

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

AXCELIS TECHNOLOGIES, INC.
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE
(STATE OR OTHER JURISDICTION OF
INCORPORATION OR ORGANIZATION)

3559
(PRIMARY STANDARD INDUSTRIAL
CLASSIFICATION CODE NUMBER)

34-1818596
(I.R.S. EMPLOYER
IDENTIFICATION NO.)

55 CHERRY HILL DRIVE
BEVERLY, MA 01915
(978) 232-4000
(ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING AREA CODE, OF
REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES)

BRIAN R. BACHMAN
AXCELIS TECHNOLOGIES, INC.
55 CHERRY HILL DRIVE
BEVERLY, MA 01915
(978) 232-4000
(NAME, ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING AREA CODE,
OF AGENT FOR SERVICE)

COPIES TO:

MICHAEL C. MCLEAN
KIRKPATRICK & LOCKHART LLP
HENRY W. OLIVER BUILDING
535 SMITHFIELD STREET
PITTSBURGH, PENNSYLVANIA 15222-2312

J. ROBERT HORST
EATON CORPORATION
1111 SUPERIOR AVENUE
CLEVELAND, OHIO 44114

JONATHAN JEWETT
SHEARMAN & STERLING
599 LEXINGTON AVENUE
NEW YORK, NEW YORK 10022

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as
practicable after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on
a delayed or continuous basis pursuant to Rule 415 under the Securities Act of
1933, check the following box. []

If this Form is filed to register additional securities for an offering
pursuant to Rule 462(b) under the Securities Act, please check the following box
and list the Securities Act registration statement number of the earlier
effective registration statement for the same offering. []

If this Form is a post-effective amendment filed pursuant to Rule 462(c)
under the Securities Act, check the following box and list the Securities Act
registration statement number of the earlier effective registration statement
for the same offering. []

If delivery of the prospectus is expected to be made pursuant to Rule 434,
please check the following box. []

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE (1)	AMOUNT OF REGISTRATION FEE
COMMON STOCK, PAR VALUE \$0.001 PER SHARE.....	\$500,000,000	\$132,000

(1) Estimated solely for the purpose of calculating the registration fee
pursuant to Rule 457(o) under the Securities Act of 1933.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(A) OF THE SECURITIES ACT OF 1933 OR UNTIL THIS REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.

THE INFORMATION IN THIS PRELIMINARY PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THESE SECURITIES MAY NOT BE SOLD UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PRELIMINARY PROSPECTUS IS NOT AN OFFER TO SELL NOR DOES IT SEEK AN OFFER TO BUY THESE SECURITIES IN ANY JURISDICTION WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION. DATED MAY 4, 2000.

Shares

AXCELIS TECHNOLOGIES, INC.
Common Stock

This is an initial public offering of shares of common stock of Axcelis Technologies, Inc. All of the shares of common stock are being sold by Axcelis.

Prior to this offering, there has been no public market for the common stock. It is currently estimated that the initial public offering price per share will be between \$ and \$. Axcelis intends to have the common stock approved for quotation on the Nasdaq National Market under the symbol "ACLS".

See "Risk Factors" beginning on page 9 to read about factors you should consider before buying shares of the common stock.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY OTHER REGULATORY BODY HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

	Per Share	Total
	-----	-----
Initial public offering price.....	\$	\$
Underwriting discount.....	\$	\$
Proceeds, before expenses, to Axcelis.....	\$	\$

To the extent that the underwriters sell more than shares of the common stock, the underwriters have the option to purchase up to an additional shares from Axcelis at the initial public offering price less the underwriting discount.

Goldman, Sachs & Co. expects to deliver the shares against payment in New York, New York on , 2000.

GOLDMAN, SACHS & CO. MORGAN STANLEY DEAN WITTER

Prospectus dated , 2000.

PROSPECTUS SUMMARY

This summary does not contain all of the information that you should consider before investing in our common stock. You should read the entire prospectus carefully, especially "Risk Factors" beginning on page 9.

AXCELIS

We are a leading producer of ion implantation equipment used in the fabrication of semiconductors and, together with our Japanese joint venture, were ranked number one in the world in this category for 1999 by Dataquest Inc. The ion implantation process provides a means for introducing charged ions into the surface of a silicon wafer in order to form the active components of a semiconductor. We also produce dry strip, photostabilization and 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 are a 50-50 joint venture partner in Japan with Sumitomo Heavy Industries, Ltd. This joint venture, which is known as SEN, licenses our technology and is the leading producer of ion implantation equipment in Japan.

Our customers are located in North America, Europe and Asia Pacific. We and SEN serve 19 of the 20 largest semiconductor manufacturers in the world. We believe that more than 3,200 of our products, including products shipped by SEN, are in use worldwide. We manufacture our equipment at three locations in the United States, and we support customers in 19 countries through 49 support locations in nine countries. SEN manufactures equipment at its Toyo, Japan facility.

We have been at the forefront of technological innovation in the ion implant sector. We developed the first high current ion implantation system in the late 1970s and the first high energy ion implantation system in the 1980s. In 1999, we installed the first 300 millimeter high energy ion implantation system, which we believe will be the next generation of ion implant products. In addition, we pioneered the development of photostabilization in 1983, and we have developed the only 300 millimeter production photostabilizer in the industry.

The semiconductor industry is continuing to experience growth in demand for semiconductors, or chips, for use in personal computers, telecommunication equipment, digital consumer electronics, wireless communication products and other applications. According to industry sources, worldwide sales of semiconductors were \$149 billion in 1999. While the semiconductor industry has been highly cyclical, the semiconductor market, as measured by total sales, grew at an average annual compound rate of 14.5% in the period from 1989 through 1999. World Semiconductor Trade Statistics, an industry trade association, projects continued growth at similar rates for the next two or three years. Sales of high energy ion implanters, our largest product line, have grown substantially faster than semiconductors over this period.

The increasing demand for semiconductors has required manufacturers to increase chip production. Manufacturers have primarily increased production through efficiency improvements, the addition of manufacturing equipment in existing fabrication facilities and the construction of new fabrication facilities. Efficiency improvements have been derived largely from increased equipment utilization and higher manufacturing yields. In recent years, however, the ability to make significant efficiency gains has diminished. For that reason, as market conditions have improved since early 1999, semiconductor manufacturers have been meeting the increased demand for chips mostly by building new fabrication facilities and by making additional equipment purchases to expand existing fabrication facilities.

Our objective is to enhance our position as a leading producer of ion implantation equipment and to offer on an integrated basis a broad array of products and services used primarily in the front-end of the chip fabrication process. Key elements of our strategy to achieve our objective include:

- increase ion implantation market penetration;
- maintain strong commitment to research and development;
- capitalize on broad product lines to provide an integrated range of front-end equipment;
- provide lowest cost of ownership;
- provide superior customer service; and
- reduce cycle times in our businesses.

OUR RELATIONSHIP WITH EATON CORPORATION

We are currently a wholly owned subsidiary of Eaton Corporation. On April 26, 2000, Eaton announced its plan to reorganize its semiconductor equipment operations into an independent, publicly held company. Prior to the completion of this offering, Eaton will substantially complete the transfer to us of all of the assets of its semiconductor equipment operations that are not currently owned by us, and we will assume the related liabilities. In connection with the reorganization, we changed our name from Eaton Semiconductor Equipment Inc. to Axcelis Technologies, Inc. After completion of this offering, Eaton will own approximately % of our outstanding common stock, or % if the underwriters fully exercise their option to purchase additional shares.

Eaton currently plans to complete the divestiture of our company approximately six months following the completion of this offering by distributing all of its shares of our common stock on a tax-free basis to Eaton shareholders. Eaton may accomplish this divestiture through a split-off, a spin-off or some combination of both transactions. Eaton will, in its sole discretion, determine the timing, structure and terms of the divestiture of the remaining shares of our common stock that it owns. The planned divestiture by Eaton is subject to receiving a private letter ruling from the Internal Revenue Service that the divestiture will be tax-free to Eaton and its shareholders and that our separation from Eaton qualifies as a tax-free reorganization for U.S. federal income tax purposes. Eaton is not, however, obligated to complete the divestiture, and we cannot assure you whether or when it will occur.

On May 3, 2000, our Board of Directors declared a dividend of \$300 million payable to Eaton. We have the option of paying this dividend in either cash or notes or in a combination thereof. Any notes issued would bear interest and would have a maturity not to exceed two years. We presently expect to pay all of this dividend in cash out of the net proceeds of this offering.

We will enter into agreements with Eaton providing for the substantial completion of the reorganization of Eaton's semiconductor equipment operations and the separation of our business operations from Eaton prior to the completion of this offering. These agreements will provide for, among other things:

- the transfer from Eaton to us of assets and the assumption by us of liabilities relating to our business, and
- various interim and ongoing relationships with Eaton.

The agreements regarding the separation of our business operations from Eaton are described more fully in the section entitled "Arrangements With Eaton" included elsewhere in this prospectus. The terms of these agreements, which are made in the context of a parent-subsidary relationship, may be more or less favorable to us than if they had been negotiated with unaffiliated third parties. See "Risk Factors -- Risks Related To Our Separation From Eaton". Our assets and liabilities are described more fully in our combined financial statements and notes to those statements that are included elsewhere in this prospectus.

THE OFFERING

Common stock offered.....	shares
Common stock to be outstanding immediately after this offering.....	shares
Common stock to be held by Eaton immediately after this offering.....	shares
Use of proceeds.....	We intend to use the estimated net proceeds of \$ million from this offering for the payment of a previously declared dividend payable to Eaton of \$300 million and for general corporate purposes
Proposed Nasdaq Stock Market symbol.....	"ACLS"

Unless we specifically state otherwise, the information in this prospectus gives effect to a -for-1 stock split that will be effected prior to the completion of this offering and does not take into account the issuance of up to shares of common stock that the underwriters have the option to purchase. If the underwriters exercise in full their option to purchase additional shares, shares of common stock will be outstanding immediately after this offering.

The information above does not take into account shares of our common stock reserved for issuance under our stock plans, of which options to purchase shares have been granted as of , 2000. In addition, we may assume substantially all of the Eaton stock options held by our employees on the date Eaton completes its divestiture of our company. If the divestiture had been completed on , 2000, these options to purchase Eaton common shares would have converted into options to purchase shares of our common stock on that date, based on an assumed initial public offering price of \$ per share and the closing price of \$ per Eaton common share on , 2000.

Our principal executive offices are located at 55 Cherry Hill Drive, Beverly, Massachusetts 01915, and our telephone number is (978) 232-4000. Our website is located at <http://www.semiconductor.eaton.com>. The information on our website is not a part of this prospectus.

In this prospectus, "Axcelis," "we," "us" and "our" each refers to Axcelis Technologies, Inc., its subsidiaries and its predecessors, after giving effect to the reorganization and separation of our business operations from Eaton, and not to the underwriters or Eaton. Unless the context otherwise requires, "Eaton" refers to Eaton Corporation and its subsidiaries other than us, "Fusion" refers to Fusion Systems Corporation, a wholly owned subsidiary of our company, "Sumitomo" refers to Sumitomo Heavy Industries Inc. and its subsidiaries and "SEN" refers to Sumitomo Eaton Nova Corporation, our joint venture with Sumitomo.

Eaton has authorized us to use "Eaton" as a trademark. We own the symbolic replicas of our product lines and the following trademarks: Gemini(TM), Fusion 200(TM), Fusion 300(TM) and Summit 300(TM). All other trademarks or trade names referred to in this prospectus are the property of their respective owners.

SUMMARY HISTORICAL COMBINED FINANCIAL DATA

The following tables present our summary historical combined financial data. The information set forth below should be read together with "Management's Discussion and Analysis" and our historical combined financial statements and notes to those statements included elsewhere in this prospectus. Our statements of combined operations data set forth below for the years ended December 31, 1997, 1998 and 1999 and the combined balance sheet data as of December 31, 1998 and 1999 are derived from our audited combined financial statements included in this prospectus which have been audited by Ernst & Young LLP, independent auditors, whose report is also included in this prospectus.

The statements of combined operations data for the years ended December 31, 1995 and 1996 and the combined balance sheet data as of December 31, 1995, 1996 and 1997 are derived from our unaudited combined financial statements that are not included in this prospectus. The statements of combined operations data for the three months ended March 31, 1999 and 2000 and the combined balance sheet data as of March 31, 2000 are derived from unaudited combined financial statements included in this prospectus and, in the opinion of management, include all adjustments, consisting only of normal recurring accruals, that are necessary for a fair presentation of our financial position and operating results for these periods. The historical financial information may not be indicative of our future performance and does not reflect what our financial position and operating results would have been had we operated as a separate, stand-alone entity during the periods presented.

	YEAR ENDED DECEMBER 31,					THREE MONTHS ENDED MARCH 31,	
	1995	1996	1997	1998	1999	1999	2000
	(UNAUDITED)					(UNAUDITED)	
(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)							
STATEMENTS OF COMBINED OPERATIONS DATA (1)							
Net sales.....	\$385,080	\$448,663	\$ 460,010	\$ 265,709	\$397,267	\$ 59,124	\$143,051
Gross profit (2).....	138,335	157,246	172,802	64,229	157,082	20,768	61,474
Other costs & expenses:							
Selling.....	34,375	45,600	47,148	42,134	37,946	9,087	11,598
General & administrative.....	23,326	33,437	38,287	47,075	45,925	9,612	13,030
Research & development.....	21,802	35,107	70,466	78,656	51,599	12,183	16,125
Amortization of goodwill & intangible assets.....		100	3,936	9,279	9,279	2,320	2,320
Restructuring charges (2).....				24,994			
Write-off of in-process research & development (1).....			85,000				
Income (loss) from operations...	58,832	43,002	(72,035)	(137,909)	12,333	(12,434)	18,401
Other income (expense):							
Royalty income.....	8,273	9,590	6,265	7,949	5,854	965	3,823
Equity income (loss) of SEN...	7,044	10,148	3,283	(2,132)	1,338	(2,447)	3,340
Other income (expense)-net....	(163)	(1,837)	1,123	(1,045)	28	(145)	1,549
Income (loss) before income taxes.....	73,986	60,903	(61,364)	(133,137)	19,553	(14,061)	27,113
Income taxes (credit).....	25,365	14,599	103	(51,090)	5,125	(3,686)	8,251
Net income (loss).....	\$ 48,621	\$ 46,304	\$ (61,467)	\$ (82,047)	\$ 14,428	\$ (10,375)	\$ 18,862
Earnings (loss) per common share:							
Basic and diluted net income (loss) per share.....	\$	\$	\$	\$	\$	\$	\$
Shares used in computing basic and diluted net income (loss) per share...							
Unaudited pro forma basic and diluted net income per share (3).....					\$	\$	
Shares used in computing unaudited pro forma basic and diluted net income per share (3).....							

	DECEMBER 31,					MARCH 31, 2000	
	1995	1996	1997	1998	1999	ACTUAL	PRO FORMA AS ADJUSTED(4)
	(UNAUDITED)					(UNAUDITED)	
(IN THOUSANDS)							
COMBINED BALANCE SHEET DATA							
Cash & short-term investments.....	\$ 1,662	\$ 2,159	\$ 3,479	\$ 3,338	\$ 3,530	\$ 2,803	
Working capital.....	102,578	112,092	149,041	91,028	169,759	198,255	
Total assets.....	213,659	279,189	457,567	341,121	422,835	457,583	
Stockholder's net investment.....	151,112	190,429	349,192	269,161	342,296	371,718	

(footnotes on following page)

NOTES:

- (1) On August 4, 1997, we acquired Fusion, a developer and manufacturer of dry strip and photostabilization systems for use in the semiconductor manufacturing process. The acquisition was accounted for under the purchase method of accounting and, accordingly, our combined financial statements include Fusion's results of operations beginning August 4, 1997. Net income in 1997 was reduced by an \$85.0 million write-off of purchased in-process research and development related to the acquisition of Fusion, with no income tax benefit.
- (2) Net income in 1998 was reduced by a restructuring charge of \$42.4 million (\$27.5 million aftertax) of which \$17.4 million related to inventory write-downs and reduced gross profit and \$25.0 million related to workforce reductions and other restructuring actions and was recorded in operating expenses.
- (3) Pro forma basic and diluted net income per share amounts are calculated based on million shares of our common stock outstanding that are owned by Eaton prior to this offering plus .
- (4) Pro forma as adjusted amounts give effect to the following actions as though these actions had been taken as of March 31, 2000:
 - our sale of shares of common stock in this offering at an assumed initial public offering price of \$ per share resulting in net proceeds of \$ million after deducting an assumed underwriting discount and estimated offering expenses payable by us;
 - payment of a previously declared dividend to Eaton of \$300 million; and
 - payment of an intercompany receivable to us from Eaton, which was approximately \$16.5 million at March 31, 2000 and related to Eaton's management of substantially all of our cash and other items.

RISK FACTORS

Investing in our common stock involves a high degree of risk and uncertainty. You should carefully consider the risks and uncertainties described below before purchasing our common stock. If any of the following risks actually occur, our business, financial condition or results of operations could be harmed. In that case, the trading price of our common stock could decline, and you could lose all or part of your investment.

RISKS RELATING TO OUR BUSINESS

DOWNTURNS IN THE SEMICONDUCTOR INDUSTRY HAVE HAD IN THE PAST AND MAY HAVE IN THE FUTURE A SEVERE ADVERSE EFFECT ON OUR SALES AND PROFITABILITY.

Our business depends in significant part upon capital expenditures by semiconductor manufacturers, especially manufacturers that are 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.

The semiconductor industry is highly cyclical and has experienced periodic downturns that have had a severe adverse impact on the semiconductor industry and on suppliers to the semiconductor industry, including us. The semiconductor industry has in the past experienced, and will likely experience in the future, periods of oversupply that result in significantly reduced demand for capital equipment, including our systems. When these periods occur, we will be adversely affected. For instance, semiconductor equipment manufacturers were affected by a severe downturn in the semiconductor industry in 1998 during which our net sales declined by \$194.3 million, or 42.2%, from the prior year.

We anticipate that a significant portion of new orders will depend upon demand from semiconductor manufacturers who build or expand large fabrication facilities. If existing fabrication facilities are not expanded or new facilities are not built as rapidly as anticipated, demand for our systems may decline, and we may be unable to generate significant new orders for our systems, which would adversely affect our sales levels. In addition, the continued requirements for 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 during downturns in proportion to sales declines. Any future downturns or slowdowns in the semiconductor industry may materially and adversely affect us.

IF WE FAIL TO DEVELOP AND INTRODUCE NEW OR ENHANCED PRODUCTS AND SERVICES FOR SEMICONDUCTOR MANUFACTURERS, WE WILL NOT BE ABLE TO COMPETE EFFECTIVELY AND OUR BUSINESS WILL SUFFER.

Rapid technological changes in semiconductor manufacturing processes require the semiconductor equipment industry to respond quickly to changing customer requirements. We believe that 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. Our ability to successfully develop, introduce and sell new and enhanced systems depends upon a variety of factors, including new product selection, timely and efficient completion of product design and development, timely and efficient implementation of manufacturing and assembly processes, product performance in the field and effective sales and marketing. We cannot assure you that we will be successful in selecting, developing, manufacturing and marketing new products or in enhancing our existing products.

Due to the risks inherent in transitioning to new products, we will need to accurately forecast demand for new products while managing the transition from older products. Our inability to develop or meet the technical specifications of any of our new systems or enhancements or to manufacture and ship these systems or enhancements in volume in a timely manner could materially and adversely affect us.

If new products have reliability or quality problems, we may experience reduced orders, higher manufacturing costs, delays in acceptance of and payment for new products, and additional service and warranty expense. In the past, we have experienced some delays as well as reliability and quality problems in connection with new product introductions, resulting in some of these consequences. We cannot assure you that we will successfully develop and manufacture new products or that our new products will be accepted in the marketplace. A failure to successfully introduce new products will have a material adverse effect on us.

We expect to continue to make significant investments in research and development. Future technologies, processes or product developments may render our current product offerings obsolete or we may not be able to develop and introduce new products or enhancements to existing products that satisfy customer needs in a timely manner or achieve market acceptance. The failure to do so could adversely affect us. If we are not successful in marketing and selling advanced processes or equipment to customers with whom we have formed long-term relationships, sales of our products to those customers could be adversely affected.

OUR BUSINESS WILL SUFFER IF WE FAIL TO COMPETE SUCCESSFULLY IN THE HIGHLY COMPETITIVE SEMICONDUCTOR EQUIPMENT INDUSTRY.

The market for semiconductor manufacturing equipment is highly competitive. We believe that, to remain competitive, we will require significant financial resources in order to offer a broad range of products, to maintain customer service and support centers worldwide and to invest in product and process research and development.

In the ion implantation market, we compete with a relatively small number of competitors. An acquisition of, or by, one of our competitors in the ion implant sector may result in a substantially strengthened competitor with greater financial, engineering, manufacturing, marketing and customer service and support resources. Competitors with substantially greater financial resources than we may be better positioned to successfully compete in the industry. In addition, there are smaller, emerging semiconductor equipment companies that provide innovative technology that may have performance advantages over our systems.

Competitors are expected to continue to improve the design and performance of their current products and processes and to introduce new products and processes with improved price and performance characteristics. 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 cannot assure you that we will be able to compete successfully with our existing competitors or with new competitors.

WE HAVE BEEN DEPENDENT ON SALES TO A LIMITED NUMBER OF LARGE CUSTOMERS, THE LOSS OF ANY OF WHICH, OR ANY REDUCTION IN ORDERS FROM SUCH CUSTOMERS, 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 1999, three of our customers accounted for 37.0% of our net sales and our ten largest customers accounted for 59.1%. None of our customers has entered into a long-term agreement requiring it to purchase our products. Product sales to certain of our customers may decrease in the near future as those customers complete current purchasing requirements for new or expanded fabrication facilities. 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, market, economic or competitive conditions in the semiconductor industry, could adversely affect us. The ongoing consolidation of semiconductor manufacturers may increase the adverse effect of losing a significant customer.

ANY DELAY IN GENERATING OR RECOGNIZING REVENUES IN A PARTICULAR QUARTER COULD CAUSE OUR RESULTS TO BE BELOW EXPECTATIONS, WHICH COULD CAUSE OUR STOCK PRICE TO DECLINE.

Any delay in generating or recognizing revenues could cause our operating results to be below the expectations of stock market analysts or investors. 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 \$150,000 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 and installation cycle, coupled with customers' competing capital budget considerations, make the timing of customer orders uneven and difficult to predict. 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 and installing orders as scheduled during that quarter as well as obtaining new orders for products to be shipped in that same quarter. Any delay in scheduled shipments or in shipments from new orders could materially and adversely affect us, which could cause our stock price to decline significantly.

In addition, the Securities and Exchange Commission's staff has issued Staff Accounting Bulletin No. 101 (SAB 101) that may require a change in revenue recognition policies by companies, including our company, whose products require installation and customer acceptance. We must ensure that we are in compliance with the revenue recognition criteria as defined in SAB 101 by the end of the second quarter of 2000. We are currently reviewing our revenue recognition policy to determine if any change is required to ensure compliance with SAB 101.

OUR QUARTERLY FINANCIAL RESULTS MAY FLUCTUATE SIGNIFICANTLY AND MAY FALL SHORT OF ANTICIPATED LEVELS, WHICH COULD CAUSE OUR STOCK PRICE TO DECLINE.

Our quarterly revenue and operating results have varied significantly in the past and may vary significantly in the future due to a number of factors, including:

- market acceptance of our products and the products of our customers;
- substantial changes in sales to significant customers;
- delays or cancellation of scheduled orders by customers;
- cyclicalities in the businesses of significant customers;
- timing of announcement and introduction of new products by us and by our competitors;
- sudden changes in component prices or availability;
- changes in product mix;
- delays in orders or payments due to customer financial difficulties;
- delays in shipment and installation;
- changes in the geographic mix of sales;
- increased fixed expenses per unit due to reductions in the number of products manufactured;

- manufacturing inefficiencies caused by uneven or unpredictable order patterns, reducing our gross margins; and
- higher fixed costs due to increased levels of research and development and expansion of our worldwide sales and marketing organization.

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 ARE DEPENDENT UPON OUR JAPANESE JOINT VENTURE AND SUMITOMO FOR ACCESS TO THE JAPANESE SEMICONDUCTOR EQUIPMENT MARKET.

In 1982, we established our SEN joint venture with Sumitomo to provide us with additional manufacturing capacity for our ion implantation products and local access to the Japanese semiconductor equipment market. Under our arrangements with Sumitomo, our ion implantation products may be sold in Japan only through the joint venture. We receive our 50% proportionate share of the equity income from SEN. As part of the joint venture arrangement, we have entered into a separate license agreement with SEN, last renewed in 1996, under which SEN is entitled to use our ion implantation technology in sales of ion implanters to semiconductor manufacturers in Japan. We receive substantial income from this license agreement. The license agreement expires on December 31, 2004 and is automatically renewable for successive five-year periods unless either party has provided one year's prior notice of termination. A substantial decline in SEN's sales and income from operations could have a material adverse effect on our net income.

We also have an arrangement with Sumitomo, outside the SEN joint venture, under which it is the exclusive distributor of our dry strip, photostabilization and rapid thermal processing products to semiconductor manufacturers in Japan. This distribution arrangement expires in 2002 and thereafter is renewable from year to year unless either party has given the other party six months prior written notice.

A DECLINE IN OUR INTERNATIONAL SALES COULD HARM OUR BUSINESS.

Sales of our products and services to customers outside the United States, including exports from our U.S. facilities, accounted for approximately 49.5% and 53.5% of our net sales in 1998 and 1999, 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, we are subject to 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 used in the United States;
- difficulties in managing distributors or representatives outside the United States;
- difficulties in staffing and managing foreign subsidiary operations; and
- potentially adverse tax consequences.

Substantially all of our sales to date have been denominated in U.S. dollars. Our products become less price competitive in countries with currencies that are declining in value in comparison to the dollar. This could cause us to lose sales or force us to lower our prices, which

would reduce our gross margins. If it becomes necessary for us to make sales denominated in foreign currencies, we will become more exposed to the risk of currency fluctuations. Our equity income and royalty income from SEN are denominated in Japanese yen.

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 Taiwan and Singapore. If we are unable to retain our existing key personnel, or attract and retain additional qualified personnel, we may from time to time experience inadequate levels of staffing to develop, manufacture and market our products and perform services for our customers. As a result, our growth could be limited due to our lack of capacity to develop and market our products to our customers, or we could fail to meet our delivery commitments or experience deterioration in service levels or decreased customer satisfaction, all of which could adversely affect us.

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 subassemblies of our products. We obtain many of these components and subassemblies from either a sole source or a limited group of suppliers. Because of our reliance on outside vendors generally, and on a limited group of suppliers in 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 prior to purchasing components and subassemblies from our suppliers. If our suppliers increase the cost of components or subassemblies, we may not have alternative sources of supply and may not be able to raise the price of our products to cover all or part of the increased cost of components.

The manufacture of some of these components and subassemblies 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 subassemblies, we may have to seek alternative sources of supply or manufacture these components internally. This could delay our ability to manufacture or timely ship our systems, causing us to lose sales, incur additional costs, delay new product introductions and suffer harm to our reputation.

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 protect our technology. In addition, any patents issued to us might be challenged,

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. In addition, the laws of some foreign countries may not protect our proprietary rights to as great an extent as do the laws of the United States and it may be more difficult to monitor the use of our products. As a result of these threats to our proprietary technology, we may have to resort to costly litigation to enforce our intellectual property rights.

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.

OUR FAILURE TO COMPLY WITH ENVIRONMENTAL REGULATIONS COULD RESULT IN SUBSTANTIAL LIABILITY TO US.

We are subject to a variety of foreign, federal, state and local laws, rules, regulations and ordinances relating to environmental protection. These laws, rules, regulations and ordinances govern, among other things, air emissions, water discharges, the generation, use, storage, transportation, handling and disposal of solid and hazardous wastes produced by our manufacturing, research and development and sales activities. These laws have the effect of increasing costs and potential liabilities associated with our operations. If we fail to comply with present or future laws, rules, regulations and ordinances, we could be subject to substantial liability for clean-up efforts, personal injury, property damages, administrative orders, penalties and fines, or under a worst case scenario suspension or cessation of our operations. Moreover, restrictions on our ability to expand or continue to operate our present locations could be imposed upon us or we could be required to acquire costly remediation equipment or incur other significant expenses.

RISKS RELATING TO OUR SEPARATION FROM EATON

WE CURRENTLY USE EATON'S OPERATIONAL AND ADMINISTRATIVE INFRASTRUCTURE, AND OUR ABILITY TO SATISFY OUR CUSTOMERS AND OPERATE OUR BUSINESS WILL SUFFER IF WE DO NOT DEVELOP OUR OWN INFRASTRUCTURE QUICKLY AND COST-EFFECTIVELY.

We currently use Eaton's services and systems to support our operations, including services and systems associated with voice and data transmission 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. Certain of these systems are proprietary to Eaton and are very complex. Some of these services and systems are being modified to enable us to separately monitor, process, support and record information important to our business. These modifications, however, may result in unexpected system failures or the loss or corruption of data.

We are in the process of creating or acquiring our own processes, services and systems to replace some of the services and systems provided to us by Eaton. We may be delayed or we may not be successful in implementing these systems and transitioning from Eaton's systems to ours.

Any failure or significant downtime in Eaton's or our own information systems could prevent us from taking customer orders, shipping products or billing customers and could harm our business. In addition, Eaton's and our information systems require the services of employees with extensive knowledge of these information systems and the business environment in which we operate. In order to successfully implement and operate our systems, we must be able to attract and retain a significant number of highly skilled employees or our business could suffer.

IF EATON DOES NOT COMPLETE ITS DIVESTITURE OF OUR COMPANY, WE WILL NOT BE ABLE TO OPERATE OUR BUSINESS WITHOUT EATON'S CONTROL AND OUR STOCK PRICE MAY DECLINE.

Eaton currently intends to complete its divestiture of our company approximately six months after this offering. However, it will not be obligated to do so, and we cannot assure you as to whether or when the divestiture will occur. Any divestiture of the shares of our common stock by Eaton will be subject, among other factors, to obtaining approval by the Eaton board of directors and a ruling from the Internal Revenue Service that the divestiture will be tax-free to Eaton and its stockholders and that our separation from Eaton qualifies as a tax-free reorganization. At the time of this offering, we will not know what the ruling from the Internal Revenue Service regarding the tax treatment of the separation and the divestiture will be. If Eaton does not receive a favorable tax ruling, it is not likely to make the divestiture in the expected time frame or at all.

In addition, until this divestiture occurs, the risks discussed below relating to Eaton's control of us and the potential business conflicts of interest between Eaton and us will continue to be relevant to our stockholders. If Eaton does not distribute its shares of our common stock, we might face significant difficulty hiring and retaining key personnel, many of whom are attracted by the potential of operating our business as a fully independent entity.

If the divestiture is delayed or not completed at all, the liquidity of our shares in the market will be severely constrained unless and until Eaton elects to sell some of its significant ownership. There are no limits on these sales except for limits under the Securities Act of 1933, as amended, and the sale or potential sale by Eaton could adversely affect market prices for our common stock. In addition, because of the limited liquidity until the divestiture of its shares of our common stock by Eaton occurs, relatively small trades of our stock could have a disproportionate effect on our stock price.

WE WILL BE CONTROLLED BY EATON AS LONG AS IT OWNS A MAJORITY OF OUR COMMON STOCK, AND OUR OTHER STOCKHOLDERS WILL BE UNABLE TO AFFECT THE OUTCOME OF STOCKHOLDER VOTING DURING THAT TIME.

After the completion of this offering, Eaton will own approximately % of our outstanding common stock, or approximately % if the underwriters exercise in full their option to purchase additional shares. As long as Eaton owns a majority of our outstanding common stock, Eaton will continue to be able to elect our entire board of directors and to remove any director, with or without cause, without calling a special meeting. Investors in this offering will not be able to affect the outcome of any stockholder vote prior to the planned distribution of our stock to Eaton shareholders. As a result, Eaton will control all matters affecting us, including:

- the composition of our board of directors and, through it, any determination with respect to our business direction and policies, including the appointment and removal of officers;
- the allocation of business opportunities that may be suitable for us and Eaton;
- any determinations with respect to mergers or other business combinations;
- our acquisition or disposition of assets;
- our financing;
- changes to the agreements providing for our separation from Eaton;
- the payment of dividends on our common stock; and
- determinations with respect to our tax returns.

Eaton is not prohibited at any time from selling a controlling interest in us to a third party.

OUR HISTORICAL FINANCIAL INFORMATION MAY NOT BE REPRESENTATIVE OF OUR RESULTS AS A SEPARATE COMPANY.

Our combined financial statements have been carved out from the consolidated financial statements of Eaton using the historical bases of assets, liabilities and operating results of the Eaton semiconductor equipment operations business that we comprise. Accordingly, the historical financial information we have included in this prospectus 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 the periods presented. Eaton did not operate or account for us as a separate, stand-alone entity for the periods presented. Our costs and expenses include direct charges and an allocation from Eaton for centralized corporate services and infrastructure costs including, for example, services and systems associated with voice and data transmission and other data-related operations, accounts receivable, accounts payable, fixed assets, payroll, general accounting, financial accounting consolidation, cash management, human resources, legal and real estate as well as other functions associated with Eaton's corporate governance and operations support.

This allocation is 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, the 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 our 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.

WE WILL NOT BE ABLE TO RELY ON EATON TO FUND OUR FUTURE CAPITAL REQUIREMENTS, AND FINANCING FROM OTHER SOURCES MAY NOT BE AVAILABLE ON AS FAVORABLE TERMS AS EATON COULD OBTAIN.

In the past, our capital needs have been satisfied by Eaton. However, following our separation, Eaton will no longer provide funds to finance our working capital or other cash requirements. We cannot assure you that financing from other sources, if needed, will be available on favorable terms.

We believe our capital requirements will vary greatly 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 the portion of the proceeds from this offering that we will retain, along with 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. We cannot assure you, however, that the underlying assumed levels of sales and expenses will prove to be accurate. 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. Future equity financings would be dilutive to the existing holders of our common stock. We do not intend to raise additional equity capital prior to the divestiture of our company by Eaton through the distribution of our common stock to Eaton shareholders, and following any divestiture, we would be restricted in raising substantial amounts of equity capital under our tax sharing and indemnification agreement with Eaton, as well as by market conditions. Future debt financings could involve restrictive covenants that may limit the manner in which we conduct our business. In addition, we will likely not be able to obtain debt financing with interest rates as favorable as those that Eaton could obtain.

WE MAY HAVE POTENTIAL BUSINESS CONFLICTS OF INTEREST WITH EATON WITH RESPECT TO OUR PAST AND ONGOING RELATIONSHIPS AND, BECAUSE OF EATON'S CONTROLLING OWNERSHIP, WE MAY NOT RESOLVE THESE CONFLICTS ON THE MOST FAVORABLE TERMS TO US.

Conflicts of interest may arise between Eaton and us in a number of areas relating to our past and ongoing relationships, including:

- sales or distributions by Eaton of all or any portion of our common stock owned by Eaton;
- agreements between Eaton and us associated with the divestiture, including under the trademark license agreement and the master separation and distribution agreement;
- labor, tax, employee benefit, indemnification and other matters arising from our separation from Eaton;
- employee retention and recruiting;
- the nature, quality and pricing of transitional services Eaton has agreed to provide us; and
- business opportunities that may be attractive to both Eaton and us.

Nothing restricts Eaton from competing with us.

We may not be able to resolve any potential conflicts and, even if we do, the resolution may be less favorable than if we were dealing with an unaffiliated party. The agreements we have entered into with Eaton may be amended upon agreement between the parties. While we are controlled by Eaton, Eaton may be able to require us to agree to amendments to these agreements that may be less favorable to us than the current terms of the agreements.

OUR DIRECTORS AND EXECUTIVE OFFICERS MAY HAVE CONFLICTS OF INTEREST BECAUSE OF THEIR OWNERSHIP OF EATON COMMON STOCK AND EATON STOCK OPTIONS AND BECAUSE SOME ALSO ARE DIRECTORS OR EXECUTIVE OFFICERS OF EATON.

Some of our directors and executive officers have a substantial amount of their personal financial portfolios in Eaton common stock and options to purchase Eaton common stock. Their options to purchase Eaton common stock may not convert into options to purchase our common stock if the distribution does not occur or for other reasons. Ownership of Eaton common stock and options by our directors and officers after our separation from Eaton could create, or appear to create, potential conflicts of interest when directors and officers are faced with decisions that could have different implications for Eaton and us.

Our directors who are also directors or executive officers of Eaton will have obligations to both companies and may have conflicts of interest with respect to matters potentially or actually involving or affecting us. We anticipate that immediately after the offering four of our directors will also be directors of Eaton and that two of these persons will be executive officers of Eaton, although at the time of any divestiture of Eaton's ownership interest in our company no more than three of our directors will be directors of Eaton.

IF THE TRANSITIONAL SERVICES BEING PROVIDED TO US BY EATON ARE NOT SUFFICIENT TO MEET OUR NEEDS, OR IF WE ARE NOT ABLE TO REPLACE THESE SERVICES AFTER OUR AGREEMENTS WITH EATON EXPIRE, WE MAY BE UNABLE TO MANAGE CRITICAL OPERATIONAL FUNCTIONS OF OUR BUSINESS.

Eaton has agreed to provide transitional services to us, including services related to:

- voice and data transmission 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.

Although Eaton is contractually obligated to provide us with these services, these services may not be provided at the same level as when we were part of Eaton, and we may not be able to obtain the same benefits. The transition periods covered by these agreements vary but are generally less than two years. After the expiration of these various arrangements, we may not be able to replace the transitional services or enter into appropriate leases in a timely manner or on terms and conditions, including cost, as favorable as those we will receive from Eaton.

These agreements were developed in the context of a parent-subsidary relationship. The prices charged to us under these agreements may be lower than the prices that we may be required to pay third parties for similar services or the costs of similar services if we undertake them ourselves.

RISKS RELATED TO THE SECURITIES MARKETS AND OWNERSHIP OF OUR COMMON STOCK

SUBSTANTIAL SALES OF OUR COMMON STOCK MAY OCCUR IN CONNECTION WITH THE DISTRIBUTION, WHICH COULD CAUSE OUR STOCK PRICE TO DECLINE.

If Eaton distributes all of the shares of our common stock it owns to Eaton shareholders after this offering, substantially all of these shares will be eligible for immediate resale in the public market. We are unable to predict whether significant amounts of common stock will be sold in the open market in anticipation of, or following, this distribution, or by Eaton if the distribution does not occur. We are also unable to predict whether a sufficient number of buyers will be in the market at that time. Any sales of substantial amounts of common stock in the public market, or the perception that such sales might occur, whether as a result of this distribution or otherwise, could harm the market price of our common stock. Eaton has the sole discretion to determine the timing, structure and terms of its distribution of our common stock, all of which may also affect the level of market transactions in our common stock.

OUR SECURITIES HAVE NO PRIOR MARKET, AND WE CANNOT ASSURE YOU THAT OUR STOCK PRICE WILL NOT DECLINE AFTER THE OFFERING.

Before this offering, there has not been a public market for our common stock, and an active public market for our common stock may not develop or be sustained after this offering. The market price of our common stock could be subject to significant fluctuations after this offering. Among the factors that could affect our stock price are:

- quarterly variations in our operating results;
- changes in revenue or earnings estimates or publication of research reports by analysts;
- speculation in the press or investment community;
- strategic actions by us or our competitors, such as acquisitions or restructurings;
- actions by institutional stockholders or by Eaton prior to its distribution of our stock;
- general market conditions; and
- domestic and international economic factors unrelated to our performance.

The stock markets in general, and the markets for high technology stocks in particular, have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. Moreover, in recent years the stock prices of many companies in the semiconductor industry have been volatile and have declined substantially due to the worldwide semiconductor downturn. These broad market fluctuations may adversely affect the trading price of our common stock. In particular, we cannot assure you that you will be able to resell your shares at or above the initial public offering price, which will be determined by negotiations between the representatives of the underwriters and us.

PROVISIONS IN OUR CHARTER DOCUMENTS AND DELAWARE LAW AND THE TERMS OF THE TAX SHARING AND INDEMNIFICATION AGREEMENT BETWEEN US AND EATON MAY DELAY OR PREVENT AN ACQUISITION OF US, WHICH COULD DECREASE THE VALUE OF YOUR SHARES.

Our certificate of incorporation, bylaws and our shareholder rights plan contain provisions that could make it harder for a third party to acquire us without the consent of our board of directors, although these provisions have little significance while we are controlled by Eaton. These provisions include a classified board of directors and limitations on actions by our stockholders by written consent. In addition, our board of directors has the right to issue preferred stock without stockholder approval, which could be used to dilute the stock ownership of a potential hostile acquirer. Delaware law also imposes some restrictions on mergers and other business combinations between us and any holder of 15% or more of our outstanding common stock. Although we believe these provisions provide an opportunity to receive a higher bid by requiring any potential acquirers to negotiate with our board of directors, these provisions apply even if the offer may be considered beneficial by some stockholders.

If Eaton decides to distribute its remaining ownership in us after the offering and receives a private letter ruling from the Internal Revenue Service to the effect that such a distribution will be tax-free, we may be limited in our ability to merge or consolidate with any other person or enter into any transaction or to issue equity securities that would result in one or more persons acquiring a 50% or greater interest in us during the two year period following any such distribution under the terms of our tax sharing and indemnification agreement with Eaton.

PURCHASERS IN THIS OFFERING WILL EXPERIENCE IMMEDIATE DILUTION IN NET TANGIBLE BOOK VALUE PER SHARE.

Purchasers of our common stock in this offering will experience immediate dilution of \$ in net tangible book value per share.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

You should not rely on forward-looking statements in this prospectus. This prospectus contains forward-looking statements that involve risks and uncertainties. We use words such as "anticipates," "believes," "plans," "expects," "future," "intends," "may," "will," "should," "estimates," "predicts," "potential," "continue" and similar expressions to identify these forward-looking statements. Our actual results could differ materially from the results contemplated by these forward-looking statements due to a number of factors, including those discussed in "Risk Factors," "Management's Discussion and Analysis" and elsewhere in this prospectus. This prospectus 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. We do not have any intention or obligation to update forward-looking statements, even if new information, future events or other circumstances make them incorrect or misleading.

OUR SEPARATION FROM EATON

OVERVIEW

We are currently a wholly owned subsidiary of Eaton. On April 26, 2000, Eaton announced a plan to reorganize its semiconductor equipment operations into an independent, publicly held company. Prior to the completion of this offering, Eaton will substantially complete the transfer to us of all of the assets of its semiconductor equipment operations that are not currently owned by us and we will assume the related liabilities. In connection with the reorganization, we changed our name from Eaton Semiconductor Equipment Inc. to Axcelis Technologies, Inc. After the completion of the offering, Eaton will own approximately % of our outstanding common stock, or % if the underwriters fully exercise their option to purchase additional shares.

HISTORY OF OUR BUSINESS

Our ion implantation products were initially developed and offered by Eaton in 1980 and constitute our principal product offering. In 1982, we entered into our SEN joint venture to provide us with additional manufacturing capacity for our ion implantation products and local access for these products to the Japanese semiconductor equipment market. Our semiconductor equipment products also include dry strip, photostabilization and rapid thermal processing products. We introduced our rapid thermal processing products in 1996 and we entered the photoresist removal and photostabilization product market through our acquisition of Fusion in August 1997. Fusion pioneered the development of photostabilization in 1983.

BENEFITS OF THE SEPARATION

We believe that we will realize benefits from Eaton's reorganization of its semiconductor equipment operations and our complete separation from Eaton, including the following:

GREATER STRATEGIC FOCUS. In addition to our semiconductor equipment manufacturing business, Eaton generates significant revenue from its other business segments, including electrical power distribution and control equipment, truck transmissions and clutches, engine components, hydraulic products and a wide variety of controls. Our focus will be solely on developing businesses and strategic opportunities for the semiconductor equipment business. This effort will be supported by our own board of directors, management team and employees.

INCREASED SPEED AND RESPONSIVENESS. As a smaller company than Eaton we will focus on one line of business, and we expect to make decisions more quickly, deploy resources more rapidly and efficiently and operate with more agility than we could as a part of a larger organization. We expect to be more responsive to our customers and suppliers.

BETTER INCENTIVES FOR EMPLOYEES AND GREATER ACCOUNTABILITY. We expect the motivation of our employees and the focus of our management to be strengthened by incentive compensation programs tied to the market performance of our common stock. The separation will enable us to offer our employees compensation directly linked to the performance of our business, which we expect to enhance our ability to attract and retain qualified personnel.

MORE CAPITAL PLANNING FLEXIBILITY. As a separate company, we will have enhanced capital planning flexibility. We will be able to have direct access to the capital markets to issue debt or equity securities and to use our own stock to facilitate growth through acquisitions and will no longer have to compete with other business units of Eaton for funding from Eaton.

SEPARATION AND TRANSITIONAL ARRANGEMENTS

In May 2000, our Board of Directors declared a dividend of \$300 million payable to Eaton. We have the option of paying this dividend in either cash or notes or in a combination thereof.

Any notes issued would bear interest and would have a maturity not to exceed two years. We presently expect to pay all of this dividend in cash out of the net proceeds of this offering.

We will enter into agreements with Eaton providing for the completion of the reorganization of Eaton's semiconductor equipment operations and the separation of our business from Eaton prior to the initial public offering. These agreements generally will provide for, among other things:

- the transfer from Eaton to us of assets and the assumption by us of liabilities relating to our business; and
- various interim and ongoing relationships between us and Eaton.

THE DIVESTITURE BY EATON OF OUR COMMON STOCK

After completion of this offering, Eaton will own approximately % of the outstanding shares of our common stock, or approximately % if the underwriters fully exercise their option to purchase additional shares. Eaton currently plans to complete its divestiture of us approximately six months after this offering by distributing all of its shares of our common stock in a tax-free transaction to Eaton shareholders. Eaton may accomplish this through a split-off, a spin-off or some combination of both transactions. Eaton is not, however, obligated to complete the distribution, and we cannot assure you as to whether or when it will occur.

Eaton has advised us that it has not yet determined definitively either when it expects to complete the divestiture or the structure or terms on which it would accomplish the divestiture of its shares of our common stock. Eaton has advised us that it would not complete the divestiture if its board of directors determines that a complete separation is no longer in the best interest of Eaton and its shareholders. Eaton has further advised us that it currently expects that the principal factors that it would consider in determining whether and when to complete the divestiture include:

- the relative market prices of our common stock and Eaton's common stock;
- the issuance by the Internal Revenue Service of a ruling that the divestiture will be tax-free to Eaton and its shareholders and that the separation will qualify as a tax-free reorganization for U.S. federal income tax purposes;
- the absence of any court orders or regulations prohibiting or restricting the completion of the distribution;
- other conditions affecting our business or Eaton's business; and
- the relative advantages of retaining its ownership or completing the divestiture in some other manner.

Eaton is not obligated to complete this divestiture and we cannot advise you as to whether or when it will occur. See "Risks Factors -- Risks Relating to our Separation from Eaton".

USE OF PROCEEDS

We estimate that our net proceeds from this offering will be approximately \$ million, or \$ million if the underwriters exercise their option to purchase additional shares, based on an assumed initial public offering price of \$ per share and after deducting an assumed underwriting discount and estimated offering expenses payable by us. We intend to use a portion of the proceeds of this offering to pay all of the previously declared \$300 million dividend to Eaton in cash.

We expect to use the balance of the net proceeds from this offering (estimated at \$ million) for general corporate purposes, including funding our capital expenditure program, our working capital requirements and other liabilities. We have budgeted our capital expenditures for the last three quarters of 2000 at approximately \$24.0 million. We expect to use a significant portion of these budgeted capital expenditures to construct an advanced demonstration and application development center at our Beverly, Massachusetts facility and to expand our manufacturing and research facilities in Rockville, Maryland.

Pending these uses, the net proceeds of this offering will be invested in short-term, interest-bearing government or investment grade securities.

DIVIDEND POLICY

After completion of this offering, we currently intend to retain any future earnings to fund the development and growth of our business. Therefore, we do not anticipate paying any cash dividends in the foreseeable future, other than the previously declared dividend to Eaton described under "Use of Proceeds".

CAPITALIZATION

The following table sets forth our capitalization as of March 31, 2000. Our capitalization is presented:

- on an actual basis;
- on a pro forma basis to give effect to the previously declared dividend to Eaton of \$300 million; and
- on a pro forma as adjusted basis to reflect our receipt of the estimated net proceeds from the sale of shares of our common stock in this offering and the payment of the previously declared \$300 million dividend to Eaton.

You should read the information set forth below together with "Selected Historical Combined Financial Data", our historical combined financial statements and the notes to those statements and "Management's Discussion and Analysis" included elsewhere in this prospectus.

	MARCH 31, 2000		
	ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
	(IN THOUSANDS) (UNAUDITED)		
Cash & short-term investments.....	\$ 2,803	\$ 2,803	\$
Payable to Eaton (1).....	\$	\$300,000	\$
Stockholder's net investment:			
Preferred stock, par value \$.001; 30,000,000 shares authorized, no shares issued and outstanding.....			
Common stock, par value \$.001; 300,000,000 shares authorized, shares issued and outstanding (actual), shares issued and outstanding (as adjusted).....			
Additional paid-in capital.....			
Parent company investment (1).....	377,725	77,725	
Accumulated other comprehensive income (loss).....	(6,007)	(6,007)	
Total stockholder's net investment.....	371,718	71,718	
Total capitalization.....	\$371,718	\$371,718	\$

NOTES:

- (1) On May 3, 2000, our Board of Directors declared a dividend of \$300 million payable to Eaton. We have the option of paying this dividend in either cash or notes or in a combination thereof. We presently expect to pay all of this dividend in cash out of the net proceeds of this offering.

DILUTION

Our net tangible book value at March 31, 2000 was approximately \$300.8 million, or \$ per share. Pro forma net tangible book value per share is determined by dividing our pro forma net tangible book value, which is total tangible assets less total liabilities after giving effect to the payment of a previously declared \$300 million dividend to Eaton, and repayment of the \$ receivable from Eaton to us, by the number of shares of common stock outstanding immediately before this offering. Dilution in pro forma net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of our common stock in this offering and the pro forma net tangible book value per share of our common stock immediately afterwards. After giving effect to our sale of shares of common stock in this offering at an assumed initial public offering price of \$ per share and after deducting an assumed underwriting discount and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value at March 31, 2000 would have been approximately \$ million, or \$ per share. This represents an immediate increase in pro forma net tangible book value of \$ per share to our existing stockholder and an immediate dilution in pro forma net tangible book value of \$ per share to new investors purchasing shares of our common stock in this offering. The following table illustrates this dilution per share:

Assumed initial public offering price per share.....	\$
Pro forma net tangible book value per share as of March 31, 2000.....	\$
Increase in pro forma net tangible book value per share attributable to new investors.....	-----
Pro forma, as adjusted, net tangible book value per share after this offering.....	-----
Dilution in pro forma net tangible book value per share to new investors.....	\$ =====

The discussion and table above assume no issuance of shares reserved for future issuance under our 2000 Employee Stock Purchase Plan. As of March 31, 2000, there were no options outstanding to purchase shares of our common stock. To the extent that any options are granted and exercised, there will be further dilution to new investors. In addition, we may assume substantially all of the Eaton stock options held by our employees on the date Eaton completes its divestiture of our company. If the divestiture had been completed on , 2000, these options to purchase Eaton common shares would have been converted into options to purchase shares of our common stock, based on an assumed initial public offering price of \$ per share and on the closing price of \$ per Eaton common share on , 2000.

SELECTED HISTORICAL COMBINED FINANCIAL DATA

The following tables present our selected historical combined financial data. The information set forth below should be read together with "Management's Discussion and Analysis" and our historical combined financial statements and notes to those statements included elsewhere in this prospectus. Our combined statements of operations data set forth below for the years ended December 31, 1997, 1998 and 1999 and the combined balance sheet data as of December 31, 1998 and 1999 are derived from our audited combined financial statements included in this prospectus which have been audited by Ernst & Young LLP, independent auditors, whose report is also included in this prospectus.

The combined statements of operations data for the years ended December 31, 1995 and 1996 and the combined balance sheet data as of December 31, 1995, 1996 and 1997 are derived from our unaudited combined financial statements that are not included in this prospectus. The combined statements of operations data for the three months ended March 31, 1999 and 2000 and the combined balance sheet data as of March 31, 2000 are derived from unaudited combined financial statements included in this prospectus and, in the opinion of management, include all adjustments, consisting only of normal recurring accruals, that are necessary for a fair presentation of our financial position and operating results for these periods. The historical financial information may not be indicative of our future performance and does not reflect what our financial position and operating results would have been had we operated as a separate, stand-alone entity during the periods presented.

	YEAR ENDED DECEMBER 31,					THREE MONTHS ENDED MARCH 31,	
	1995	1996	1997	1998	1999	1999	2000
	(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)					(UNAUDITED)	
	(UNAUDITED)					(UNAUDITED)	
STATEMENTS OF COMBINED OPERATIONS DATA(1)							
Net sales.....	\$385,080	\$448,663	\$460,010	\$ 265,709	\$397,267	\$ 59,124	\$143,051
Gross profit (2).....	138,335	157,246	172,802	64,229	157,082	20,768	61,474
Other costs & expenses:							
Selling.....	34,375	45,600	47,148	42,134	37,946	9,087	11,598
General & administrative.....	23,326	33,437	38,287	47,075	45,925	9,612	13,030
Research & development.....	21,802	35,107	70,466	78,656	51,599	12,183	16,125
Amortization of goodwill & intangible assets.....		100	3,936	9,279	9,279	2,320	2,320
Restructuring charges (2).....				24,994			
Write-off of in-process research & development (1).....			85,000				
Income (loss) from operations.....	58,832	43,002	(72,035)	(137,909)	12,333	(12,434)	18,401
Other income (expense):							
Royalty income.....	8,273	9,590	6,265	7,949	5,854	965	3,823
Equity income (loss) of SEN.....	7,044	10,148	3,283	(2,132)	1,338	(2,447)	3,340
Other income (expense)-net.....	(163)	(1,837)	1,123	(1,045)	28	(145)	1,549
Income (loss) before income taxes.....	73,986	60,903	(61,364)	(133,137)	19,553	(14,061)	27,113
Income taxes (credit).....	25,365	14,599	103	(51,090)	5,125	(3,686)	8,251
Net income (loss).....	\$ 48,621	\$ 46,304	\$(61,467)	\$ (82,047)	\$ 14,428	\$(10,375)	\$ 18,862

	YEAR ENDED DECEMBER 31,					THREE MONTHS ENDED MARCH 31,	
	1995	1996	1997	1998	1999	1999	2000
	(UNAUDITED)					(UNAUDITED)	
	(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)						
Earnings (loss) per common share:							
Basic and diluted net income (loss) per share.....	\$	\$	\$	\$	\$	\$	\$
	=====	=====	=====	=====	=====	=====	=====
Shares used in computing basic and diluted net income (loss) per share.....	=====	=====	=====	=====	=====	=====	=====
Unaudited pro forma basic and diluted net income per share (3).....					\$	\$	
					=====	=====	
Shares used in computing unaudited pro forma basic and diluted net income per share (3).....					=====	=====	

	DECEMBER 31,					MARCH 31,
	1995	1996	1997	1998	1999	2000
	(UNAUDITED)					(UNAUDITED)
	(IN THOUSANDS)					
COMBINED BALANCE SHEET DATA						
Cash & short-term investments.....	\$ 1,662	\$ 2,159	\$ 3,479	\$ 3,338	\$ 3,530	\$ 2,803
Working capital.....	102,578	112,092	149,041	91,028	169,759	198,255
Total assets.....	213,659	279,189	457,567	341,121	422,835	457,583
Stockholder's net investment.....	151,112	190,429	349,192	269,161	342,296	371,718

NOTES:

- (1) On August 4, 1997, we acquired Fusion, a developer and manufacturer of dry strip and photostabilization systems for use in semiconductor manufacturing processes. The acquisition was accounted for under the purchase method of accounting and, accordingly, our combined financial statements include Fusion's results of operations beginning August 4, 1997. Net income in 1997 was reduced by an \$85.0 million write-off of purchased in-process research and development related to the acquisition of Fusion, with no income tax benefit.
- (2) Net income in 1998 was reduced by a restructuring charge of \$42.4 million (\$27.5 million aftertax) of which \$17.4 million related to inventory write-downs and reduced gross profit and \$25.0 million related to workforce reductions and other restructuring actions and was recorded in operating expenses.
- (3) Pro forma basic and diluted net income per share amounts are calculated based on million shares of our common stock outstanding that are owned by Eaton prior to this offering, plus .

MANAGEMENT'S DISCUSSION AND ANALYSIS

The following discussion of our financial condition and results of operations should be read together with our combined financial statements and notes to those statements included elsewhere in this prospectus.

OVERVIEW

We are a leading producer of ion implantation equipment used in the fabrication of semiconductors and, together with our Japanese joint venture, were ranked number one in the world in this category for 1999 by Dataquest Inc., an independent market research firm. The ion implantation process provides a means for introducing charged ions into the surface of a silicon wafer in order to form the active components of a semiconductor. We also produce dry strip, photostabilization and 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 are a 50-50 joint venture partner in Japan with Sumitomo. This joint venture, which is known as SEN, licenses our technology and is the leading producer of ion implantation equipment in Japan.

Our customers are located in North America, Europe and Asia Pacific. We and SEN serve 19 of the 20 largest semiconductor manufacturers in the world. We believe that more than 3,200 of our products, including products shipped by SEN, are in use worldwide. We manufacture our equipment at three locations in the United States, and we support customers in 19 countries through 49 support locations in nine countries. SEN manufactures equipment under a license from us at its Toyo, Japan facility.

SEPARATION FROM EATON

We are currently a wholly owned subsidiary of Eaton. On April 26, 2000, Eaton announced its plan to reorganize its semiconductor equipment operations into an independent, publicly held company. Prior to the completion of this offering, Eaton will substantially complete the transfer to us of all of the assets of its semiconductor equipment operations that are not currently owned by us, and we will assume the related liabilities. Upon the completion of the offering, Eaton will own approximately % of our outstanding common stock, or % if the underwriters fully exercise their option to purchase additional shares.

In May 2000, our Board of Directors declared a dividend of \$300 million payable to Eaton. We have the option of paying this dividend in either cash or notes or in a combination thereof. Any notes issued would bear interest and would have a maturity not to exceed two years. We presently expect to pay all of this dividend in cash out of the net proceeds of this offering.

Eaton currently plans to complete its divestiture of our company approximately six months following the completion of this offering by distributing all of its shares of our common stock on a tax-free basis to Eaton shareholders. Eaton may accomplish this distribution through a split-off, a spin-off or some combination of both transactions. Eaton will, in its sole discretion, determine the timing, structure and terms of its divestiture of its remaining shares of our common stock that it owns. The planned divestiture is subject to receiving a private letter ruling from the Internal Revenue Service that the divestiture will be tax-free to Eaton and its shareholders and that our separation from Eaton qualifies as a tax-free reorganization for U.S. federal income tax purposes. Eaton is not, however, obligated to complete any such divestiture, and we cannot assure you whether or when it will occur.

Eaton and our company will enter into a Master Separation and Distribution Agreement under which Eaton will transfer all of its semiconductor equipment operation assets and liabilities not owned by us into our company. We will also enter into various other 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, we will reimburse Eaton for its direct and indirect costs of providing these services plus an additional fee. The transition periods covered by these agreements vary, but are generally less than two years from the date of the completion of this offering. The agreements do not necessarily reflect the costs of obtaining these services from unrelated third parties or of providing the applicable services in-house. However, management believes that purchasing these services from Eaton provides an efficient means of obtaining these services during the transition period. We must also negotiate new agreements with various third parties as a separate, stand-alone entity. There can be no assurance that the terms we will be able to negotiate for these agreements will be as favorable as those we enjoy as part of Eaton. See "Arrangements with Eaton" for a more detailed discussion of the agreements entered into between our company and Eaton.

OUR BUSINESS

Our business depends in significant part upon capital expenditures by semiconductor manufacturers, especially manufacturers that are opening new fabrication facilities or expanding existing facilities. These expenditure patterns are based on many factors, including anticipated market demand for semiconductors, the development of new technologies and global economic conditions. We have benefited from the recent growth of the global semiconductor industry, and we expect it to continue to expand over the long term. Although our business is not seasonal, we operate in a cyclical industry. We expect the industry to continue its historically cyclical nature.

The cyclicity in the semiconductor capital equipment market over the last several years resulted in a decline in net sales beginning in late 1997 and continuing through late 1998, with orders and backlog under continuous pressure. This situation was the combined result of an oversupply of memory chips, a decline in personal computer demand and the effects of the Asian financial crisis. Typical of our industry, we have relatively high fixed costs, and our ongoing need to make investments in engineering, marketing, and research and development limit our ability to reduce expenses during downturns. As a result, a decline in our sales, whether attributable to a downturn in the semiconductor industry or otherwise, could have a disproportionate effect on our business.

In response to the severe downturn in the semiconductor industry that began in late 1997, we undertook a restructuring in the third quarter of 1998 and incurred a related charge of \$42.4 million. Key elements of this restructuring included the closure of our Austin, Texas manufacturing facility, workforce reductions involving 475 employees, almost half of whom were employed in Austin, the relocation of ion implantation production and engineering from Austin to our Beverly, Massachusetts facility and a charge for asset write-downs, primarily inventory, to estimated market value. We are currently negotiating the sale of the Austin facility and expect to sell it for a price that approximates book value. See Notes 5 and 8 to our combined financial statements.

We derive a substantial majority of our net sales from the sale of ion implantation systems. These sales accounted for more than 80.0% of our net sales for each of the three years ended December 31, 1999 and for the three months ended March 31, 2000.

In August 1997, we acquired Fusion, which develops and manufactures dry strip and photostabilization products for use within the semiconductor manufacturing process. This acquisition was accounted for using the purchase method of accounting, under which goodwill of \$49.8 million, which is being amortized over 15 years with no tax benefit, was recorded. Our combined statements of operations include the results of Fusion beginning in August 1997. The acquisition of Fusion also included \$85.0 million allocable to in-process research and

development. This amount was expensed at the date of acquisition, with no tax benefit, because the technological feasibility of certain projects had not been established and no alternative commercial use had been identified.

We have a 50% interest in SEN, our joint venture with Sumitomo. This joint venture manufactures ion implantation equipment under license from us for sale to semiconductor manufacturers in Japan. We account for the results of this joint venture based on the equity method of accounting, which means that we record our pro rata share of the joint venture's earnings or losses in our statement of combined operations under "Other income (expense)." We also receive royalty income from the joint venture based on a percentage of sales of specific products sold by SEN. Summary financial information for SEN is presented in Note 17 to our combined financial statements.

Historically we have sold a significant proportion of our products and services to a limited number of fabricators of semiconductor products. In 1999, three of our customers accounted for 37.0% of our net sales. Also, we derive most of our revenues from the sale of a relatively small number of expensive products to our customers. The list prices on our principal products range from \$150,000 to over \$4.0 million. Our lengthy sales and installation cycle, coupled with customers' competing capital budget considerations, make timing of customer orders uneven and difficult to predict. As a result, our net sales and operating results for any given period will depend on our shipment and installation of orders as scheduled during that period as well as obtaining new orders for products to be shipped in that same period.

For sales of systems, sales are recognized upon shipment to the customer and the costs of installation at the customer's site are accrued at the time of shipment. See Note 3 to our combined financial statements. In December 1999, the Securities and Exchange Commission issued Staff Accounting Bulletin (SAB) No. 101, "Revenue Recognition". SAB No. 101, which was subsequently amended by Staff Accounting Bulletin No. 101A (collectively referred to as SAB 101), articulates certain of the SEC staff's views in applying generally accepted accounting principles to revenue recognition in financial statements. Under SAB 101, we may be required to change our revenue recognition policies by the end of the second quarter of 2000 and are currently reviewing the impact of adoption.

BASIS OF PRESENTATION

The combined financial statements include our assets, liabilities, revenues and expenses based on Eaton's historical amounts. Since December 31, 1999, our cash receipts and disbursements processed through Eaton's centralized cash management system have been recorded as a receivable from or payable to Eaton. Prior to January 1, 2000, substantially all of these amounts were recorded in Parent Company investment. As of March 31, 2000, a net amount of \$7.3 million was due from Eaton for these transactions and is included in "Receivables From Eaton Corporation" in the accompanying combined balance sheet. We expect to continue to record our cash receipts and disbursements as a receivable from or payable to Eaton until the closing of this offering, at which time we estimate that a net amount of \$ million will be due us from Eaton. We expect to settle the receivable in cash at or shortly after the closing.

Our combined statements of operations include those expenses originally recorded by us or directly charged to us by Eaton. Further, the statements include an allocation of Eaton's general corporate expenses to reflect the services provided or benefits received by us. This allocation is 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. We believe that this is a reasonable method of allocating these expenses.

In the opinion of management, all adjustments necessary for a fair presentation of combined financial position, operating results and cash flows for the stated periods have been made.

However, Eaton did not operate or account for us as a separate, stand-alone entity for the periods presented and, as a result, the financial information included herein may not reflect our combined financial position, operating results and cash flows as they would have been reported if we had been a separate, stand-alone entity during the periods presented or in the future. The financial information presented in this prospectus does not reflect any significant changes that may occur in our operations as a result of our becoming a stand-alone entity and this offering.

RESULTS OF OPERATIONS

The following table sets forth combined statements of operations data expressed as a percentage of net sales for the periods indicated:

	YEAR ENDED DECEMBER 31,			THREE MONTHS ENDED MARCH 31,	
	1997	1998	1999	1999	2000
	-----	-----	-----	-----	-----
	(UNAUDITED)				
Net sales.....	100.0%	100.0%	100.0%	100.0%	100.0%
Gross profit.....	37.6	24.2	39.5	35.1	43.0
Other costs & expenses:					
Selling.....	10.3	15.9	9.5	15.4	8.1
General & administrative.....	8.3	17.7	11.6	16.2	9.1
Research & development.....	15.3	29.6	13.0	20.6	11.3
Amortization of goodwill & intangible assets.....	0.9	3.5	2.3	3.9	1.6
Restructuring charges.....		9.4			
Write-off of in-process research & development.....	18.5				
Income (loss) from operations.....	(15.7)	(51.9)	3.1	(21.0)	12.9
Other income (expense):					
Royalty income.....	1.4	3.0	1.5	1.6	2.7
Equity income (loss) of SEN.....	0.7	(0.8)	0.3	(4.1)	2.3
Other income (expense)-net.....	0.2	(0.4)		(0.3)	1.1
Income (loss) before income taxes.....	(13.4)	(50.1)	4.9	(23.8)	19.0
Income taxes (credit).....		(19.2)	1.3	(6.3)	5.8
Net income (loss).....	(13.4)%	(30.9)%	3.6%	(17.5)%	13.2%
	=====	=====	=====	=====	=====

FIRST QUARTER 2000 COMPARED TO FIRST QUARTER 1999 (UNAUDITED)

NET SALES

Net sales were \$143.1 million in the first quarter of 2000, an increase of \$84.0 million, or 142.0%, as compared to net sales of \$59.1 million in the first quarter of 1999. The increase in net sales was attributable to continued high levels of capital spending by our semiconductor manufacturing customers, resulting in increased demand for our products and services.

Sales of ion implant products and services accounted for \$115.8 million in total sales in the first quarter of 2000, an increase of \$68.8 million, or 146.4%, as compared to \$47.0 million in the first quarter of 1999. Sales of other products and services, including dry strip products, photostabilization products and rapid thermal processing systems accounted for \$27.3 million in total sales in the first quarter of 2000, an increase of \$15.2 million, or 125.6%, as compared to \$12.1 million in the first quarter of 1999.

GROSS PROFIT

Gross profit was \$61.5 million in the first quarter of 2000, an increase of \$40.7 million, or 196.0%, as compared to gross profit of \$20.8 million in the first quarter of 1999. The increase in gross profit was primarily attributable to increased products and services sales volume. The

increase in gross profit as a percentage of net sales to 43.0% in the first quarter of 2000 from 35.1% in the first quarter of 1999 was due to improved capacity utilization as a result of higher sales volume as well as a more favorable product mix of ion implant sales.

SELLING

Selling expense was \$11.6 million in the first quarter of 2000, an increase of \$2.5 million, or 27.6%, as compared to \$9.1 million in the first quarter of 1999. The increase in selling expense was primarily due to higher commissions and increased headcount associated with increased net sales. As a percentage of net sales, selling expense decreased to 8.1% in the first quarter of 2000 as compared to 15.4% in the first quarter of 1999, as costs were spread over a higher revenue base.

GENERAL AND ADMINISTRATIVE

General and administrative expense, including the allocation of Eaton general corporate expenses to our business, was \$13.0 million in the first quarter of 2000, an increase of \$3.4 million, or 35.6%, as compared with \$9.6 million in the first quarter of 1999. The increase in general and administrative expense was primarily attributable to increased personnel costs associated with a greater number of employees. As a percentage of net sales, general and administrative expense decreased to 9.1% in the first quarter of 2000 as compared with 16.2% in the first quarter of 1999 as these costs were spread over a higher revenue base. The allocation of Eaton general corporate expense was \$4.0 million in the first quarter of 2000 as compared to \$3.2 million in the first quarter of 1999. Following the separation, Eaton will provide transitional services under the terms of a transitional services agreement described under "Arrangements with Eaton".

RESEARCH AND DEVELOPMENT

Research and development expense was \$16.1 million in the first quarter of 2000, an increase of \$3.9 million, or 32.4%, as compared to \$12.2 million in the first quarter of 1999. As a percentage of net sales, research and development expense decreased to 11.3% in the first quarter of 2000 from 20.6% in the first quarter of 1999, as costs were spread over a higher revenue base. We continue to invest significantly in both current product enhancements and new product development.

AMORTIZATION OF GOODWILL AND INTANGIBLE ASSETS

Amortization of goodwill and intangible assets was \$2.3 million in the first quarter of 2000, consistent with the first quarter of 1999.

INCOME FROM OPERATIONS

Income from operations was \$18.4 million in the first quarter of 2000 as compared to a loss from operations of \$12.4 million in the first quarter of 1999, primarily as a result of the factors described above.

OTHER INCOME (EXPENSE)

Total other income-net was \$8.7 million in the first quarter of 2000 as compared to expense of \$1.6 million in the first quarter of 1999. Other income consists primarily of royalty income and equity income from SEN. Royalty income, primarily from SEN, was \$3.8 million in the first quarter of 2000 as compared to \$1.0 million in the first quarter of 1999. Equity income attributable to SEN was \$3.3 million in the first quarter of 2000 compared to a loss of \$2.4 million in the first quarter of 1999. Both increases in 2000 were due to increased SEN sales volume due primarily to the recovery in the Japanese semiconductor market, which began in late 1999.

INCOME TAXES (CREDIT)

Income taxes were \$8.3 million in the first quarter of 2000 as compared with an income tax credit of \$3.7 million in the first quarter of 1999. Our effective income tax rate was 30.4% in the first quarter of 2000 as compared to 26.2% in the first quarter of 1999. The 1999 rate was lower than the U.S. federal statutory rate primarily because of benefits associated with research and development credits taken in that year. See Note 13 to our combined financial statements.

NET INCOME (LOSS)

Net income increased to \$18.9 million in the first quarter of 2000 as compared to a loss of \$10.4 million in the first quarter of 1999, principally as a result of the factors discussed above.

1999 COMPARED TO 1998

NET SALES

Net sales in 1999 were \$397.3 million, an increase of \$131.6 million, or 49.5%, as compared to net sales of \$265.7 million in 1998. The increase in net sales was attributable to the increased demand for our principal products and services resulting from the semiconductor industry's recovery, which began in the second half of 1999. Our third quarter 1999 net sales increased 125.4% over the third quarter of 1998, and fourth quarter 1999 net sales increased 193.7% over the fourth quarter of 1998.

Sales of our ion implant systems and services accounted for \$322.0 million in total sales in 1999 as compared to \$219.9 million in 1998, an increase of 46.4% over 1998. Sales of other products and services, including dry strip products, photostabilization products and rapid thermal processing systems, increased by 64.4% in 1999 over 1998.

International sales, including exports from our three United States manufacturing facilities to customers in Europe and Asia Pacific and the sale of products and services directly by our foreign branches, totalled \$212.4 million in 1999, an increase of \$81.1 million, or 61.8%, as compared to \$131.3 million in 1998. Excluding export sales from the United States, our sales in Europe were \$35.5 million, a decrease of 11.9% from 1998 reflecting a lower volume of sales of service contracts, spares and upgrades. Sales in Asia Pacific were \$18.4 million, an increase of 63.5% over 1998, primarily as a result of the economic recovery in Asia and increased sales of our products in Taiwan, Singapore and South Korea.

GROSS PROFIT

Gross profit was \$157.1 million in 1999, an increase of \$92.9 million, or 144.6%, as compared with gross profit of \$64.2 million in 1998, primarily as a result of increased sales and improved capacity utilization resulting from higher product sales volume offset in part by increases in manufacturing labor and material costs. The increase in gross profit as a percentage of net sales to 39.5% in 1999 from 24.2% in 1998 was due to changes in product mix, as well as the absence of \$17.4 million of restructuring charges for inventory writedowns that were recorded in 1998.

SELLING

Selling expense was \$37.9 million in 1999, a decline of \$4.2 million, or 9.9%, as compared to \$42.1 million in 1998. The reduction in selling expense between years was driven principally by headcount savings attributable to our cost reduction strategy that was initiated in the second quarter of 1998 and continued into the second quarter of 1999. As a percentage of net sales, selling expense decreased to 9.5% in 1999 as compared to 15.9% in 1998.

GENERAL AND ADMINISTRATIVE

General and administrative expense, including the allocation of Eaton general corporate expenses to our business, was \$45.9 million in 1999, a decrease of \$1.2 million, or 2.4%, as

compared with \$47.1 million in 1998. As a percentage of net sales, general and administrative expense decreased to 11.6% in 1999 as compared with 17.7% in 1998 as these costs were spread over a higher revenue base. The allocation of Eaton general corporate expense was \$15.0 million in 1999 as compared to \$14.8 million in 1998.

RESEARCH AND DEVELOPMENT

Research and development expense was \$51.6 million in 1999, a decrease of \$27.1 million, or 34.4%, as compared to \$78.7 million in 1998. As a percentage of net sales, research and development expense was 13.0% in 1999 and 29.6% in 1998. The decrease was attributable primarily to synergy savings associated with the closing of our Austin, Texas facility and the subsequent transfer of Austin's ion implant manufacturing and engineering activities to our Beverly, Massachusetts facility, a reallocation of our research and development efforts following our 1998 restructuring and the completion of certain research projects.

AMORTIZATION OF GOODWILL AND INTANGIBLE ASSETS

Amortization of goodwill and intangible assets was \$9.3 million in 1999 consistent with 1998.

INCOME FROM OPERATIONS

Income from operations was \$12.3 million in 1999 as compared to a loss from operations of \$137.9 million in 1998, primarily as a result of the factors described above.

OTHER INCOME (EXPENSE)

Total other income-net was \$7.2 million in 1999, an increase of \$2.4 million, or 51.3%, as compared to \$4.8 million in 1998. Other income primarily consisted of royalty income and equity income from SEN. Royalty income, more than half of which was from SEN, was \$5.9 million in 1999, as compared to \$7.9 million in 1998, or a decrease of 26.3%. The decrease in 1999 was due to income in 1998 from a large one-time royalty payment from another party. Equity income attributable to SEN was \$1.3 million in 1999 as compared to a loss of \$2.1 million in 1998. This increase primarily reflects a 19.4% increase in SEN sales volume in 1999 as compared to 1998 as a result of the improvements in the Japanese semiconductor market.

INCOME TAXES (CREDIT)

Income tax expense was \$5.1 million in 1999 as compared with an income tax credit of \$51.1 million in 1998, which was generated by our loss from operations in that year. The effective tax rate for 1999 was 26.2% and included a credit for research activities, as compared to an effective tax rate of 38.4% in 1998. See Note 13 to the combined financial statements.

NET INCOME (LOSS)

Net income increased to \$14.4 million in 1999 as compared to a loss of \$82.0 million in 1998, principally as a result of the factors discussed above.

1998 COMPARED TO 1997

NET SALES

Net sales in 1998 were \$265.7 million, a decline of \$194.3 million, or 42.2%, as compared with net sales of \$460.0 million in 1997. The decrease in net sales was largely attributable to the severe worldwide downturn in the semiconductor industry that began in late 1997.

Sales of our ion implant systems and services accounted for \$219.9 million of total sales in 1998, a decrease of \$195.3 million, or 47.0%, as compared to \$415.2 million in 1997, caused mainly by decreasing demand for semiconductors which led to excess capacity at manufacturers of semiconductors and lower capital spending. Sales of other products and services, including dry strip products, photostabilization products and rapid thermal processing systems, increased

by 2.1% in 1998 compared to 1997 due to the inclusion of a full year of sales from Fusion in 1998 as compared to less than a half year of sales in 1997.

International sales, including exports from our United States facilities to customers in Europe and Asia Pacific and the sale of products and manufacturing services directly by our foreign operations totaled \$131.3 million in 1998, a decrease of 48.4% as compared to 1997. Excluding export sales from the United States, our sales in Europe were \$40.3 million, an increase of 16.4% as compared to 1997 reflecting a higher volume of sales of service contracts, spares and upgrades. Sales in Asia Pacific were \$11.3 million, a decrease of 29.6% from 1997, primarily as a result of the economic crisis in Asia.

GROSS PROFIT

Gross profit was \$64.2 million in 1998, a decrease of \$108.6 million, or 62.8%, as compared to \$172.8 million in 1997 primarily as a result of a reduced volume of product sales, competitive pricing pressures and excess capacity costs associated with the semiconductor industry downturn. Gross profit was also affected by restructuring charges of \$17.4 million in 1998 related to the writedown of inventory as described in Note 5 to our combined financial statements. As a percentage of net sales, gross profit decreased to 24.2% in 1998 from 37.6% in 1997, primarily due to the \$17.4 million restructuring charges and the downturn in the semiconductor industry.

SELLING

Selling expense was \$42.1 million in 1998, a decline of \$5.0 million, or 10.6%, as compared to \$47.1 million in 1997, primarily as a result of product volume decreases offset in part by the full year impact in 1998 of the acquisition of Fusion in August 1997. As a percentage of net sales, selling expense increased to 15.9% in 1998 from 10.3% in 1997.

GENERAL AND ADMINISTRATIVE

General and administrative expense, including the allocation of Eaton general corporate expenses to our business, was \$47.1 million in 1998, an increase of \$8.8 million, or 23.0%, as compared with \$38.3 million in 1997, primarily as a result of the full year impact of the Fusion acquisition. As a percentage of net sales, general and administrative expense increased to 17.7% in 1998 compared with 8.3% in 1997, primarily due to spreading fixed costs over a smaller sales base. The allocation of Eaton general corporate expense was \$14.8 million in 1998 as compared to \$11.8 million in 1997, with the increase principally reflecting an increased asset base associated with the acquisition of Fusion.

RESEARCH AND DEVELOPMENT

Research and development expense was \$78.7 million in 1998, an increase of \$8.2 million, or 11.6%, as compared to \$70.5 million in 1997. As a percentage of net sales, research and development expense was 29.6% in 1998 as compared to 15.3% in 1997, primarily resulting from a significant decrease in sales in 1998. The increase reflected our continued commitment to new product development and the enhancement of existing product capabilities, notwithstanding the downturn in sales volume in 1998.

AMORTIZATION OF GOODWILL AND INTANGIBLE ASSETS

Amortization of goodwill and intangible assets increased to \$9.3 million in 1998 as compared to \$3.9 million in 1997. This increase reflected a full year of amortization resulting from the acquisition of Fusion in August 1997.

RESTRUCTURING CHARGES

Restructuring charges of \$25.0 million in 1998, not including the \$17.4 million related to inventory writedowns, which was included in cost of products sold, related primarily to workforce reductions non-cash asset writedowns, and other restructuring actions. The charge for workforce

reductions of \$7.1 million included the termination of approximately 475 employees, primarily manufacturing personnel. As of December 31, 1998, approximately 300 employees had been terminated in this program. In addition, the ion implant equipment manufacturing facility in Austin, Texas was closed and production was transferred to Beverly, Massachusetts. The writedown of this plant to estimated selling price represented approximately \$2.1 million of asset writedowns. The phase-out of this plant was concluded in the first quarter of 1999. See Notes 5 and 8 to our combined financial statements.

WRITE-OFF OF IN-PROCESS RESEARCH AND DEVELOPMENT

Results for 1997 included an \$85.0 million write-off of purchased in-process research and development, with no tax benefit, related to the acquisition of Fusion. This amount was expensed at the date of acquisition because technological feasibility of certain projects had not been established and no alternative commercial use had been identified. See Note 4 to combined financial statements.

LOSS FROM OPERATIONS

Loss from operations was \$137.9 million in 1998 as compared to a loss from operations of \$72.0 million in 1997, primarily as a result of the factors described above.

OTHER INCOME (EXPENSE)

Total other income-net was \$4.8 million in 1998 as compared to \$10.7 million in 1997, a decrease of 55.3%, and consists primarily of royalty and equity income (loss) from SEN. Royalty income, primarily from SEN, was \$7.9 million in 1998, as compared to \$6.3 million in 1997. We also benefited from a one-time royalty payment from an unrelated party in 1998. We recorded an equity loss of \$2.1 million in 1998 attributable to SEN as compared to income of \$3.3 million in 1997, which primarily reflected lower SEN sales and earnings in 1998 as a result of the downturn in the Japanese semiconductor market.

INCOME TAXES (CREDIT)

Income tax credit was \$51.1 million in 1998 as compared with income tax expense of \$0.1 million in 1997. The effective income tax rate for 1998 was 38.4% as compared to 0.2% in 1997. The pretax loss in 1997 included a nondeductible charge of \$85.0 million in connection with the write-off of acquired in-process research and development costs resulting from the acquisition of Fusion. See Notes 4 and 13 to our combined financial statements.

NET LOSS

We reported a net loss of \$82.0 million in 1998 as compared to a net loss of \$61.5 in 1997, reflecting the factors described above.

QUARTERLY RESULTS OF OPERATIONS

The following tables present our combined operating results for each of the four quarters in 1998 and 1999 and for the first quarter in 2000, in dollars and as a percentage of net sales. The information for each of these quarters is unaudited and has been prepared on the same basis as the audited combined financial statements included in this prospectus. In the opinion of management, all necessary adjustments, consisting only of normal recurring accruals, have been included to fairly present the unaudited quarterly results. This data should be read together with our combined financial statements and the notes to those statements included in this prospectus.

The historical financial information may not be indicative of our future performance and does not necessarily reflect what our financial position and results of operations would have been had we operated as a separate, stand-alone entity during the periods presented.

	(UNAUDITED)								
	THREE MONTHS ENDED								
	MARCH 31, 1998	JUNE 30, 1998	SEPT. 30, 1998	DEC. 31, 1998	MARCH 31, 1999	JUNE 30, 1999	SEPT. 30, 1999	DEC. 31, 1999	MARCH 31, 2000
	(IN THOUSANDS)								
COMBINED STATEMENTS OF OPERATIONS DATA									
Net sales.....	\$ 79,178	\$ 93,829	\$ 48,217	\$ 44,485	\$ 59,124	\$98,814	\$108,658	\$130,671	\$143,051
Gross profit (1).....	25,979	33,878	(4,346)	8,718	20,768	41,512	42,260	52,542	61,474
Other costs & expenses:									
Selling.....	11,216	11,577	10,589	8,752	9,087	8,485	10,085	10,289	11,598
General & administrative.....	11,025	12,388	11,069	12,593	9,612	9,751	10,608	15,954	13,030
Research & development...	22,205	19,670	18,997	17,784	12,183	12,549	12,347	14,520	16,125
Amortization of goodwill & intangible assets....	2,319	2,320	2,320	2,320	2,320	2,320	2,320	2,319	2,320
Restructuring charges (1).....			25,529	(535)					
Income (loss) from operations.....	(20,786)	(12,077)	(72,850)	(32,196)	(12,434)	8,407	6,900	9,460	18,401
Other income (expense):									
Royalty income.....	5,022	1,341	292	1,294	965	1,760	1,455	1,674	3,823
Equity income (loss) of SEN.....	(1,071)	468	(1,627)	98	(2,447)	(1,302)	4,981	106	3,340
Other income (expense)-net.....	(131)	(132)	1,136	(1,918)	(145)	(447)	(259)	879	1,549
Income (loss) before income taxes.....	(16,966)	(10,400)	(73,049)	(32,722)	(14,061)	8,418	13,077	12,119	27,113
Income taxes (credit)....	(6,510)	(3,991)	(28,032)	(12,557)	(3,686)	2,206	3,428	3,177	8,251
Net income (loss) (1)....	\$ (10,456)	\$ (6,409)	\$ (45,017)	\$ (20,165)	\$ (10,375)	\$ 6,212	\$ 9,649	\$ 8,942	\$ 18,862
	=====	=====	=====	=====	=====	=====	=====	=====	=====
AS A PERCENTAGE OF NET SALES									
Net sales.....	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Gross profit (1).....	32.8	36.1	(9.0)	19.6	35.1	42.0	38.9	40.2	43.0
Other costs & expenses:									
Selling.....	14.2	12.3	22.0	19.6	15.4	8.6	9.3	7.9	8.1
General & administrative.....	13.9	13.2	23.0	28.3	16.2	9.9	9.8	12.2	9.1
Research & development...	28.0	21.0	39.4	40.0	20.6	12.7	11.3	11.1	11.3
Amortization of goodwill & intangible assets....	2.9	2.5	4.8	5.2	3.9	2.3	2.1	1.8	1.6
Restructuring charges (1).....			53.0	(1.2)					
Income (loss) from operations.....	(26.2)	(12.9)	(151.2)	(72.3)	(21.0)	8.5	6.4	7.2	12.9
Other income (expense):									
Royalty income.....	6.3	1.4	0.6	2.9	1.6	1.8	1.3	1.3	2.7
Equity income (loss) of SEN.....	(1.3)	0.5	(3.3)	0.2	(4.1)	(1.3)	4.6	0.1	2.3
Other income (expense)-net.....	(0.2)	(0.1)	2.4	(4.3)	(0.3)	(0.5)	(0.2)	0.6	1.1
Income (loss) before income taxes.....	(21.4)	(11.1)	(151.5)	(73.5)	(23.8)	8.5	12.1	9.2	19.0
Income taxes (credit)....	(8.2)	(4.3)	(58.1)	(28.2)	(6.3)	2.2	3.2	2.4	5.8
Net income (loss) (1)....	(13.2)%	(6.8)%	(93.4)%	(45.3)%	(17.5)%	6.3%	8.9%	6.8%	13.2%
	=====	=====	=====	=====	=====	=====	=====	=====	=====

(1) Net loss in the third quarter of 1998 reflects a restructuring charge of \$42.9 million (\$27.9 million aftertax) of which \$17.4 million related to inventory writedowns and reduced gross profit and \$25.5 million related to

workforce reductions and other restructuring actions and was recorded in operating expenses.

LIQUIDITY AND CAPITAL RESOURCES

Historically, Eaton has managed substantially all of our cash on a centralized basis. Cash receipts associated with our business have been transferred to Eaton on a periodic basis and Eaton has provided funds to cover our disbursements. Accordingly, the cash and short-term investment balances presented in the accompanying combined balance sheets do not represent balances required or generated by our operations; rather they primarily relate to cash and highly liquid short-term investments maintained for working capital purposes, primarily at international locations.

Since December 31, 1999, our cash receipts and disbursements processed through Eaton's centralized cash management system have been recorded as a receivable from or payable to Eaton. Prior to January 1, 2000, substantially all of these amounts were recorded in Parent Company investment. As of March 31, 2000, a net amount of \$7.3 million was due from Eaton for these transactions and is included in "Receivables From Eaton Corporation" in the accompanying combined balance sheets. We expect to continue to record our cash receipts and disbursements as a receivable from or payable to Eaton until the closing of this offering, at which time we estimate that a net amount of \$ million will be due us from Eaton. We expect to settle the receivable in cash at or shortly after the closing.

We expect to retain net proceeds from the offering of at least \$ million for working capital and other corporate purposes, after paying to Eaton a dividend in the amount of \$300 million. See "Use of Proceeds".

Net working capital was \$198.3 million at March 31, 2000 as compared to \$169.8 million at December 31, 1999, \$91.0 million at December 31, 1998 and \$149.0 million at December 31, 1997. The current ratio at those dates was 3.7 as compared to 3.6, 2.6, and 2.7, respectively. The increase in accounts receivable and inventory was the primary cause of the increase in working capital at March 31, 2000 as a result of increasing sales volume and higher levels of production beginning in the second half of 1999 and continuing into the first quarter of 2000.

Cash (used in) provided by operating activities was (\$11.1 million) for the three months ended March 31, 2000 as compared to (\$39.1 million) in 1999, \$12.2 million in 1998 and (\$6.7 million) in 1997. The cash used in operating activities in 1999 and the first quarter of 2000 was primarily the result of increased accounts receivable and the build-up of inventory balances by period end, resulting from expanding sales volume partially offset by higher accounts payable and improved earnings performance.

Budgeted capital expenditures for the year 2000 are \$24.1 million, a significant portion of which will be used to build a 140,000 square foot expansion of our Beverly, Massachusetts facility to house an advanced process development, product demonstration and customer training center for all the equipment we produce, and an expansion of our Rockville, Maryland manufacturing and research facilities. We had capital expenditures of \$0.3 million in the first quarter of 2000, \$16.9 million in 1999, \$15.0 million in 1998 and \$14.2 million in 1997. The amount of our future capital requirements will depend on a number of factors, including the timing and rate of the expansion of our business. We anticipate increased capital expenditures to support anticipated worldwide sales growth.

Our joint venture arrangements provide that any SEN financing must be approved by Sumitomo and us. In recent years, SEN has satisfied its capital needs with unsecured short-term bank financing. Following the transfer of Eaton's interest in SEN to us and our separation from Eaton, lenders to SEN may in the future require our guarantee or impose other terms and conditions less favorable to SEN than in the past.

We currently believe that our cash and short-term investments, the receivable due from Eaton and the portion of the net proceeds from this offering being retained by us will provide sufficient capital to fund our operations for at least the next 18 months. We cannot assure you,

however, that the underlying assumed levels of sales and expenses will prove to be accurate. We may need to raise additional funds through public or private financings or other arrangements in order to:

- support more rapid expansion of our business than we anticipate;
- develop and introduce new or enhanced products or services;
- respond to competitive pressures;
- invest in or acquire businesses or technologies; or
- respond to unanticipated requirements or developments.

We cannot be certain that financing on favorable terms will be available to us when we need it. We do not intend to raise additional equity capital prior to the complete divestiture by Eaton of our common stock to Eaton shareholders. If additional funds are raised through the issuance of equity securities, dilution to existing stockholders may result. Future debt financings could involve restrictive covenants that may limit the manner in which we conduct our business. If sufficient funds are not available, we may not be able to introduce new products and services, expand the development of our product platform or compete effectively in any of our markets, any of which could materially harm our business, financial condition and operating results.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

MARKET RISK DISCLOSURE

We are subject to various inherent financial risks attributable to operating in a global economy.

INTEREST RATE SENSITIVITY

As of December 31, 1999 and March 31, 2000, we had cash and short-term investments of \$3.5 million and \$2.8 million, respectively. After completion of the offering, we expect to have cash and short-term investments in excess of \$

FOREIGN CURRENCY EXCHANGE RISK

Historically, our exposure to foreign exchange rate risk has been managed on an enterprise-wide basis as part of Eaton's risk management strategy. 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. We are currently evaluating our exchange rate risk management strategy.

EQUITY SECURITY PRICE RISK

We do not own any equity security investments which are subject to price risk and, therefore, we do not currently have any direct equity price risk.

EFFECTS OF RECENT ACCOUNTING PRONOUNCEMENTS

In 1998, Statement of Financial Accounting Standard No. 133, "Accounting for Derivative Instruments and Hedging Activities", was issued. This Statement requires all derivatives to be recognized on the balance sheet at fair value. We must adopt the standard by the first quarter of 2001. We expect that the adoption of the standard will have an immaterial effect on earnings and financial position, if any.

In December 1999, the SEC issued SAB 101, "Revenue Recognition". SAB 101 may require a change in revenue recognition policies by companies, including our company, whose products

require installation and customer acceptance. We must ensure that we are in compliance with the revenue recognition criteria as defined in SAB 101 by the end of the second quarter of 2000. We are currently reviewing our revenue recognition policy to determine if any change is required to ensure compliance with SAB 101.

YEAR 2000

We were included in Eaton's Year 2000 compliance program under which it incurred substantial program costs. We believe that our significant vendors and service providers are year 2000 compliant and have not, to date, been made aware that any of them have experienced year 2000 disruptions in their systems. Accordingly, we do not anticipate incurring material expenses or experiencing any material operational disruptions as a result of any year 2000 problems. Based on operations since January 1, 2000, we have not experienced any significant business disruptions related to the Year 2000 issue.

BUSINESS

OVERVIEW OF OUR BUSINESS

We are a leading producer of ion implantation equipment used in the fabrication of semi-conductors and, together with our Japanese joint venture, were ranked number one in the world in this category for 1999 by Dataquest Inc. The ion implantation process provides a means for introducing charged ions into the surface of a silicon wafer in order to form the active components of a semiconductor. We also produce dry strip, photostabilization and 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 are a 50-50 joint venture partner with Sumitomo. This joint venture, which is known as SEN, licenses our technology and is the leading producer of ion implantation equipment in Japan.

Our customers are located in North America, Europe and Asia Pacific. We and SEN serve 19 of the 20 largest semiconductor manufacturers in the world. We believe that more than 3,200 of our products, including products shipped by SEN, are in use worldwide. We manufacture our equipment at three locations in the United States, and we support customers in 19 countries through 49 support locations in nine countries. SEN manufactures ion implant equipment under license from us at its Toyo, Japan facility.

INDUSTRY OVERVIEW

The semiconductor industry is continuing to experience growth in demand for semiconductors, or chips, for use in personal computers, telecommunication equipment, digital consumer electronics, wireless communication products and other applications. Semiconductors are tiny silicon slivers that contain complete electronic circuits. Most semiconductors are built on a base of silicon, called a wafer, and consist of two main structures. The lower structure is made up of the active components, typically transistors or capacitors, and the upper structure consists of the circuitry that connects the active components.

According to industry sources, total worldwide sales of semiconductors were \$149 billion in 1999. While the semiconductor industry has been highly cyclical, the worldwide semiconductor market, as measured by total sales, grew at an average annual compound rate of 14.5% in the period from 1989 through 1999. World Semiconductor Trade Statistics, an industry trade association, projects continued growth at similar rates for the next two or three years. A significant factor in the growth in demand for semiconductors has been the continuous technological innovation in chip design and manufacture, which has enabled semiconductor manufacturers to produce chips with greater functionality at a lower cost per function. For example, the semiconductor industry historically has been able to double the number of transistors on a given space of silicon every 18 to 24 months.

The increasing demand for semiconductors has required manufacturers to increase chip production. Manufacturers have primarily increased production through efficiency improvements, the addition of manufacturing equipment in existing fabrication facilities and the construction of new fabrication facilities. Efficiency improvements have been derived largely from increased equipment utilization and higher manufacturing yields. In recent years, however, their ability to make significant efficiency gains has diminished. For that reason, as market conditions have improved since early 1999, semiconductor manufacturers have been meeting the increased demand for chips mostly by building new fabrication facilities, which usually cost \$1.0 billion or more, and by making additional equipment purchases to expand existing fabrication facilities.

When new fabrication facilities are built, customers have an opportunity to increase the size of the wafer. By increasing the wafer size, semiconductor manufacturers can produce more chips per wafer, thus reducing the overall manufacturing cost per chip. The more advanced wafer

fabrication facilities are currently using circular wafers with a diameter of 200 millimeters, up from the 100 millimeter diameter wafers used 10 to 15 years ago. Currently, some semiconductor manufacturers are commencing pilot production lines using 300 millimeter wafers. It is anticipated that additional manufacturers will add 300 millimeter production capabilities within the next two to five years, which will lead to demand for equipment with 300 millimeter capability.

During the period 1992 through 1998, the most recent semiconductor equipment cycle, growth in sales of high current and high tilt/medium current ion implantation equipment has been lower than the growth in chip sales, while the growth in sales of high energy implanters has been substantially higher. See "Products and Services". Over the past ten years, based on Dataquest data, sales of ion equipment as a whole have grown faster during periods of high capital spending by semiconductor manufacturers, particularly spending for new fabrication facilities.

Given the magnitude of the investment needed to build a new fabrication facility, independent semiconductor manufacturers, or foundries, have emerged to serve semiconductor producers who design but do not manufacture chips. In addition, foundries manufacture semiconductors for producers who choose to outsource part of their demand. Foundries, which are predominantly located in Taiwan and Singapore, have become significant purchasers of semiconductor equipment.

OUR BUSINESS STRATEGY

Our objective is to enhance our position as a leading producer of ion implantation equipment and to offer on an integrated basis a broad array of products and services used primarily in the front-end of the chip fabrication process. Key elements of our strategy to achieve our objective include:

INCREASE ION IMPLANTATION MARKET PENETRATION. We seek to increase our share of the ion implantation market by leveraging our competitive strengths in advanced ion implant technology and by capitalizing on key trends toward smaller, faster, more complex chips, such as those used in personal computers, cellular phones and other electronic products. As the market leader in high energy, the fastest growing ion implant sector, we intend to continue to broaden the applications served by our high energy products to capture a greater percentage of the total ion implantation market. We also have broadened our high current product line to include ultra low energy implantation to capitalize on the trend towards faster chips. In addition, we intend to continue to invest in our high tilt/medium current products in order to offer the complete range of ion implantation products.

MAINTAIN STRONG COMMITMENT TO RESEARCH AND DEVELOPMENT. Semiconductor manufacturing processes continue to undergo rapid technological change. As a result, we believe that we must continue to be at the forefront of technological innovation in the ion implant sector. We developed the first high current ion implantation system in the late 1970s and the first high energy ion implantation system in the 1980s. In 1999, we installed the first 300 millimeter high energy ion implantation system, which we believe will be the next generation of ion implant products. We also plan to continue to devote substantial research and development resources to our dry strip, photostabilization and rapid thermal processing systems. We pioneered the development of photostabilization in 1983, and we have developed the only 300 millimeter production photostabilizer in the industry. SEN devotes substantial resources to research and development and we receive a royalty-free license for the ion implant technology developed by SEN.

CAPITALIZE ON BROAD PRODUCT LINES TO PROVIDE AN INTEGRATED RANGE OF FRONT-END EQUIPMENT. In addition to our broad offering of ion implantation systems, we offer a range of products utilized in semiconductor manufacturing primarily before and after the ion implantation process. The high degree of interaction among these individual process steps affects overall process quality, throughput and cost. We believe that semiconductor manufacturers will increasingly seek

integrated solutions from their equipment suppliers and we intend to highlight the productivity, high degree of interaction and cost advantages of our broad product line.

PROVIDE LOWEST COST OF OWNERSHIP. Total cost of ownership is an important criterion customers apply when selecting semiconductor capital equipment. In order to provide the lowest cost of ownership, we seek to develop products with the best combination of reliability, advanced technology, high throughput and high yield. For example, we have expanded the range of steps that our most capable high energy machines can perform and, at the same time, we have developed a lower cost high energy machine for those customers with limited need for the broad functionality of our most capable machines. All of our ion implantation systems are designed on a common platform, utilizing the same wafer handling robot, ion source, vacuum system and operator interface. Our dry strip and photostabilization equipment also share the same wafer handling platform. These common platforms reduce our design and production time and costs, and overall cost of ownership for our customers by minimizing training, spare parts inventory and maintenance.

PROVIDE SUPERIOR CUSTOMER SERVICE. Prompt and effective field support is critical to our sales efforts, due to the complexity of our machines and the substantial operational and financial commitments made by our customers when they purchase our equipment. We intend to increase our sales and customer support infrastructure in all our markets, particularly in Taiwan, Singapore and South Korea, to capitalize on growth opportunities. Furthermore, we continually seek to improve our responsiveness to customer needs. For example, our SMART internet-based parts supply system streamlines the replenishment of customers' inventory, and we are expanding our Beverly, Massachusetts facility to provide training and education to our customers on advanced processes for all our products.

REDUCE CYCLE TIMES IN OUR BUSINESS. We seek to improve our operating efficiencies by, among other things, reducing cycle times across our business. For example, we recently adopted modular testing of our ion implantation products, which avoids the need to assemble, test and disassemble a complete unit prior to shipment. This "ship from cell" process has enabled us to cut approximately four weeks from the average period from receipt of an order to shipment of the product. 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 development process.

PRODUCTS AND SERVICES

We are a leading producer of ion implantation equipment. We also offer other products and services, including dry strip, photostabilization and rapid thermal processing products used to produce semiconductor devices. We provide extensive aftermarket service and support to our customers, including spare parts, equipment upgrades, maintenance services and customer training.

The dollar amount (in millions) and percentage of our net sales attributable to ion implantation systems and services and to other products and services were as follows for the periods indicated:

	YEAR ENDED DECEMBER 31,						THREE MONTHS ENDED MARCH 31,			
	1997		1998		1999		1999		2000	
	(UNAUDITED)									
Ion implantation systems and services.....	\$415.2	90.3%	\$219.9	82.8%	\$322.0	81.0%	\$47.0	79.5%	\$115.8	80.9%
Other products and services.....	44.8	9.7	45.8	17.2	75.3	19.0	12.1	20.5	27.3	19.1
Total.....	\$460.0	100%	\$265.7	100%	\$397.3	100%	\$59.1	100%	\$143.1	100%

ION IMPLANTATION SYSTEMS

Ion implantation is a principal step in the manufacturing process for semiconductors. An ion implanter is a large, technically advanced machine that injects charged ions, or dopants, such as arsenic, boron or phosphorus, into a silicon wafer through an accurately controlled electric 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 material known as photoresist 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. The amount of energy 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 of machine produces chips with varying degrees of computing speed, miniaturization and power consumption. Most complex chips require implant steps from each type of machine and the manufacturer determines the optimal combination of machines based on the performance requirements of the chips being produced. We have designed our products to enhance the manufacturers' flexibility in combining machines during the implant process.

A high energy implanter is typically used to implant dopant deep in the wafer, which allows improved isolation of adjoining circuits on the same chip. High energy implanters enable a closer stacking of circuits, which results in more functionality for the consumer. As a result, in recent years 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 increasingly used in the manufacture of chips that are used in personal computers because they permit greater computing power from a chip of a given size.

For implants that require high dose and medium to very shallow depth, a high current implanter is most often used. In some applications, very shallow, high-dose implants result in faster chips, an important feature for microprocessors, digital signal processors and other chips.

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 an 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 most optimal combination of implanters for their needs.

The following table shows the 1999 estimated overall market size for high energy, high current and high tilt/medium current implanter machines (excluding aftermarket sales and service revenues), the estimated annual compound growth rate for each of these markets from 1992 to 1998, the 1999 estimated combined market share for our sales and SEN's sales of each product line and the 1999 estimated average selling price for industry sales of each product line. All data in the table has been supplied by Dataquest.

	TYPES OF ION IMPLANTERS		
	HIGH ENERGY	HIGH CURRENT	HIGH TILT/ MEDIUM CURRENT

	(DOLLARS IN MILLIONS)		
1999 Overall market size.....	\$187	\$287	\$174
1992-1998 Annual compound growth rate.....	39.2%	4.6%	12.6%
1999 Axcelis/SEN market share.....	87.7%	41.5%	9.4%
1999 Industry average selling price...	\$3.5-4.0	\$2.5-3.5	\$2.0-3.0

We manufacture a complete line of high energy, high current and high tilt/medium current implanters which is broader than our competitors. The following chart lists our principal products:

TYPE OF ION IMPLANTER	CORE PRODUCTS	RECENTLY INTRODUCED PRODUCTS
HIGH ENERGY	GSD/HE - Permits multiple implant steps in one process, or chaining, thus increasing throughput - More than 80% of our GSD/HE customers use it for one or more medium current applications - Broadest application coverage GSD/VHE - Highest energy range available - Also used by customers for R&D	HE(MC) - Lower cost alternative to GSD/HE HE3 - For use with 300 millimeter wafers
HIGH CURRENT	GSD/200E(2) - High dose implants - High productivity at low cost	LED - Increased performance at low energy ULE2 - Ultra-low energy
HIGH TILT/ MEDIUM CURRENT	8250HT - Energy purity - Process flexibility	MC3 - For use with 300 millimeter wafers

Our implanters have been designed with a process overlap that allows customers to tailor the combination of high energy, high current and high tilt/medium current implanters to their specific needs. High energy and high current implanters can be used to cover most high tilt/medium current applications, and the high tilt/medium current implanter can be used for some high energy applications. All of our ion implantation systems share certain of the same modular subsystems for efficiency and convenience. The subsystems for wafer handling robot, ion source, vacuum system and operator interface are common among our three implanters. This common platform reduces our design and production time and costs, and overall cost of ownership for our customers by minimizing training, spare parts inventory and maintenance.

All our high energy and high current machines process wafers in batches of 13 to 25 wafers, while, as is common in the industry, our high tilt/medium current machines process one wafer at a time. In addition, our high energy implanters can perform several implants without reloading the wafers, a process known as chaining. We believe that the ability of our high energy machines to process wafers in batches and to chain has contributed to the high growth of that product line.

We intend to continue to broaden the applications served by our high energy products and have recently introduced our HE(MC) implanter to provide a lower cost alternative for those customers with a limited need for the broad functionality of our most capable high energy machines. We also recently introduced our next generation HE3 implanter designed specifically to process 300 millimeter wafers. Two HE3 machines have been installed in 300 millimeter wafer pilot production lines. Our GSD/HE product is the industry's only ion implantation product to be rated "best product" among semiconductor capital equipment products, an award sponsored by Semiconductor International, an industry publication.

We developed the first high current ion implantation system and were ranked number one in this product sector in 1999, according to Dataquest. We have recently introduced our LED implanter, which extends the energy range of our GSD/200E(2) implanter to lower energies than can be achieved with traditional high current implanters. The ULE2 is an ultra low energy, high current implanter. These machines respond to the demand for high dose, ultra shallow implants that increase chip speed at acceptable machine throughput rates.

Our high tilt/medium current ion implanter complements our high energy and high current implanters. Our 8250HT targets high tilt applications that cannot be performed with high energy or high current implanters and extends into some high energy applications to allow customers a flexible combination of implanters. We target our 8250HT high tilt/medium current machine for the relatively few steps that our high energy and high current machines cannot complete. The most important step is an angular implant designed to insert dopants below preexisting features on the wafer. Our recently introduced MC3 high tilt/medium current implanter is designed to process 300 millimeter wafers.

During the past three years, we have also produced a small number of ion implanters used in the production of laptop computer screens and other flat panel displays. We also continue to service the machines that have been installed. Our net sales from the sale and service of these implanters were approximately 1% or less of net sales in each of the last three years.

OTHER PRODUCTS

We also produce dry strip, photostabilization and rapid thermal processing equipment, which is used in semiconductor manufacturing primarily before and after the ion implantation process. We introduced our rapid thermal processing products in 1996 and we entered the dry strip and photostabilization product markets through our acquisition of Fusion in August 1997. Fusion pioneered the development of photostabilization in 1983.

We estimate that, in 1999, the market for photostabilizer equipment was \$18 million and our market share was approximately 75%. Dataquest reports that, in 1999, the market for dry strip equipment was \$227 million and our market share was 14% and that the market for rapid thermal processing equipment was \$331 million and our market share was 2%.

DRY STRIP AND PHOTOSTABILIZATION SYSTEMS. In the process steps prior to ion implantation, certain areas of the silicon wafer are blocked off to ensure that only defined areas of the wafer are processed. First, a light sensitive, polymer-based liquid, called photoresist, is spread in a uniformly thin film on the wafer. After baking to solidify the liquid, light is passed through a stencil, which projects an image on the photoresist by means of a lithographic tool. Thereafter, photostabilization uses ultraviolet light to harden the photoresist in order to provide better performance for the subsequent implant step. After the implant step, the used photoresist must be removed. The primary means of removing excess photoresist and residue is called dry strip. Our dry strip machines, often called ashers, use microwave energy to turn process gases into plasma, which then acts on the surface of the wafer to remove the photoresist and unwanted residue. Dry strip and photostabilization are also used in conjunction with several other steps in the manufacturing process.

The following chart lists our principal products in each category:

PRODUCT LINE	CORE PRODUCTS	RECENTLY INTRODUCED PRODUCTS
DRY STRIP	FUSIONGEMINI PLASMA ASHER - High ash rates with low damage FUSIONGEMINI PLASMA ASHER ES - Adds additional capability for dry residue removal	FUSION ES3 - Comprehensive dry strip and residue removal with 300 millimeter capability
PHOTOSTABILIZERS	FUSIONGEMINI PHOTOSTABILIZER - Proprietary ultraviolet light source; high throughput	FUSION PS3 - Industry's only 300 millimeter production-ready photostabilizer

Our FusionGemini 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 Fusion ES3 dry strip product was the first 300 millimeter dry strip machine qualified by Sematech, an industry association of semiconductor manufacturers.

Our photostabilizers are used by a majority of integrated circuit manufacturers worldwide because of our proprietary ultraviolet light source and the high throughput of the FusionGemini dual chamber platform. Our recently introduced Fusion PS3 machine has 300 millimeter wafer capability and is the only 300 millimeter production-ready photostabilizer available on the market. It has been installed in 300 millimeter pilot production facilities.

RAPID 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. For example, high temperature treatment is needed after all the dopants have been implanted in the wafer so that the dopants will settle into the correct atomic state. This heating process is referred to as rapid thermal processing, or RTP.

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 heating coils, as well as an actively cooled base, which create a uniform temperature gradient from top to bottom. The resulting stable temperature profile is inherently repeatable, accurate and reliable. Rapid heating and cooling of the wafer is achieved by simply adjusting the vertical position of the wafer within the reactor. Most other RTP equipment manufacturers use more expensive lamp-based RTP systems, which require frequent lamp replacement and require expensive control systems. For this reason, we believe our RTP machines have lower overall operating costs than these lamp-based systems.

The following chart lists our principal RTP products:

PRODUCT LINE	CORE PRODUCTS	RECENTLY INTRODUCED PRODUCTS
RTP SYSTEMS	SUMMIT - Accommodates 0.18M devices - Repeatable, accurate temperature gradient	SUMMIT 300 - 300 millimeter capability

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. Our recently introduced Summit 300 has 300 millimeter wafer capability.

AFTERMARKET SUPPORT AND SERVICES

We offer our customers extensive aftermarket service and support throughout the lifecycle of the equipment we manufacture. We believe that more than 3,200 of our products, including products shipped by SEN, are in use worldwide. The service and support that we provide include spare parts, equipment upgrades, maintenance services and customer training. At March 31, 2000, we offered aftermarket service at 49 locations in nine countries; 13 of these were combined sales and service offices, and the balance were service-only offices, mostly located in our principal customers' fabrication facilities.

Our customer support network includes approximately 500 sales and marketing personnel and service engineers, including field service engineers, spare parts support staff and applications engineers. An additional 300 persons located at our three 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 with our customers. The implementation of our SMART program has helped us to achieve reduced order fulfillment costs and cycle times.

Our process technology center in Beverly, Massachusetts is available to customers for developing and testing advanced ion implantation and RTP processes, and our process technology center in Rockville, Maryland is available to customers for developing and testing dry strip and photostabilization processes. At these facilities, we also make available to our customers advanced testing and analysis equipment. In addition, we are constructing a 140,000 square foot addition to the Beverly facility, which will house an advanced process development, product demonstration and customer training center for all of the equipment we produce.

The ability to provide prompt and effective field support is critical to our sales efforts, due to the substantial operational and financial commitments made by customers that purchase our systems. Our customer support programs, combined with our research and development efforts, have served to encourage use of our systems in production applications and have accelerated penetration of certain key accounts.

SALES AND MARKETING

We primarily sell our equipment and services through our direct sales force. At March 31, 2000, we had 13 sales offices in seven countries. Aftermarket service and support is also offered at all of these offices. In the United States, we conducted sales and marketing activities from seven locations. Outside of the United States, our sales offices are located in Taiwan, South Korea, Germany, Singapore, Italy and France. At March 31, 2000, we had approximately 500 sales and marketing personnel and service engineers. Our sales objective is to work closely with customers to secure purchase orders for multiple systems as they expand existing facilities and build new wafer facilities. We believe that our marketing efforts are enhanced by the technical expertise of our research and development personnel. At March 31, 2000, over 44% of our workforce consisted of engineers, scientists and technical personnel.

We sell our photostabilizers, dry strip and rapid thermal processing products to semiconductor fabricators in Japan through a distribution agreement with Sumitomo entered into in 1999. The agreement also provides for the parties to discuss the manufacture and sale of these products through SEN if sales volumes in the future meet agreed levels. The distribution

arrangement expires in 2002 and thereafter is renewable from year to year, unless either party has given the other party six months prior written notice.

In addition, isolated sales are made in smaller markets through distributors and manufacturers representatives. SEN sells its machines and services directly to semiconductor fabricators in Japan.

The semiconductor fabrication industry is currently experiencing significant growth in Asia, particularly in Taiwan, Singapore and South Korea. As a result, we have also increased our focus on markets in Asia outside of Japan by increasing our sales and customer support personnel focused on those countries. We intend to make additional investments in this region over the next few years.

International sales, including export sales from our U.S. manufacturing facilities to foreign customers and sales by our foreign subsidiaries and branches, accounted for 53.5% of total net sales in 1999, and 49.5% in 1998. We expect that international sales will continue to account for a significant portion of our net sales. International sales are subject to various risks that are described under "Risk Factors--Risks Relating to Our Business--A Decline In Our International Sales Could Harm Our Business". Substantially all of our sales are denominated in U.S. dollars. SEN's sales are denominated in Japanese yen.

CUSTOMERS

In 1999, the top 20 semiconductor manufacturers accounted for approximately 75% of total semiconductor 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 serve 19 of these 20 largest semiconductor manufacturers. We believe that more than 3,200 of our products, including products shipped by SEN, are in use worldwide.

Net sales to our ten largest customers accounted for 48.7%, 37.6% and 59.1% of net sales, respectively, in 1997, 1998 and 1999. 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 1999, net sales to SGS Thompson Microelectronics, Motorola and Texas Instruments accounted for 15.9%, 10.6% and 10.5%, respectively, of our net sales. No other customer accounted for as much as 10% of our net sales in 1999. In 1997 and 1998, no single customer accounted for as much as 9.0% of our net sales.

SEN JOINT VENTURE

In 1982, we established our SEN joint venture with Sumitomo to provide us with additional manufacturing capacity for our ion implant products and local access to the Japanese semiconductor equipment market. Under our arrangements with Sumitomo, our ion implant products may be sold in Japan only through the joint venture. SEN may sell its products outside Japan only with our consent and through us as exclusive distributor. There are isolated sales of our equipment into Japan to our non-Japanese customers and isolated sales of SEN equipment outside of Japan primarily to its Japanese customers and their joint ventures. SEN manufactures ion implantation equipment at its Toyo, Japan location under the license from us described below. From time to time, we sell ion implantation equipment and other products to SEN. In 1999, our net sales of products to SEN amounted to \$6.7 million.

As part of the joint venture arrangement, we have entered into a separate license agreement with SEN, last renewed in 1996, under which SEN is entitled to use our ion implantation technology and improvements to this technology that we develop. SEN is entitled to use this technology solely in sales of ion implanters to semiconductor manufacturers located in Japan. We received royalty income from SEN under the license agreement of \$6.2 million in 1997, \$4.0

million in 1998 and \$3.8 million in 1999. The license agreement expires on December 31, 2004 and is automatically renewable for successive five-year periods unless either party has provided one year's prior notice of termination.

SEN has the right to use the name "EATON" as part of its corporate name under an agreement with Eaton that has no fixed expiration date. Eaton has the right, however, to terminate that agreement at any time upon 60 days notice. SEN also has the right to use in Japan the trademarks "EATON" and "NOVA" on its ion implant products. SEN does not, however, have the right to use EATON in logo format. This agreement requires SEN to pay us semiannual royalties equal to 0.5% of net sales. SEN must maintain quality and reliability standards, and Eaton is entitled to terminate the trademark agreement at any time for cause.

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 and Peabody, Massachusetts and in Rockville, Maryland. SEN also conducts research and development in Toyo, Japan.

Our product development efforts have led to numerous industry breakthroughs, including the first production high current implantation system, the first production high energy implanter and the first photostabilizer.

An important focus of our current research and development efforts is directed at machines capable of processing 300 millimeter wafers. Our 300 millimeter high energy ion implanter, the HE3 and our 300 millimeter photostabilizer, the PS3, were installed by Semiconductor 300 in 1999 in its Dresden, Germany pilot production facility.

Our expenditures for research and development during 1997, 1998 and 1999 were \$70.5 million, \$78.7 million and \$51.6 million, respectively, or 15.3%, 29.6% and 13.0% of net sales, respectively. Our budgeted research and development expenditures for 2000 are approximately \$69 million, of which \$16.1 million was spent in the first quarter of 2000. We expect in future years that research and development expenditures will continue to represent a substantial percentage of net sales.

MANUFACTURING

We manufacture our products at facilities in Beverly and Peabody, Massachusetts and in Rockville, Maryland. In addition, SEN manufactures products at its facility in Toyo, Japan.

Our Beverly, Massachusetts facility manufactures our high energy, high current and high tilt/medium current ion implantation systems. In 1999, we completed an 80,000 square foot expansion of this facility.

We manufacture photoresist removal and curing systems in our Rockville, Maryland facility, including our photostabilizer and dry strip product lines. We currently manufacture our rapid

thermal processing products in our Peabody, Massachusetts facility, but we are considering relocating the Peabody facility to our Beverly plant.

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. This procedure is 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. We recently adopted modular testing of our ion implantation products, which avoids the need to assemble, test and disassemble a complete unit prior to shipment. This "ship from cell" process has enabled us to cut approximately four weeks from the average period from receipt of an order to shipment of the product.

We purchase materials, components and sub-assemblies, 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 equipment market is highly competitive and is characterized by a small number of large participants. We compete in four principal product markets primarily at the front-end of the semiconductor manufacturing process: ion implantation, dry strip, photostabilization and rapid thermal processing.

A substantial investment is required by customers to install and integrate capital equipment into a semiconductor production line. As a result, once a semiconductor manufacturer has selected a particular vendor's capital equipment for a production line, we believe that most manufacturers continue to rely heavily on the incumbent supplier's equipment for that production line. However, we believe that, although the existing suppliers have some advantage in supplying a new fabrication facility for the same manufacturer, the manufacturer will also take into account technological advances and other competitive factors in deciding from whom to buy.

In addition to the importance of preexisting relationships, significant competitive factors in the semiconductor equipment market include price/cost of ownership, performance, customer support, breadth of product line, distribution and financial viability. Price wars have not been common in our industry.

ION IMPLANTATION

We are a leading producer of ion implantation equipment used in the fabrication of integrated circuits and, together with our Japanese joint venture, were ranked number one in the world in this category for 1999 by Dataquest. In high energy equipment, where we have a commanding market position, our principal competitor is Varian. In high current products, we and Applied Materials have substantial market shares and Varian has a smaller share. 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, Varian, Ulvac and Applied Materials for sales in that market.

DRY STRIP, PHOTOSTABILIZATION AND RAPID THERMAL PROCESSING

Our principal competitors in the dry strip product market are GaSonic International, Mattson Technology, KEM and Canon, and our principal competitor in photostabilization is Ushio. Our chief competitors in the rapid thermal processing equipment market are Applied Materials, Steag and DaiNippon Screen.

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. At March 31, 2000, we had 134 patents in the United States and 232 patents in other countries, as well as 416 patent applications (63 in the United States and 353 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. We have a license from Eaton to use the Eaton name and logo in connection with the sale of semiconductor manufacturing equipment.

We have agreements with third parties, mostly as licensor, that provide for licensing of patented or proprietary technology. These agreements include royalty-bearing licenses and technology cross-licenses. Our license agreement with SEN is described above under "SEN Joint Venture". No other license is material to us.

There has been substantial litigation regarding patent and other intellectual property rights in semiconductor-related industries. We can give no assurance that we, our licensors, licensees, customers or suppliers will not be subject to claims of patent infringement, and that any such claim will not be successful and require us to pay substantial damages or delete certain features from our products or both.

BACKLOG

As of March 31, 2000, our backlog was \$166.1 million, as compared to \$93.8 million, \$27.8 million and \$67.1 million, respectively, for year end 1999, 1998 and 1997. Our policy is to include in backlog only those orders for which we have accepted purchase orders. 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.

PROPERTIES

We have a total of 35 properties, of which 26 are located in the United States and the remainder are located in Asia and Europe, including offices in Taiwan, Singapore, South Korea, Italy, Germany, France and the United Kingdom. Of these properties, two are owned and 33 are leased. We own our 54,600 square foot corporate headquarters in Beverly, Massachusetts located adjacent to our Beverly manufacturing facility.

Our manufacturing facilities are listed below:

FACILITY LOCATION	PRINCIPAL USE	SQUARE FOOTAGE (OWNED/LEASED)
Beverly, Massachusetts	Manufacturing of ion implantation products and research and development	310,200 (owned)
Peabody, Massachusetts	Manufacturing of rapid thermal processing products	20,000 (leased)
Rockville, Maryland	Manufacturing of photoresist and photostabilization products	151,000 (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 an 11,000 square foot demonstration line, which is used to develop next-generation application solutions for specific customers, as well as to demonstrate the full range of our integrated process equipment. We also have a process technology center in Rockville, Maryland that is available to customers for developing and testing dry strip and photostabilization processes.

We are building a 140,000 square foot facility in Beverly, Massachusetts which will house an advanced process development, product demonstration and customer training center with all of the equipment we produce. In 1998, as part of our restructuring, we closed our Austin, Texas ion implant manufacturing facility and transferred production to our Beverly, Massachusetts facility. We are currently negotiating the sale of the Austin property and expect to sell it for a price that approximates book value.

We do not believe there is any material, long-term, excess capacity in our 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 certified.

EMPLOYEES

As of March 31, 2000, we had 1,717 full-time and 165 temporary employees worldwide, of which 1,663 were employed in North America, 119 in Asia and 100 in Western Europe. At that date, more than 44% of our workforce consisted of scientists, engineers and technicians. All of our employees have entered into confidentiality and noncompetition agreements with us. At that date, none of our employees based in the United States was represented by a union, and we have never experienced a work stoppage, slowdown or strike. Our employees based in Germany are subject to collective bargaining agreements. 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; 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.

LEGAL PROCEEDINGS

From time to time, a number of lawsuits, claims and proceedings have been or may be asserted against us relating to the conduct of our business, including those pertaining to patent validity or infringement, commercial, employment and employee benefits matters. While the outcome of litigation cannot be predicted with certainty, and some of these lawsuits, claims or proceedings may be determined adversely to us, we do not believe that the disposition of any such pending matters is likely to materially affect us.

MANAGEMENT

DIRECTORS, EXECUTIVE OFFICERS AND KEY EMPLOYEES

The names, ages at May 1, 2000 and positions of our directors, nominees for director, executive officers and key employees to serve after the completion of the offering are set forth below.

NAME - - - - -	AGE - - -	POSITION - - - - -
DIRECTORS AND EXECUTIVE OFFICERS:		
Brian R. Bachman	55	Chief Executive Officer and Vice Chairman of the Board
Mary G. Puma	42	President and Chief Operating Officer, Director
Stephen R. Hardis	64	Chairman of the Board
Alexander M. Cutler	48	Director
Ned C. Lautenbach	56	Director
Philip S. Paul	61	Director
Naoki Takahashi	54	Director
Gary L. Tooker	60	Director
KEY EMPLOYEES:		
Michael J. Luttati	45	General Manager -- Implant Systems Division and Director of Worldwide Sales
Robert A. Mionis	37	Director of Worldwide Operations
Ted S. Miller	42	Director of Global Customer Services
Kevin M. Bisson	39	Director of Finance
Jan-Paul van Maaren	38	Director of Business Development
Michael Davies	54	Director of Human Resources
Craig Halterman	37	Director of Information Technology
John Poate	58	Chief Technology Officer

Set forth is certain biographical information about our directors and executive officers and key employees:

BRIAN R. BACHMAN has been our Chief Executive Officer and Vice Chairman since April 2000, and a director of our company since May 2000. He is also Senior Vice President and Group Executive-Hydraulics, Semiconductor Equipment and Specialty Controls of Eaton, a position that he has held since December 1995. Mr. Bachman will resign as an officer of Eaton effective at the time of this offering. From 1991 to 1995, he was vice president and general manager for the Standard Products Business Group of Philips Semiconductor. Prior to joining Philips, Mr. Bachman held positions with FMC Corporation, General Electric Company and TRW Inc. and was president of General Semiconductor Industries, a subsidiary of Square D Corporation and a group General Manager with ITT Corporation. He is a member of the Board of Directors of Keithley Instruments, Inc., the Board of Governors of Electronic Industries Association and the Board of the Vocational Guidance Services. He also serves on Northwestern University's Kellogg McCormick Master of Management in Manufacturing Program Advisory Board.

MARY G. PUMA has been our President and Chief Operating Officer since May 2000 and is a nominee for director of our company. Prior to her current position, she also served as our Vice President from February 1999 to May 2000. In 1998, she became General Manager and Vice President of our implant systems division. 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.

STEPHEN R. HARDIS is our Chairman of the Board and is also Chairman and Chief Executive Officer of Eaton. He will retire as Chairman and Chief Executive Officer of Eaton effective July 31, 2000. He became Eaton's Chairman in January 1996 and its Chief Executive Officer in September 1995. Prior to that, Mr. Hardis served as Eaton's Vice Chairman from 1986 and its Executive Vice President -- Finance and Administration from 1979. Mr. Hardis is a director of American Greetings Corporation, Lexmark International Group, Inc., Marsh & McLennan Companies, Inc., Nordson Corporation and Progressive Corporation.

ALEXANDER M. CUTLER is a director of our company and he also has served as President and Chief Operating Officer of Eaton since 1995. He will become Chairman and Chief Executive Officer of Eaton effective August 1, 2000. Mr. Cutler served as Eaton's Executive Vice President and Chief Operating Officer -- Controls from 1993 to 1995 and as its Executive Vice President -- Operations from 1991 and President of its Industrial Group from 1986. He is also a director of Eaton and KeyCorp.

NED C. LAUTENBACH is a nominee for director of our company and is a partner of Clayton, Dubilier & Rice, Inc., an investment firm specializing in structuring leveraged buyouts. Before joining CD&R, Mr. Lautenbach was employed by IBM from 1968 until his retirement in 1998. At IBM, he held several executive positions, including Vice President, President of IBM Asia Pacific, Senior Vice President, Chairman of IBM World Trade Corporation, Senior Vice President and Group Executive, Sales and Distribution, and was a member of IBM's Corporate Executive Committee. He is a director of Eaton, ChoicePoint, Inc., Dynatech Corp., Fidelity Mutual Funds and Fairfield University.

PHILIP S. PAUL is a nominee for director of our company. He has been Chairman of Paul Capital Partners., L.L.C., a registered investment advisor, since 1991.

NAOKI TAKAHASHI is a nominee for director of our company. In April 2000, he became Director, Senior Vice President and General Manager of the Precision Products Division of Sumitomo. Prior to that, Mr. Takahashi held a number of senior level positions in the Corporate Technology Operations Group of Sumitomo.

GARY L. TOOKER is a nominee for director of our company. Mr. Tooker is the former Chairman and Chief Executive Officer of Motorola, Inc. Mr. Tooker served as Vice Chairman of Motorola, Inc., a manufacturer of electronics equipment, since 1999. Prior to that, he was Motorola's Chairman from 1997, Vice Chairman and Chief Executive Officer from 1993, President from 1990, Chief Operating Officer from 1988, Senior Executive Vice President and Chief Corporate Staff Officer from 1986 and in other capacities from 1962. Mr. Tooker is a director of the Atlantic Richfield Company, Eaton and Motorola.

MICHAEL J. LUTTATI has been our General Manager of implant systems since 1999. Prior to joining our company, Mr. Luttati served as Vice President, North America Sales Operations of Teradyne Inc. from 1996 to 1998 and, from 1981 to 1996, he held several other sales and marketing positions with Teradyne.

ROBERT A. MIONIS has served as our Director of Worldwide Operations since March 1999 and was our Global Operations Director for our implant systems operations from April 1998. Prior to joining our company, Mr. Mionis served AlliedSignal Corporation as Director of Operations and GE Aerospace in various management positions.

TED S. MILLER has been our Director of Global Customer Service since the beginning of 2000. Prior to joining our company, Mr. Miller most recently served as Division Marketing Manager, Global Customer Service at Teradyne, Inc. and since 1980, he held various other marketing and

other positions at Teradyne, including ten years experience in the semiconductor service segment.

KEVIN M. BISSON has been our Director of Finance since January 2000. Prior to joining our company, Mr. Bisson was Director of Finance for Hamilton Sundstrand Corporation, a subsidiary of United Technologies Corporation, from 1999 and he held various other financial management positions at UTC since 1989.

JAN-PAUL VAN MAAREN has served as our Director of Business Development since May 1999, and he previously served as our Director of Global Customer Service and as our Director of Technology and Business Development since joining our company in October 1997. Mr. van Maaren was employed by Honeywell Corporation from 1992 to 1997 in various senior marketing management positions with Honeywell's Home and Building Controls Division. Mr. van Maaren also worked as a senior scientist for the Institute for Atomic and Molecular Physics in the Netherlands from 1985 to 1990.

MICHAEL DAVIES has been our Director of Worldwide Human Resources since 1998. Prior to joining our company, Mr. Davies was employed by Analog Devices Inc., most recently serving as Director of Human Resources for Analog's Global Field Organizations from 1995 to 1998. Mr. Davies held various other senior human resources positions with Analog from 1983 to 1995.

CRAIG HALTERMAN has been our Director of Information Technology since the beginning of 2000. Prior to joining our company, 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 Dow Chemical, Thomson Consumer Electronics, General Electric Company and RCA Consumer Electronics.

JOHN POATE will be our Chief Technology Officer effective June 19, 2000. Prior to joining us, Dr. Poate was Dean of the College of Science and Technology of the New Jersey Institute of Technology, and of Liberal Arts since 1997. From 1971 to 1997, he held several senior research positions, including head of silicon processing research, with Bell Laboratories

BOARD STRUCTURE AND COMPENSATION

Our board of directors will be divided into three classes serving staggered three year terms following the completion of this offering. 's and 's initial terms will expire in 2001. 's and 's initial terms will expire in 2002. 's and 's initial terms will expire in 2003.

Employee directors will not be paid compensation as directors. Non-employee directors will receive a option grant under the 2000 Stock Plan or a combination of an annual retainer and a stock option grant. We intend to adopt a Director plan under which non-employee directors entitled to compensation can elect not to receive cash compensation but instead to receive a grant of a number of additional options to purchase shares of our common stock with a value equal to the dollar amount foregone.

AUDIT COMMITTEE

Messrs. , and will be members of our audit committee following completion of this offering. Our audit committee reviews our auditing, accounting, financial reporting and internal control functions and makes recommendations to the board of directors for the selection of independent accountants. In addition, the committee will monitor the quality of our accounting principles and financial reporting, our compliance with our prescribed fiscal

procedures and codes of conduct as well as the independence of and the non-audit services provided by our independent accountants. In discharging its duties, the audit committee:

- assists directors in fulfilling the Board's responsibility for the quality of financial reporting;
- reviews and approves the scope of the annual audit and the independent accountant's fees;
- reviews the annual audit and financial statements;
- meets independently with our internal auditing personnel, our independent accountants and our senior management; and
- reviews the general scope of our accounting, financial reporting, annual audit and internal audit programs, matters relating to internal control systems as well as the results of the annual audit.

STOCK OWNERSHIP OF DIRECTORS AND EXECUTIVE OFFICERS

All of our common stock is currently owned by Eaton, and thus none of our officers, directors or director nominees own any of our common stock. To the extent our directors and officers own shares of Eaton common stock at the time of the divestiture, they will participate in the divestiture on the same terms as other holders of Eaton common stock.

The following table sets forth the number of shares of Eaton common stock beneficially owned on December 31, 1999 by each director, each of the executive officers named in the Summary Compensation Table in the "Executive Compensation" section below, and all of our directors, director nominees and executive officers as a group. Except as otherwise noted, the individual directors, executive officers or their family members had sole voting and investment power with respect to such securities. The total number of shares of Eaton common stock outstanding as of December 31, 1999 was 72,862,147.

NAME OF BENEFICIAL OWNER	NUMBER OF SHARES OF EATON BENEFICIALLY OWNED(1,2)		DEFERRED SHARE UNITS(4)	TOTAL NUMBER OF SHARES AND DEFERRED SHARE UNITS
	NUMBER	PERCENTAGE		
B. R. Bachman.....	77,993(5)	--	6,354	84,347
M. G. Puma.....	27,712	--	0	27,712
A. M. Cutler.....	289,899(5,6)	--	46,907	336,806
S. R. Hardis.....	386,543(5)	--	182,877	569,420
N. C. Lautenbach.....	9,662	--	1,794	11,456
P. S. Paul.....	0	--	0	0
N. Takahashi.....	0	--	0	0
G. L. Tooker.....	12,662(6)	--	1,063	13,725
All directors and executive officers as a group (eight persons).....	804,471		238,995	1,037,466

* Represents holdings of less than one percent.

- (1) Each person has sole voting and investment power with respect to the shares listed, unless otherwise indicated.
- (2) Includes shares which the person has the right to acquire within 60 days of March 31, 2000 upon the exercise of outstanding options as follows: B.R. Bachman, 75,950; A.M. Cutler, 264,676; S.R. Hardis, 328,386; M.G. Puma, 21,440; and all directors and executive officers as a group, .
- (3) Each of the individuals listed holds less than 1% of outstanding Eaton common stock.

- (4) The Eaton director plan and the Eaton Long Term Incentive Plan permits directors and officers, respectively, to defer receipt of a portion of cash compensation otherwise due them. At least 50% of deferred amounts due to be paid after retirement are converted to Eaton share units and earn Eaton share price appreciation and dividend equivalents.
- (5) Includes shares held under the Eaton Share Purchase and Investment Plan as of January 31, 2000.
- (6) Includes shares held jointly or in other capacities, such as by a trust.

EXECUTIVE COMPENSATION

The following table sets forth compensation information for our chief executive officer and our other executive officers who, based on salary and bonus compensation from Eaton and its subsidiaries, were the most highly compensated in 1999. All information set forth in this table reflects compensation earned by these individuals for services with Eaton and its subsidiaries in 1999.

SUMMARY COMPENSATION TABLE

NAME AND PRINCIPAL POSITION	ANNUAL COMPENSATION		LONG-TERM COMPENSATION		ALL OTHER COMPENSATION(\$)(1)
	SALARY(\$)	BONUS(\$)	AWARDS SECURITIES UNDERLYING OPTIONS(#)	PAYOUTS LONG-TERM INCENTIVE PAYOUTS	
B. R. Bachman.....	\$380,040	\$364,656	35,000	\$414,037	\$14,560
M. G. Puma.....	224,700	264,839	21,000	81,700	\$12,522

- (1) All Other Compensation contains several components. The Eaton Corporation Share Purchase and Investment Plan permits an employee to contribute from 1% to 6% of salary to the matching portion of the plan. Eaton makes a matching contribution which, except in special circumstances, ranges between \$0.25 and \$1.00 for each dollar contributed by the participating employee, as determined under a formula designed to reflect Eaton's quarterly earnings per share. The amount contributed during 1999 for each named executive officer was as follows: B.R. Bachman, \$4,392 and M.G. Puma, \$4,357. Eaton maintains plans under which compensation may be deferred. Earnings on such deferrals are reported in this table to the extent those earnings are in excess of rates established by the Internal Revenue Service. Those earnings during 1999 for each of the named executive officers were as follows: B.R. Bachman, \$0 and M.G. Puma, \$0. Under an Eaton program, certain officers may acquire an automobile. Under this program for 1999, the approximate cost to Eaton for each named executive officer was: B.R. Bachman, \$9,486 and M.G. Puma, \$7,459. Eaton provides certain executives, including the named executive officers, with the opportunity to acquire individual whole-life insurance. The annual premiums paid by Eaton during 1999 for each of the named executive officers were as follows: B.R. Bachman, \$4,093 and M.G. Puma, \$706.

GRANTS OF STOCK OPTIONS

The following table shows all grants of options to acquire shares of Eaton common stock to the executive officers named in the Summary Compensation Table in 1999.

NAME	NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED(#)	% OF TOTAL OPTIONS GRANTED TO EATON EMPLOYEES IN FISCAL YEAR	EXERCISE OR BASE PRICE (\$/SH)	EXPIRATION DATE	POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATES OF STOCK APPRECIATION FOR OPTION TERM(1)	
					5%(\$)	10%(\$)
B. R. Bachman	35,000	1.62	\$71.41	1/26/09	\$1,574,591	\$3,973,697
M.G. Puma	21,000	0.97	71.41	1/26/09	943,097	2,389,992

(1) Potential realizable values are net of exercise price, but before deduction for taxes associated with exercise. These amounts represent certain assumed rates of appreciation only, based on Securities and Exchange Commission rules, and do not represent our estimate of future stock prices. No gain to an optionee is possible without an increase in stock price, which will benefit all stockholders commensurately. A zero percent gain in stock price will result in zero dollars for the optionee. Actual realizable values, if any, on stock option exercises are dependent on the future performance of our common stock, overall market conditions and the option holders' continued employment through the vesting period.

EXERCISES OF STOCK OPTIONS

The following table shows aggregate exercises of options to purchase Eaton common stock in 1999 by the executive officers named in the Summary Compensation Table in the "--Executive Compensation" section above.

NAME	SHARES ACQUIRED ON EXERCISE(#)	VALUE REALIZED(\$)	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FISCAL YEAR-END (#)		VALUE OF UNEXERCISED IN- THE-MONEY OPTIONS AT FISCAL YEAR-END (\$) (1)	
			EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
B.R. Bachman	0	0	64,400	97,000	\$429,475	\$94,200
M.G. Puma	0	0	15,995	39,005	104,499	36,971

(1) Based on fair market value of \$72.625 per share as of December 31, 1999, the closing sale price of Eaton's common stock on that date as reported on the New York Stock Exchange.

EMPLOYMENT ARRANGEMENTS

We intend to enter into employment agreements with Mr. Bachman and Ms. Puma effective as of the date of this offering. Each agreement provides for a three-year term of employment. Mr. Bachman's agreement can be extended by mutual consent of the parties; Ms. Puma's is self-extending unless one party notifies the other that the agreement will not be extended. The agreements provide that neither employee may compete with us for a period of two years after termination of their active employment and neither may reveal confidential information for a specified period of time. In the event the agreement and the employee's employment is terminated prior to the end of the term for reasons other than cause, death, disability or voluntary resignation, the employee is entitled to receive all compensation accrued to date, acceleration of vesting of options and other equity rights and base compensation and target bonus, for Mr. Bachman, for the greater of 12 months or the then remaining term or, for Ms. Puma, two years, in each case from the date of termination of employment.

Mr. Bachman's starting base salary will be \$600,000 per year and he will have an annual target incentive compensation of 50% of that amount. Ms. Puma will receive \$380,000 in initial

base salary and will have an annual target incentive compensation opportunity of 45% of base salary. Base salary and incentive opportunities can be increased by the Board. The agreements provide that both executives will also participate in all employee pension and welfare benefit plans which we sponsor. In addition, the agreements provide that the employees will each be entitled to participate in the 2000 Stock Plan. At the time of the offering, Mr. Bachman will be granted options under that Plan to purchase shares of our common stock at the initial public offering price and Ms. Puma will be granted options to purchase shares of our common stock at the initial public offering price.

Ms. Puma has been granted a credit line by Eaton in the maximum amount of \$500,000. The outstanding balance on that line as of May 1, 2000 was \$175,000. We intend to make comparable credit line arrangements for Ms. Puma and to assume the outstanding balance on that line.

We also intend to enter into change in control agreements with several of our senior officers, including Mr. Bachman and Ms. Puma. These agreements would provide that in the event there was both a change in control and a termination of employment within three years of that change in control for reasons other than voluntary resignation, cause, death or disability, the covered employee would be entitled to severance compensation. Under the change in control agreement, a resignation by a covered employee for reasons of a demotion or reduction in compensation, benefits or position is a termination by us and is not a voluntary resignation. If severance compensation is payable, severance consists of (i) a cash payment equal to the sum of (a) incentive compensation for the completed portion of the incentive period and (b) the amount determined by multiplying the employee's then salary and average bonus by three and (ii) continuation of our medical, life and other welfare benefits for three years. We will also reimburse the employee for the effects, including federal, state and local income tax consequences, of any excise tax due on severance compensation.

TREATMENT OF EATON OPTIONS

As of March 31, 2000, our employees held options to purchase 579,286 shares of Eaton common stock at a weighted average exercise price per share of \$72.88. The price of Eaton common stock on that date was \$78.00.

If Eaton completes its divestiture of our shares of common stock by means of a spin-off to its shareholders, we intend to assume substantially all of the Eaton options held by our employees on the date of the divestiture. These assumed options would convert at the date of the spin-off by our granting options to our employees to purchase our common stock and cancellation of their rights to acquire Eaton shares. The conversion would be done in such a manner that (1) the aggregate intrinsic value of the options immediately before and after the exchange are the same, (2) the ratio of the exercise price per option to the market value per share is not reduced, and (3) the vesting provisions and option period of the Axcelis options do not accelerate or extend the original vesting terms and option period of the Eaton options. Performance vesting provisions would change, as appropriate, to focus on our performance, as opposed to Eaton's performance. No option will be exercisable, however, if the effect of that exercise would prevent us from filing a consolidated federal income tax return with Eaton. If we do not assume substantially all of the Eaton options held by our employees on the date of the divestiture, we intend to make equitable arrangements to preserve the economic value of substantially all Eaton options held by our employees, if the financial reporting consequences are not materially adverse.

INCENTIVE PLANS

2000 STOCK PLAN

Our board of directors adopted the 2000 Stock Plan, referred to as the "2000 Plan," in _____, 2000, and our stockholder initially approved our 2000 Plan in _____, 2000. Our

2000 Plan provides for the grant of incentive stock options to our employees, and for the grant of nonstatutory stock options, restricted stock, stock purchase rights, performance units and other equity-based awards to our employees, directors and consultants.

Number of Shares of Common Stock Available under the 2000 Plan. As of June , 2000, a total of shares of our common stock was reserved for issuance pursuant to the 2000 Plan. No options to acquire shares of our common stock were issued and outstanding as of that date. Our 2000 Plan provides for annual increases in the number of shares available for issuance on the first day of each fiscal year, beginning with our 2001 fiscal year, equal to the lesser of 5% of our outstanding shares of common stock on that date, shares or a lesser amount determined by our board. No awards under the Plan will become exercisable or otherwise convertible into securities of the Company if the effect of that exercise or conversion is to cause Company and Eaton to be ineligible to file a consolidated federal income tax return.

Administration of the 2000 Plan. Our board of directors or a committee of our board administers the 2000 Plan. In the case of options intended to qualify as "performance-based compensation" within the meaning of Section 162(m) of the Internal Revenue Code, the committee will consist of two or more "outside directors" within the meaning of Section 162(m) of the Internal Revenue Code. The administrator has the power to determine the terms of the options or stock purchase rights granted, including the exercise price, the number of shares subject to each option or stock purchase right, the exercisability of the options and the form of consideration payable upon exercise.

It is intended that non-employee directors will each receive an annual grant of nonstatutory options under the 2000 Plan pursuant to a formula which has not yet been determined. All such options will be granted with exercise prices equal to fair market value, have a term of ten years and other terms to come.

Options. The administrator determines the exercise price of options granted under the 2000 Plan, but with respect to nonstatutory stock options intended to qualify as "performance-based compensation" within the meaning of Section 162(m) of the Code and all incentive stock options, the exercise price must at least be equal to the fair market value of our common stock on the grant date. The term of an incentive stock option may not exceed ten years, except that with respect to any participant who owns 10% of the voting power of all classes of our outstanding capital stock, the term must not exceed five years and the exercise price must at least equal 100% of the fair market value on the grant date. The administrator determines the term of all other options.

No optionee may be granted an option to purchase more than shares in any fiscal year, except that in connection with his or her initial service, an optionee may be granted an additional option to purchase up to shares.

After termination of an option holder, he or she may exercise his or her option for the period of time stated in the option agreement. Generally, if termination is due to death or disability, the option will remain exercisable for months. If the termination is due to resignation of the optionee or termination by our company, the option will expire immediately upon that event. In all other cases, the option will generally remain exercisable for months. However, an option may never be exercised later than the expiration of its term.

Restricted Stock. The 2000 Plan permits the administrator to grant restricted shares of common stock to eligible employees. The stock will be subject to such restrictions as the administrator determines appropriate, including lapse of restrictions over time or lapse of restrictions based on attainment of predetermined goals. The administrator may, but is not required to, grant stock purchase rights to participants who receive a grant of restricted stock and timely notify the administrator of his or her electing immediate federal income tax treatment on that grant. The administrator determines the exercise price of stock purchase rights granted

under our 2000 Plan. Unless the administrator determines otherwise, the restricted stock purchase agreement will grant us a repurchase option that we may exercise upon the voluntary or involuntary termination of the participant's service with us for any reason, including death or disability. The purchase price for shares we repurchase will generally be the original price paid by the participant and may be paid by cancellation of any indebtedness of the participant to us. The administrator determines the date at which our repurchase option will lapse.

Performance Units. The administrator may grant performance units to employees, directors or consultants. Performance units are the right to receive a designated number of shares of common stock and/or cash if performance goals set at the time of the grant of the performance units are actually achieved.

Other Awards. The administrator may grant other awards as the administrator determines appropriate in its discretion.

Transferability of Options and Stock Purchase Rights. Our 2000 Plan generally prohibits transfer of options or stock purchase rights and only the optionee may exercise an option or stock purchase right during his or her lifetime. The administrator may, but is not required to, permit options to be transferred at the time an option is granted. Performance units and other awards are not transferable.

Adjustments upon Merger or Asset Sale. Our 2000 Plan provides that in the event of our merger with or into another corporation or a sale of substantially all of our assets, the successor corporation will assume or substitute an equivalent award for each option, stock purchase right, performance unit or other award. If following such an assumption or substitution, the holder of an option, stock purchase right, performance unit or other award is terminated without cause within 12 months following a change of control, then the vesting and exercisability of 100% of the then unvested shares subject to his or her option or stock purchase right or the value of the performance unit or other award shall accelerate. Performance units and/or other awards are deemed owned and are then payable. If the outstanding options or stock purchase rights are not assumed or substituted for in connection with a merger or sale of assets, the administrator will provide notice to the optionee that he or she has the right to exercise the option or stock purchase right as to all of the shares subject to the option or stock purchase right, including shares which would not otherwise be exercisable, for a period of 15 days from the date of the notice. The option or stock purchase right will terminate upon the expiration of the 15-day period.

Amendment and Termination of our 2000 Plan. Our 2000 Plan will automatically terminate in 2010, unless we terminate it sooner. In addition, our board of directors has the authority to amend, suspend or terminate the 2000 Plan, provided such action does not adversely affect any option previously granted under our 2000 Plan.

2000 EMPLOYEE STOCK PURCHASE PLAN

Within one year of the offering, we intend to establish an Employee Stock Purchase Plan, referred to as the "Purchase Plan."

Number of Shares of Common Stock Available under the Purchase Plan. A total of _____ shares of our common stock will be made available for sale. In addition, our Purchase Plan will provides for annual increases in the number of shares available for issuance on the first day of each fiscal year, beginning with our 2001 fiscal year, equal to the lesser of 2% of the outstanding shares of our common stock on the first day of the fiscal year, _____ shares, or a lesser amount as may be determined by our board of directors.

Administration of the Purchase Plan. Our board of directors or a committee of our board administers the Purchase Plan. Our board of directors or its committee has full and exclusive authority to interpret the terms of the Purchase Plan and determine eligibility.

Eligibility to Participate. All of our employees are eligible to participate if we or any authorized and participating subsidiary customarily employ them on a regular schedule. However, an employee may not be granted the right to purchase stock under the Purchase Plan if:

- immediately after grant the employee owns stock possessing 5% or more of the total combined voting power or value of all classes of our capital stock; or
- the employee's rights to purchase stock under all of our employee stock purchase plans accrues at a rate that exceeds \$25,000 worth of stock for each calendar year.

Offering Periods and Contributions. Our Purchase Plan is intended to qualify under Section 423 of the Code and contains 24-month offering periods. Each offering period includes four six-month purchase periods. The offering periods generally start on the first trading day on or after April 1 and October 1 of each year, except for the first such offering period which will commence on the first trading day on or after the effective date of this offering and will end on the last trading day on or before , 2003.

Our Purchase Plan permits participants to purchase common stock through payroll deductions of up to % of their eligible compensation, which includes a participant's base salary and commission but excludes all other compensation paid to the participant. A participant may purchase a maximum of shares during a six-month purchase period.

Purchase of Shares. Amounts deducted and accumulated by the participant are used to purchase shares of our common stock at the end of each six-month purchase period. The price is 85% of the lower of the fair market value of our common stock at either the beginning or end of an offering period. If the fair market value at the end of a purchase period is less than the fair market value at the beginning of the offering period, participants will be withdrawn from the current offering period following their purchase of shares on the purchase date and will be automatically re-enrolled in a new offering period. Participants may end their participation at any time during an offering period and any payroll deductions from their checks through that date will be repaid to them in cash. Participation ends automatically upon termination of employment with us.

Transferability of Rights. A participant may not transfer rights granted under the Purchase Plan other than by will, the laws of descent and distribution or designation of a beneficiary as provided under the Purchase Plan.

Adjustments upon Merger or Asset Sale. In the event of our merger with or into another corporation or a sale of all or substantially all of our assets, a successor corporation may assume or substitute for each outstanding purchase authorizations. If the successor corporation refused to assume or substitute for the outstanding purchase authorizations, the offering periods then in progress will be shortened, and a new purchase date will be set prior to the merger or sale of assets.

Amendment and Termination of the Purchase Plan. Our Purchase Plan will terminate in 2010. However, our board of directors has the authority to amend or earlier terminate our Purchase Plan, except that, subject to exceptions described in the Purchase Plan, no such action may adversely affect any outstanding rights to purchase stock under our Purchase Plan.

ARRANGEMENTS WITH EATON

We have provided below a summary description of the master separation and distribution agreement along with the key related agreements. This description, which summarizes the material terms of the agreements, is not complete. You should read the full text of these agreements, which will be filed with the Securities and Exchange Commission as exhibits to the registration statement of which this prospectus is a part.

MASTER SEPARATION AND DISTRIBUTION AGREEMENT

The master separation and distribution agreement contains the key provisions relating to our separation from Eaton, this offering and the possible distribution of our shares to Eaton stockholders.

THE SEPARATION. The separation agreement provides for the transfer to us of the business, assets and liabilities from Eaton related to our business as described in this prospectus not now owned by us, effective on May 3, 2000. The various ancillary agreements that are exhibits to the separation agreement and which detail the separation and various interim and ongoing relationships between Eaton and us following the separation date include:

- a general assignment and assumption agreement;
- a trademark license agreement;
- an employee matters agreement;
- a tax sharing and indemnification agreement;
- a transitional services agreement;
- a real estate matters agreement; and
- an indemnification and insurance matters agreement.

To the extent that the terms of any of these ancillary agreements conflict with the separation agreement, the terms of these agreements will govern. These agreements are described more fully below.

THE INITIAL PUBLIC OFFERING. Under the terms of the separation agreement, Eaton will continue to own at least 80.1% of our outstanding common stock following this offering. We are obligated to use our reasonable commercial efforts to satisfy the following conditions to the consummation of this offering, any of which may be waived by Eaton:

- the registration statement containing this prospectus must be effective;
- U.S. securities and blue sky laws must be satisfied;
- our common stock must have been approved for quotation on the Nasdaq Stock Market;
- all our obligations under the underwriting agreement must be met or waived by the underwriters;
- Eaton must own at least 80.1% of our outstanding common stock and must be satisfied that the any divestiture or distribution of all the shares of our common stock will be tax-free to its U.S. shareholders;
- no legal restraints must exist preventing the separation or this offering;
- the separation must have occurred; and

- the separation agreement must not have been terminated.

THE DIVESTITURE. Following consummation of this offering, Eaton may divest itself of the remaining shares of our common stock through a distribution to Eaton shareholders in a tax-free transaction. Eaton is not obligated to complete the distribution and may, in its sole discretion, determine the structure or terms on which it would accomplish the divestiture of its shares of our common stock and whether and when it expects to complete the distribution. Eaton intends to consummate the divestiture only if the following conditions are met, any of which may be waived by Eaton:

- the Internal Revenue Service must issue a ruling that the divestiture of Eaton's shares of our common stock will be tax-free to Eaton and its shareholders and that the separation will qualify as a tax-free reorganization for U.S. federal income tax purposes;
- all required government approvals must be in effect;
- no legal restraints must exist preventing this distribution; and
- nothing must have happened in the intervening time between this offering and the distribution that would make the distribution harmful to, or no longer in the best interests of, Eaton or its shareholders.

COVENANTS WITH EATON. In addition to signing documents that transfer control and ownership of various assets and liabilities of Eaton relating to our business, we have agreed with Eaton to enter into additional transitional service agreements, exchange information, engage in auditing practices and resolve disputes in particular ways.

INFORMATION EXCHANGE. Both Eaton and we have agreed to share information relating to governmental, accounting, contractual and other similar requirements of our ongoing businesses, unless the sharing would be commercially detrimental. In furtherance of this, both Eaton and we have agreed as follows:

- each party will maintain adequate internal accounting to allow the other party to satisfy its reporting obligations and prepare its financial statements;
- each party will retain records beneficial to the other party for a specified period of time. If the records are going to be destroyed, the destroying party will give the other party an opportunity to retrieve all relevant information from the records, unless the records are destroyed in accordance with adopted record retention policies; and
- each party will use commercially reasonable efforts to provide the other party with directors, officers, employees, other personnel and agents who may be used as witnesses, and books, records and other documents which may reasonably be required, in connection with legal, administrative or other proceedings.

ACCOUNTING AND AUDITING PRACTICES. As long as Eaton is required to consolidate and report on our results of operations and financial position, we and Eaton have agreed that:

- we will not change any accounting policy or principle without obtaining the advance approval of Eaton;
- Eaton will inform us of any planned or anticipated changes in accounting policy or principle that may impact us, before the changes are implemented;
- we will comply with all Eaton financial reporting requirements, policies, and accounting and reporting deadlines;
- we will provide any supplemental information required by Eaton for external financial reporting or compliance due to our status as a majority-owned subsidiary of Eaton, and

Eaton will provide any supplemental information required by us for external financial reporting or compliance;

- we will not select a different independent accounting firm from that used by Eaton without Eaton's consent;
- we will use all reasonable commercial efforts to enable our auditors to date their opinion on our audited financial statements on the same date as Eaton's auditors date their opinion on Eaton's financial statements; and
- we will grant each other's internal and external auditors and appropriate administrative, financial or accounting personnel access to each other's records as necessary.

DISPUTE RESOLUTION. If problems arise between us and Eaton, we have agreed to the following procedures:

- the parties will make a good faith effort to first resolve the dispute through negotiation,
- if negotiations fail, the parties will attempt to resolve the dispute through non-binding mediation; and
- if mediation fails, the parties can resort to binding arbitration.

In addition, nothing prevents either party acting in good faith from initiating litigation at any time if failure to do so would cause serious and irreparable injury to one of the parties or to others.

NO REPRESENTATIONS AND WARRANTIES. Neither party is making any promises to the other regarding:

- the value of any asset that Eaton is transferring;
- whether there is a lien or encumbrance on any asset Eaton is transferring; or
- the legal sufficiency of any conveyance of title to any asset Eaton is transferring.

NO SOLICITATION. Each party has agreed not to directly solicit or recruit employees of the other party without the other party's consent for two years after the distribution date. However, this prohibition does not apply to general recruitment efforts carried out through public or general solicitation or where the solicitation is employee-initiated.

EXPENSES. It is anticipated that we will bear the costs and expenses associated with the reorganization transaction and associated with this offering and Eaton will bear the costs and expenses associated with the distribution. We will each bear our own internal costs incurred in consummating these transactions.

TERMINATION OF THE SEPARATION AGREEMENT. Eaton, in its sole discretion, can terminate the separation agreement and all ancillary agreements at any time prior to the completion of this offering. Both Eaton and we must agree to any early termination of the separation agreement and all ancillary agreements at any time between the completion of this offering and the divestiture.

GENERAL ASSIGNMENT AND ASSUMPTION AGREEMENT

The general assignment and assumption agreement identifies the assets Eaton will transfer to us and the liabilities we will assume from Eaton in the separation. The agreement also describes when and how these transfers and assumptions will occur.

ASSET TRANSFER. Effective on the separation date, Eaton transferred inventory to us that it holds related to our business, to the extent that the inventory was, prior to the separation date, an Eaton asset.

CASH. We will be entitled to retain the cash and short-term investments maintained by us for working capital purposes, primarily at international locations. Cash and short-term investments totalled \$2.8 million at March 31, 2000. Since December 31, 1999, our cash receipts and disbursements processed through Eaton's centralized cash management system have been recorded as a receivable from or payable to Eaton. Prior to January 1, 2000, substantially all of these amounts were recorded in Parent Company investment. As of March 31, 2000, a net amount of \$7.3 million was due from Eaton for these transactions and is included in Receivables From Eaton Corporation in the accompanying combined balance sheets. We expect to continue to record our cash receipts and disbursements as a receivable from or payable to Eaton until the closing of this offering, at which time we estimate that a net amount of \$ million will be due us from Eaton. We expect to settle the receivable in cash at or shortly after the closing.

ASSUMPTION OF LIABILITIES. Effective on the separation date, we assumed the actual and contingent liabilities from Eaton which are liabilities related to our business, except as specifically provided to the contrary in an ancillary or other agreement.

EXCLUDED LIABILITIES. The general assignment and assumption agreement also provides that we will not assume specified liabilities, including:

- except for policy deductibles or retention amounts, any liabilities that would otherwise be allocated to us but which are covered by Eaton's insurance policies, unless we are a named insured under such policies; and
- other specified liabilities.

NON-UNITED STATES ASSETS. The transfer of international assets and assumption of international liabilities will be accomplished through agreements entered into between international subsidiaries. The agreement acknowledges that circumstances in various jurisdictions outside of the United States may require the timing of portions of the international separation to be delayed past the separation date. If it is not practicable to transfer specified assets and liabilities on the separation date, the agreement provides that these assets and liabilities will be transferred after the separation date.

TERMS OF ANCILLARY AGREEMENTS GOVERN. If another ancillary agreement expressly provides for the transfer of an asset or an assumption of a liability, the terms of the other ancillary agreement will determine the manner of the transfer and assumption.

OBTAINING APPROVALS AND CONSENTS. The parties agree to use all reasonable efforts to obtain any required consents, substitutions or amendments required to novate or assign all rights and obligations under any contracts that will be transferred in the separation.

NONRECURRING COSTS AND EXPENSES. Any nonrecurring costs and expenses that are not allocated in the separation agreement or any other ancillary agreement shall be the responsibility of the party that incurs the costs and expenses.

TRADEMARK LICENSE AGREEMENT

The trademark license agreement governs our use of "EATON" as a trademark. We are allowed to use, on a worldwide basis, the Eaton logo or "EATON" as a trademark for photostabilizers and ion implantation equipment. The license is royalty free. We are required to allow Eaton, upon request and at its expense, to inspect the quality of the goods with the Eaton trademark to ensure conformity with quality standards. We are not allowed to use any confusingly similar trademarks. The license is for a period of two years and thereafter for an indefinite period, but is terminable after the two year period at will by Eaton with six months prior notice to us, or immediately for cause. We are obligated to notify Eaton of any alleged infringement and will indemnify Eaton for our use. The agreement is assignable only with the express permission of Eaton.

EMPLOYEE MATTERS AGREEMENT

We have entered into an employee matters agreement with Eaton to allocate assets, liabilities and responsibilities relating to our current and former employees and their participation in the benefit plans, including stock plans, that Eaton currently sponsors and maintains for our eligible employees.

All of our eligible employees will continue to participate in such Eaton benefit plans on comparable terms and conditions to those provided to such employees prior to the offering until the distribution date or until we establish benefit plans for our employees, or elect not to establish comparable plans, if it is not legally or financially practical or competitively advisable.

Once we establish our own benefit plans, we may modify or terminate each plan in accordance with the terms of that plan and our policies. None of our benefit plans will pay benefits that duplicate payments already made under the corresponding Eaton benefit plan at the time of the distribution. Each of our benefit plans will provide that all service, compensation and other benefit determinations that, as of the distribution, were recognized under the corresponding Eaton benefits plan will be taken into account under our corresponding benefit plan.

The assets relating to Eaton's qualified employee benefit plans will be transferred to our related plans.

OPTIONS. We will establish a replacement stock plan for our eligible employees on or before the completion of this offering. Upon the divestiture, we will assume all Eaton options held by our employees. These options then will be converted into options to purchase our common stock. The number of shares and the exercise price of Eaton options that convert into our options will be adjusted using a conversion formula. The conversion formula will be based on the opening per share price of our common stock on the first trading day after the distribution relative to the closing per share price of Eaton common stock on the last trading day before the divestiture. The resulting Axcelis options will maintain vesting provisions and option periods substantially similar to those of the initial grant.

TAX SHARING AND INDEMNIFICATION AGREEMENT

We have entered into a tax sharing and indemnification agreement with Eaton that will allocate responsibilities and liabilities for tax matters between us and Eaton. The agreement requires us to pay Eaton for our allocable share of any taxes due with respect to consolidated, combined or unitary tax returns that we file with Eaton for all periods beginning after December 31, 1999, prior to the divestiture date. The agreement will also provide for compensation or reimbursement as the case may be, to reflect redeterminations of our tax liability for periods beginning after December 31, 1999 during which we joined in filing consolidated, combined or unitary tax returns.

The tax sharing and indemnification agreement also requires us to indemnify Eaton for certain taxes (including interest and penalties), including:

- any taxes imposed on Eaton that would not have been payable but for the breach by us of any representation, warranty or obligation under the tax sharing and indemnification agreement, the tax ruling request or other agreements; and
- the additional taxes that would result if any acquisition of our stock after the distribution causes the distribution not to qualify for tax-free treatment to Eaton and/or its shareholders.

The tax sharing and indemnification agreement provides that for a period of two years after the divestiture, we will not, without Eaton's prior written consent, liquidate, merge or consolidate with any other person, or enter into any transaction or make any change in our equity structure

that may cause the distribution to be treated as part of a plan pursuant to which one or more persons acquire a 50-percent or greater interest in our stock.

Each member of a consolidated group for United States federal income tax purposes is jointly and severally liable for the group's federal income tax liability, and the tax sharing and indemnification agreement does not change this result. Accordingly, we could be required to pay a deficiency in the group's federal income tax liability for a period during which we were a member of the group even if the tax sharing and indemnification agreement allocates that liability to Eaton or another member.

The tax sharing and indemnification agreement also assigns responsibilities for administrative matters, such as the filing of returns, payment of taxes due, retention of records, and conduct of audits, examinations or similar proceedings.

TRANSITIONAL SERVICES AGREEMENT

The transitional services agreement governs providing transitional services by Eaton and us to each other, on an interim basis, generally for one year or less after the distribution date, unless extended for specific services or otherwise indicated in the agreement. The agreement provides for transitional services, systems and support to our operations, including those associated with voice and data transmissions and other data-related operations, accounts receivables, accounts payable, fixed assets, payroll, general accounting, financial accounting consolidations, cash management, human resources, legal and real estate. Services are generally priced at cost prior to the divestiture and thereafter at fair market rates. The transitional services agreement also covers the provision of additional transitional services identified from time to time after the separation date that were inadvertently or unintentionally omitted from the specified services, or that are essential to effectuate an orderly transition under the separation agreement, so long as the provision of such services would not significantly disrupt Eaton's operations or significantly increase the scope of its responsibility under the agreement.

REAL ESTATE MATTERS AGREEMENT

The real estate matters agreement addresses real estate matters relating to the Eaton leased and owned properties that Eaton will transfer to or share with us. The agreement describes the manner in which Eaton will transfer to or share with us various leased and owned properties, including the following types of transactions:

- leases to us of specified properties or portions thereof that Eaton owns;
- assignments to us of Eaton's leases for specified leased properties;
- subleases to us of specified properties or portions thereof leased by Eaton; and
- short term licenses between Eaton and us permitting short term occupancy of selected leased, subleased and owned sites.

The real estate matters agreement includes a description of each property to be transferred to or shared with us for each type of transaction. The standard forms of the proposed transfer documents, such as lease, assignment, sublease and license, are contained in schedules.

The real estate matters agreement also requires both parties to use reasonable efforts to obtain any landlord consents required for the proposed transfers of leased sites, including paying commercially reasonable consent fees, if required by the landlords, and us agreeing to provide the security required under the applicable leases.

The real estate matters agreement further provides that we will be required to accept the transfer of all sites allocated to us, even if a site has been damaged by a casualty before the separation date. Transfers with respect to leased sites where the underlying lease is terminated

due to casualty or action by the landlord prior to the separation date will not be made, and neither party will have any liability related thereto.

The real estate matters agreement also gives the parties the right to change the allocation and terms of specified sites by mutual agreement based on changes in the requirements of the parties. The real estate matters agreement provides that all reasonable costs required to effect the transfers, including landlord consent fees and landlord attorneys' fees, will be shared equally by Eaton and us.

INDEMNIFICATION AND INSURANCE MATTERS AGREEMENT

GENERAL RELEASE OF PRE-SEPARATION CLAIMS. Effective as of the separation date, subject to specified exceptions, we will release Eaton and its affiliates, agents, successors and assigns, and Eaton will release us, and our affiliates, agents, successors and assigns, from any liabilities arising from events occurring on or before the separation date, including events occurring in connection with the activities to implement the separation, this offering and the distribution. This provision will not impair a party from enforcing the separation agreement, any ancillary agreement or any arrangement specified in any of these agreements.

INDEMNIFICATION. The indemnification and insurance matters agreement also contains provisions governing indemnification. In general, we have agreed to indemnify Eaton and its affiliates, agents, successors and assigns from all liabilities arising from:

- our business, any of our liabilities or any of our contracts; and
- any breach by us of the separation agreement or any ancillary agreement.

Eaton has agreed to indemnify us and our affiliates, agents, successors and assigns from all liabilities arising from:

- Eaton's business other than our business; and
- any breach by Eaton of the separation agreement or any ancillary agreement.

These indemnification provisions do not apply to any liabilities which have been satisfied from insurance collection. The agreement also contains provisions governing notice and indemnification procedures.

LIABILITY ARISING FROM THIS PROSPECTUS. We will bear any liability arising from any untrue statement of a material fact or any omission of a material fact in this prospectus.

INSURANCE MATTERS. The agreement also contains provisions governing our insurance coverage from the separation date until the distribution date. In general, we agree to reimburse Eaton for premium expenses related to insurance coverage during this period. Prior to the distribution, Eaton will maintain insurance policies on our behalf. We will work with Eaton to secure additional insurance if desired and cost effective.

ENVIRONMENTAL MATTERS. We have agreed to indemnify Eaton and its affiliates, agents, successors and assigns from all liabilities arising from environmental conditions occurring, present at, caused by or related to any of our properties or operations before the separation date as to any of the facilities transferred to us, and arising from environmental conditions occurring, present at, caused by or related to any of our properties or operations on or after the separation date.

ASSIGNMENT. The indemnification and insurance matters agreement is not assignable by either party without the prior written consent of the other party, which will not be unreasonably withheld.

PRINCIPAL STOCKHOLDER

Prior to this offering, all of the outstanding shares of our common stock will be owned by Eaton. After this offering, Eaton will own about %, or about %, of our outstanding common stock, if the underwriters fully exercise their option to purchase additional shares of our outstanding common stock. Except for Eaton, we are not aware of any person or group that will beneficially own more than 5% of the outstanding shares of our common stock following this offering. None of our executive officers, directors or director nominees currently owns any shares of our common stock, and those who own shares of Eaton common stock will be treated on the same terms as other holders of Eaton stock in any distribution by Eaton. Our executive officers, however, will be granted options to purchase our common stock at the initial public offering price. See "Management -- Stock Ownership of Directors and Executive Officers" for a description of the ownership of Eaton stock by our directors and executive officers.

DESCRIPTION OF CAPITAL STOCK

GENERAL

Upon the completion of this offering, we will be authorized to issue 300,000,000 shares of common stock, \$.001 par value, and 30,000,000 shares of undesignated preferred stock, \$.001 par value. The following description of our capital stock is subject to our certificate of incorporation and bylaws, which are included as exhibits to the registration statement of which this prospectus forms a part, and to the provisions of applicable Delaware law.

COMMON STOCK

The holders of our common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. Subject to preferences that may be applicable to any outstanding preferred stock, the holders of our common stock are entitled to receive ratably such dividends, if any, as our board of directors may declare from time to time out of funds legally available for that purpose. See "Dividend Policy". In the event of our liquidation, dissolution or winding up, the holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to the priority of preferred stock, if any, then outstanding. The holders of our common stock have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to our common stock.

PREFERRED STOCK

Our board of directors has the authority, without action by the stockholders, to designate and issue preferred stock in one or more series and to designate the rights, preferences and privileges of each series, which may be greater than the rights of our common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of holders of our common stock until our board of directors determines the specific rights of the holders of the preferred stock. However, the effects might include, among other things:

- restricting dividends on our common stock;
- diluting the voting power of our common stock;
- impairing the liquidation rights of our common stock; or
- delaying or preventing a change in control of us without further action by the stockholders.

At the closing of this offering, no shares of preferred stock will be outstanding, and we have no present plans to issue any shares of preferred stock.

ANTI-TAKEOVER EFFECTS OF OUR CERTIFICATE AND BYLAWS AND DELAWARE LAW

Some provisions of Delaware law and our certificate of incorporation and bylaws could make the following more difficult:

- acquisition of us by means of a tender offer;
- acquisition of us by means of a proxy contest or otherwise; or
- removal of our incumbent officers and directors.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection give us the potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us and outweigh the

disadvantages of discouraging those proposals because negotiation of those proposals could result in an improvement of their terms.

ELECTION AND REMOVAL OF DIRECTORS. Our board of directors is divided into three classes. The directors in each class will serve for a three-year term, one class being elected each year by our stockholders. See "Management-Directors and Executive Officers". This system of electing directors may discourage a third party from making a tender offer or otherwise attempting to obtain control of us because it generally makes it more difficult for stockholders to replace a majority of the directors. Under the terms of our bylaws, this provision cannot be changed without a supermajority vote of our stockholders.

STOCKHOLDER MEETINGS. Under our bylaws, only our board of directors, the chairman of our board of directors, and until Eaton owns less than 50% of our common stock, Eaton, may call special meetings of stockholders.

REQUIREMENTS FOR ADVANCE NOTIFICATION OF STOCKHOLDER NOMINATIONS AND PROPOSALS. Our bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors or a committee of our board of directors. Under the terms of our bylaws, this provision cannot be changed without a supermajority vote of our stockholders.

DELAWARE ANTI-TAKEOVER LAW. We are subject to Section 203 of the Delaware General Corporation Law, an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the date the person became an interested stockholder, unless the "business combination" or the transaction in which the person became an interested stockholder is approved in a prescribed manner. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns or within three years prior to the determination of interested stockholder status, did own, 15% or more of a corporation's voting stock. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by our board of directors, including discouraging attempts that might result in a premium over the market price for the outstanding shares of our common stock. Eaton is an "interested stockholder" for this purpose.

ELIMINATION OF STOCKHOLDER ACTION BY WRITTEN CONSENT. Our certificate of incorporation eliminates the right of stockholders other than Eaton to act by written consent without a meeting. Eaton will lose this right once it owns less than 50% of our common stock.

ELIMINATION OF CUMULATIVE VOTING. Our certificate of incorporation and bylaws do not provide for cumulative voting in the election of directors.

UNDESIGNATED PREFERRED STOCK. The authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of us.

AMENDMENT OF CHARTER PROVISIONS. The amendment of any of the above provisions would require approval by holders of at least 75% of our outstanding common stock.

RIGHTS PLAN

Our rights plan may have the effect of delaying or preventing a change in control of our company. This plan attaches to each common share one right that, when exercisable, entitles the holder of a right to purchase one one-hundredth of a share of Preferred Stock at a purchase

price of \$ _____, subject to adjustment. If certain takeover events occur, exercise of the rights would entitle the holders thereof (other than the acquiring person or group) to receive common shares or common stock of a surviving corporation, or cash, property or other securities, with a market value equal to twice the purchase price. These takeover events include a person or group becoming the owner of 20% or more of the common shares or the commencement of, or announcement of an intention to make, a tender offer or exchange offer the consummation of which would result in the beneficial ownership by a person or group of 20% or more of our outstanding common shares. Accordingly, exercise of the rights may cause substantial dilution to a person who attempts to acquire our company.

The Rights automatically attach to each outstanding common share. There is no monetary value presently assigned to the rights, and they will not trade separately from the common shares unless and until they become exercisable. The rights, which expire on _____, may be redeemed, at the option of our Board of Directors, at a price of \$.001 per right at any time prior to a group or person acquiring ownership of 20% or more of the outstanding common shares. The rights agreement may have certain antitakeover effects, although it is not intended to preclude any acquisition or business combination that is at a fair price and otherwise in the best interests of our company and our shareholders as determined by our Board of Directors. However, a shareholder could potentially disagree with the Board's determination of what constitutes a fair price or the best interests of our company and our shareholders.

The description and terms of the rights are set forth in a rights amendment between us and _____, as rights agent. We will file a copy of the rights agreement as an exhibit to the registration statement of which this prospectus forms a part. The above description of the rights is a summary of the material terms of the rights, does not purport to be complete and is qualified in its entirety by reference to the rights agreement.

TRANSFER AGENT AND REGISTRAR

The transfer agent and registrar for our common stock will be Equiserve.

SHARES ELIGIBLE FOR FUTURE SALE

All of the shares of our common stock sold in this offering will be freely tradable without restriction under the Securities Act, except for any shares which may be acquired by an affiliate of ours, as that term is defined in Rule 144 under the Securities Act. Persons who may be deemed to be affiliates generally include individuals or entities that control, are controlled by, or are under common control with, us and may include our directors and officers as well as our significant stockholders, if any.

Eaton currently plans to complete its divestiture of all of its shares of our common stock approximately six months following this offering by distributing all of its shares of our common stock to Eaton shareholders. Any shares of our common stock distributed to Eaton shareholders in the distribution generally will be freely transferable, except for shares of common stock received by persons who may be deemed to be our affiliates. Persons who are affiliates will be permitted to sell the shares of common stock that are issued in this offering or that they receive in the distribution only through registration under the Securities Act, or under an exemption from registration, such as the one provided by Rule 144. Generally, Rule 144, as presently in effect, provides that an affiliate who has owned shares of our common stock for at least one year is entitled to sell in the open market in broker's transactions, within any three-month period, a number of shares that does not exceed the greater of:

- one percent of the then outstanding shares of our common stock, which will equal approximately _____ shares immediately after this offering; and

- the average weekly trading volume of our common stock during the four calendar weeks preceding the sale.

Sales under Rule 144 are also subject to additional restrictions relating to the manner of sale and the availability of current public information about our company.

The shares of our common stock held by Eaton before the distribution are deemed "restricted securities" as defined in Rule 144, and may not be sold other than through registration under the Securities Act or under an exemption from registration, such as the one provided by Rule 144. Eaton, our directors and officers and we have agreed not to offer, sell or otherwise dispose of any shares of our common stock, subject to exceptions, for a period of 180 days after the date of this prospectus, without the prior written consent of Goldman, Sachs & Co. This agreement does not apply to the divestiture of our common stock owned by Eaton to its shareholders on or after November 1, 2000, any sale by Eaton of its shares of our common stock to a purchaser who offers to buy all other outstanding shares of our common stock at the same price, any grants under our existing employee benefit plans or transactions in Eaton common shares. See "Underwriting".

If Eaton distributes all of the shares of our common stock it owns to Eaton shareholders after this offering, substantially all of these shares will be eligible for immediate resale in the public market. We are unable to predict whether significant amounts of common stock will be sold in the open market in anticipation of, or following, this distribution, or by Eaton if the distribution does not occur. We are also unable to predict whether a sufficient number of buyers will be in the market at that time. Any sales of substantial amounts of common stock in the public market, or the perception that such sales might occur, whether as a result of this distribution or otherwise, could harm the market price of our common stock. Eaton has the sole discretion to determine the timing, structure and all terms of its distribution of our common stock, all of which may also affect the level of market transactions in our common stock.

We will grant shares of our common stock pursuant to the 2000 Stock Plan subject to restrictions. See "Management -- Incentive Plans -- 2000 Stock Plan." We currently expect to file a registration statement under the Securities Act to register shares reserved for issuance under the 2000 Stock Plan and the 2000 Employee Stock Purchase Plan. Shares issued pursuant to awards after the date of this prospectus, other than shares issued to affiliates, generally will be freely tradable without further registration under the Securities Act. Shares issued pursuant to any vested and exercisable options of Eaton converted into our options will also be freely tradable without registration under the Securities Act after the date of this prospectus. See "Management -- Treatment of Eaton Options".

UNDERWRITING

Axcelis and the underwriters named below have entered into an underwriting agreement with respect to the shares being offered. Subject to certain conditions, each underwriter has severally agreed to purchase the number of shares indicated in the following table. Goldman, Sachs & Co. and Morgan Stanley & Co. Incorporated are the representatives of the underwriters.

Underwriters -----	Number of Shares -----
Goldman, Sachs & Co.....	
Morgan Stanley & Co. Incorporated.....	

Total.....	=====

If the underwriters sell more shares than the total number set forth in the table above, the underwriters have an option to buy up to an additional shares from Axcelis to cover such sales. They may exercise that option for 30 days. If any shares are purchased pursuant to this option, the underwriters will severally purchase shares in approximately the same proportion as set forth in the table above.

The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters by Axcelis. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Paid by Axcelis -----	
	No Exercise -----	Full Exercise -----
Per Share.....	\$	\$
Total.....	\$	\$

Shares sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount of up to \$ per share from the initial public offering price. Any such securities dealers may resell any shares purchased from the underwriters to certain other brokers or dealers at a discount of up to \$ per share from the initial public offering price. If all the shares are not sold at the initial offering price, the representatives may change the offering price and the other selling terms.

Axcelis and our directors and officers, and Eaton have agreed with the underwriters not to dispose of or hedge any of Axcelis' common stock or securities convertible into or exchangeable for shares of Axcelis' common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus, except with the prior written consent of Goldman, Sachs & Co. This agreement does not apply to the divestiture of shares of Axcelis' common stock owned by Eaton to its shareholders on or after November 1, 2000, any sale by Eaton of its shares of our common stock to a purchaser who offers to buy all other outstanding shares of our common stock at the same price, any grants under Axcelis' existing employee benefit plans or transactions in Eaton common shares. See "Shares Eligible For Future Sale" for a discussion of transfer restrictions.

Prior to the offering, there has been no public market for the shares. The initial public offering price will be negotiated between Axcelis and the representatives. Among the factors to be considered in determining the initial public offering price of the shares, in addition to prevailing market conditions, will be Axcelis' historical performance, estimates of Axcelis' business potential

and earnings prospects, an assessment of Axcelis' management and the consideration of the above factors in relation to market valuation of companies in related businesses.

Axcelis has applied to have its common stock quoted on the Nasdaq National Market under the symbol "ACLS".

In connection with the offering, the underwriters may purchase and sell shares of common stock in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. Stabilizing transactions consist of certain bids or purchases made for the purpose of preventing or retarding a decline in the market price of the common stock while the offering is in progress.

The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the common stock. As a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. These transactions may be effected on the Nasdaq National Market, in the over-the-counter market or otherwise.

The underwriters do not expect sales to discretionary accounts to exceed five percent of the total number of shares offered.

Axcelis estimates that its share of the total expenses of the offering, excluding underwriting discounts and commissions, will be approximately \$.

Axcelis and Eaton agreed to indemnify the several underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

Goldman, Sachs & Co. has been engaged by Eaton to provide financial advisory services relating to our separation from Eaton and the distribution of shares of our common stock to Eaton shareholders, for which it will be paid a fee upon completion of the divestiture. Goldman, Sachs & Co. has from time to time performed various investment banking services for Eaton in the past, and it may from time to time in the future perform investment banking services for Eaton and us for which it has received and will receive customary fees.

VALIDITY OF COMMON STOCK

The validity of the common stock offered hereby will be passed upon for us by Kirkpatrick & Lockhart LLP, Pittsburgh, Pennsylvania and for the underwriters by Shearman & Sterling, New York, New York.

EXPERTS

Ernst & Young LLP, independent auditors, have audited our combined financial statements at December 31, 1998 and 1999, and for each of the three years in the period ended December 31, 1999, as set forth in their report. We have included our financial statements in this prospectus in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the Securities and Exchange Commission, Washington, D.C. 20549, a registration statement on Form S-1 under the Securities Act with respect to the common stock offered hereby. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules to the registration statement. Some items are omitted in accordance with the rules and regulations of the SEC. For further information about us and our common stock, reference is made to the registration statement and the exhibits and any schedules to the registration statement. Statements contained in this prospectus as to the contents of any contract or other document referred to are not necessarily complete and in each instance, if the contract or document is filed as an exhibit, reference is made to the copy of the contract or other documents filed as an exhibit to the registration statement, each statement being qualified in all respects by such reference. A copy of the registration statement, including the exhibits and schedules to the registration statement, may be read and copied at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site at <http://www.sec.gov>, from which interested persons can electronically access the registration statement, including the exhibits and any schedules to the registration statement.

As a result of this offering, we will become subject to the full informational requirements of the Securities Exchange Act of 1934, as amended. We will fulfill our obligations with respect to those requirements by filing periodic reports and other information with the SEC. We intend to furnish our stockholders with annual reports containing combined financial statements certified by an independent public accounting firm. We also maintain an Internet site at <http://www.semiconductor.eaton.com>. Our website and the information contained therein or connected thereto shall not be deemed to be incorporated into this prospectus or the registration statement of which it forms a part.

AXCELIS TECHNOLOGIES, INC.

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REPORT OF INDEPENDENT AUDITORS

To the Stockholder of
Axcelis Technologies, Inc.

We have audited the combined balance sheets of Axcelis Technologies, Inc. as of December 31, 1998 and 1999, and the related statements of combined operations, cash flows and stockholder's net investment for each of the three years in the period ended December 31, 1999. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements 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 combined financial position of Axcelis Technologies, Inc. at December 31, 1998 and 1999, and the combined results of its operations and its cash flows for each of the three years in the period ended December 31, 1999, in conformity with accounting principles generally accepted in the United States.

/s/ Ernst & Young LLP

Cleveland, Ohio
May 3, 2000

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

COMBINED BALANCE SHEETS
(DOLLARS IN THOUSANDS)

	DECEMBER 31,		MARCH 31,	PRO FORMA MARCH 31,
	1998	1999	2000	2000
			(UNAUDITED)	(UNAUDITED)
ASSETS				
Current assets:				
Cash & short-term investments.....	\$ 3,338	\$ 3,530	\$ 2,803	\$ 2,803
Accounts receivable.....	42,534	101,335	117,295	117,295
Receivables from Eaton Corporation.....		11,241	16,537	16,537
Inventories.....	66,786	83,326	97,872	97,872
Deferred income taxes.....	30,817	33,036	32,762	32,762
Prepaid expenses.....	4,836	3,024	3,219	3,219
	-----	-----	-----	-----
Total current assets.....	148,311	235,492	270,488	270,488
Property, plant & equipment.....	64,563	73,809	72,221	72,221
Investment in Sumitomo Eaton Nova Corporation.....	20,058	22,210	25,679	25,679
Goodwill.....	50,570	47,006	46,114	46,114
Intangible assets.....	31,905	26,190	24,762	24,762
Other assets.....	25,714	18,128	18,319	18,319
	-----	-----	-----	-----
Total assets.....	\$341,121	\$422,835	\$457,583	\$457,583
	=====	=====	=====	=====
LIABILITIES & STOCKHOLDER'S NET INVESTMENT				
Current liabilities:				
Accounts payable.....	\$ 6,173	\$ 24,579	\$ 31,878	\$ 31,878
Payables to Eaton Corporation.....	5,011			300,000
Restructuring liabilities.....	7,060			
Accrued compensation.....	9,645	8,984	6,606	6,606
Warranty reserve.....	16,055	18,568	20,836	20,836
Other current liabilities.....	13,339	13,602	12,913	12,913
	-----	-----	-----	-----
Total current liabilities.....	57,283	65,733	72,233	372,233
Deferred income taxes.....	10,777	10,238	9,891	9,891
Pension & other employee benefit liabilities.....	3,900	4,568	3,741	3,741
Stockholder's net investment:				
Preferred stock.....				
Common stock.....				
Parent Company investment.....	274,981	347,825	377,725	77,725
Accumulated other comprehensive income (loss).....	(5,820)	(5,529)	(6,007)	(6,007)
	-----	-----	-----	-----
Total stockholder's net investment.....	269,161	342,296	371,718	71,718
	-----	-----	-----	-----
Total liabilities & stockholder's net investment.....	\$341,121	\$422,835	\$457,583	\$457,583
	=====	=====	=====	=====

See accompanying notes to combined financial statements.

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

STATEMENTS OF COMBINED OPERATIONS
(DOLLARS IN THOUSANDS)

	YEAR ENDED DECEMBER 31,			THREE MONTHS ENDED MARCH 31,	
	1997	1998	1999	1999	2000
	(UNAUDITED)				
Net sales.....	\$460,010	\$ 265,709	\$397,267	\$ 59,124	\$143,051
Cost of products sold.....	287,208	184,122	240,185	38,356	81,577
Cost of products sold -- restructuring charges.....		17,358			
Gross profit.....	172,802	64,229	157,082	20,768	61,474
Other costs & expenses:					
Selling.....	47,148	42,134	37,946	9,087	11,598
General & administrative.....	38,287	47,075	45,925	9,612	13,030
Research & development.....	70,466	78,656	51,599	12,183	16,125
Amortization of goodwill & intangible assets.....	3,936	9,279	9,279	2,320	2,320
Restructuring charges.....		24,994			
Write-off of in-process research & development.....	85,000				
Income (loss) from operations.....	(72,035)	(137,909)	12,333	(12,434)	18,401
Other income (expense):					
Royalty income.....	6,265	7,949	5,854	965	3,823
Equity income (loss) of Sumitomo Eaton Nova Corporation.....	3,283	(2,132)	1,338	(2,447)	3,340
Other income (expense) -- net.....	1,123	(1,045)	28	(145)	1,549
Total other income (expense)..	10,671	4,772	7,220	(1,627)	8,712
Income (loss) before income taxes....	(61,364)	(133,137)	19,553	(14,061)	27,113
Income taxes (credit).....	103	(51,090)	5,125	(3,686)	8,251
Net income (loss).....	\$(61,467)	\$ (82,047)	\$ 14,428	\$(10,375)	\$ 18,862

See accompanying notes to combined financial statements.

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

STATEMENTS OF COMBINED CASH FLOWS
(DOLLARS IN THOUSANDS)

	YEAR ENDED DECEMBER 31,			THREE MONTHS ENDED MARCH 31,	
	1997	1998	1999	1999	2000
	(UNAUDITED)				
Operating activities:					
Net income (loss).....	\$ (61,467)	\$ (82,047)	\$ 14,428	\$(10,375)	\$ 18,862
Adjustments to reconcile to net cash provided (used) by operating activities:					
Depreciation.....	6,766	10,548	9,803	2,567	2,332
Amortization of goodwill & intangible assets.....	3,936	9,279	9,279	2,320	2,320
Deferred income taxes.....	2,510	(12,065)	(2,758)	1,927	(72)
Undistributed (income) loss of Sumitomo Eaton Nova Corporation.....	(1,554)	2,890	(1,347)	2,426	(3,340)
Deferred royalty income from Sumitomo Eaton Nova Corporation.....	(6,583)	(3,249)	(2,286)	(876)	
Restructuring charges.....		37,347	(6,358)	(1,411)	
Write-off of in-process research & development.....	85,000				
Changes in operating assets & liabilities, excluding acquisition of a business & non-cash restructuring charges:					
Accounts receivable.....	9,930	57,465	(71,918)	(20,123)	(22,088)
Inventories.....	(21,961)	27,936	(16,989)	(5,300)	(14,477)
Accounts payable & other current liabilities.....	(1,844)	(39,920)	18,481	4,365	7,200
Other assets.....	(15,774)	(616)	7,604	1,815	(181)
Other-net.....	(5,654)	4,638	2,956	(247)	(1,705)
Net cash provided (used) by operating activities.....	(6,695)	12,206	(39,105)	(22,912)	(11,149)
Investing activities:					
Expenditures for property, plant & equipment.....	(14,161)	(14,988)	(16,914)	(4,966)	(299)
Acquisition of Fusion Systems Corporation...	(201,552)				
Other-net.....	(1,179)	1,722	(2,205)	(935)	(317)
Net cash used by investing activities.....	(216,892)	(13,266)	(19,119)	(5,901)	(616)
Financing activities:					
Transfers from (to) Parent Company relating to:					
Accounts receivable.....	(474,843)	(320,289)	(327,225)	(40,355)	(121,794)
Inventories & operating expenses.....	466,420	328,941	386,485	68,388	137,078
Expenditures for property, plant & equipment.....	14,161	14,988	16,914	4,966	299
Acquisition of Fusion Systems Corporation.....	201,552				
Other-net.....	17,617	(22,721)	(17,758)	(4,925)	(4,545)
Net cash provided by financing activities.....	224,907	919	58,416	28,074	11,038
Net increase (decrease) in cash & short-term investments.....	1,320	(141)	192	(739)	(727)
Cash & short-term investments at beginning of period.....	2,159	3,479	3,338	3,338	3,530
Cash & short-term investments at end of period.....	\$ 3,479	\$ 3,338	\$ 3,530	\$ 2,599	\$ 2,803
	=====	=====	=====	=====	=====

See accompanying notes to combined financial statements.

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

STATEMENTS OF COMBINED STOCKHOLDER'S NET INVESTMENT
(DOLLARS IN THOUSANDS)

	PARENT COMPANY INVESTMENT	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	TOTAL STOCKHOLDER'S NET INVESTMENT
	-----	-----	-----
Balance at January 1, 1997.....	\$ 192,669	\$(2,240)	\$ 190,429
Net loss.....	(61,467)		(61,467)
Foreign currency translation adjustments.....		(4,677)	(4,677)

Total comprehensive (loss).....			(66,144)
Transfers from (to) Parent Company relating to:			
Accounts receivable.....	(474,843)		(474,843)
Inventories & operating expenses.....	466,420		466,420
Expenditures for property, plant & equipment.....	14,161		14,161
Acquisition of Fusion Systems Corporation.....	201,552		201,552
Other-net.....	17,617		17,617
	-----		-----
Net transfers from Parent Company.....	224,907		224,907

Balance at December 31, 1997.....	356,109	(6,917)	349,192
	-----	-----	-----
Net loss.....	(82,047)		(82,047)
Foreign currency translation adjustments.....		1,097	1,097

Total comprehensive (loss).....			(80,950)
Transfers from (to) Parent Company relating to:			
Accounts receivable.....	(320,289)		(320,289)
Inventories & operating expenses.....	328,941		328,941
Expenditures for property, plant & equipment.....	14,988		14,988
Other-net.....	(22,721)		(22,721)
	-----		-----
Net transfers from Parent Company.....	919		919

Balance at December 31, 1998.....	274,981	(5,820)	269,161
	-----	-----	-----
Net income.....	14,428		14,428
Foreign currency translation adjustments.....		291	291

Total comprehensive income.....			14,719
Transfers from (to) Parent Company relating to:			
Accounts receivable.....	(327,225)		(327,225)
Inventories & operating expenses.....	386,485		386,485
Expenditures for property, plant & equipment.....	16,914		16,914
Other-net.....	(17,758)		(17,758)
	-----		-----
Net transfers from Parent Company.....	58,416		58,416

Balance at December 31, 1999.....	\$ 347,825	\$(5,529)	\$ 342,296

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

STATEMENT OF COMBINED STOCKHOLDER'S NET INVESTMENT -- (CONTINUED)
(DOLLARS IN THOUSANDS)

	PARENT COMPANY INVESTMENT	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	TOTAL STOCKHOLDER'S NET INVESTMENT
	-----	-----	-----
Balance at December 31, 1999.....	\$ 347,825	\$(5,529)	\$ 342,296
Net income*.....	18,862		18,862
Foreign currency translation adjustments*.....		(478)	(478)

Total comprehensive income*.....			18,384
Transfers from (to) Parent Company relating to:			
Accounts receivable*.....	(121,794)		(121,794)
Inventories & operating expenses*.....	137,078		137,078
Expenditures for property, plant & equipment*.....	299		299
Other-net*.....	(4,545)		(4,545)
	-----		-----
Net transfers from Parent Company*.....	11,038		11,038
	-----		-----
Balance at March 31, 2000*.....	\$ 377,725	\$(6,007)	\$ 371,718
	=====	=====	=====

* unaudited

See accompanying notes to combined financial statements.

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS

YEARS ENDED DECEMBER 31, 1997, 1998 AND 1999 (AUDITED) AND
THREE MONTHS ENDED MARCH 31, 1999 AND 2000 (UNAUDITED)

1. THE COMPANY

On April 26, 2000, Eaton Corporation (Eaton or Parent Company) announced its plan to restructure its semiconductor equipment operations into an independent publicly-traded company, Axcelis Technologies, Inc. (Axcelis). Eaton's semiconductor equipment operations are currently conducted principally through its direct and indirect wholly-owned subsidiaries, Axcelis Technologies, Inc. and subsidiaries, Fusion Systems Corporation and High Temperature Engineering Corporation, Eaton's 50% interest in Sumitomo Eaton Nova Corporation, a joint venture in Japan with Sumitomo Heavy Industries, Inc., and various foreign branches and divisions of other Eaton subsidiaries. Through a reorganization transaction, Eaton intends to transfer to Axcelis all of the assets and liabilities of its semiconductor equipment operations not owned by Axcelis. After completion of the initial public offering, Eaton will own at least 80.1% of Axcelis' outstanding common stock. Eaton currently plans to complete the divestiture of Axcelis approximately six months following the completion of the initial public offering by distributing all of its shares of the common stock on a tax-free basis to Eaton shareholders (the distribution date).

Axcelis includes all of Eaton's operations that manufacture, sell and service capital equipment used in the production of semiconductors, including high- and medium- current implanters and high-energy implanters, and other products, including photostabilizers, ozone and plasma ashers and thermal processing systems. At the end of 1999, it had approximately 1,800 employees including 200 temporary employees, primarily located at manufacturing sites in Beverly and Peabody, Massachusetts and Rockville, Maryland. Eaton Semiconductor also has sales and service locations in Germany, the United Kingdom, Taiwan, Singapore, South Korea, Italy and France. Additionally, it has a 50% ownership interest in Sumitomo Eaton Nova Corporation (SEN), a joint venture in Japan engaged in the design, manufacture, sale and service of ion implantation equipment in Japan.

2. BASIS OF PRESENTATION

The combined financial statements include the assets, liabilities, revenues and expenses of Eaton's semiconductor operations to be included in Axcelis after the reorganization transaction, based on Eaton's historical amounts. Parent Company investment represents Eaton's investment in Axcelis.

The statements of combined operations include those expenses originally recorded by Axcelis or directly charged to it by Eaton. Further, the statements include an allocation of Eaton's general corporate expenses to reflect the services provided or benefits received by Axcelis. This allocation is 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. Management believes this is a reasonable method of allocating these expenses and is representative of the operating expenses that would have been incurred had Axcelis operated on a stand-alone basis.

In the opinion of management, all adjustments necessary for a fair presentation of combined financial position, operating results and cash flows for the stated periods have been made. However, Eaton did not account for or operate Axcelis as a separate, stand-alone entity for the periods presented and, as a result, the financial information included herein may not reflect the

AXCELIS TECHNOLOGIES, INC.
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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

combined financial position, operating results and cash flows of Axcelis if it had been a separate, stand-alone entity during the periods presented or in the future.

3. ACCOUNTING POLICIES

COMBINATION

The combined financial statements include the accounts of Axcelis, which includes all of Eaton's semiconductor equipment operations. All significant intercompany and interunit accounts and transactions have been eliminated. The equity method is used to account for the 50% investment in SEN.

FOREIGN CURRENCY TRANSLATION

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 exchange rates as to assets and liabilities and weighted-average exchange rates as to revenues and expenses. The resulting translation adjustments are recorded in stockholder's net investment in accumulated other comprehensive income (loss).

CASH AND SHORT-TERM INVESTMENTS

Axcelis participates in Eaton's centralized cash management system. Under this system, cash receipts are transferred to Eaton and Eaton funds cash disbursements. Accordingly, the cash and short-term investment balances presented in the accompanying combined balance sheets do not represent balances required or generated by operations. The amounts for cash and short-term investments presented in the combined balance sheet substantially relate to cash and highly liquid short-term investments maintained for working capital purposes, primarily at international locations.

For purposes of classification in the statement of combined cash flows, all short-term investments are considered cash equivalents.

The carrying values of cash and short-term investments in the combined balance sheets approximated their estimated fair values. The estimated fair value of these financial instruments was principally based on quoted market prices.

INVENTORIES

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

DEPRECIATION AND AMORTIZATION

Depreciation and amortization are 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. Substantially all goodwill is amortized over fifteen years. Intangible assets, consisting of developed technology, are amortized over seven years.

Goodwill and other long-lived 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

AXCELIS TECHNOLOGIES, INC.
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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

losses or a significant change in the use of an asset. The asset would be considered impaired when the future net undiscounted cash flows generated by the asset are less than its carrying value. An impairment loss would be recognized based on the amount by which the carrying value of the asset exceeds its fair value.

FINANCIAL INSTRUMENTS

Axcelis has no material financial instruments outstanding at December 31, 1999 used to manage foreign exchange or interest rate risk. In 1998, Statement of Financial Accounting Standard No. 133, "Accounting for Derivative Instruments and Hedging Activities", was issued. This Statement requires all derivatives to be recognized on the balance sheet at fair value. Axcelis must adopt the standard by the first quarter of 2001. It expects that the adoption of the standard will have an immaterial effect on financial position and operating results, if any.

REVENUE RECOGNITION

Axcelis recognizes sales at the time of shipment of the system to the customer. The costs of installation at the customer's site are accrued at the time of shipment. 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 systems are tested and approved at Axcelis' facilities prior to shipment, normally with the customer present. There is a demonstrated history of customer acceptance subsequent to shipment and installation of these systems.

In December 1999, the Securities and Exchange Commission (SEC) issued Staff Accounting Bulletin (SAB) No. 101, "Revenue Recognition". SAB No. 101, which was subsequently amended by Staff Accounting Bulletin No. 101A (collectively referred to as SAB 101), articulates certain of the SEC staff's views in applying generally accepted accounting principles to revenue recognition in financial statements. Axcelis must ensure that it is in compliance with the revenue recognition criteria as defined in SAB 101 by the end of the second quarter of 2000. Axcelis is currently reviewing its revenue recognition policy to determine if any change is required to ensure compliance with SAB 101.

INTEREST EXPENSE

The statements of combined operations do not include an allocation of interest expense related to Eaton's debt obligations, consistent with Eaton's internal expense allocation methodology.

INCOME TAXES

Eaton accounts and pays for all United States income taxes. Axcelis' taxable income (loss) related to its United States operations is included in Eaton's consolidated income tax returns. Consistent with the terms of the tax sharing agreement with Eaton, the statements of combined operations include an allocation of Eaton's United States income taxes (credit) in amounts generally equivalent to the provisions which would have resulted had it filed separate income tax returns for the years presented. It has also been allocated United States deferred income taxes based on the estimated differences between the book and tax basis of its assets and liabilities.

Several of Axcelis' operations outside the United States account and pay for income taxes related to their operations. For those operations which have not accounted and paid for income

AXCELIS TECHNOLOGIES, INC.
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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

taxes related to their operations, the statements of combined 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 basis of their assets and liabilities.

STOCK OPTIONS FOR COMMON SHARES HELD BY AXCELIS EMPLOYEES

Axcelis applies the intrinsic value based method described in Accounting Principles Board Opinion (APB) No. 25 to account for stock options granted to employees. Under this method, no compensation expense is recognized on the grant date, since on that date the option price equals the market price of the underlying common shares.

UNAUDITED PRO FORMA BALANCE SHEET

The unaudited pro forma balance sheet as of March 31, 2000 gives effect to the \$300 million dividend declared on May 3, 2000 to be paid by Axcelis to Eaton, as though it had been declared and payable as of March 31, 2000.

ESTIMATES

Preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions in certain circumstances that affect amounts reported in the accompanying combined financial statements and notes. Actual results could differ from these estimates.

INTERIM FINANCIAL INFORMATION

The financial information as of March 31, 2000 and for the three months ended March 31, 1999 and 2000 is unaudited and includes all adjustments, consisting only of normal and recurring accruals, that management considers necessary for a fair presentation of combined financial position, operating results and cash flows. Results for the three months ended March 31, 1999 and 2000 are not necessarily indicative of results to be expected for full year 2000 or for any future period.

Subsequent to December 31, 1999, Axcelis' cash receipts and disbursements processed through Eaton's centralized cash management system are being recorded as a receivable from or payable to Eaton. Prior to January 1, 2000, the majority of these amounts were recorded in Parent Company investment. As of March 31, 2000, a net amount of \$7.3 million was due from Eaton for these transactions and is included in "Receivables From Eaton Corporation" in the Combined Balance Sheet.

4. ACQUISITION OF FUSION SYSTEMS CORPORATION

On August 4, 1997, Fusion Systems Corporation (Fusion) was acquired. Fusion, which had \$85 million of sales in 1996, develops and manufactures dry strip and photostabilization systems for use within the semiconductor manufacturing process.

The acquisition was accounted for by the purchase method of accounting and, accordingly, Axcelis' combined financial statements include the results of Fusion beginning August 4, 1997. A

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

summary of the estimated fair values of the assets acquired and liabilities assumed in the acquisition follows (in thousands):

Assets acquired.....	\$ 57,172
Liabilities assumed.....	(30,433)
Intangible assets.....	40,000
Goodwill.....	49,813
In-process research & development.....	85,000

	\$201,552
	=====

Goodwill and intangible assets, consisting of developed technology, are being amortized by the straight-line method for financial statement purposes over a useful life of fifteen and seven years, respectively.

The purchase price allocation included \$85 million for purchased in-process research and development. This amount was expensed at the date of acquisition because technological feasibility had not been established and no alternative commercial use had been identified. Therefore, 1997 results include a write-off of \$85 million for purchased in-process research and development, with no income tax benefit.

Eaton's management was primarily responsible for estimating the fair value of the purchased in-process research and development. The purchased in-process research and development was determined based on the income method using a risk adjusted discount rate of 31% applied to project cash flows. Three groups of projects comprised over 95% of the total value of purchased in-process research and development, and are described in more detail below. The nature of the efforts required to develop the purchased in-process technology into commercially viable products principally related to the completion of all planning, designing and testing activities that were necessary to establish that these products could be produced to meet their design requirements, including functions, features and technical performance requirements.

Gemini Photostabilizer (GPS) -- This project involved the development of a 300 millimeter photostabilizer and was valued at \$22.4 million. This product was scaled for 300 millimeter wafers and included functions new to photostabilizing. In order to realize this new technology, product designs had to be configured and scaled for the larger wafers. At the acquisition date, the greatest risk of potential failure associated with this project was that it could not be accomplished given technical and economic constraints. Product completion was originally expected in late 1998 with an undiscounted cost of completion of \$13.2 million. Development was ultimately completed in the first quarter of 1999 at a cost approximating the estimate, resulting in the sale of the first prototype.

Gemini Enhanced Strip (GES) -- These projects involved the development of the next generation enhanced strip products for both 200 millimeter and 300 millimeter wafers and together were valued at \$37.4 million. These new products incorporated various new functions, including targeting applications for 0.25 micron and 0.18 micron geometries. Areas requiring design were the same as those in the GPS project, with corresponding risks of failure. Product development was ultimately completed in mid-1999 at an undiscounted cost of completion of \$8.5 million, which approximated the original cost estimate.

Gemini Microwave Plasma Asher (GPL) -- These projects involved the development of the next generation of plasma ashers for 200 millimeter and 300 millimeter wafers and together were valued at \$22.8 million. These new products incorporated substantial changes to enable targeting

AXCELIS TECHNOLOGIES, INC.
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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

applications for 0.25 micron and 0.18 micron geometries. The primary risk related to these projects involved the achievement of tightly controlled process parameters, which was considered difficult due to the smaller line widths targeted with these projects. Product development was originally planned for mid-1998, and was completed by the fourth quarter of 1998 at an undiscounted cost of completion of \$2.5 million, which approximated the original cost estimate.

5. RESTRUCTURING CHARGES

Due to the decline of the semiconductor capital equipment market in 1998, Axcelis took actions in the third quarter of 1998 to restructure its business and recorded restructuring charges of \$42.4 million (\$27.5 million aftertax).

Several specific actions comprised the overall restructuring efforts, including workforce reductions, asset write-downs and other restructuring actions. The charge for workforce reductions, primarily severance and other related employee benefits, included the termination of approximately 475 employees, primarily manufacturing personnel. Approximately half of the workforce reductions related to the closing of the Austin, Texas plant. The charge for asset write-downs included \$17.4 million for inventory, which was written down to estimated market value, and is included in cost of products sold. The ion implantation equipment manufacturing facility in Austin, Texas was closed and production was transferred to Beverly, Massachusetts. The write-down of this plant to estimated selling price represented approximately \$2.1 million of the restructuring charge. The phase-out of production was concluded in the first quarter of 1999. Further, the Thermal Processing Systems product line, located in Peabody, Massachusetts, was merged into the Fusion Systems division in Rockville, Maryland, and the Flat Panel Equipment product line was merged into the Implant Systems division in Beverly, Massachusetts.

A summary of the various components of the restructuring liabilities follows (in thousands of dollars):

	WORKFORCE REDUCTIONS		INVENTORY & OTHER ASSET WRITE- DOWNS	PLANT CONSOLIDATION & OTHER	TOTAL
	EMPLOYEES	DOLLARS			
1998 charges.....	475	\$ 7,054	\$ 30,296	\$ 5,002	\$ 42,352
Utilized in 1998.....	(300)	(3,493)	(30,296)	(1,503)	(35,292)
Balance remaining at December 31, 1998.....	175	3,561	0	3,499	7,060
Utilized in 1999.....	(175)	(3,561)		(3,499)	(7,060)
Balance remaining at December 31, 1999.....	0	\$ 0	\$ 0	\$ 0	\$ 0
	====	=====	=====	=====	=====

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

6. ACCOUNTS RECEIVABLE

The components of accounts receivable follow (in thousands):

	DECEMBER 31,		MARCH 31,
	1998	1999	2000
			(UNAUDITED)
Trade.....	\$ 41,204	\$100,137	\$114,512
Sumitomo Eaton Nova Corporation.....	3,358	3,246	4,949
	44,562	103,383	119,461
Allowance for doubtful accounts.....	(2,028)	(2,048)	(2,166)
	\$ 42,534	\$101,335	\$117,295
	=====	=====	=====

7. INVENTORIES

The components of inventories follow (in thousands):

	DECEMBER 31,		MARCH 31,
	1998	1999	2000
			(UNAUDITED)
Raw materials.....	\$ 47,104	\$ 54,146	\$ 61,220
Work in process.....	9,876	19,229	25,473
Finished goods.....	20,470	20,800	22,853
	77,450	94,175	109,546
Inventory allowances.....	(10,664)	(10,849)	(11,674)
	\$ 66,786	\$ 83,326	\$ 97,872
	=====	=====	=====

8. PROPERTY, PLANT & EQUIPMENT

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

	DECEMBER 31,		MARCH 31,
	1998	1999	2000
			(UNAUDITED)
Land & buildings.....	\$ 52,524	\$ 59,862	\$ 60,871
Machinery & equipment.....	42,441	48,914	52,395
Construction in process.....	8,625	9,662	6,055
	103,590	118,438	119,321
Accumulated depreciation.....	(39,027)	(44,629)	(47,100)
	\$ 64,563	\$ 73,809	\$ 72,221
	=====	=====	=====

Property, plant and equipment includes a plant in Austin, Texas which became idle at the end of the first quarter of 1999 due to the restructuring of Axcelis initiated in 1998. This plant is recorded at the estimated selling price after a \$2.1 million writedown.

AXCELIS TECHNOLOGIES, INC.
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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

9. GOODWILL & OTHER INTANGIBLE ASSETS

The components of goodwill and intangible assets follow (in thousands):

	DECEMBER 31,		MARCH 31,
	1998	1999	2000
	-----	-----	-----
			(UNAUDITED)
Goodwill.....	\$55,904	\$ 55,904	\$ 55,904
Accumulated amortization.....	(5,334)	(8,898)	(9,790)
	-----	-----	-----
	\$50,570	\$ 47,006	\$ 46,114
	=====	=====	=====
Intangible assets.....	\$40,000	\$ 40,000	\$ 40,000
Accumulated amortization.....	(8,095)	(13,810)	(15,238)
	-----	-----	-----
	\$31,905	\$ 26,190	\$ 24,762
	=====	=====	=====

10. RETIREMENT BENEFIT PLANS

The components of recorded liabilities for pension and other employee benefits at December 31 follow (in thousands):

	1998	1999
	-----	-----
Pensions:		
United States.....	\$ 444	\$ 648
Foreign.....	2,341	2,563
Postretirement benefits other than pensions.....	1,115	1,357
	-----	-----
	\$3,900	\$4,568
	=====	=====

Eaton sponsors a Share Purchase and Investment Plan (401k plan) for its United States operations under which eligible participating employees may choose to contribute up to 17% of their eligible compensation to the Plan. Eaton matches employee contributions up to 6% of the participant's eligible compensation as limited by United States income tax regulations. The matching contribution percentage, which is determined each quarter based on net income per Eaton Common Share -- basic, ranges from 25% to 100% of a participant's contribution and is invested in Eaton Common Shares. Expense related to the 401k plan match (in millions) was \$2.5 in 1997, \$3.6 in 1998 and \$2.0 in 1999. After the initial public offering, Axcelis intends to establish a separate 401k plan for its employees.

Beginning in 1997, the majority of Axcelis' United States employees have been covered by a non-contributory defined benefit pension plan of Eaton. The plan provides a benefit that is based on an employee's accumulated pay, as defined in the plan. Eaton's policy is to fund at least the minimum required by applicable regulations. Expense for participation in the pension plan (in millions) was \$2.4 in 1997 and 1998 and \$2.2 in 1999.

Certain of Axcelis' employees at foreign operations, primarily Germany, are covered by non-contributory defined benefit pension plans of Eaton. Expense for participation in these plans (in millions) was \$0.3 in 1997, \$0.6 in 1998 and \$0.5 in 1999.

After the initial public offering, Axcelis intends to establish separate pension plans for its employees.

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

Axcelis also provides postretirement benefits other than pensions, primarily long-term disability benefits, to a limited number of its United States employees. Expense related to these benefits (in millions) was \$0.3 in 1997 and 1998 and \$0.4 in 1999.

11. EQUITY

Axcelis has authorized common stock of 1,000 shares with a par value of \$1.00 per share; 100 shares are outstanding and owned by Eaton.

12. STOCK OPTIONS FOR EATON COMMON SHARES HELD BY AXCELIS EMPLOYEES

Eaton has stock option plans under which Axcelis employees have been granted options to purchase Eaton Common Shares at prices equal to fair market value as of date of grant.

A summary of Eaton stock option activity for options held by Axcelis employees follows:

	1997		1998		1999	
	AVERAGE PRICE PER SHARE	SHARES	AVERAGE PRICE PER SHARE	SHARES	AVERAGE PRICE PER SHARE	SHARES
Outstanding, January 1.....	\$53.07	65,050	\$67.21	192,451	\$74.03	305,093
Granted.....	73.31	132,850	84.76	115,941	71.41	162,625
Exercised.....	46.98	5,449	53.44	3,299	56.60	8,211
Outstanding, December 31.....	\$67.21	192,451	\$74.03	305,093	\$73.41	459,507
Exercisable, December 31.....	\$51.21	38,730	\$63.08	104,104	\$65.06	116,710

Historically, the majority of these options vest ratably during the three-year period following the date of grant and expire ten years from the date of grant. Stock options granted in 1997 and 1998 included 105,000 and 34,000, respectively, of special performance-vested options in lieu of the more standard options. These options become exercisable when Eaton achieves certain net income and Eaton Common Share price targets. If these targets are not achieved, these options become exercisable ten days before the expiration of their ten-year term. Half of the options granted in 1997 became exercisable during 1997 when the initial Eaton Common Share price target of \$85 was achieved.

The following table summarizes information about Eaton stock options held by Axcelis employees outstanding at December 31, 1999:

RANGE OF EXERCISE PRICE PER SHARE	NUMBER OUTSTANDING	WEIGHTED-AVERAGE REMAINING CONTRACTUAL LIFE (YEARS)	WEIGHTED-AVERAGE EXERCISE PRICE PER SHARE
\$31.50 -- \$49.99.....	8,500	3.8	\$43.27
\$50.00 -- \$59.99.....	31,183	5.8	53.63
\$60.00 -- \$79.99.....	314,883	8.2	71.16
\$80.00 -- \$89.91.....	104,941	8.1	88.50

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

The following table summarizes information about Eaton stock options held by Axcelis employees that are exercisable at December 31, 1999:

RANGE OF EXERCISE PRICE PER SHARE	NUMBER EXERCISABLE	WEIGHTED-AVERAGE EXERCISE PRICE PER SHARE
\$31.50 -- \$49.99.....	8,500	\$43.27
\$50.00 -- \$59.99.....	31,183	53.63
\$60.00 -- \$79.99.....	70,069	70.44
\$80.00 -- \$89.91.....	6,958	88.62

If the financial reporting consequences are not materially adverse, Axcelis intends to make equitable arrangements with its employees regarding the value of its Eaton options if and when Eaton disposes of substantially all of its interest in Axcelis. If Eaton disposes of its interest in a distribution of shares to Eaton shareholders, Axcelis intends to assume substantially all of the Eaton options held by Axcelis employees on the date of the distribution. These assumed options will convert at the distribution by our granting options to Axcelis employees to purchase Axcelis common stock and cancellation of their rights to acquire Eaton shares. The conversion is expected to be done in such a manner that (1) the aggregate intrinsic value of the options immediately before and after the exchange are the same, (2) the ratio of the exercise price per option to the market value per share is not reduced, and (3) the vesting provisions and option period of the replacement Axcelis options do not accelerate or extend the original vesting terms and option period of the Eaton options. Performance vesting provisions will change to focus on our performance, as opposed to Eaton's performance. No option will be exercisable, however, if the effect of that exercise would prevent us from filing a consolidated federal income tax return with Eaton. If Eaton disposes of its interest in any other transaction, Axcelis intends to make equitable arrangements to preserve the economic value of substantially all Eaton options held by Axcelis employees.

As permitted under Statement of Financial Accounting Standard (SFAS) No. 123, Accounting for Stock-Based Compensation, Axcelis has elected to follow Accounting Principles Board Opinion (APB) No. 25 and related interpretations in accounting for stock-based awards to employees. Under APB No. 25, it 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 Eaton 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 value of the options granted has been estimated at the date of grant using the Black-Scholes option pricing model with Eaton's input assumptions as follows:

	1997	1998	1999
Dividend yield.....	3%	3%	3%
Expected volatility.....	22%	22%	21%
Risk-free interest rate.....	6.1% to 6.3%	4.7% to 5.7%	4.7%
Expected option life in years.....	4, 5 or 6	4, 5 or 6	4 or 5
Weighted average fair value per share of options granted during the year.....	\$17.16	\$17.57	\$12.56

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

For purposes of pro forma disclosures under SFAS No. 123, the estimated fair value of the options is assumed to be amortized to expense over the options' vesting period. Pro forma information related to the Eaton options held by Axcelis employees follows (in thousands):

	1997	1998	1999
	-----	-----	-----
Net income (loss)			
As reported.....	\$(61,467)	\$(82,047)	\$14,428
Assuming fair value method.....	(62,383)	(82,665)	13,473

13. INCOME TAXES

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

	1997	1998	1999
	-----	-----	-----
United States.....	\$(68,784)	\$(132,446)	\$12,999
Foreign.....	4,137	1,441	5,216
Equity income (loss) of Sumitomo Eaton Nova Corporation.....	3,283	(2,132)	1,338
	-----	-----	-----
	\$(61,364)	\$(133,137)	\$19,553
	=====	=====	=====

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

	1997	1998	1999
	-----	-----	-----
Current:			
United States			
Federal.....	\$(3,298)	\$(34,469)	\$ 4,150
State.....	(1,277)	(5,809)	1,883
Foreign.....	2,168	1,253	1,850
	-----	-----	-----
	(2,407)	(39,025)	7,883
Deferred:			
United States.....	2,607	(11,910)	(2,211)
Foreign.....	(97)	(155)	(547)
	-----	-----	-----
	2,510	(12,065)	(2,758)
	-----	-----	-----
	\$ 103	\$(51,090)	\$ 5,125
	=====	=====	=====

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

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):

	1997 RATE ----	1998 RATE ----	1999	
			AMOUNT -----	RATE -----
Income taxes (credit) at the United States statutory rate.....	(35.0)%	(35.0)%	\$ 6,843	35.0%
Write-off of purchased in-process research & development.....	48.5			
State taxes, net of federal income tax benefit.....	(1.4)	(2.9)	1,224	6.3
Amortization of goodwill.....	0.9	1.0	1,248	6.4
Current and prior years' foreign sales corporation benefit.....	(8.8)	(0.2)	(300)	(1.5)
Current and prior years' credit for increasing research activities.....	(2.7)	(2.8)	(3,100)	(15.9)
Foreign income tax rate differentials.....	1.0	0.4	(522)	(2.7)
Foreign tax credit.....	(3.9)		(30)	(0.2)
Income tax rate differential related to Sumitomo Eaton Nova Corporation.....	(1.9)	0.6	(468)	(2.4)
Other - net.....	3.5	0.5	230	1.2
	-----	-----	-----	-----
	0.2%	(38.4)%	\$ 5,125	26.2%
	=====	=====	=====	=====

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

	CURRENT ASSETS -----	LONG-TERM LIABILITIES -----
1998		
Inventories.....	\$18,094	
Accrued warranty.....	4,791	
Accrued vacation.....	1,201	
Restructuring accruals.....	2,471	
Depreciation of property, plant & equipment.....		\$ (2,168)
Amortization of intangible assets.....		(11,167)
Other items.....	4,260	2,558
	-----	-----
	\$30,817	\$(10,777)
	=====	=====
1999		
Inventories.....	\$25,048	
Accrued warranty.....	5,267	
Accrued vacation.....	1,061	
Depreciation of property, plant & equipment.....		\$ (3,229)
Amortization of intangible assets.....		(9,167)
Other items.....	1,660	2,158
	-----	-----
	\$33,036	\$(10,238)
	=====	=====

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

No provision has been made for income taxes on undistributed earnings of operations outside the United States of \$32.5 million at December 31, 1999, which includes \$23.2 million for Sumitomo Eaton Nova Corporation, since the earnings retained have been reinvested by the operations. If distributed, such remitted earnings would be subject to withholding taxes but substantially free of United States income taxes.

14. LEASE COMMITMENTS

Minimum rental commitments for 2000 under noncancelable operating leases, which expire at various dates and in most cases contain renewal options, are \$9.6 million and decline substantially thereafter.

Rental expense in 1997, 1998 and 1999 (in millions) was \$3.4, \$5.6 and \$4.8, respectively.

15. 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 North America, 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 photostabilizers, ozone and plasma ashers, thermal processing systems and other products and services. Net sales by product line follow (in thousands):

	1997	1998	1999
	-----	-----	-----
Ion implantation systems & services.....	\$415,164	\$219,927	\$322,002
Other products & services.....	44,846	45,782	75,265
	-----	-----	-----
	\$460,010	\$265,709	\$397,267
	=====	=====	=====

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

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

	NET SALES	LONG-LIVED ASSETS*
	-----	-----
1997		
United States.....	\$409,405	\$64,202
Europe.....	34,581	1,436
Asia Pacific.....	16,024	1,132
	-----	-----
	\$460,010	\$66,770
	=====	=====
1998		
United States.....	\$214,174	\$62,321
Europe.....	40,254	1,192
Asia Pacific.....	11,281	1,050
	-----	-----
	\$265,709	\$64,563
	=====	=====
1999		
United States.....	\$343,345	\$71,740
Europe.....	35,482	752
Asia Pacific.....	18,440	1,317
	-----	-----
	\$397,267	\$73,809
	=====	=====

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

Sales from United States operations to customers in foreign countries (in thousands) were \$204,034 in 1997, \$79,791 in 1998 and \$158,523 in 1999 (44.4% of net sales in 1997, 30.0% in 1998 and 39.9% in 1999).

16. SIGNIFICANT CUSTOMERS

No single customer represented more than 10% of net sales in 1997 or 1998. Three customers individually accounted for 15.9%, 10.6% and 10.5% of net sales in 1999.

17. 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, Inc., a Japanese corporation, and Axcelis. SEN designs, manufactures, sells and services ion implantation equipment in Japan under a license agreement with Axcelis Technologies. Summary financial information follows (in thousands):

AXCELIS TECHNOLOGIES, INC.
(WHOLLY-OWNED SUBSIDIARY OF EATON CORPORATION)

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

	1997	1998	1999
	-----	-----	-----
Twelve months ended November 30:			
Net sales.....	119,130	92,740	110,722
Income from operations.....	14,314	(5,581)	5,005
Net income.....	6,566	(4,264)	2,676
November 30:			
Current assets.....		89,426	157,591
Total assets.....		149,139	211,390
Current liabilities.....		102,085	150,087
Shareholders' equity.....		46,676	60,873

The fiscal year end for SEN is March 31; 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):

	1997	1998	1999
	-----	-----	-----
Net sales to SEN.....	\$9,512	\$ 6,401	\$6,660
Royalty income from SEN.....	6,215	4,036	3,838
Dividends received.....	1,729	720	
Axcelis' equity in income (loss) of SEN.....	3,283	(2,132)	1,338
Accounts receivable at December 31 from SEN.....	5,364	3,358	3,246

18. TRANSACTIONS WITH EATON CORPORATION

The statements of combined operations include those expenses originally recorded by Axcelis or directly charged to Axcelis by Eaton. Further, the statements 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) \$11.8 in 1997, \$14.8 in 1998 and \$15.0 in 1999 and are included in "General & Administrative Expense" in the Statements of Combined Operations. This allocation is 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. Management believes this is a reasonable method of allocating these expenses, and are representative of the operating expenses that would have been incurred had Axcelis operated as a stand-alone basis.

Prior to the initial public offering, Axcelis will enter into agreements with Eaton providing for the reorganization of Eaton's semiconductor equipment operations and separation of this business from Eaton. These agreements generally will provide for, among other things, the transfer from Eaton to Axcelis of assets and liabilities relating to this business, and various interim and ongoing relationships between Axcelis and Eaton.

 No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus. You must not rely on any unauthorized information or representations. This prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date.

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 Through and including _____, 2000 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

 Shares

AXCELIS TECHNOLOGIES, INC.
 Common Stock
 GOLDMAN, SACHS & CO.

MORGAN STANLEY DEAN WITTER

Representatives of the Underwriters

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, payable in connection with the sale and distribution of the securities being registered. All amounts are estimated except the Securities and Exchange Commission registration fee and the NASD registration fee. We have agreed to pay these costs and expenses.

ITEM ----	AMOUNT -----
Securities and Exchange Commission registration fee.....	\$132,000
NASD registration fee.....	30,500
Nasdaq Stock Market original and continued listing fees.....	*
Blue Sky qualification fees and expenses.....	*
Legal fees and expenses.....	*
Accounting fees and expenses.....	*
Transfer agent and registrar fees.....	*
Printing and engraving expenses.....	*

Total.....	*
	=====

* To be supplied by amendment.

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS

We are incorporated under the laws of the State of Delaware. Section 145 ("Section 145") of the General Corporation Law of the State of Delaware, as the same exists or may hereafter be amended (the "General Corporation Law"), inter alia, provides that a Delaware corporation may indemnify any persons who were, are or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his conduct was illegal.

Section 145 further authorizes a corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or enterprise, against any liability asserted against him and incurred by him in any such capacity, arising out of his status as such, whether or not the corporation would otherwise have the power to indemnify him under Section 145.

Our Amended and Restated Certificate of Incorporation and Bylaws, as amended, provide for the indemnification of officers and directors to the fullest extent permitted by the General Corporation Law.

All of our directors and officers will be covered by insurance policies maintained by us against specified liabilities for actions taken in their capacities as such, including liabilities under the Securities Act of 1933, as amended. In addition, we have entered into indemnity agreements with our directors and executive officers (a form of which is filed as Exhibit 10.3 to this

Registration Statement) that obligate us to indemnify such directors and executive officers to the fullest extent permitted by the General Corporation Law.

ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES.

None.

ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Exhibits.

The following exhibits are filed as part of this registration statement:

EXHIBIT NUMBER -----	DESCRIPTION -----
1.1*	Underwriting Agreement
2.1*	Master Separation and Distribution Agreement between Eaton Corporation and the registrant
2.2*	General Assignment and Assumption Agreement between Eaton Corporation and the registrant
2.3*	Trademark License Agreement between Eaton Corporation and the registrant
2.4*	Employee Matters Agreement between Eaton Corporation and the registrant
2.5*	Tax Sharing and Indemnification Agreement between Eaton Corporation and the registrant
2.6*	Transitional Services Agreement between Eaton Corporation and the registrant
2.7*	Real Estate Matters Agreement between Eaton Corporation and the registrant
2.8*	Indemnification and Insurance Matters Agreement between Eaton Corporation and the registrant
2.9*	Purchase and Sale Agreement dated December 29, 1995 by and between Eaton Corporation and Eaton Semiconductor Equipment, Inc.
2.10*	Agreement and Plan of Merger dated as of June 30, 1997 among Eaton Corporation, ETN Acquisition Corp., a wholly-owned subsidiary of Eaton and Fusion Systems Corporation
3.1*	Amended and Restated Certificate of Incorporation of the registrant
3.2*	Bylaws of the registrant, as amended
4.1*	Specimen Stock Certificate
4.2*	Rights Agreement between the registrant and the rights agent named therein
5.1*	Opinion of Kirkpatrick & Lockhart LLP
10.1*	2000 Stock Plan
10.2*	2000 Director Plan
10.3*	Form of Indemnification Agreement entered into by the registrant with each of its directors and executive officers
10.4*	Form of Change in Control Agreement between the registrant and certain of its executive officers
10.5*	Employment Agreement between the registrant and Brian R. Bachman
10.6*	Employment Agreement between the registrant and Mary G. Puma
10.7*	Organization Agreement dated December 3, 1982 between Eaton Corporation and Sumitomo Heavy Industries, Ltd relating to Sumitomo Eaton Novo Corporation, as amended
10.8*	Master License Agreement dated January 16, 1996 between Eaton Corporation and Sumitomo Eaton Novo Corporation
21.1*	Subsidiaries of the registrant

EXHIBIT NUMBER -----	DESCRIPTION -----
23.1	Consent of Ernst & Young LLP
23.2*	Consent of Kirkpatrick & Lockhart LLP (included in Exhibit 5.1)
23.3	Consent of Mary G. Puma
23.4	Consent of Ned C. Lautenbach
23.5	Consent of Philip S. Paul
23.6	Consent of Naoki Takahashi
23.7	Consent of Gary L. Tooker
24.1	Power of Attorney
27.1	Financial Data Schedule

* To be filed by amendment.

** The registrant hereby agrees to furnish supplementally to the Commission, upon request, a copy of any omitted schedule to any of the agreements contained herein.

(b) Financial Statement Schedules.

Financial statement schedules have been omitted because they are inapplicable, are not required under applicable provisions of Regulation S-X, or the information that would otherwise be included in such schedules is contained in the registrant's financial statements or accompanying notes.

ITEM 17. UNDERTAKINGS

The Registrant hereby undertakes to provide the Underwriters at the closing specified in the Underwriting Agreement certificates in such denominations and registered in such names as required by the Underwriters to permit prompt delivery to each purchaser.

Insofar as the indemnification for liabilities arising under the Securities Act of 1933 may be permitted as to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission, such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payments by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) for purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective; and

(2) for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and this offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cleveland, State of Ohio, on May 4, 2000.

AXCELIS TECHNOLOGIES, INC.

By: /s/ BRIAN R. BACHMAN

Title: Vice Chairman and Chief
Executive Officer

TITLE

*BRIAN R. BACHMAN	Principal Executive Officer	May 4, 2000
*KEVIN M. BISSON	Principal Financial and Accounting Officer	May 4, 2000
*STEPHEN R. HARDIS	Director, Chairman	May 4, 2000
*ALEXANDER M. CUTLER	Director	May 4, 2000

*By: /s/ J. ROBERT HORST

Pursuant to Power of Attorney

Consent of Independent Auditors

We consent to the reference to our firm under the caption "Experts" and to the use of our report dated May 3, 2000, in the Registration Statement (Form S-1) and related Prospectus of Axcelis Technologies, Inc. dated May 4, 2000 for the registration of shares of its common stock.

Cleveland, Ohio
May 3, 2000

/s/ Ernst & Young LLP

May 4, 2000

Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor Equipment Inc.)
55 Cherry Hill Drive
Beverly, Massachusetts 01915

Dear Sir or Madam:

In conformity with Regulation Section 230.438 of the Securities Act of 1933, I hereby consent to be named a director of Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor Equipment Inc.) in its registration statement on Form S-1 and related documents. I understand and consent to the filing of these documents with the United States Securities and Exchange Commission.

Sincerely,

/s/ Mary G. Puma

Name: Mary G. Puma

Title: Officer and Nominee for Director

Date: 5/4/2000

May 4, 2000

Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor
Equipment Inc.)
55 Cherry Hill Drive
Beverly, Massachusetts 01915

Dear Sir or Madam:

In conformity with Regulation Section 230.438 of the Securities Act of 1933, I hereby consent to be named a director of Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor Equipment Inc.) in its registration statement on Form S-1 and related documents. I understand and consent to the filing of these documents with the United States Securities and Exchange Commission.

Sincerely,

/s/ Ned C. Lautenbach

Name: Ned C. Lautenbach

Title: Nominee for Director

Date: 5/4/2000

May 4, 2000

Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor Equipment Inc.)
55 Cherry Hill Drive
Beverly, Massachusetts 01915

Dear Sir or Madam:

In conformity with Regulation Section 230.438 of the Securities Act of 1933, I hereby consent to be named a director of Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor Equipment Inc.) in its registration statement on Form S-1 and related documents. I understand and consent to the filing of these documents with the United States Securities and Exchange Commission.

Sincerely,

/s/ Philip S. Paul

Name: Philip S. Paul

Title: Nominee for Director

Date: 5/4/2000

May 4, 2000

Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor
Equipment Inc.)
55 Cherry Hill Drive
Beverly, Massachusetts 01915

Dear Sir or Madam:

In conformity with Regulation Section 230.438 of the Securities Act of 1933, I hereby consent to be named a director of Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor Equipment Inc.) in its registration statement on Form S-1 and related documents. I understand and consent to the filing of these documents with the United States Securities and Exchange Commission.

Sincerely,

/s/ Naoki Takahashi

Name: Naoki Takahashi

Title: Nominee for Director

Date: 5/4/2000

May 4, 2000

Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor Equipment Inc.)
55 Cherry Hill Drive
Beverly, Massachusetts 01915

Dear Sir or Madam:

In conformity with Regulation Section 230.438 of the Securities Act of 1933, I hereby consent to be named a director of Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor Equipment Inc.) in its registration statement on Form S-1 and related documents. I understand and consent to the filing of these documents with the United States Securities and Exchange Commission.

Sincerely,

/s/ Gary L. Tooker

Name: Gary L. Tooker

Title: Nominee for Director

Date: 5/4/2000

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That each person whose name is signed hereto has made, constituted and appointed, and does hereby make, constitute and appoint, J. ROBERT HORST, EARL R. FRANKLIN, MARK HENNESSEY or MICHAEL C. MCLEAN his or her true and lawful attorney, for him or her and in his or her name, place and stead to affix, as attorney-in-fact, his or her signature as director or officer or both, as the case may be, of Axcelis Technologies, Inc., formerly known as Eaton Semiconductor Equipment Inc., a Delaware corporation, (the "Corporation"), to any and all registration statements and amendments filed with the Securities and Exchange Commission with respect to an aggregate amount of up to 20% of the Company's outstanding equity, giving and granting unto each such attorney-in-fact full power and authority to do and perform, every act and thing whatsoever necessary to be done in the premises, as fully as he or she might or could do if personally present, hereby ratifying and confirming all that each such attorney-in-fact shall lawfully do or cause to be done by virtue hereof.

This Power of Attorney shall not apply to any registration statement or amendment filed after February 28, 2001.

IN WITNESS WHEREOF, this Power of Attorney has been signed at Cleveland, Ohio, this 4th day of May, 2000.

/s/ Brian R. Bachman

Brian R. Bachman, Vice Chairman
and Chief Executive Officer;
Principal Executive Officer;
Director

/s/ Alexander M. Cutler

Alexander M. Cutler, Director

/s/ Stephen R. Hardis

Stephen R. Hardis, Director

/s/ Kevin M. Bisson

Kevin M. Bisson,
Principal Financial and
Accounting Officer

This schedule contains summary financial information extracted from the Combined Balance Sheets and the Statements of Combined Operations and is qualified in its entirety by reference to such financial statements.

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12-MOS	3-MOS	
DEC-31-1999	DEC-31-1999	DEC-31-2000
		MAR-31-2000
	3,530	2,803
	0	0
	103,383	119,461
	2,048	2,166
	83,326	97,872
	235,492	270,488
	118,438	119,321
	44,629	47,100
	422,835	457,583
65,733		72,233
	0	0
	0	0
	0	0
	342,296	371,718
422,385	457,583	
	397,267	143,051
	397,267	143,051
	240,185	81,577
	384,934	124,650
	(7,220)	(8,712)
	0	0
	0	0
	19,553	27,113
	5,125	8,251
14,428		18,862
	0	0
	0	0
	0	0
	14,428	18,862
	0	0
	0	0