

A summary of Axcelis' transactions with SEN follows (in thousands):

2002	2001	2000
------	------	------

Net sales to SEN	\$1,985	\$ 8,390	\$11,913
Royalty income from SEN	8,275	5,835	13,464
Dividends received	464	444	375
Axcelis' equity in income of SEN	4,806	12,205	19,570
Accounts receivable at December 31 from SEN	695	401	10,915

The amount of Axcelis' retained earnings comprised of undistributed earnings of SEN was \$28.6 million and \$24.3 million at December 31, 2002 and 2001, respectively.

#### Note 16. Transactions with Eaton Corporation

Prior to the initial public offering, Axcelis' consolidated statements of operations include an allocation of Eaton's general corporate expenses to reflect the services provided or benefits received by Axcelis. Such allocated expenses were (in millions) \$8.2 in 2000. This allocation was based on Eaton's internal expense allocation methodology which charged these expenses to operating locations based both on net working capital, excluding cash equivalents and short-term debt, and on property, plant and equipment-net. Management believes this was a reasonable method of allocating these expenses and was representative of the operating expenses that would have been incurred had Axcelis operated on a stand-alone basis. The consolidated statements of operations do not include an allocation of interest expense related to Eaton's debt obligations, consistent with Eaton's internal expense allocation methodology.

Commencing with the initial public offering, the Company entered into various agreements with Eaton, which provide for transitional services and support, including those associated with voice and data transmissions and other data-related operations, accounts receivable, accounts payable, fixed assets, payroll, general accounting, financial accounting consolidation, cash management, human resources, tax, legal and real estate. Under these agreements, the Company reimbursed Eaton for its direct and indirect costs of providing these services until the divestiture, and thereafter, for a limited time, the Company reimbursed Eaton for its costs plus an additional fee for providing certain of these additional services. The transition periods covered by these agreements vary, but generally expired on December 29, 2001. The agreements did not necessarily reflect the costs of obtaining these services from unrelated third parties or of providing the applicable services in-house. However, management believed that purchasing these services from Eaton provided an efficient means of obtaining these services during the transition period. Transition expenses included in Axcelis' consolidated statement of operations for the year ended December 31, 2001 and 2000 amounted to \$3.4 million and \$5.5 million, respectively.

#### Note 17. Quarterly Results of Operations (unaudited)

The historical financial information, particularly for the periods prior to the separation date, may not be indicative of Axcelis' future performance.

	Dec. 31 2002	Sept. 30 2002	June 30 2002	March 31 2002	Dec. 31 2001	Sept. 30 2001	June 30 2001	March 31 2001
Net sales	\$65,515	\$93,117	\$88,988	\$ 62,085	\$ 49,317	\$ 61,796	\$102,002	\$152,149
Gross profit	18,895	36,445	33,228	15,397	9,982	18,595	39,100	63,348
Net income (loss)	(6,833)	191	(1,677)	(17,831)	(17,993)	(16,211)	(2,150)	16,191
Basic and diluted net income (loss) per share	\$ (0.07)	\$ 0.00	\$ (0.02)	\$ (0.18)	\$ (0.18)	\$ (0.17)	\$ (0.02)	\$ 0.17



**CERTIFICATION**  
**of the Principle Executive Officer of Axcelis Technologies, Inc.**  
**under Section 302 of the Sarbanes-Oxley Act of 2002**

I, Mary G. Puma, certify that:

1. I have reviewed this annual report on Form 10-K of Axcelis Technologies, Inc.;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report.
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:
  - a) designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared
  - b) evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
  - c) presented in this quarterly report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
  - a) all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
  - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this annual report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Date: March 28, 2003

By: /s/ Mary G. Puma

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Mary G. Puma  
*President and Chief Executive Officer*

**CERTIFICATION**  
**of the Principle Financial Officer of Axcelis Technologies, Inc.**  
**under Section 302 of the Sarbanes-Oxley Act of 2002**

I, Cornelius F. Moses, III, certify that:

1. I have reviewed this annual report on Form 10-K of Axcelis Technologies, Inc.;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report.
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:

- a) designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared
- b) evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
- c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
- a) all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
- b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this annual report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Date: March 28, 2003

By: /s/ Cornelius F. Moses, III

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Cornelius F. Moses, III  
*Executive Vice President and Chief Financial Officer*

**AXCELIS TECHNOLOGIES, INC.**

**INDEX TO EXHIBITS**

**to Form 10-K for the Year ended December 31, 2002.**

These Exhibits are numbered in accordance with the Exhibit Table of Item 601 of Regulation S-K:

<b><u>Exhibit No.</u></b>	<b><u>Description</u></b>
2.1	Tax Sharing and Indemnification Agreement between Eaton Corporation and the Company. Incorporated by reference from Exhibit 2.5 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
3.1	Amended and Restated Certificate of Incorporation of the Company. Incorporated by reference from Exhibit 3.1 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
3.2	Bylaws of the registrant, as amended as of January 23, 2002. Incorporated by reference from Exhibit 3.2 of the Company's Form 10-K for the year ended December 31, 2001, filed with the Commission on March 12, 2002.
3.3	Certificate of Designation of Series A Participating Preferred Stock, filed with the Secretary of State of Delaware on July 5, 2000. Incorporated by reference from Exhibit 3.3 of the Company's Form 10-K for the year ended December 31, 2000, filed with the Commission on March 30, 2001.
4.1	Specimen Stock Certificate. Incorporated by reference from Exhibit 4.1 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
4.2	Rights Agreement between the Company and EquiServe Trust Company, N.A. Incorporated by reference from Exhibit 4.1 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
4.3	Indenture between the Company and State Street Bank and Trust Company, as trustee, including the form of note, dated as of January 15, 2002. Incorporated by reference from Exhibit 4.1 to the Company's Report on Form 8-K filed with the Commission on January 15, 2002.
4.4	Registration Rights Agreement by and among the Company, Morgan Stanley & Co., Incorporated, Salmomon Smith Barney Inc. and SG Cowen Securities Corporation, dated as of January 15, 2002.

Incorporated by reference from Exhibit 4.2 to the Company's Report on Form 8-K filed with the Commission on January 15, 2002.

- 4.5 Revolving Credit Agreement dated as of October 11, 2001, among the Company, ABN Amro Bank N.V. and the other lenders named therein, as amended. Pursuant to Regulation S-K, Item 601(b)(4)(iii), this exhibit has not been filed, since the total amount does not exceed 10% of the Company's total assets at this time. The Company will furnish a copy of the Credit Agreement to the Commission on request.
- 10.1\* 2000 Stock Plan, as amended on July 31, 2001. Incorporated by reference from Exhibit 10.1 from the Company's Report on Form 10-Q for the quarter ended June 30, 2001, filed with the Commission on August 14, 2001.
- 10.2\* Employee Stock Purchase Plan. Incorporated by reference from Exhibit 10.2 from the Company's Report on Form 10-Q filed with the Commission on November 14, 2000.
- 10.3 Form of Indemnification Agreement entered into by the Company with each of its directors and executive officers. Incorporated by reference from Exhibit 10.2 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
- 10.4\* Form of Change in Control Agreement between the registrant and certain of its executive officers. Incorporated by reference from Exhibit 10.3 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
- 10.5\* Intentionally omitted.
- 10.6\* Intentionally omitted.
- 10.7\* Employment Agreement between the Company and Mary G. Puma. Incorporated by reference from Exhibit 10.5 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
- 10.8\*\* Organization Agreement dated December 3, 1982 between Eaton Corporation and Sumitomo Heavy Industries, Ltd. relating to Sumitomo Eaton Nova Corporation, as amended. Incorporated by reference from Exhibit 10.6 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
- 10.9\*\* Master License Agreement dated January 16, 1996 between Eaton Corporation and Sumitomo Eaton Nova Corporation. Incorporated by reference from Exhibit 10.7 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
- 14.1 Ethical Business Conduct at Axcelis, revised through January 2003. Filed herewith.
- 21.1 Subsidiaries of the Company. Filed herewith.
- 23.1 Consent of Ernst & Young LLP, Independent Auditors. Filed herewith.
- 99.1 Factors affecting future operating results as of December 31, 2002. Filed herewith.
- 99.2 Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes Oxley Act, dated March 28, 2003. Filed herewith.
- 99.3 Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes Oxley Act, dated March 28, 2003. Filed herewith.
- 99.4 Charter of the Audit Committee of the Board of Directors of Axcelis, as adopted on January 23, 2003. Filed herewith.
- 99.5 Governance Policies adopted by the Board of Directors of Axcelis on September 26, 2002. Filed herewith.
- 99.6 Charter of the Nominating and Governance Committee of the Board of Directors, as adopted on September 26, 2002.
- 99.7 Charter of the Compensation Committee of the Board of Directors of Axcelis, as adopted on January 23, 2003.

\* Indicates a management contract or compensatory plan.

Certain confidential information contained in the document has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended, or Rule 24b-2 promulgated under the Securities and Exchange Act of 1934, as amended

Schedule II-Valuation and Qualifying Accounts

Axcelis Technologies, Inc.

*(In thousands)*

	<b>Balance at Beginning of Period</b>	<b>Charged to Costs and Expenses</b>	<b>Deductions</b>	<b>Balance at End of Period</b>
Year Ended December 31, 2002				
Allowance for doubtful accounts and returns	\$4,102	\$ (146)	\$312	\$3,644
Year Ended December 31, 2001				
Allowance for doubtful accounts and returns	\$2,109	\$1,996	\$ 3	\$4,102
Year Ended December 31, 2000				
Allowance for doubtful accounts and returns	2,048	247	186	2,109

Ethical Business Conduct at Axcelis

Axcelis Technologies, Inc.  
55 Cherry Hill Drive  
Beverly, MA 01915

Our Expectations

\* This policy is a formal statement of the expectations of Axcelis management and its Board of Directors that all employees, officers and members of our Board of Directors will in the day-to-day conduct of Axcelis' business act in an ethical manner and in full compliance with applicable law.

\* We expect our employees, officers and members of the Board of Directors to read and become familiar with the principles expressed in this policy, and to adhere to these principles in the discharge of your responsibilities.

\* It is important that the policies and principles set forth here be understood and followed on a consistent basis by each of us. We particularly want to emphasize that our standards remain constant even in countries where local ethical or legal standards may differ from those in the United States. Our reputation for integrity is an important corporate asset, and we must protect it.

Purpose of Policy

This Code of Conduct is designed to deter wrongdoing and to promote:

- (1) Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
- (2) Avoidance of conflicts of interest, including disclosure to an appropriate person or persons identified in this Code, of any material transaction or relationship that reasonably could be expected to give rise to such a conflict;
- (3) Full, fair, accurate, timely and understandable disclosure in reports and documents that Axcelis files with, or submits to, the Securities and Exchange Commission and other public communications made by Axcelis;
- (4) Compliance with applicable governmental rules and regulations;
- (5) The prompt internal reporting, to appropriate person or persons identified in this Code, of violations of this Code; and
- (6) Accountability for adherence to this Code.

This policy is a "code of ethics" as described in Section 406 of the U.S. Sarbanes-Oxley Act of 2002, and is also our "code of conduct" as may be required by the Nasdaq Marketplace Rules from time to time in effect.

General Principles

Here are the fundamental principles of ethical business behavior:

- \* Obeying the Law-We respect and obey the laws of the cities, states and countries where we operate. This includes:
  - \* no illegal payments to government personnel-We do not make illegal payments to government officials of any country.
  - \* no Company political contributions-Our policy prohibits company contributions to political candidates or parties even where such contributions are lawful. We encourage individual employees to be involved in the political process and make personal contributions as they see fit.
- \* Honest and Ethical Conduct--We all need to proactively promote honest and ethical behavior among our peers and subordinates both at work and in our communities. This includes:
  - \* fair dealing with our customers, suppliers, employees and shareholders-- We must avoid taking unfair advantage of anyone through manipulation, concealment, abuse of privileged information, misrepresentation of material facts or any unfair-dealing practice.
  - \* fair dealing with our competitors -The only competitive advantages we seek are those gained through superior research, engineering, manufacturing and marketing. We do not engage in unfair or illegal trade practices.
- \* avoiding conflicts of interest-We expect you to avoid any association that might conflict with your loyalty to Axcelis or compromise your judgment--or even create the appearance of doing so.
- \* respecting corporate opportunities and property -- Opportunities discovered through the use of corporate property, information or position belong to Axcelis. Corporate property, information and positions may not be used for personal gain or for competing with the company. We must protect Axcelis' assets and ensure their efficient use. Theft, carelessness and waste have a direct impact on our profitability. All company assets,

including confidential information, trade secrets and inventions, should be used for legitimate business purposes. All employees are required to sign an Employee Invention Assignment and Confidentiality Agreement as a term of their employment.

\* no inappropriate gifts, gratuities and kickbacks-We do not offer or accept kickbacks or bribes, or gifts of substantial value.

#### Responsibilities of Senior Leadership

The foregoing General Principles apply to all of our employees and Board of Directors. However, members of our senior leadership have a special obligation to set the highest ethical tone for the Company. Senior leadership members include our Chief Executive Officer, Chief Operating Officer, Chief Financial Officer, General Counsel and Controller (and other personnel meeting the Security and Exchange Commission's definition of principal executive, principal financial, principal accounting officers or persons performing similar functions).

In addition, members of our senior leadership have the ultimate responsibility to ensure that there is full, fair, accurate, timely and understandable disclosure in reports and documents that Axcelis files with, or submits to, the Securities and Exchange Commission and other public communications made by Axcelis.

Axcelis will have "zero tolerance" for unethical conduct by senior leadership. These employees are expected to be role models of ethical behavior and to take appropriate actions to report on unethical behavior both within the financial organization and throughout Axcelis.

#### Seek Guidance

Our goal is to avoid any actions which may be, or even appear to be, ethical violations or conflicts of interest. Many times ethical or conflict of interest problems are complex and fact-sensitive. It is important to take the time to make good decisions before committing to one path over another. We strongly encourage employees who are considering actions which in any way raise ethical concerns to discuss their options with supervisors, members of the Human Resources team and/or our General Counsel. Posted on our intranet and available from the Human Resources team are guidelines on avoiding material transactions or relationships involving potential conflicts of interest, in specific circumstances.

#### Reporting of Concerns

We encourage reporting of any known or suspected violations of this policy. In order to ensure that all reports of concern are received, we have established a number of methods for communicating:

\* You may speak in person, telephone, mail or email our General Counsel. Her contact information appears at the end of this policy. If you prefer, you may contact another member of senior management, including our Chief Executive Officer, Chief Operating Officer or Chief Financial Officer.

\* You may send an anonymous email to via the Axcelis Ethics Reporting Line located on the Axcelis Intranet.

\* You may also telephone the dedicated voicemail box at 978-767-9998 (x7998 for internal dialers).

Any reporting may be done anonymously, although we encourage you to provide sufficient information to allow us to undertake a productive investigation of the matter.

Axcelis understands that employees may be reluctant to complain of ethical violations or conflicts of interest or to cooperate with an investigation for fear of retaliation, and Axcelis will take action to protect those employees. Any type of retaliation is strictly prohibited and will result in disciplinary action, up to and including termination of employment.

#### Handling of Reports

Unless otherwise determined by our Board of Directors, our General Counsel will be responsible for managing the investigation of any report of a violation of this policy. Such investigations will be handled promptly and in as confidential a manner as possible without compromising the effectiveness of the investigation. Axcelis employees are expected to cooperate fully in any authorized investigation of a violation of this policy.

Special procedures will apply to any ethical violation or conflict relating to financial record keeping, financial reporting, accounting treatment, internal accounting controls or auditing matters. In those cases, the General Counsel will promptly inform the Chairman of the Audit Committee of the Board of Directors. Such complaints will be handled in accordance with procedures on the receipt, retention and treatment of such complaints established by the Audit Committee of the Board of Directors.

#### Effect of Violations

If a violation is found, unless directed otherwise by the Audit Committee, the General Counsel will be responsible for overseeing an appropriate response, including corrective action and preventative measures. Violation of these principles will lead to appropriate disciplinary

action, up to and including termination of employment.  
To the extent required by law or to protect the interests  
of the Company, illegal activities will be reported to the  
appropriate governmental authorities.

#### Waivers

Although it is not contemplated that this Code of Ethics  
will be waived at any time, no waiver of this Code of  
Ethics for executive officers or directors will be  
effective unless approved by a resolution of the  
Axcelis Board of Directors or an authorized committee of  
the Board. Any waiver granted to an executive officer  
or director of Axcelis will be publicly disclosed as  
required by Nasdaq and the Securities and Exchange Commission.

#### Responsible Officer

Lynnette C. Fallon  
General Counsel  
Axcelis Technologies, Inc.  
55 Cherry Hill Drive  
Beverly, MA 01915  
lynnette.fallon@axcelis.com  
978-787-4120

#### Related Policies and Documents

Insider Trading Policy  
Employee Invention Assignment and Confidentiality Agreement  
Communication Policy  
Employment of Relatives/Employee Relationships Policy  
Harassment Policy

Revised January 2003

Axcelis Technologies, Inc.

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Exhibit 21 to Form 10-K for the year ended December 31, 2002

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Subsidiaries  
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A. The following is all direct and indirect wholly-owned subsidiaries of Axcelis Technologies, Inc. as of the date hereof:

Domestic Subsidiaries

1. Fusion Systems Corporation a Delaware corporation
2. Fusion Technology International, Inc., a Delaware corporation
3. Axcelis Technologies (Israel), Inc., Delaware corporation
4. Fusion Investments, Inc. , a Maryland corporation
5. High Temperature Engineering Corporation, a Delaware corporation

European Subsidiaries

6. Axcelis Technologies, GmbH (Germany)
7. Axcelis Technologies, S.r.L (Italy)
8. Axcelis Technologies, Sarl (France)
9. Axcelis Technologies, Ltd. (U.K.)
10. Axcelis Technologies B.V. (Netherlands)

Asian Subsidiaries

11. Axcelis Technologies, KK (Japan)
12. Axcelis Technologies Limited (Korea)
13. Axcelis Technologies Ltd. (Taiwan)
14. Axcelis Technologies Pte. Ltd. (Singapore)
15. Axcelis Technologies Semiconductor Trading (Shanghai) Co., Ltd. (Peoples Republic of China)

B. Axcelis Technologies, Inc. holds 50% of the outstanding shares of Sumitomo Eaton Nova Corporation, a Japanese corporation.

CONSENT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statement (Form S-3 No. 333-85214) of Axcelis Technologies, Inc. and in the related Prospectus, the Registration Statement (Form S-8 No. 333-49726) pertaining to the Axcelis Technologies, Inc. Employee Stock Purchase Plan and the Registration Statement (Form S-8 No. 333-46768) pertaining to the Axcelis Technologies, Inc. 2000 Stock Plan, of our report dated January 23, 2003, with respect to the consolidated financial statements and schedule of Axcelis Technologies, Inc. included in the Annual Report (Form 10-K) for the year ended December 31, 2002.

/s/ ERNST & YOUNG LLP

March 26, 2003

Form 10-K for the year ended December 31, 2002

## FACTORS AFFECTING FUTURE OPERATING RESULTS

From time to time, we may make forward-looking public statements, such as statements concerning our then expected future revenues or earnings or concerning the prospects for our markets or our product development, projected plans, performance, order procurement 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 registration statements filed under the Securities Act of 1933, as amended (the "Securities Act"), in press releases or 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," or similar 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, 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 which 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 that we may or may not 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 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 which may cause us to re-evaluate our forward-looking statements.

In connection with the "safe harbor" provisions of the Private Securities Litigation Reform Act, we are hereby filing 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.

If semiconductor manufacturers do not make sufficient capital expenditures, our sales and profitability will be harmed.

We anticipate that a significant portion of our new orders will depend upon demand from semiconductor manufacturers who build or expand fabrication facilities. If the rate of construction or expansion of fabrication facilities declines, demand for our systems will decline, reducing our revenues. This would also hurt our profitability, because our continued investments in engineering, research and development and marketing necessary to develop new products and to maintain extensive customer service and support capabilities limit our ability to reduce expenses in proportion to declining sales.

A number of factors may cause semiconductor manufacturers to make reduced capital expenditures, including the following.

Downturns in the semiconductor industry may further reduce demand for our products, harming our sales and profitability.

The semiconductor business is highly cyclical and the industry has been in a severe down cycle since early in 2001, the length of which cannot be predicted. This continues to reduce demand for new or expanded fabrication facilities. Any continuing weakness or future downturns or slowdowns in the industry may adversely affect our financial condition.

Oversupply in the semiconductor industry reduces demand for capital equipment, including our products.

Inventory buildups in the semiconductor industry, resulting in part from the down cycle, have produced a current oversupply of semiconductors. This has caused semiconductor manufacturers to revise capital spending plans, resulting in reduced demand for capital equipment such as our products. If this oversupply is not reduced by increasing demand from the various electronics industries that use semiconductors, which we cannot accurately predict, our sales and profitability will be harmed.

Industry consolidation and outsourcing of semiconductor manufacturing may reduce the number of our potential customers, harming our revenues.

The substantial expense of building, upgrading or expanding a semiconductor fabrication facility is increasingly causing semiconductor companies to contract with foundries to manufacture their semiconductors. In addition, consolidation and joint venturing within the semiconductor manufacturing industry is increasing. We expect these trends to continue, which will reduce the number of our potential customers. This increased concentration of our customers potentially makes our revenues more volatile as a higher percentages of our total revenues are tied to a particular customer's buying decisions.

If we fail to develop and introduce reliable new or enhanced products and services that meet the needs of semiconductor manufacturers, our results will suffer.

Rapid technological changes in semiconductor manufacturing processes require us to respond quickly to changing customer requirements. Our future success will depend in part upon our ability to develop, manufacture and successfully introduce new systems and product lines with improved capabilities and to continue to enhance existing products, including products that process 300 millimeter wafers. This will depend upon a variety of factors, including new product selection, timely and efficient completion of product design and development and of manufacturing and assembly processes, product performance in the field and effective sales and marketing. In particular:

- \* We must develop the technical specifications of competitive new systems, or enhancements to our existing systems, and manufacture and ship these systems or enhancements in volume in a timely manner.
- \* We will need to accurately predict the schedule on which our customers will be ready to transition to new products, in order to accurately forecast demand for new products while managing the transition from older products.
- \* We will need to effectively manage product reliability or quality problems that often exist with new systems, in order to avoid reduced orders, higher manufacturing costs, delays in acceptance and payment and additional service and warranty expenses.
- \* Our new products must be accepted in the marketplace.

Our failure to meet any of these requirements will have a material adverse effect on our operating results and profitability.

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

The market for semiconductor manufacturing equipment is highly competitive and includes companies with substantially greater financial, engineering, manufacturing, marketing and customer service and support resources than we have that may be better positioned to compete successfully in the industry. In addition, there are smaller, emerging semiconductor equipment companies that provide innovative systems with technology that may have performance advantages over our systems. Competitors are expected 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. If we are unable to improve or introduce competing products when demanded by the markets, our business will be harmed. In addition, if 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 have been dependent on sales to a limited number of large customers; the loss of any of these customers or any reduction in orders from them could materially affect our sales.

Historically, we have sold a significant proportion of our products and services to a limited number of fabricators of semiconductor products. For example, in 2002, one of our customers, IBM, accounted for 14% of our net sales, and our top ten customers accounted for 64% of our net sales. None of our customers has entered into a long-term agreement requiring it to purchase our products. Although the composition of the group comprising our largest customers has varied from year to year, the loss of a significant customer or any reduction or delays in orders from any significant customer, including reductions or delays due to customer departures from recent buying patterns, or market, economic or competitive conditions in the semiconductor industry, could adversely affect us. The ongoing consolidation of semiconductor manufacturers may also increase the harmful effect of losing a significant customer.

Our quarterly financial results may fluctuate significantly and may fall short of anticipated levels.

We derive most of our revenues from the sale of a relatively small number of expensive products to a small number of customers. The list prices on these products range from \$200,000 to over \$4.0 million. At our current sales level, each sale, or failure to make a sale, could have a material effect on us in a particular quarter. Our lengthy sales cycle, coupled with customers' competing capital budget considerations, make the timing of customer orders uneven and difficult to predict. In a given quarter, a number of factors can adversely affect our revenues and results, including changes in our product mix, increased fixed expenses per unit due to reductions in the number of products manufactured, and higher fixed costs due to increased levels of research and development and expansion of our worldwide sales and marketing organization. Our gross margins also may be affected by the introduction of new products. We typically become more efficient in producing our products as they mature. For example, our gross margins in 2001 and 2002 were adversely affected in part as a result of the increased proportion of systems sold to process 300 millimeter wafers. In addition, our backlog at the beginning of a quarter typically does not include all orders required to achieve our sales objectives for that quarter and is not a reliable indicator of our future sales. As a result, our net sales and operating results for a quarter depend on our shipping orders as scheduled during that quarter as well as obtaining new orders for products to be shipped in that same quarter. Any delay in, or cancellation of, scheduled shipments or in shipments from new orders could materially and adversely affect our financial results. Due to the foregoing factors, we believe that period-to-period comparisons of our operating results should not be relied upon as an indicator of our future performance.

We access the important Japanese market for ion implant through a joint venture which we do not control.

We own 50% of the equity of a Japanese corporation called Sumitomo Eaton Nova or SEN, to which we have granted an exclusive license to manufacture and sell ion implanters in Japan. The remaining 50% of the equity is owned by Sumitomo Heavy Industries, Ltd., a Japanese manufacturer of industrial machinery and shipbuilding. Our joint venture agreement with Sumitomo gives both owners veto rights, so that neither of us alone can effectively control SEN. SEN's business is subject to the same risks as our business. Royalties and income from SEN have been a substantial contribution to our earnings, and a substantial decline in SEN's sales and income from operations could have a material adverse effect on our net income. As a result of this joint venture structure, we have less control over SEN management than over our own management and may not have timely knowledge of factors affecting SEN's business. In addition, given the equal balance of ownership, it is possible that the SEN Board may be unable to reach consensus from time to time. Neither Axcelis or Sumitomo has the right to buy out the other's interest in EN and the SEN joint venture is perpetual, although termination provisions in the license agreement allow either SHI or Axcelis to effectively terminate the joint venture at the end of 2004. SEN has been a very valuable partner to Axcelis since its formation and we expect to renew our license to SEN for a further 5 year term.

From time to time, we have allowed SEN to sell implanters outside of Japan.

We allow these sales when the customer requests SEN products. Such requests tend to occur when SEN customers participate, as joint venturers or technical advisors, in fabrication facilities outside of Japan. In those cases, the financial benefit to Axcelis from the sale of a SEN implanter is less than the financial benefit of a sale of an Axcelis implanter, but our primary goal is to satisfy our customer with the product of their choice. When these sales are allowed, we act as exclusive agent for SEN to manage the terms of the sales and to ensure that they are consistent with our global product and customer strategies. We receive commissions from SEN on these extra-territorial sales and assume most of the post-installation warranty responsibility.

A decline in sales of our products and services to customers outside the United States would hurt our business and profits.

We are substantially dependent on sales of our products and services to customers outside the United States, which accounted for approximately 70% 62% and 51%, of our net sales in 2000 and 2001 and 2002, respectively. We anticipate that international sales will continue to account for a significant portion of our net sales. Because of our dependence upon international sales, our results and prospects may be adversely affected by a number of factors, 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 Asia;
- \* 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 and branch operations; and
- \* potentially adverse tax consequences.

Making more sales denominated in foreign currencies to counteract the strong dollar may expose us to additional risks that could hurt our results.

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. Our equity income and royalty income from SEN are denominated in Japanese yen, which exposes us to some risk of currency fluctuations. If it becomes necessary for us to make more sales denominated in foreign currencies to counteract the strong dollar, we will become more exposed to these risks.

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 business depends on our ability to attract and retain qualified, experienced employees. 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, particularly in the areas where we are based, including the Boston metropolitan area and the Rockville, Maryland area, as well as in other locations around the world. If we are unable to retain our existing key personnel, or attract and retain additional qualified personnel, we may from time to time experience levels of staffing inadequate to develop, manufacture and market our products and perform services for our customers. As a result, our growth could be limited 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 our financial results and cause the value of our notes and stock to decline.

Our dependence upon a limited number of suppliers for many components and sub-assemblies could result in increased costs or delays in manufacture and sales of our products.

We rely to a substantial extent on outside vendors to manufacture many of the components and sub-assemblies of our products. We obtain many of these components and sub-assemblies 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 particular, we may be unable to obtain an adequate supply of required components on a timely basis, on price and other terms acceptable to us, or at all.

In addition, we often quote prices to our customers and accept customer orders for our products before purchasing components and sub-assemblies from our suppliers. If our suppliers increase the cost of components or sub-assemblies, we may not have alternative sources of supply and may not be able to raise the price of our products to cover all or part of the increased cost of components.

The manufacture of some of these components and sub-assemblies is an extremely 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 our required components or sub-assemblies, 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.

Our financial statements for the year ended December 31, 2000 included in this Report may not be representative of our results as a separate company.

Our financial statements for the year ended December 31, 2000 include financial results for the six month period ending on June 30, 2000 during which time Axcelis was a wholly-owned subsidiary of Eaton Corporation. To create separate financial statements for that period and prior periods, we used the historical bases of assets, liabilities and operating results of the

semiconductor equipment operations business of Eaton which was separated from Eaton's other businesses on June 30, 2000. Accordingly, the financial information for that period does not necessarily reflect what our financial position, operating results and cash flows would have been had we been a separate, stand-alone entity during that period. Our costs and expenses for that period were allocated to our business based on Eaton's internal expense allocation methodology, which charges these expenses to operating locations based both on net working capital, excluding short-term investments and short-term debt, and on property, plant and equipment-net. While we believe this allocation methodology is reasonable and allocated costs are representative of the operating expenses that would have been incurred had we operated on a stand-alone basis, such historical financial information is not necessarily indicative of what our financial position, operating results and cash flows will be in the future. We have not made adjustments to this historical financial information to reflect any significant changes that may occur in our cost structure and operations as a result of our separation from Eaton, including increased costs associated with being a publicly traded, stand-alone company.

In certain circumstances, we may need additional capital.

Our capital requirements may vary widely from quarter to quarter, depending on, among other things, capital expenditures, fluctuations in our operating results, financing activities, acquisitions and investments and inventory and receivables management. We believe that our available cash, our credit line and our future cash flow from operations will be sufficient to satisfy our working capital, capital expenditure and research and development requirements for the foreseeable future. This, of course, depends on the accuracy of our assumptions about levels of sales and expenses, and a number of factors, including those described in these "Risk Factors," could cause us to require additional capital from external sources. In addition, in the future, we may require or choose to obtain additional debt or equity financing in order to finance acquisitions or other investments in our business. Depending on market conditions, future equity financings may not be possible on attractive terms and would be dilutive to the existing holders of our common stock and convertible notes. Our existing credit agreement contains restrictive covenants and future debt financings could involve additional restrictive covenants, all of which may limit the manner in which we conduct our business.

We may incur costly litigation to protect our proprietary technology, and if unsuccessful, we may lose a valuable asset or experience reduced market share.

We rely on a combination of patents, copyrights, trademark and trade secret laws, non-disclosure agreements and other intellectual property protection methods to protect our proprietary technology. Despite our efforts to protect our intellectual property, our competitors may be able to legitimately ascertain the non-patented proprietary technology embedded in our systems. If this occurs, we may not be able to prevent their use of this technology. Our means of protecting our proprietary rights may not be adequate and our patents may not be sufficiently broad to prevent others from using technology that is similar to or the same as our technology. In addition, patents issued to us have been, or might be challenged, and might be invalidated or circumvented and any rights granted under our patents may not provide adequate protection to us. Our competitors may independently develop similar technology, duplicate features of our products or design around patents that may be issued to us. As a result of these threats to our proprietary technology, we may have to resort to costly litigation to enforce or defend our intellectual property rights.

On January 8, 2001, we filed a lawsuit against Applied Materials, Inc. ("Applied") in the United States District Court for the District of Massachusetts. The complaint alleges that Applied's medium current/high energy ion implanter machine launched in November 2000 infringes our patent for ion implantation equipment using radio frequency linear accelerator technology. We have also alleged that Applied unlawfully interfered with our existing and future contracts. On January 18, 2001, we filed a motion for a preliminary injunction for the reason, among others, that infringement at the time of industry transition between equipment capable of handling 200 millimeter wafers and equipment capable of handling 300 millimeter wafers would irreparably harm us. Through this motion, we asked the court to stop Applied from manufacturing, selling or offering to sell its medium current/high energy ion implanter machine and to order Applied to remove all our patented technology from implanters that Applied may have placed in chipmakers' plants for process development trials. Applied filed counterclaims of unfair competition, defamation and tortious interference with prospective economic advantage, all of which, it contends, arise from certain communications we allegedly made about the lawsuit and its claims of infringement.

In December 2002 the court issued a claim construction, interpreting the scope of our patent. In March 2003 the court made summary judgement rulings in light of the claim construction, narrowing the scope of the infringement issues to be determined by a jury in a trial set for May 2003. We believe our claims are meritorious and intend to pursue the matter vigorously. Although there can be no assurance of a favorable outcome and we have incurred significant legal expenses to pursue this litigation, we do not believe that our pursuit of this matter will have a material adverse effect on our financial condition, results of operations or liquidity. In the event that Applied is found not to have infringed, we expect that Applied will continue to sell its medium current/high energy implanter as a new and substantial competitor for sales of high energy/medium current ion implantation equipment.

We might face intellectual property infringement claims or patent disputes that may be costly to resolve and, if resolved against us, could be very costly to us and prevent us from making and selling our systems.

From time to time, claims and proceedings have been or may be asserted against us relative to patent validity or infringement matters. Our involvement in any patent dispute or

other intellectual property dispute or action to protect trade secrets, even if the claims are without merit, could be very expensive to defend and could divert the attention of our management. Adverse determinations in any litigation could subject us to significant liabilities to third parties, require us to seek costly licenses from third parties and prevent us from manufacturing and selling our systems. Any of these situations could have a material adverse effect on us and cause the value of our common stock to decline.

**AXCELIS TECHNOLOGIES, INC.**

**Certification of the Chief Executive Officer**

**Pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code**

The undersigned Chief Executive Officer of Axcelis Technologies, Inc., a Delaware corporation, hereby certify, for the purposes of Section 1350 of Chapter 63 of title 18 of the United States Code (as implemented by Section 906 of the Sarbanes-Oxley Act of 2002) as follows:

This Form 10-K annual report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and the information contained herein fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned have executed this Certification as of March 28, 2003.

/s/ Mary G. Puma

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Mary G. Puma  
Chief Executive Officer of Axcelis Technologies, Inc.

**AXCELIS TECHNOLOGIES, INC.**

**Certification of the Chief Financial Officer**

**Pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code**

The undersigned Chief Financial Officer of Axcelis Technologies, Inc., a Delaware corporation, hereby certify, for the purposes of Section 1350 of Chapter 63 of title 18 of the United States Code (as implemented by Section 906 of the Sarbanes-Oxley Act of 2002) as follows:

This Form 10-K annual report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and the information contained herein fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned have executed this Certification as of March 28, 2003.

/s/ Cornelius F. Moses, III

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Cornelius F. Moses, III  
Chief Financial Officer of Axcelis Technologies, Inc.

## AXCELIS TECHNOLOGIES, INC.

## Audit Committee Charter, as amended

As Adopted by the Board of Directors on January 23, 2003

The Audit Committee shall be responsible to assist the Board of Directors in monitoring and oversight of (1) the integrity of the Company's financial statements and its systems of internal accounting and financial controls and (2) the independence and performance of the Company's internal and independent auditors.

## Composition of the Audit Committee

The Audit Committee shall be comprised of at least three directors appointed by the Board, each of whom:

(1) must (a) be independent as defined under Rule 4200 of the Nasdaq Marketplace Rules (the "Nasdaq Rules") (subject to the limited exception in Nasdaq Rule 4350(d)(2)(B)); (b) meet the criteria for independence set forth in Section 301 of the Sarbanes-Oxley Act of 2002 and (c) not own or control 20% or more of the Company's voting securities, or such lower measurement as may be established by the Securities and Exchange Commission (the "SEC") in rulemaking under Section 301 of the Sarbanes-Oxley Act; and

(2) must be able to read and understand fundamental financial statements, including the Company's balance sheet, income statement, and cash flow statements.

Additionally, at least one member of the Audit Committee must be a "financial expert" as defined by the SEC as required by Section 407(b) of the Sarbanes-Oxley Act of 2002.

## Authority to Engage Advisors

The Audit Committee shall have the authority to retain special legal, accounting or other consultants to advise the Committee as the Committee determines necessary to carry out its duties as required by the Section 301(5) of the Sarbanes Oxley Act and the Nasdaq Rules. The Audit Committee shall be provided with adequate funding for auditing services and other consultants as contemplated by Section 301(6) of the Sarbanes Oxley Act of 2002. The Audit Committee may request any officer or employee of the Company or the Company's outside counsel or independent auditor to attend a meeting of the Committee or to meet with any members of, or consultants to, the Committee.

## Audit Committee Duties

The Audit Committee shall:

## Audit Committee Charter

1. Review and reassess the adequacy of this Charter annually and recommend any proposed changes to the Board for approval.

## Review of Financial Statements and Accounting Policies

2. Review the annual audited financial statements with management and the independent auditor before publication, including major issues regarding accounting and auditing principles and practices as well as the adequacy of internal controls that could significantly affect the financial statements, and recommend to the Board that the financial statements be included in the annual report to shareholders and annual report on Form 10-K.

3. Review analyses prepared by management and the independent auditor of significant financial reporting issues and judgments made in connection with the preparation of the Company's annual financial statements.

4. Review major changes to the Company's auditing and accounting principles and practices as suggested by the independent auditor, internal auditors or management.

5. Review with the Company's General Counsel legal matters that may have a material impact on the Company's financial statements.

6. Meet periodically with management to review the Company's major financial risk exposures and the steps management has taken to monitor and control such exposures.

7. Review at least annually any transactions between the Company and any director, officer or employee of the Company, other than ordinary course compensation arrangements.

## Appointment and Review of External Auditing Function.

8. Recommend to the Board the appointment of the independent auditor, which will be accountable to the Audit Committee and the Board, as representatives of the stockholders of the Company. The Audit Committee shall have the sole authority for the appointment, compensation and oversight of the work of any registered public accounting firm employed by the Company (including resolution of disagreements between management and the auditor regarding financial reporting) for the purpose of preparing or issuing an audit report or related work, and each such registered public accounting firm shall report directly to the Audit Committee.

9. Pre-approve the fees to be paid to the independent auditor for audit services.

10. Evaluate and pre-approve the retention of the independent auditor for non-audit services and the fees for such services, other than those services exempted by virtue of the de minimus exception

contained in Section 202(i)(3) of the Sarbanes Oxley Act of 2002. Non-audit services shall mean all services provided by the independent auditor to the Company other than auditing of the Company's financial statements and statutory audits of consolidated subsidiaries required by law and comfort opinions in connection with securities underwriting) and otherwise as defined by the SEC in rulemaking under the Sarbanes-Oxley Act. In evaluating whether to approve non-auditing services, the Committee shall take into account whether such non-auditing services (1) do not create an apparent conflict of interest for the auditing firm, (2) are synergistic with the audit work and (3) do not involve material fees payable to the auditing firm.

11. Obtain annually a formal written statement from the independent auditor delineating all relationships between the auditor and the Company, consistent with Independence Standards Board Standard No. 1, and discuss such statement with the auditor and, if so determined by the Audit Committee, recommend that the Board take appropriate action to satisfy itself of the independence of the auditor.

12. Annually review with the independent auditor and management the experience and qualification of the senior members of the independent auditor team and the quality control procedures of the auditing firm.

13. At least every five years, evaluate together with the Board the performance of the independent auditor and determine whether to recommend that the Board replace the independent auditor.

14. Approve any employment by the Company of an individual who had, at any time during the prior three year period, provided services to the Company while employed by the Company's independent auditor. The Company may not employ any person as the Company's chief executive officer, controller, chief financial officer, chief accounting officer or any person serving in an equivalent position for the Company, who, during the three year period preceding the date of the initiation of the current audit (1) was employed by the Company's current independent auditor and (2) participated in any capacity in the audit of the Company. Internal Audit Function.

15. Annually review the scope and resources to implement management's internal auditing plans, including the engagement of any external services and appointment and any replacement of the Company's director of internal auditing.

Oversight Functions.

16. Meet with the director of internal auditing or provider of out-sourced internal audit services and independent auditor prior to the Company's annual audit to review the scope, planning and staffing of the audit.

17. Discuss with the independent auditor any matters raised by the auditor under generally accepted auditing standards relating to the conduct of the Company's annual audit and quarterly reviews, including the independent auditor's judgment about the quality of the Company's accounting principles as applied in its financial reporting, and a specific discussion of accounting issues which were referred to the auditor's national office during the period. In regard to quarterly reviews, this discussion may be held either through the entire Committee or through its Chairman on the Committee's behalf.

18. Review with the independent auditor any problems or difficulties the auditor may have encountered and any management letter provided by the auditor and the Company's response to that letter.

19. Review with management and the independent auditor the Company's quarterly financial statements as early as possible and in any case prior to the filing of each Form 10-Q report. This review may be conducted either through the entire Committee or through its Chairman on the Committee's behalf. In addition, at least quarterly, review with management any off-balance sheet related entities on the Company's financial statements.

20. Meet at least quarterly with the Company's chief financial officer, director of internal auditing and out-sourced internal audit function representatives and independent auditor in separate executive sessions.

21. Prepare the report required by the rules of the SEC to be included in the Company's annual proxy statement.

22. Establish procedures for:  
(i) the receipt, retention, and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing matters; and  
(ii) the confidential, anonymous submission by employees of the Company regarding questionable accounting or auditing matters.

23. The Audit Committee shall make regular reports to the Board concerning the Committee's actions, conclusions and recommendations.

While the Audit Committee shall have the responsibilities and powers set forth in this Charter, it shall not be the duty of the Committee to plan or conduct audits or to determine that the Company's financial statements are complete and accurate and in accordance with generally accepted accounting principles. These instead shall be the responsibility of management and the independent auditor. Except in the case where matters are brought to the attention of the Audit Committee, it shall not be the duty of the Audit Committee to conduct investigations, or to assure compliance with laws and regulations or the Company's code of conduct.

Axcelis Technologies Inc.

Governance Policies

Adopted by the Nominating and Governance Committee of the Board of Directors September 25, 2002

Board Composition and Criteria for Evaluation of Directors and Nominees

1. The Board shall be comprised of a majority of Independent Directors.

2. For the purposes of this policy, "Independent Director" shall have the meaning set forth in the listing standards for the Nasdaq National Market (the "Nasdaq Rules"), and such definition in this policy shall change as and when the definition in such Rules change, provided that the Nominating and Governance Committee shall promptly circulate any changes to such definition to all members of the Board of Directors.

3. Any determination of whether an incumbent Board member is an "Independent Director" under the then effective Nasdaq Rules shall be made by a majority of the directors then in office who have either been affirmatively determined to be "Independent" or for whom there is no pending question of independence.

4. Former CEOs of the Company will not remain on the Board.

5. All new candidates for election to the Board and all Board members eligible for nomination for re-election to the Board shall be evaluated prior to nomination for election or re-election based on criteria developed by the Nominating and Governance Committee, including but not limited to the following:

(a) such candidate or Board member's current level of, and on-going commitment to, education regarding the responsibilities of a member of a Board of Directors under standards established by the Nominating and Governance Committee;

(b) the adequacy of such candidate or Board member's time available to commit to responsibilities as a member of the Board;

(c) the existence of any financial relationship with the Company other than that arising as an employee of the Company, as a Board member and/or as shareholder; and

(d) in the case of re-election, such member's compliance with our Director Stock Ownership Policy.

6. New directors should receive a director orientation program to familiarize them with the Company's business, industry trends, and recommended governance practices.

Chairman of the Board

7. The duties of the Chairman of the Board include setting Board agendas and such other responsibilities as may be assigned to him or her by the Board of Directors in accordance with the Company's bylaws.

Conduct of the Board of Directors and Committees

8. The Board shall form an Audit, Compensation and Nominating and Governance Committees.

9. The composition of the Audit Committee shall satisfy the requirements of the Nasdaq Rules, the Sarbanes-Oxley Act of 2002 and the rules and regulations of the Securities and Exchange Commission.

10. The composition of the Compensation Committee shall satisfy the requirements of the Nasdaq Rules, the Securities and Exchange Commission Rule 16b-3 and the Internal Revenue Service requirements to exempt option compensation from the limitations on deductibility under I.R.C. Section 162(m).

11. The composition of the Nominating and Governance Committee shall meet the requirements of the Nasdaq Rules.

12. Independent Directors shall meet regularly in executive session, both as the full Board and in Committees.

13. Minutes of all Board committees shall be submitted to the full Board for their information.

14. At each Board meeting, Committee chairmen shall report to the full Board on Committee activities since the last Board meeting.

15. The Board and Committees shall be free to hire independent advisors as they in their sole discretion determine appropriate.

16. The Board should undertake an annual review of the Company's strategic direction.

Shareholder Rights

17. The Company shall not limit the rights of shareholders in contravention of Delaware law or the listing requirements of Nasdaq National Market.

18. Board Committee charters and these Governance Policies shall be filed annually with the Company's Form 10-K or proxy statement for the information of our shareholders.

19. Shareholder approval will be solicited on all equity compensation plans to the extent required by the Nasdaq Rules.

## AXCELIS TECHNOLOGIES, INC.

## Nominating and Governance Committee Charter

As Adopted by the Board of Directors on September 25, 2002

The Nominating and Governance Committee shall be comprised of at least three Directors appointed by the Board all of whom are independent, as defined by the listing standards for the Nasdaq National Market (the "Nasdaq Rules"), subject to such exceptions as may be allowed by such Rules.

The Nominating and Governance Committee shall have the authority to retain special legal, accounting or other consultants to advise the Committee. The Nominating and Governance Committee may request any officer or employee of the Company or the Company's outside counsel or independent Nominating and Governance to attend a meeting of the Committee or to meet with any members of, or consultants to, the Committee.

The Nominating and Governance Committee shall make regular reports to the Board concerning the Committee's actions, conclusions and recommendations.

The Nominating and Governance Committee shall:

1. Recommend to the Board the appropriate Board size to accommodate key objectives, balancing sufficient independent directors to perform the functions normally assigned to the oversight committees and the need for efficient functioning of discussion and decision making.
2. Establish criteria for Board membership and review prospective Board candidates.
3. Approve all director nominations for election and re-election to the Board.
4. Review at least annually the appropriate skills and characteristics required of Board members in the context to the composition of the Board and the needs of the business.
5. Establish an independent director succession plan and selection process.
6. Review any shareholder nominations for directors.
7. Review any changes to non-employee director compensation (including the non-executive Chairman of the Board) and provide a recommendation as to the adoption of such changes to the full Board.
8. Review and approve any "related party" transactions as required by the Nasdaq Rules, including (a) business arrangements between the Company and directors or their affiliates or between the Company and employees, other than compensation for service as a director or as an employee of the Company, and (b) any other relationships between a director or employee and the Company or a third party (including membership on the boards of directors of a third party) which create the appearance or reality of a current or potential conflict of interest.
9. Establish guidelines for, and discuss with some pre-defined frequency the selection and rotation of committee members, balancing reasonable continuity of committee members with rotation.
10. Oversee the content and implementation by management of good governance policies within the Corporation, including but not limited to a Business Ethics Policy.
11. Establish governance policies for the Corporation in its relationship to its shareholders, the Board and its employees.
12. Recommend director education programs and establish a method of managing records of director education undertaken by each director.
13. Review and reassess the adequacy of this Charter annually and recommend any proposed changes to the Board for approval.
14. Lead annual Board self-assessment processes and make recommendations to the full Board with respect to the re-nomination of existing directors.

Axcelis Technologies, Inc.  
Compensation Committee Charter

Adopted by the Board of Directors on January 23, 2003

The Compensation Committee of the Board of Directors of Axcelis Technologies, Inc. shall have all the authority of the Board of Directors to act or exercise corporate powers with respect to the compensation of the executive officers and the administration of Axcelis' equity compensation plans. In such role, the Compensation Committee will act as an independent representative of shareholders of Axcelis.

#### Composition of the Committee

The Committee shall have at least two members appointed by the Board of Directors, each of whom must meet the requirements of:

- \* "Independence" as defined by the listing standards for the Nasdaq National Market (subject to exceptions allowable under such rules);
- \* "outside director" as defined for the purposes of Section 162(m) of the Internal Revenue Code of 1986, as amended; and
- \* "Non-employee director" as defined under Rule 16b-3 under the Securities Exchange Act of 1934, as amended.

The Board of Directors may appoint a chairperson of the Committee.

#### Resources for the Committee

At the request of the Committee, members of management will attend Committee meetings to make recommendations, exchange information and facilitate the implementation of compensation philosophy or specific actions. The Committee may, in its discretion, retain a compensation consultant and/or other legal or regulatory advisors, from time to time, to advise the Compensation Committee on executive compensation practices and policies, or any other matters within the charter of the Compensation Committee.

#### Establishment of Compensation Philosophy

- \* Review annually and approve compensation policy, structure and objectives for all employees generally.
- \* Approve any significant deviations from compensation policy, structure and objectives for all employees from those last presented to the Committee.
- \* The Committee shall articulate and report on Axcelis' compensation philosophy as required by SEC proxy rules.

#### Approval of Executive Officer Compensation and Terms of Employment

- \* Review and approve all compensation to executive officers of the Company (as defined below). Executive officer compensation subject to Committee approval shall include the annual salary level, short-term and long-term incentive compensation and equity grants, but may exclude compensation or benefits generally available to Axcelis employees. In this connection, the committee's responsibility expressly includes review and approval of:

- \* the structure of short term incentive (bonus) compensation plans in which executive officers participate;
- \* the establishment and achievement of annual or other periodic objectives for such plans;
- \* benefits and perquisites available to executive officers but not available to all employees; and
- \* all other compensation of executive officers, whether or not under any established plan.

- \* Compensation of the executive officers will be determined by the Committee meeting in executive session. The Chief Executive Officer may be present (but not vote) during the Committee's deliberations regarding executive officer compensation, except in the case of deliberations regarding the compensation of the Chief Executive Officer him- or herself.

- \* Evaluate the need for, and provisions of, employment contracts/severance arrangements for executive officers.

- \* Evaluate and approve the structure of any cash incentive plan in which executive officers participate, including the funding of the plan and the appropriateness of quantitative and qualitative measures for pay-outs under such incentive plans.

- \* Ensure that an annual review of executive officer performance and succession planning is presented to the Board.

- \* For the purpose of this charter, "executive officer" shall have same meaning as "officer" as the term is defined in Section 16 of the Securities Exchange Act of 1934, as amended, and Rule 16a-1 thereunder.

#### Equity Plan Administration

- \* Recommend to the Board of Directors for approval the initial design and subsequent amendments of any equity plans, including the 2000 Stock Plan, the Employee Stock Purchase Plan, other option or restricted stock plans and any other equity compensation programs (collectively "Equity Plans").

- \* Provide interpretations of the provisions of the Equity Plans as needed.

\* To the extent the Equity Plans authorize the Board or the Committee to exercise discretion in the implementation of the Equity Plans, to do so.

\* Approve any delegation to management of authority to approve annual, bonus grant and new hire stock-based grants under 2000 Stock Plan or other option or restricted stock plans.

\* Manage the number of shares reserved for issuance under Equity Plans and the actual granting of awards thereunder in light of the need to offer competitive compensation to employees and still serve the interests of shareholders.

\* Oversee action required or deemed desirable to be taken with regard to compensation and benefit plans in any major corporate restructuring.

#### Committee Charter

\* Review and reassess the adequacy of this Charter annually and recommend any proposed changes to the Board for approval.

#### Annual Self Evaluation

\* In coordination with the Nominating and Governance Committee, to engage in an annual self-evaluation and performance appraisal of the committee.