

AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON JUNE 19, 2000

REGISTRATION NO. 333-36330

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

AMENDMENT NO. 2

TO

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:

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HENRY W. OLIVER BUILDING
535 SMITHFIELD STREET
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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. []

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 JUNE 19, 2000.

15,500,000 Shares

Axcelis Technologies, Inc. Logo
Common Stock

This is an initial public offering of shares of common stock of Axcelis Technologies, Inc. All of the 15,500,000 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 \$20.00 and \$22.00. Axcelis has applied 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 15,500,000 shares of the common stock, the underwriters have the option to purchase up to an additional 2,325,000 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

LEHMAN BROTHERS

SALOMON SMITH BARNEY

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 sales 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 Sumitomo Eaton Nova Corporation, or 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 all 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 believe that 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 what we believe is 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 believe that 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 World Semiconductor Trade Statistics, an industry trade association, 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 12% in the period from 1989 through 1999. World Semiconductor Trade Statistics projects continued growth at higher rates for the next two years. Sales of high energy ion implanters, our largest product line, have grown substantially faster than semiconductor sales 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 83.8% of our outstanding common stock, or 81.8% if the underwriters fully exercise their option to purchase additional shares.

Eaton currently plans to consummate the divestiture of our common stock to its shareholders approximately six months following the completion of this offering by distributing all of its shares of our common stock in a tax-free transaction 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 Eaton's contribution of assets to us in connection with our separation from Eaton will qualify as a tax-free reorganization for U.S. federal income tax purposes. Eaton recently filed the private letter ruling request. Eaton is not, however, obligated to consummate 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.

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 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.....	15,500,000 shares
Common stock to be outstanding immediately after this offering.....	95,500,000 shares
Common stock to be held by Eaton immediately after this offering.....	80,000,000 shares
Use of proceeds.....	We intend to use the estimated net proceeds of \$302.0 million from this offering, together with available cash, for the payment of a previously declared dividend to Eaton of \$300 million and for general corporate purposes.
Nasdaq National Market symbol.....	"ACLS"

Unless we specifically state otherwise, the information in this prospectus gives effect to a stock split increasing the number of shares of our common stock owned by Eaton from 100 to 80,000,000 effected in the form of a stock dividend that will be payable prior to the completion of this offering and does not take into account the issuance of up to 2,325,000 shares of common stock that the underwriters have the option to purchase. If the underwriters exercise in full their option to purchase additional shares, 97,825,000 shares of common stock will be outstanding immediately after this offering.

The information above does not take into account 21,000,000 shares of our common stock reserved for issuance under our stock plans, of which options to purchase approximately 5,400,000 shares are expected to be granted at the date of this offering at an exercise price equal to the initial public offering price. In addition, we may assume substantially all of the Eaton stock options held by our employees on the date Eaton consummates its divestiture of our company. If the divestiture had been consummated on June 12, 2000, these options to purchase Eaton common shares would have converted into options to purchase 2,088,149 shares of our common stock on that date, based on an assumed initial public offering price of \$21.00 per share and the closing price of \$74 5/16 per Eaton common share on June 12, 2000.

Our principal executive offices are located at 55 Cherry Hill Drive, Beverly, Massachusetts 01915, and our telephone number is (978) 232-4000. We were incorporated under the laws of the State of Delaware in 1995. Our website is located at <http://www.axcelis.com>. The information on our website is not a part of this prospectus.

In this prospectus, 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, which was acquired in 1997, "Sumitomo" refers to Sumitomo Heavy Industries Ltd. and its subsidiaries and "SEN" refers to Sumitomo Eaton Nova Corporation, our joint venture with Sumitomo.

Subject to certain limitations, 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), GSD/HE(TM), GSD/VHE(TM), GSD/200E(2)(TM), 8250HT(TM), HE3(TM), ULE2(TM), MC3(TM), Axcelis(TM), SMART(TM), Fusion PS3(TM), Fusion ES3(TM), GSD/HE(MC)(TM), FusionGemini(TM), Summit(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
Net income (loss) per share:							
Basic and diluted net income (loss) per share.....	\$.61	\$.58	\$ (.77)	\$ (1.03)	\$.18	\$ (.13)	\$.24
Shares used in computing basic and diluted net income (loss) per share.....	80,000	80,000	80,000	80,000	80,000	80,000	80,000
Unaudited pro forma basic and diluted net income per share (3).....					\$.15		\$.20
Shares used in computing unaudited pro forma basic and diluted net income per share (3).....					95,402		95,402
(IN THOUSANDS)							
COMBINED BALANCE SHEET DATA							
Cash & short-term investments....	\$ 1,662	\$ 2,159	\$ 3,479	\$ 3,338	\$ 3,530	\$ 2,803	\$ 24,903(5)
Working capital.....	102,578	112,092	149,041	91,028	169,759	190,004	203,904
Total assets.....	213,659	279,189	457,567	341,121	422,835	449,332	452,232
Stockholder's net investment.....	151,112	190,429	349,192	269,161	342,296	363,467	365,467

(Notes 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 loss in 1998 reflects a restructuring charge of \$42.4 million (\$27.5 million aftertax) of which \$17.4 million related to inventory writedowns 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 80,000,000 shares of our common stock outstanding that are owned by Eaton prior to this offering, plus an additional 15,402,388 shares of common stock. The number of additional shares is calculated by dividing the \$300 million previously declared dividend to Eaton by the assumed initial public offering price of \$21.00 per share, reduced by the estimated per share offering expenses.
- (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 15,500,000 shares of common stock in this offering at an assumed initial public offering price of \$21.00 per share, resulting in net proceeds of \$302.0 million after deducting an assumed underwriting discount and estimated offering expenses payable by us;
 - our payment of a previously declared dividend to Eaton of \$300 million;
 - our receipt of net proceeds of \$11.0 million from the sale of our Austin, Texas facility on May 18, 2000; this facility was closed in the first quarter of 1999;
 - our payment of \$1.0 million to settle the March 31, 2000 payable to Eaton as a result of Eaton's management of substantially all of our cash receipts and disbursements in the United States since December 31, 1999;
 - our receipt of \$3.7 million to settle the balance of the March 31, 2000 "Receivables from Eaton Corporation", net of the portion of these receivables to be retained by Eaton;
 - the net transfer of approximately \$7.9 million of cash from Eaton to us in connection with Eaton's transfer of assets to us; and
 - Eaton's retention of \$1.5 million of our \$2.8 million of cash and short-term investments at March 31, 2000.

See "Management's Discussion and Analysis -- Liquidity and Capital Resources".

- (5) During the second quarter of 2000, we estimate that Eaton's management of substantially all of our cash receipts and disbursements in the United States will result in additional cash due us of \$30.1 million.

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 our new orders will depend upon demand from semiconductor manufacturers who build or expand 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 declining sales. Any future downturns or slowdowns in the semiconductor industry may cause the price of our common stock to decline.

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

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 to our existing systems 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 and payment, 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.

IF WE FAIL TO COMPETE SUCCESSFULLY IN THE HIGHLY COMPETITIVE SEMICONDUCTOR EQUIPMENT INDUSTRY, OUR SALES AND PROFITABILITY WILL DECLINE.

The market for semiconductor manufacturing equipment is highly competitive. 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 than we have. 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 systems with technology that may have performance advantages over our systems.

Competitors are expected to continue to improve the design and performance of their existing products and processes and to introduce new products and processes with improved price and performance characteristics. If 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 THESE CUSTOMERS 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, STMicroelectronics N.V., Motorola, Inc. and Texas Instruments Incorporated, 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, or 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.

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

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 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 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.

Other factors that could affect quarterly revenue and operating results include:

- market acceptance of our products and the products of our customers;
- cyclicity in the businesses of significant customers;
- timing of the announcement and introduction of new products by us and by our competitors;
- sudden changes in component prices or availability;
- changes in product mix;
- 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, which could reduce 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 or loss 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.

WE ARE SUBSTANTIALLY DEPENDENT UPON SALES OF OUR PRODUCTS AND SERVICES TO CUSTOMERS OUTSIDE THE UNITED STATES.

Sales of our products and services to customers outside the United States, including exports from our U.S. facilities, accounted for approximately 55.4%, 49.4% and 53.5% of our net sales in 1997, 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 offered in the United States;
- difficulties in managing distributors or representatives outside the United States;
- difficulties in staffing and managing foreign subsidiary operations; and
- potentially adverse tax consequences.

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

OUR DEPENDENCE UPON A LIMITED NUMBER OF SUPPLIERS FOR MANY COMPONENTS AND SUB-ASSEMBLIES COULD RESULT IN INCREASED COSTS OR DELAYS IN MANUFACTURE AND SALES OF OUR PRODUCTS.

We rely to a substantial extent on outside vendors to manufacture many of the components and 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. For example, we recently incurred additional costs to obtain an adequate supply of certain electrical components on a timely basis from a sole supplier due to increased demand for that supplier's products.

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 to ship our systems on a timely basis, causing us to lose sales, incur additional costs, delay new product introductions and suffer harm to our reputation.

WE MAY INCUR COSTLY LITIGATION TO PROTECT OUR PROPRIETARY TECHNOLOGY, AND IF UNSUCCESSFUL, WE MAY LOSE A VALUABLE ASSET OR EXPERIENCE REDUCED MARKET SHARE.

We rely on a combination of patents, copyrights, trademark and trade secret laws, non-disclosure agreements and other intellectual property protection methods to protect our proprietary technology. Despite our efforts to protect our intellectual property, our competitors may be able to legitimately ascertain the non-patented proprietary technology embedded in our systems. If this occurs, we may not be able to prevent their use of this technology. Our means of protecting our proprietary rights may not be adequate and our patents may not be sufficiently broad to prevent others from using technology that is similar to or the same as our technology. In addition, patents issued to us have been, or might be challenged, and might be invalidated or circumvented and any rights granted under our patents may not provide adequate protection to us. Our competitors may independently develop similar technology, duplicate features of our products or design around patents that may be issued to us. As a result of these threats to our proprietary technology, we may have to resort to costly litigation to enforce or defend our intellectual property rights. For example, on February 3, 2000, we filed suit in California Superior Court against Advanced Ion Beam Technology and Jiong Chen, a principal of that company, alleging misappropriation of trade secrets, unfair competition, common law misappropriation and breach of contract. Mr. Chen worked for us as a principal scientist from 1994 until January 1999. During that period, he worked with proprietary ion beam technology, which we believe he later used in violation of an employee confidentiality agreement. A further example is that we are

presently defending a reexamination before the United States Patent and Trademark Office of an important patent, expiring in 2005, which relates to ion implantation equipment having a significant market share.

WE MIGHT FACE INTELLECTUAL PROPERTY INFRINGEMENT CLAIMS OR PATENT DISPUTES THAT MAY BE COSTLY TO RESOLVE AND, IF RESOLVED AGAINST US, COULD BE VERY COSTLY TO US AND PREVENT US FROM MAKING AND SELLING OUR SYSTEMS.

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

RISKS RELATED 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 BE ADVERSELY AFFECTED 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.

IF EATON DOES NOT CONSUMMATE 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 consummate 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 shareholders and that the contribution of assets from Eaton to us as part of the separation from Eaton will qualify 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 divest 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 or all of its significant ownership interest. 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 83.8% of our outstanding common stock, or approximately 81.8% 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 divestiture 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, together with available cash and our future cash flow from operations, will be sufficient to satisfy our working capital, capital expenditure and research and development requirements for the foreseeable future. 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 cannot raise additional equity capital without Eaton's consent prior to Eaton's divestiture 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 divestiture 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 and 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.

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

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

If Eaton divests 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 divestiture 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 divestiture or otherwise, could adversely affect the market price of our common stock. Eaton has the sole discretion to determine the timing, structure and terms of its divestiture 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 divestiture 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 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 divest 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 divestiture will be tax-free, we will 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 40% or greater interest in us during the two-year period following any such divestiture 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 \$17.92 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, and we will enter into arrangements with Eaton relating to various interim relationships between us. 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 83.8% of our outstanding common stock, or 81.8% 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.

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 relationships between us and Eaton.

THE DIVESTITURE BY EATON OF OUR COMMON STOCK

After completion of this offering, Eaton will own approximately 83.8% of the outstanding shares of our common stock, or approximately 81.8% if the underwriters fully exercise their option to purchase additional shares. Eaton currently plans to consummate 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 consummate the divestiture, 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 consummate the divestiture or the structure or terms under which it would accomplish the divestiture of its shares of our common stock. Eaton has advised us that it would not consummate 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 among the factors that it would consider in determining whether and when to consummate the divestiture are:

- the issuance by the Internal Revenue Service of a ruling that the divestiture will be tax-free to Eaton and its shareholders and that Eaton's contribution of assets to us in connection with 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 divestiture; and
- the relative advantages of retaining its ownership or consummating the divestiture in some other manner.

USE OF PROCEEDS

We estimate that our net proceeds from this offering will be approximately \$302.0 million, or \$347.2 million if the underwriters fully exercise their option to purchase additional shares, based on an assumed initial public offering price of \$21.00 per share and after deducting an assumed underwriting discount and estimated offering expenses payable by us.

We intend to use the net proceeds of this offering, together with cash from other sources available to us:

- to pay the previously declared \$300 million dividend to Eaton in cash; and
- for general corporate purposes, including funding our capital expenditure program, our working capital requirements and other liabilities.

See "Management's Discussion and Analysis -- Liquidity and Capital Resources" for a discussion of the other cash we expect to have available to us.

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.

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 of \$302.0 million from the sale of shares of our common stock in this offering and the other transactions described in note (4) to the "Prospectus Summary -- Summary Historical Combined Financial Data", as well as to reflect 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", "Management's Discussion and Analysis -- Liquidity and Capital Resources" and our historical combined financial statements and the notes to those statements 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	\$ 24,903(1)
Payable to Eaton (2).....	\$ --	\$300,000	\$ --
Stockholder's net investment:			
Preferred stock, par value \$0.001; 30,000,000 shares authorized, no shares issued and outstanding.....	--	--	--
Common stock, par value \$0.001; 300,000,000 shares authorized, 80,000,000 shares issued and outstanding, 95,500,000 shares issued and outstanding (pro forma as adjusted)(3).....	--	--	96
Additional paid-in capital.....	--	--	371,378
Parent company investment (2).....	369,474	69,474	--
Accumulated other comprehensive income (loss).....	(6,007)	(6,007)	(6,007)
Total stockholder's net investment.....	363,467	63,467	365,467
Total capitalization.....	\$363,467	\$363,467	\$365,467

NOTES:

- (1) During the second quarter of 2000, we estimate that Eaton's management of substantially all of our cash receipts and disbursements in the United States will result in additional cash due us of \$30.1 million.
- (2) 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.
- (3) On June 14, 2000, our Board of Directors declared a stock split, to be effected in the form of a stock dividend, increasing the number of outstanding shares of our common stock owned by Eaton from 100 to 80,000,000.

DILUTION

Our net tangible book value at March 31, 2000 was approximately \$292.6 million, or \$3.66 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, by the 80,000,000 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 15,500,000 shares of common stock in this offering at an assumed initial public offering price of \$21.00 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 \$294.6 million, or \$3.08 per share. This represents an immediate increase in pro forma net tangible book value of \$3.17 per share to our existing stockholder and an immediate dilution in pro forma net tangible book value of \$17.92 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.....	\$21.00
Pro forma net tangible book value per share as of March 31, 2000.....	\$(0.09)
Increase in pro forma net tangible book value per share attributable to new investors.....	3.17

Pro forma, as adjusted, net tangible book value per share after this offering.....	3.08

Dilution in pro forma net tangible book value per share to new investors.....	\$17.92
	=====

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. We currently plan to grant options to purchase approximately 5,400,000 shares of our common stock to employees at the initial public offering price, none of which options will be immediately exercisable. In addition, we may assume substantially all of the Eaton stock options held by our employees on the date Eaton consummates its divestiture of our company. If the divestiture had been consummated on June 12, 2000, these options to purchase Eaton common shares would have been converted into options to purchase 2,088,149 shares of our common stock, based on an assumed initial public offering price of \$21.00 per share and on the closing price of \$74 5/16 per Eaton common share on June 12, 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 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
	(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)							
Net income (loss) per share:							
Basic and diluted net income (loss) per share.....	\$.61	\$.58	\$ (.77)	\$ (1.03)	\$.18	\$ (.13)	\$.24
Shares used in computing basic and diluted net income (loss) per share.....	80,000	80,000	80,000	80,000	80,000	80,000	80,000
Unaudited pro forma basic and diluted net income per share (3).....					\$.15		\$.20
Shares used in computing unaudited pro forma basic and diluted net income per share (3).....					95,402		95,402

	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	190,004
Total assets.....	213,659	279,189	457,567	341,121	422,835	449,332
Stockholder's net investment.....	151,112	190,429	349,192	269,161	342,296	363,467

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 loss in 1998 reflects a restructuring charge of \$42.4 million (\$27.5 million aftertax) of which \$17.4 million related to inventory writedowns 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 80,000,000 shares of our common stock outstanding that are owned by Eaton prior to this offering, plus an additional 15,402,388 shares of common stock. The number of additional shares is calculated by dividing the \$300 million previously declared dividend to Eaton by the assumed initial public offering price of \$21.00 per share, reduced by the estimated per share offering expenses.

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, 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.

SEPARATION FROM EATON

We are currently a wholly owned subsidiary of Eaton. 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. 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 until the divestiture, and thereafter, for a limited time, we will reimburse Eaton for its costs 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, standalone 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 and the products utilizing them, the available manufacturing capacity in manufacturers' fabrication facilities, 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 cyclical nature 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. On May 18, 2000, we sold our idle Austin facility for net proceeds of \$11.0 million, a price that approximated 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 systems 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 net 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, STMicroelectronics N.V., Motorola, Inc. and Texas Instruments Incorporated, 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.

We recognize sales of systems 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. We have concluded that our existing revenue recognition

policy continues to be appropriate and in accordance with generally accepted accounting principles and SAB 101.

BASIS OF PRESENTATION

The combined financial statements include our assets, liabilities, revenues and expenses based on Eaton's historical amounts. Prior to January 1, 2000, substantially all of our cash receipts and disbursements in the United States were processed through Eaton's centralized cash management system and were recorded in Parent Company investment. Since December 31, 1999, substantially all of these amounts have been recorded as a receivable from or payable to Eaton. At March 31, 2000, a net amount of \$1.0 million was payable to Eaton by us for these transactions and was included in "Receivables from Eaton Corporation" in our March 31, 2000 combined balance sheet. This payable became a receivable of approximately \$19.4 million at May 31, 2000 and we expect this receivable to increase to approximately \$29.1 million at June 30, 2000. We plan to settle this receivable in cash at or shortly after the closing of this offering.

The remaining balance of the "Receivables from Eaton Corporation" at March 31, 2000 was \$9.2 million and represented primarily cash generated by us in Europe that was processed through Eaton's European centralized cash management system. Of this receivable, \$5.5 million, as well as \$1.5 million of our \$2.8 million of cash and short-term investments at March 31, 2000, will be retained by Eaton and will not be available to us. The resulting \$3.7 million balance of this receivable will also be settled in cash at or shortly after the closing of this offering. Subsequent to March 31, 2000, in connection with Eaton's contribution of assets to us, we received a cash transfer from Eaton, which after offsets, we expect to net to approximately \$7.9 million.

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. Gross profit as a percentage of net sales increased to 43.0% in the first quarter of 2000 from 35.1% in the first quarter of 1999. This increase was due primarily to improved capacity utilization as a result of higher sales volume and, to a lesser extent, to 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 increased headcount expenses of \$2.0 million and increased commissions of \$0.5 million 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 (LOSS) 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 Pacific 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. Of this increase, \$31.9 million resulted from increased sales while \$43.6 million was due primarily to improved capacity utilization resulting from higher product sales volume. In addition, gross profit in 1998 was reduced by \$17.4 million of restructuring charges for inventory writedowns. The increase in gross profit as a percentage of net sales to 39.5% in 1999 from 24.2% in 1998 was due to improved capacity utilization, increased sales and the absence of restructuring charges in 1999.

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. Approximately \$17.2 million of the decrease in expense was attributable primarily to synergy savings associated with the closing of our Austin, Texas facility and the subsequent transfer of Austin's ion implant engineering activities to our Beverly, Massachusetts facility. The balance of the decrease was attributable to 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 (LOSS) 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 26.4%. The decrease in 1999 was due to income in 1998 from a large one-time royalty payment from an unrelated 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 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 approximately five months 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. Of this decrease, \$73.1 million was primarily the result of a reduced volume of product sales, while \$18.2 million resulted from 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. Decreases in selling expense of \$9.6 million were primarily the 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. On May 18, 2000, we sold the Austin facility for net proceeds of \$11.0 million, a price that approximated book value. 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 our 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 consisted 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 reflect what our financial position and operating results 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)								
STATEMENTS OF COMBINED 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.

Prior to January 1, 2000, substantially all of our cash receipts and disbursements in the United States were processed through Eaton's centralized cash management system and were recorded in Parent Company investment. Since December 31, 1999, substantially all of these amounts have been recorded as a receivable from or payable to Eaton. At March 31, 2000, a net amount of \$1.0 million was payable to Eaton by us for these transactions and was included in "Receivables from Eaton Corporation" in our March 31, 2000 combined balance sheet. This payable became a receivable of approximately \$19.4 million at May 31, 2000 and we expect this receivable to increase to approximately \$29.1 million at June 30, 2000. We plan to settle this receivable in cash at or shortly after the closing of this offering.

The remaining balance of the "Receivables from Eaton Corporation" at March 31, 2000 was \$9.2 million and represented primarily cash generated by us in Europe that was processed through Eaton's European centralized cash management system. Of this receivable, \$5.5 million, as well as \$1.5 million of our \$2.8 million of cash and short-term investments at March 31, 2000, will be retained by Eaton and will not be available to us. The resulting \$3.7 million balance of this receivable will also be settled in cash at or shortly after the closing of this offering. Subsequent to March 31, 2000, in connection with Eaton's contribution of assets to us, we received a cash transfer from Eaton that, after offsets, we expect to net to approximately \$7.9 million. On May 18, 2000, we sold our Austin, Texas facility for net proceeds of \$11.0 million in cash. We closed this plant in the first quarter of 1999.

After giving pro forma effect to the foregoing transactions, including the payments we will receive upon settlement of receivables at or shortly after the closing of this offering, we would have had \$43.3 million of cash and short-term investments at May 31, 2000. This cash, together with the net proceeds from this offering of an estimated \$2.0 million after the payment of the \$300 million dividend to Eaton, will be available to us for working capital and other corporate purposes. See "Use of Proceeds".

Net working capital was \$190.0 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 3.6 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 and resulted from 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 (\$2.9 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 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 our separation from Eaton, lenders to SEN may require our guarantee or impose other terms and conditions less favorable to SEN than in the past.

We currently believe that the portion of the net proceeds being retained by us, together with available cash and our cash flow from operations, 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 will be available to us on favorable terms 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 and for two years following any divestiture, we would be restricted in raising substantial amounts of equity capital under our tax sharing and indemnification agreement with Eaton. 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. See "Management's Discussion and Analysis -- Liquidity and Capital Resources" for a discussion of the cash that we expect to have available after the offering.

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". We have concluded that our existing revenue recognition policy continues to be appropriate and in accordance with generally accepted accounting principles and SAB 101.

YEAR 2000

We were included in Eaton's Year 2000 compliance program under which Eaton 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 in the United States, Europe and Asia Pacific. Our Japanese joint venture licenses our technology and is the leading producer of ion implantation equipment in Japan. 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.

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 World Semiconductor Trade Statistics, an industry trade association, 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 12.0% in the period from 1989 through 1999. World Semiconductor Trade Statistics projects continued growth at higher rates for the next two 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 implantation 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. Dataquest forecasts a worldwide rise in semiconductor capital equipment purchases this year of over 40%, and we are fully participating in what we believe will be a multi-year industry rebound.

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 believe that 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 what we believe is 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 believe that we have developed the only 300 millimeter production photostabilizer in the industry. SEN devotes substantial resources to research and development and we receive a non-exclusive, 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. We seek to provide the lowest cost of ownership by developing 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	100.0%	\$265.7	100.0%	\$397.3	100.0%	\$59.1	100.0%	\$143.1	100.0%

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 that of our competitors. The following chart lists our principal products:

TYPE OF ION IMPLANTER	CORE PRODUCTS	RECENTLY INTRODUCED PRODUCTS
HIGH ENERGY	GSD/HE	HE(MC)
	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Lower cost alternative to GSD/HE
HIGH CURRENT	GSD/VHE	HE3
	<ul style="list-style-type: none"> - Highest energy range available - Also used by customers for R&D 	<ul style="list-style-type: none"> - For use with 300 millimeter wafers
HIGH TILT/ MEDIUM CURRENT	GSD/200E(2)	LED
	<ul style="list-style-type: none"> - High dose implants - High productivity at low cost 	<ul style="list-style-type: none"> - Increased performance at low energy
	8250HT	ULE2
	<ul style="list-style-type: none"> - Energy purity - Process flexibility 	<ul style="list-style-type: none"> - Ultra-low energy
		MC3
		<ul style="list-style-type: none"> - 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.

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" and was the "Grand Award" winner among semiconductor capital equipment products, an award sponsored by Semiconductor International, an industry publication.

We believe that we developed the first high current ion implantation system. We 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, a 300 millimeter dry strip machine, was tested by Sematech, an industry association of semiconductor manufacturers, and met Sematech's 300 millimeter requirements.

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 we believe that it 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, 49.4% in 1998 and 55.4% in 1997. 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 industry capital spending. These manufacturers are from the four largest semiconductor manufacturing regions in the world: the United States, Asia Pacific (Taiwan, South Korea and Singapore), Japan and Europe. We and SEN serve all of the 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 STMicroelectronics N.V., Motorola, Inc. and Texas Instruments Incorporated 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 we have granted SEN an exclusive license in Japan to use our current and future ion implantation technology and to manufacture, use and sell products using our current and future ion implantation patents. We have also granted SEN a non-exclusive license to sell ion implantation products outside of 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 a corporate name agreement with Eaton that has been assigned to us. We have the right, however, to terminate that agreement at any time upon 60 days' notice and we are obligated under our trademark license agreement with Eaton to terminate the corporate name agreement on December 31, 2004. SEN also has the right to use in Japan the trademarks "EATON" and "NOVA" on its ion implantation products under SEN's separate trademark license agreement with Eaton that also has been assigned to us. SEN does not, however, have the right to use "EATON" in logo format. The SEN trademark license agreement requires SEN to pay us semiannual royalties equal to 0.5% of net sales. SEN must maintain quality and reliability standards, and we are entitled to terminate our trademark agreement with SEN at any time for cause and we are obligated under our trademark license agreement with Eaton to terminate the SEN trademark license agreement on December 31, 2004.

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 \$69.0 million, of which \$16.1 million was spent in the first quarter of 2000. The increase in research and development expenditures in 2000 as compared to 1999 primarily reflected our research focus to develop products capable of processing 300 millimeter wafers. 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. We test our products at our facilities prior to shipment, normally with the customer present, under conditions that substantially replicate the customer's production environment. Such environmental conditions include power requirements, toxic gas usage, air handling requirements including humidity and temperature, equipment bay configuration, wafer characteristics and other factors. These procedures are intended to reduce installation and production qualification times and the amount of particulates and other contaminants in the assembled system, which in turn improves yield and reduces downtime for the customer. After testing, the system is disassembled and packaged to maintain cleanroom standards during shipment. Installation is itself not a complex process and is typically performed by a team of assemblers from the customer and ourselves. It includes placing and leveling the equipment at its installation site, connecting it to sources of gas, water and electricity and recalibrating it to specifications that had previously been tested and met. 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 subassemblies, such as pumps, machine components, power supplies and other electrical components, from various suppliers. These items are either standard products or built to our specifications. Some of the components and subassemblies included in our products are obtained either from a sole source or a limited group of suppliers, which could result in disruptions to our operations. We have installed a web-based supply chain system in order to increase efficiency and cut costs associated with obtaining materials and components. This system electronically exchanges information with our vendors as to purchase orders, forecasts and automatic delivery updates.

COMPETITION

The semiconductor 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 sales 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 Semiconductor Equipment Associates, Inc. ("Varian"). In high current products, we and Applied Materials Inc. 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 Electric Co., Ltd., Varian, Ulvac Technologies, Inc. and Applied Materials Inc. for sales in that market.

DRY STRIP, PHOTOSTABILIZATION AND RAPID THERMAL PROCESSING

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

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 trademark and logo for a fixed period of time in connection with the sale of semiconductor manufacturing equipment. See "Arrangements with Eaton--Trademark License Agreement".

We have agreements with third parties, mostly as licensor, that provide for the 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. For example, on February 3, 2000, we filed suit in California Superior Court against Advanced Ion Beam Technology and Jiong Chen, a principal of that company, alleging misappropriation of trade secrets, unfair competition, common law misappropriation and breach of contract. Mr. Chen worked for us as a principal scientist from 1994 until January 1999. During that period, he worked with proprietary ion beam technology, which we believe he later used in violation of an employee confidentiality agreement. We also are defending a reexamination before the United States Patent and Trademark Office of a patent,

expiring in 2005, which relates to ion implantation equipment having a significant market share. While this patent is important to us, we do not believe that any adverse final disposition is likely to materially affect us.

We can give no assurance that we, our licensors, licensees, customers or suppliers will not be subject to claims of patent infringement or claims to invalidate our patents, 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, and we are expanding our manufacturing and research facilities in Rockville, Maryland. In 1998, as part of our restructuring, we closed our Austin, Texas ion implant manufacturing facility and transferred production to our Beverly, Massachusetts facility.

On May 18, 2000, we sold our Austin facility for net proceeds of \$11.0 million, a price that approximated 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; and the generation, use, storage, transportation, handling and disposal of solid and hazardous wastes produced by our manufacturing, research and development and sales activities. As with other companies engaged in like businesses, the nature of our operations exposes us to the risk of environmental liabilities, claims, penalties and orders. We believe, however, that our operations are in substantial compliance with applicable environmental laws and regulations and that there are no pending environmental matters that would have a material impact on our business.

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 as of the completion of the offering are set forth below.

NAME - - - - -	AGE - - -	POSITION - - - - -
Brian R. Bachman	55	Chief Executive Officer and Vice Chairman of the Board
Mary G. Puma	42	President and Chief Operating Officer, Director Nominee
Stephen R. Hardis	64	Chairman of the Board
Alexander M. Cutler	48	Director
Ned C. Lautenbach	56	Director Nominee
Philip S. Paul	61	Director Nominee
Naoki Takahashi	54	Director Nominee
Gary L. Tooker	60	Director Nominee
Kevin M. Bisson	39	Vice President and Chief Financial and Accounting Officer
Michael Davies	54	Director of Human Resources
Craig Halterman	37	Director of Information Technology
Michael J. Luttati	45	Senior Vice President -- General Manager, Implant Systems Division
Ted S. Miller	42	Vice President and General Manager -- Global Customer Services
Robert A. Mionis	37	Senior Vice President -- Worldwide Operations
Kevin O'Connor	41	Senior Vice President -- Human Resources
John Poate	58	Chief Technology Officer
Jan-Paul van Maaren	38	Director of Business Development

Set forth is certain biographical information about our directors, 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 Semiconductors B.V. Prior to joining Philips, Mr. Bachman held positions with FMC Corporation, General Electric Co. and TRW Inc. and was president of General Semiconductor, Inc., a subsidiary of Square D Co., and was a group General Manager with ITT Industries Inc. 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. She also will serve as Secretary effective as of July 1, 2000. 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 Co.

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 Corp., Lexmark International Group, Inc., Marsh & McLennan Companies, Inc., Nordson Corp. and The 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, as its Executive Vice President -- Operations from 1991 and as 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 International Business Machines Corp. 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 Corporation, 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 private equity investment firm, and registered investment advisor, since 1991. He is also Managing Partner of Top Tier Investments, L.L.C., a venture capital firm. Previously, Mr. Paul was Chairman and Chief Executive Officer of Hillman Ventures, Inc., a venture capital firm. Mr. Paul serves on the Boards of Advisors of various venture capital funds, including New Enterprise Associates, Bay Partners, U.S. Venture Partners, and Den Danske Bank's private equity group. He is a director of Soma Networks, Inc., Telecore, Inc., and S.E.D. Ventures, a French investment firm.

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 has 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 Co., Eaton and Motorola, Inc.

KEVIN M. BISSON has been our Vice President and Chief Financial and Accounting Officer since May, 2000. From January to May 2000, he was our Director of Finance. Prior to joining our company, Mr. Bisson was Director of Finance for Hamilton Sundstrand Corporation, a subsidiary of United Technologies Corporation, beginning in 1999. For more than ten years prior thereto, he held various other financial management positions at UTC.

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 The Dow Chemical Co., Thomson Consumer Electronics, General Electric Co. and RCA Consumer Electronics.

MICHAEL J. LUTTATI will be our Senior Vice President -- General Manager, Implant Systems Division effective as of the separation date. Mr. Luttati has been our General Manager of Implant Systems and Director of Worldwide Sales 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.

TED S. MILLER will be our Vice President and General Manager-- Global Customer Services effective as of the separation date. Mr. 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.

ROBERT A. MIONIS will be our Senior Vice President -- Worldwide Operations effective as of the separation date. Mr. 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 Inc. as Director of Operations and GE Aerospace in various management positions.

KEVIN O'CONNOR will be our Senior Vice President -- Human Resources effective as of July 1, 2000. Mr. O'Connor was the principal of a consultant firm providing human resources advice to several privately held technology firms in the United States from March 2000 until July 2000. From December 1996 until March 2000, he was Vice President -- Global Human Resources for Iomega Corporation. From 1993 until December 1996, Mr. O'Connor was Vice President, Human Resources -- Americas/Asia for Dell Computer Corporation.

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 was Dean of the College of Liberal Arts since 1997. From 1971 to 1997, he held several senior research positions, including head of silicon processing research, with Bell Laboratories.

JAN-PAUL VAN MAAREN has been our Director of Business Development since May 1999. He joined our company in October 1997 and was our Director of Global Customer Service until 1998 and our Director of Technology and Business Development until 1999. Dr. van Maaren was employed by Honeywell Inc. from 1992 to 1997 in various senior marketing management positions with Honeywell's Home and Building Controls Division. He also worked as a senior scientist for the Institute for Atomic and Molecular Physics in the Netherlands from 1985 to 1990.

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.

Upon their election to the board, Messrs. Paul (Chairman), Lautenbach, Takahashi and Tooker will serve as the committee to administer the option portion of the 2000 Plan (as

described below) that is intended to qualify as "performance-based compensation" within the meaning of Section 162(m) of the Internal Revenue Code.

Each non-employee director will receive grants of non-qualified stock options under the 2000 Plan as compensation for their services. In addition, the non-employee Chairman of our Board will receive annual cash compensation in the amount of \$200,000.

AUDIT COMMITTEE

Upon their election to the board, Messrs. Paul (Chairman), Lautenbach and Tooker 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 Eaton common shares beneficially owned on December 31, 1999 by each director, each director nominee, each executive officer 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. The total number of Eaton common shares outstanding as of December 31, 1999 was 74,033,679.

NAME OF BENEFICIAL OWNER	NUMBER OF SHARES OF EATON BENEFICIALLY OWNED(1,2)		DEFERRED SHARE UNITS(3)	TOTAL NUMBER OF SHARES AND DEFERRED SHARE UNITS
	NUMBER	PERCENTAGE		
B. R. Bachman.....	77,993(4)	*	6,354	84,347
M. G. Puma.....	21,712	*	0	21,712
S. R. Hardis.....	386,543(4)	*	182,877	569,420
A. M. Cutler.....	289,899(4,5)	*	46,907	336,806
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).....	798,471		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; M.G. Puma, 21,440; S.R. Hardis, 328,386; A.M. Cutler, 264,676; and all directors and executive officers as a group, 690,452.
- (3) 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.
- (4) Includes shares held under the Eaton Share Purchase and Investment Plan as of January 31, 2000.
- (5) Includes 1,000 shares held by a trust for the benefit of Mr. Cutler's children, which was created under the Ohio Uniform Gift to Minors Act. Mr. Cutler's wife is the trustee of the trust and shares voting and investment power with respect to such shares with Mr. Cutler.
- (6) Includes 3,000 shares held in the Tooker Family Trust. Mr. Tooker's wife is trustee of the trust and shares voting and investment power with respect to such shares with Mr. Tooker.

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	PAYOUTS	
			SECURITIES UNDERLYING OPTIONS(#)	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. Under an Eaton program, certain executives 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, \$682 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
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 12 months after termination of his or her active employment or the remaining term of his or her agreement whichever is longer, 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. Actual incentive compensation for any year may be greater or less if actual performance is greater or less than the target. Base salary and incentive opportunities can be increased by our Board of Directors. The agreements provide that both executives will also participate in the 2000 Plan (as described below), the defined contribution/401(k) Savings Plan and the welfare benefit plans which we sponsor. At the time of the offering, Mr. Bachman and Ms. Puma will be granted options under the 2000 Plan to purchase shares of our common stock at the initial public offering price for the number of shares determined by dividing \$12,000,000 and \$8,000,000, respectively, by the per share option value indicated by the Black-Scholes option valuation model.

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 cancelling 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," on June 12, 2000, and our sole stockholder initially approved our 2000 Plan on June 13, 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 12, 2000, a total of 18,500,000 shares of our common stock were 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, 5,000,000 shares or a lesser amount determined by our board. The shares represented by the annual increases may not be granted as incentive stock options. No awards under the 2000 Plan will become exercisable or otherwise convertible into our securities if the effect of that exercise or conversion is to cause Eaton to be ineligible to file a consolidated federal income tax return with us, or if the conversion would cause Eaton not to be in control of us for purposes of Section 368(c) of the Internal Revenue Code.

Administration of the 2000 Plan. Our board of directors or, with respect to options intended to qualify as "performance-based compensation" within the meaning of Section 162(m) of the

Internal Revenue Code, the committee described in "Board Structure and Compensation" above) will administer 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.

Effective upon consummation of the offering, each non-employee director will be granted a fully vested, nonstatutory option with a term of ten years to purchase 24,000 shares of common stock at the initial public offering price. In addition, at such time as a member of our initial Board of Directors first becomes a non-employee director, such person will be granted a nonstatutory stock option to purchase up to 24,000 shares of common stock at an exercise price equal to the then fair market value of our common stock. Thereafter, any then non-employee director will receive an annual grant of a fully vested, nonstatutory option with a term of ten years to purchase 12,000 shares of common stock at an exercise price equal to the then fair market value of our common stock.

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 110% 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 1,250,000 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 1,250,000 shares.

After termination of the employment 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 until the earlier of the expiration date as provided in the option contract, or the first anniversary of the date of the death or disability or of the date of this offering, whichever is later. If the termination is due to resignation of the optionee or termination by our company, the option will expire immediately upon that event. 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 will determine 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 or assignment of options or stock purchase rights other than by will or the laws of descent 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 nonstatutory options to be transferable, without payment of any consideration, to certain persons including immediate family members of the option holder or trusts or partnerships created for such family members. 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, for any reason, the successor does not agree to assume or substitute an equivalent award for each award, all awards will become vested and exercisable immediately prior to the consummation of the merger transaction. In addition, in the event of a change in control, all then outstanding options shall become completely vested and exercisable and any restrictions on other awards will lapse; 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, as of a date determined by the administrative prior to such merger.

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." The board adopted the Purchase Plan on June 12, 2000, to be implemented within one year of the completion of this offering.

Number of Shares of Common Stock Available under the Purchase Plan. A total of 2,500,000 shares of our common stock will be made available for sale under the Purchase Plan. In addition, our Purchase Plan will provide 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 1% of the outstanding shares of our common stock on the first day of the fiscal year, 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 will administer the Purchase Plan. Our board of directors or its committee will have full and exclusive authority to interpret the terms of the Purchase Plan and determine eligibility.

Eligibility to Participate. All of our employees, other than officers elected by our board of directors, will be eligible to participate in the Purchase Plan if we or any authorized and

participating subsidiary customarily employ them on a regular schedule. However, an employee will 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 will be intended to qualify under Section 423 of the Code and will contain 24-month offering periods. Each offering period will include four six-month purchase periods. The offering periods generally start on the first trading day on or after January 1 and July 1 of each year, except for the first such offering period which will commence on the first trading day on or after the date Eaton disposes of its ownership interest in our company, and will end on the last trading day on or before June 30, 2002.

Our Purchase Plan will permit participants to purchase common stock through payroll deductions of up to 10% of their eligible compensation, which will include a participant's base salary and commission but will exclude all other compensation paid to the participant. A participant will be allowed to purchase only the lesser of \$25,000 worth of our common stock at the prices then offered under the Purchase Plan or 1,500 shares during a six-month purchase period.

Purchase of Shares. Amounts deducted and accumulated by the participant will be used to purchase shares of our common stock at the end of each six-month purchase period. The price will be 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 will be allowed to 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 will not be permitted to 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 refuses 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 will have the authority to amend or earlier terminate the 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 divestiture of our shares to Eaton shareholders.

THE SEPARATION. The master separation and distribution agreement provides for the transfer to us of the business, assets and liabilities from Eaton related to our business as described in this prospectus prior to the completion of this offering. 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 immediately following this offering. We are obligated to use our reasonable commercial efforts to satisfy the following conditions to the completion of this offering, any of which may be waived by Eaton:

- the registration statement containing this prospectus must be effective;
- U.S. and foreign securities and blue sky laws must be satisfied;
- our common stock must have been approved for quotation on the Nasdaq National Market;
- all our obligations under the underwriting agreement must be satisfied or waived by the underwriters;
- Eaton must own at least 80.1% of our outstanding common stock following this offering and must be satisfied that any divestiture 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 completion of this offering, Eaton may divest itself of our common stock through a distribution to Eaton shareholders in a tax-free transaction. Eaton is not obligated to consummate the divestiture and may, in its sole discretion, determine the form, structure, timing and terms on which it would accomplish the divestiture and whether and when

it expects to consummate the divestiture. 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 Eaton's contribution of assets to us in connection with 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 divestiture; and
- nothing must have happened prior to the divestiture that would have a material adverse effect on Eaton or its shareholders.

In addition, we have agreed that we will not issue or sell shares of common stock before Eaton's divestiture without Eaton's prior written consent.

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, violate any law or agreement or waive any attorney-client privilege. In furtherance of this arrangement, both Eaton and we have agreed as follows:

- each party will maintain at its own cost and expense adequate internal accounting and will provide, at the request of the other party, all financial and other data and information as necessary 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 inform Eaton of any significant changes in any accounting policy or principle before the changes are implemented;
- Eaton will inform us of any significant changes in accounting estimate or principle before the changes are implemented;
- we will comply with all Eaton financial reporting requirements, policies, and accounting and reporting deadlines, including providing to Eaton on a timely basis all information that Eaton reasonably requires for the preparation of Eaton's annual and quarterly financial statements;
- we will provide any supplemental information required by Eaton for external financial reporting or compliance, 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 their designees 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 or has transferred;
- whether there is a lien or encumbrance on any asset Eaton is transferring or has transferred;
- the absence of defenses or freedom from counterclaims with respect to any claim Eaton is transferring; or
- the legal sufficiency of any conveyance of title to any asset Eaton is transferring or has transferred.

CASH. Prior to January 1, 2000, substantially all of our cash receipts and disbursements in the United States were processed through Eaton's centralized cash management system and were recorded in Parent Company investment. Since December 31, 1999, substantially all of these amounts have been recorded as a receivable from or payable to Eaton. At March 31, 2000, a net amount of \$1.0 million was payable to Eaton by us for these transactions and was included in "Receivables from Eaton Corporation" in our March 31, 2000 combined balance sheet. This payable became a receivable of approximately \$19.4 million at May 31, 2000 and we expect it to increase to approximately \$29.1 million at June 30, 2000. We plan to settle this receivable in cash at or shortly after the closing of this offering.

The remaining balance of the "Receivables from Eaton Corporation" at March 31, 2000 was \$9.2 million and represented primarily cash generated by us in Europe that was processed through Eaton's European centralized cash management system. Of this receivable, \$5.5 million, as well as \$1.5 million of our \$2.8 million of cash and short-term investments at March 31, 2000, will be retained by Eaton and will not be available to us. The resulting \$3.7 million balance of this receivable will also be settled in cash at or shortly after the closing of this offering. Subsequent to March 31, 2000, in connection with Eaton's contribution of assets to us, we received a cash transfer from Eaton that we expect, after offsets, to net to approximately \$7.9 million.

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 divestiture 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 transactions and associated with this offering and Eaton will bear the costs and expenses associated with the divestiture. 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, to the extent not transferred prior to the separation date. The agreement also describes when and how these transfers and assumptions will occur.

ASSET TRANSFER. To the extent not transferred prior to the separation date, effective on the separation date, Eaton transferred all of the assets to us that it held related to our business, to the extent that those assets were, prior to the separation date, an Eaton asset.

ASSUMPTION OF LIABILITIES. Effective on the separation date and with no recourse to Eaton, 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 at such other time as the parties shall agree.

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 commercially 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 or assumed in the separation, provided that there will be no obligation to pay any consideration to any third party from whom such consents, substitutions or amendments are required.

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 the "EATON" trademark. We are licensed to use, on a worldwide basis, the Eaton logo and "EATON" trademark in connection with ion implantation, dry strip, photostabilization and rapid thermal processing products. The license is non-exclusive and 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 three years and expires June 30, 2003. We are obligated to notify Eaton of any alleged infringement and will indemnify Eaton for our use. We do not have the right to sublicense

the Eaton logo or "EATON" trademark except to carry out the terms of an agreement with SEN. 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, in most instances, 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 earlier of our adoption of a comparable plan or the date that Eaton and Axcelis cease to be members of the same controlled group for federal income tax purposes. After such date, we may 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.

Except with respect to the Eaton Share Purchase and Investment Plan, a defined contribution plan with 401(k) deferral features, the assets relating to Eaton's employee benefit plans will not be transferred to our related plans.

OPTIONS. We have established a replacement stock option 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 allocates 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 also provides 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 with Eaton.

In order to initially satisfy our tax liability for the first quarter of 2000, we will pay Eaton cash in an amount equal to the \$8.3 million tax provision shown in our combined financial statements for the quarter. This payment will be made as part of the settlement of the cash management receivable or payable described in note (4) to the "Prospectus Summary -- Summary Historical Combined Financial Data". The ultimate amount of tax liability that we will have to pay Eaton in respect of this quarter under the tax sharing and indemnification agreement will be based on our allocable share of any taxes due with respect to tax returns that we file with Eaton.

The tax sharing and indemnification agreement also requires us to indemnify Eaton for certain taxes (including interest and penalties), the amount of which could be material to us, including:

- any taxes resulting from our separation from Eaton that are imposed on Eaton due to any action on our part that is not contemplated in the master separation and distribution agreement or any failure to take action required by that agreement.
- 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 private letter tax ruling request or other agreements; and
- the additional taxes that would result if any acquisition of our stock after the divestiture of our common stock to Eaton's shareholders causes the divestiture not to qualify for tax-free treatment to Eaton and/or its shareholders, regardless of whether Eaton consents to such acquisition.

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 divestiture to be treated as part of a plan pursuant to which one or more persons other than Eaton shareholders acquire a 40 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 for the period during which it is a member even after it withdraws from the group, and the tax sharing and indemnification agreement does not change this result. Accordingly, we could be required to pay a deficiency in the Eaton 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. In this event, however, we would have a claim for indemnification from Eaton under this agreement.

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 up to one additional year 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, tax, 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 us various leased and owned properties and the manner in which we will share occupancy of one leased property.

The real estate matters agreement identifies each owned property to be transferred to us and each leased property to be assigned to us. The real estate matters agreement requires both parties to use reasonable efforts to obtain any landlord consents required for the proposed transfers of leased sites, including us agreeing to provide any security required under the applicable lease or by the applicable landlord as a condition to the landlord's release of Eaton from any further liability under the lease.

The real estate matters agreement provides that we may occupy a leased property as a licensee pending receipt of the landlord's consent to the assignment of the lease to us. If the landlord refuses to consent to the assignment, Eaton will use reasonable efforts to obtain the landlord's consent to sublease the property to us. We will indemnify Eaton against all further liabilities under each lease assigned to us. Eaton will pay all reasonable costs required to obtain each landlord's consent to the assignment or sublease.

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.

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 provision will not impair a party from enforcing the separation agreement or any ancillary agreement.

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;
- any breach by us of the separation agreement or any ancillary agreement; and
- any untrue statement of a material fact or any omission of a material fact in this prospectus.

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 Eaton's liabilities other than our liabilities; 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 divestiture date. In general, we agree to reimburse Eaton for premium expenses related to insurance coverage during this period. Prior to the divestiture, 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 or any actions

relating to, resulting from, or present at, our properties, facilities or operations, either before or after the separation date. This includes indemnifying Eaton from any liabilities resulting from the transportation of hazardous materials to or from any of our facilities either before 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.

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 83.8% of our outstanding common stock, or about 81.8%, if the underwriters fully exercise their option to purchase additional shares of our 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 divestiture of our common stock by Eaton to its shareholders. 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

We are authorized to issue 300,000,000 shares of common stock, \$0.001 par value, and 30,000,000 shares of undesignated preferred stock, \$0.001 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. See "Rights Plan" below.

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 or the vice chairman of our board of directors, or the chief executive officer, 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. After completion of this offering, Eaton will be an "interested stockholder" subject to these statutory provisions.

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, equal to a multiple of the initial offering price to be determined prior to the offering. 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 our outstanding common stock 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 our common stock unless and until they become exercisable. The rights, which expire in June 2010, 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 stockholders as determined by our Board of Directors. However, a stockholder could potentially disagree with the Board's determination of what constitutes a fair price or the best interests of our company and our stockholders.

The description and terms of the rights are set forth in a rights agreement between us and Equiserve Trust Company N.A., as rights agent. A copy of the rights agreement is filed as an exhibit to the registration statement of which this prospectus forms a part. The above 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 Trust Company N.A.

SHARES ELIGIBLE FOR FUTURE SALE

All of the shares of our common stock sold in this offering will be freely tradeable 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 consummate its divestiture of all of its shares of our common stock approximately six months following this offering by disposing of all of its shares of our common stock to Eaton shareholders, although Eaton is not obligated to consummate this divestiture. Any shares of our common stock distributed to Eaton shareholders in the divestiture 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 divestiture 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 955,000 shares immediately after this offering, or 978,250 shares if the underwriters fully exercise their option to purchase additional shares of our common stock; 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 divestiture 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 divestiture, or by Eaton if the divestiture 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 divestiture 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 divestiture 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".

UNITED STATES FEDERAL TAX CONSIDERATIONS TO NON-UNITED STATES HOLDERS

The following summary describes material United States federal income and estate tax consequences that may be relevant to the purchase, ownership and disposition of our common stock by a Non-United States Holder. A Non-United States Holder is any person who is, for United States federal income tax purposes, a foreign corporation, a non-resident alien individual, a foreign partnership or a foreign estate or trust or any other foreign entity. This discussion does not address all aspects of United States federal income and estate taxes and does not deal with foreign, state and local consequences that may be relevant to Non-United States Holders in light of their personal circumstances. Furthermore, this discussion is based on provisions of the Internal Revenue Code of 1986, existing and proposed regulations promulgated thereunder, and administrative and judicial interpretations thereof, as of the date hereof, all of which are subject to change. EACH PROSPECTIVE PURCHASER OF COMMON STOCK IS ADVISED TO CONSULT A TAX ADVISOR WITH RESPECT TO CURRENT AND POSSIBLE FUTURE CONSEQUENCES OF ACQUIRING, HOLDING AND DISPOSING OF COMMON STOCK AS WELL AS ANY TAX CONSEQUENCES THAT MAY ARISE UNDER THE LAWS OF ANY UNITED STATES STATE, MUNICIPALITY OR OTHER TAXING JURISDICTION.

DIVIDENDS

We do not anticipate paying cash dividends on our capital stock in the foreseeable future. See "Dividend Policy". In the event, however, that dividends are paid on shares of our common stock, dividends paid to a Non-United States Holder of our common stock generally will be subject to withholding of United States federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. However, assuming certain certification and disclosure requirements are met, dividends that are effectively connected with the conduct of a trade or business by a Non-United States Holder within the United States and, where a tax treaty applies, are attributable to a United States permanent establishment of the Non-United States Holder, are not subject to the withholding tax, but instead are subject to United States federal income tax on a net income basis at the applicable graduated individual or corporate rates. Any such effectively connected dividends received by a foreign corporation may be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty.

In October 1997, the Internal Revenue Service issued final regulations relating to the withholding, backup withholding and information reporting with respect to payments made to Non-United States Holders. The new regulations generally apply to payments made after December 31, 2000, subject to certain transition rules.

Until December 31, 2000, dividends paid to an address outside the United States are presumed to be paid to a resident of such country, unless the payer has knowledge to the contrary, for purposes of the withholding tax discussed above and, under the current interpretation of United States Treasury regulations, for purposes of determining the applicability of a tax treaty rate. To avoid back-up withholding for dividends paid after December 31, 2000, a Non-United States Holder will be required to satisfy certain certification and other requirements which may differ from current requirements. Special rules will apply to dividend payments made after December 31, 2000 to foreign intermediaries, foreign partnerships, United States or foreign wholly-owned entities that are disregarded for United States federal income tax purposes, and entities that are treated as fiscally transparent in the United States, the applicable income tax treaty jurisdiction or both. In addition, United States tax law denies income tax treaty benefits to foreigners receiving income derived through a partnership or other fiscally transparent entity in certain circumstances.

A Non-United States Holder of our common stock eligible for a reduced rate of United States withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the Internal Revenue Service.

GAIN ON DISPOSITION OF COMMON STOCK

A Non-United States Holder generally will not be subject to United States federal income tax with respect to gain recognized on a sale or other disposition of our common stock unless:

- the gain is effectively connected with a trade or business of the Non-United States Holder in the United States and, where a tax treaty applies, is attributable to a United States permanent establishment of the Non-United States Holder,
- in the case of a Non-United States Holder who is an individual and holds common stock as a capital asset, such holder is present in the United States for 183 or more days in the taxable year of the sale or other disposition and certain other conditions are met,
- the Non-United States Holder is subject to tax pursuant to the provisions of the United States tax law applicable to certain United States expatriates, or
- we are or have been a "United States real property holding corporation" for United States federal income tax purposes, and the Non-United States Holder owned, directly or pursuant to certain attribution rules, more than 5% of our common stock at any time within the shorter of the five-year period preceding such disposition or such Non-United States Holder's holding period. We believe we are not, and we do not anticipate becoming, a "United States real property holding corporation" for United States federal income tax purposes.

An individual Non-United States Holder described in the first point above will be subject to tax on the net gain from the sale under regular graduated United States federal income tax rates. An individual Non-United States Holder described in the second point above will be subject to a flat 30% tax on the gain derived from the sale, which may be offset by United States-source capital losses, even though the individual is not considered a resident of the United States. If a Non-United States Holder that is a foreign corporation is described in the first point above, it will be subject to tax on its net gain under regular graduated United States federal income tax rates and, in addition, may be subject to the branch profits tax equal to 30% of its effectively connected earnings and profits within the meaning of the Code for the year, as adjusted for certain items, unless it qualifies for a lower rate under an applicable income tax treaty.

FEDERAL ESTATE TAX

Common stock owned or treated as owned by an individual who is not a citizen or resident for U.S. estate tax purposes at the time of death will be included in such holder's gross estate for United States federal estate tax purposes, unless an applicable estate tax treaty provides otherwise.

INFORMATION REPORTING AND BACKUP WITHHOLDING

We must report annually to the Internal Revenue Service and to each Non-United States Holder the amount of dividends paid to such Non-United States Holder and the tax withheld with respect to such dividends, regardless of whether withholding was required. Copies of the information returns reporting such dividends and withholding may also be made available to the tax authorities in the country in which the Non-United States Holder resides under the provisions of an applicable income tax treaty.

Until December 31, 2000, backup withholding generally will not apply to dividends paid to a Non-United States Holder at an address outside the United States, unless the payer has knowledge that the payee is a United States person. With respect to dividends paid after December 31, 2000, however, a Non-United States Holder will be subject to back-up withholding at a 31% rate unless applicable certification requirements are met to establish non-United States status.

Payment of the proceeds of a sale of common stock within the United States or conducted through certain United States-related foreign financial intermediaries is subject to:

- information reporting; and

- backup withholding, other than payments made before January 1, 2001 by or through certain United States-related foreign financial intermediaries, unless the beneficial owner certifies under penalties of perjury that it is a Non-United States Holder, and the payor does not have actual knowledge that the beneficial owner is a United States person, or the holder otherwise establishes an exemption.

Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a holder's United States federal income tax liability provided the required information is furnished to the Internal Revenue Service.

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., Morgan Stanley & Co. Incorporated, Lehman Brothers Inc. and Salomon Smith Barney Inc. are the representatives of the underwriters.

Underwriters -----	Number of Shares -----
Goldman, Sachs & Co.....	
Morgan Stanley & Co. Incorporated.....	
Lehman Brothers Inc.....	
Salomon Smith Barney Inc.	
Total.....	----- 15,500,000 =====

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 2,325,000 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 2,325,000 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 its directors, director nominees 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 consummation 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.axcelis.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, except for Note 19
as to which the date is June 14, 2000

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

COMBINED BALANCE SHEETS
(IN THOUSANDS)

	DECEMBER 31,		MARCH 31, 2000	PRO FORMA MARCH 31, 2000
	1998	1999		
			(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	8,286	8,286
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	262,237	262,237
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	\$449,332	\$449,332
	=====	=====	=====	=====
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 (\$0.001 par value per share; 30 million shares authorized; none outstanding).....	--	--	--	--
Common stock (\$0.001 par value per share; 300 million shares authorized; 80 million shares outstanding).....	--	--	--	--
Parent Company investment.....	274,981	347,825	369,474	69,474
Accumulated other comprehensive income (loss).....	(5,820)	(5,529)	(6,007)	(6,007)
	-----	-----	-----	-----
Total stockholder's net investment.....	269,161	342,296	363,467	63,467
	-----	-----	-----	-----
Total liabilities & stockholder's net investment.....	\$341,121	\$422,835	\$449,332	\$449,332
	=====	=====	=====	=====

See accompanying notes to combined financial statements.

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

STATEMENTS OF COMBINED OPERATIONS
(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)

	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
Basic & diluted net income (loss) per share.....	\$ (.77)	\$ (1.03)	\$.18	\$ (.13)	\$.24
Shares used in computing basic & diluted net income (loss) per share.....	80,000	80,000	80,000	80,000	80,000
Unaudited pro forma basic & diluted net income per share.....			\$.15		\$.20
Shares used in computing unaudited pro forma basic & diluted net income per share.....			95,402		95,402

See accompanying notes to combined financial statements.

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

STATEMENTS OF COMBINED CASH FLOWS
(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	(7,060)	(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)	(13,837)
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	3,658	(247)	(1,705)
Net cash provided (used) by operating activities.....	(6,695)	12,206	(39,105)	(22,912)	(2,898)
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	128,827
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	2,787
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
(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)
(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*.....	128,827		128,827
Expenditures for property, plant & equipment*.....	299		299
Other-net*.....	(4,545)		(4,545)
	-----		-----
Net transfers from Parent Company*.....	2,787		2,787
	-----		-----
Balance at March 31, 2000*.....	\$ 369,474	\$(6,007)	\$ 363,467
	=====	=====	=====

* 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, Ltd., 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 consummate 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. Axcelis 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

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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

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

In 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 has concluded that its revenue recognition policy continues to be appropriate and in accordance with generally accepted accounting principles and 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.

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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

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. For tax years beginning in 2000, Axcelis will assume the liability to pay for income taxes attributable to Axcelis' operations in the United States.

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 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.

NET INCOME (LOSS) PER SHARE

All of Axcelis' outstanding common stock is owned by Eaton. Basic and diluted net income (loss) per share amounts are computed by dividing the net income (loss) for the period by the common stock outstanding after the conversion of the 100 shares of Axcelis common stock held by Eaton into 80 million shares of common stock as discussed in footnote 19 to the combined financial statements.

Net income (loss) per share amounts do not give effect to any conversion of Eaton stock options into Axcelis stock options. The actual number of Eaton stock options to be converted into Axcelis stock options will not be determined until the individual employee options are converted into Axcelis stock options at the distribution date. See footnote 12 to the combined financial statements for a description of how Eaton stock options are expected to be converted into Axcelis stock options at the distribution date.

UNAUDITED PRO FORMA NET INCOME PER SHARE

Unaudited pro forma basic and diluted net income per share amounts are calculated based on 80 million shares of common stock outstanding that are owned by Eaton prior to this offering, plus an additional 15.402 million shares of common stock. The number of additional shares is calculated by dividing the \$300 million previously declared dividend to Eaton, described below, by the assumed initial public offering price of \$21 per share, reduced by the estimated per share offering expenses.

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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

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 in the United States 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 \$1.0 million was payable to 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 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.

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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 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).

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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

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

6. ACCOUNTS RECEIVABLE

The components of accounts receivable follow (in thousands):

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

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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

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.

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
	=====	=====	=====

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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

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 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. As described in Note 19, in June 2000, the Axcelis Board of Directors authorized the conversion of the 100 shares of Axcelis common stock owned by Eaton into 80 million shares and increased the number of authorized shares to 300 million with a par value of \$0.001 per share.

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.

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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

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 their 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 the granting of 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

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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 Axcelis' performance, as opposed to Eaton's performance. No option will be exercisable, however, if the effect of that exercise would prevent Axcelis from filing a consolidated federal income tax return with Eaton, or if the exercise would cause Eaton not to be in control of Axcelis for purposes of Section 368(c) of the Internal Revenue Code. 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

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
Basic and diluted net income (loss) per share			
As reported.....	\$ (.77)	\$ (1.03)	\$.18
Assuming fair value method.....	(.78)	(1.03)	.17

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NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

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 under noncancelable operating leases, which expire at various dates and in most cases contain renewal options, are as follows (in millions): 2000, \$9.6; 2001, \$9.2; 2002, \$8.8; 2003, \$7.6; and 2004, \$6.3.

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 the United States, Europe and Asia Pacific.

Axcelis' ion implantation systems product line includes high and medium current implanters and high energy implanters and services. Other products include 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, Ltd., 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 combined statements of operations for Axcelis include the results of SEN for the twelve-month periods ended November 30, which represents a one-month lag. The information above has been presented as of and for the twelve months ended November 30 to conform to Axcelis' equity accounting for SEN.

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

	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 on 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.

19. SUBSEQUENT EVENTS

During June 2000, Axcelis' Board of Directors and sole stockholder approved the following:

- The conversion of 100 shares of Axcelis common stock owned by Eaton into 80 million shares. All share and per share amounts in these combined financial statements have been adjusted to give effect to the conversion of shares.

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

NOTES TO COMBINED FINANCIAL STATEMENTS -- (CONTINUED)

- An increase in the authorized number of shares of common stock to 300 million, with a par value of \$0.001 per share, and the creation of preferred stock with 30 million shares authorized, with a par value of \$0.001 per share.
- Adoption of the 2000 Stock Plan for which 18.5 million shares of common stock have been reserved for future issuance.
- Adoption of the 2000 Employee Stock Purchase Plan for which 2.5 million shares of common stock have been reserved for future issuance.

 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.

 15,500,000 Shares

AXCELIS TECHNOLOGIES, INC.

Common Stock

Axcelis Technologies, Inc. Logo

GOLDMAN, SACHS & CO.

MORGAN STANLEY DEAN WITTER

LEHMAN BROTHERS

SALOMON SMITH BARNEY

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 application fee.....	95,000
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 10.2 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*	Form of Underwriting Agreement
2.1	Form of Master Separation and Distribution Agreement between Eaton Corporation and the registrant (filed herewith)
2.2	Form of General Assignment and Assumption Agreement between Eaton Corporation and the registrant (previously filed)
2.3	Form of Trademark License Agreement between Eaton Corporation and the registrant (previously filed)
2.4	Form of Employee Matters Agreement between Eaton Corporation and the registrant (previously filed)
2.5*	Form of Tax Sharing and Indemnification Agreement between Eaton Corporation and the registrant
2.6	Form of Transitional Services Agreement between Eaton Corporation and the registrant (previously filed)
2.7	Form of Real Estate Matters Agreement between Eaton Corporation and the registrant (previously filed)
2.8*	Form of 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. (previously filed)
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 (incorporated by reference to Exhibit 99.1 to the Solicitation/Recommendation Statement filed on Schedule 14D-9 by Fusion Systems Corporation on July 7, 1997.)
3.1	Amended and Restated Certificate of Incorporation of the registrant (previously filed)
3.2	Bylaws of the registrant, as amended (previously filed)
4.1	Specimen Stock Certificate (previously filed)
4.2	Form of Rights Agreement between the registrant and the rights agent named therein (previously filed)
5.1	Opinion of Kirkpatrick & Lockhart LLP (previously filed)
10.1	Form of 2000 Stock Plan (previously filed)
10.2	Form of Indemnification Agreement entered into by the registrant with each of its directors and executive officers (previously filed)
10.3	Form of Change in Control Agreement between the registrant and certain of its executive officers (previously filed)
10.4*	Employment Agreement between the registrant and Brian R. Bachman
10.5*	Employment Agreement between the registrant and Mary G. Puma
10.6+	Organization Agreement dated December 3, 1982 between Eaton Corporation and Sumitomo Heavy Industries, Ltd. relating to Sumitomo Eaton Nova Corporation, as amended (previously filed)
10.7+	Master License Agreement dated January 16, 1996 between Eaton Corporation and Sumitomo Eaton Nova Corporation (previously filed)
21.1	Subsidiaries of the registrant (previously filed)
23.1	Consent of Ernst & Young LLP (filed herewith)

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

- -----
* To be filed by amendment.

+ Certain portions of this exhibit have been omitted based upon a request for confidential treatment filed by the Company with the Secretary of the Commission on June 15, 2000. The omitted portions of this exhibit have been separately filed with the Secretary of the Commission.

(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 amendment to registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cleveland, State of Ohio, on June 16, 2000.

AXCELIS TECHNOLOGIES, INC.

By: /s/ BRIAN R. BACHMAN

Title: Vice Chairman and Chief
Executive Officer

TITLE

*BRIAN R. BACHMAN	Vice Chairman, Chief Executive Officer and Director (Principal Executive Officer)	June 16, 2000
*KEVIN M. BISSON	Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	June 16, 2000
*STEPHEN R. HARDIS	Director, Chairman	June 16, 2000
*ALEXANDER M. CUTLER	Director	June 16, 2000

*By: /s/ J. ROBERT HORST

Pursuant to Power of Attorney

EXHIBIT INDEX

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FORM OF MASTER SEPARATION AND DISTRIBUTION AGREEMENT

BETWEEN

EATON CORPORATION

AND

AXCELIS TECHNOLOGIES, INC.

DATED

JUNE __, 2000

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FORM OF MASTER SEPARATION AND DISTRIBUTION AGREEMENT

This Master Separation and Distribution Agreement ("Agreement") is made and entered into on June __, 2000, by and between Eaton Corporation ("Eaton"), an Ohio corporation, and Axcelis Technologies, Inc. (formerly known as Eaton Semiconductor Equipment Inc.) ("Axcelis Technologies"), a Delaware corporation. Capitalized terms used herein and not otherwise defined shall have the meanings ascribed to such terms in Article VII hereof.

RECITALS

WHEREAS, Eaton currently owns all of the issued and outstanding common stock of Axcelis Technologies;

WHEREAS, the business of Axcelis Technologies consists of the business and operations conducted by Eaton and its Subsidiaries as Eaton's Semiconductor Equipment Operations (the "Axcelis Technologies Business") as described in the IPO Registration Statement (as defined below);

WHEREAS, the Board of Directors of Eaton has determined that it would be appropriate and desirable to separate the Axcelis Technologies Business from Eaton and to reorganize it into an independent publicly held company;

WHEREAS, the Boards of Directors of Eaton and Axcelis Technologies have each determined that it would be appropriate and desirable for Eaton to contribute and transfer to Axcelis Technologies, and for Axcelis Technologies to receive and assume, directly or indirectly, the Assets and Liabilities (including contingent liabilities) of Eaton and its Subsidiaries associated with the Axcelis Technologies Business to the extent not contributed and transferred to Axcelis Technologies prior to May 4, 2000 (the "Separation");

WHEREAS, as part of the transactions contemplated by the Separation, prior to the date hereof Eaton has caused the transfer to Axcelis of all of the issued and outstanding capital stock of Fusion Systems Corporation and High Temperature Engineering Corporation, all of Eaton's ownership interest in Sumitomo Eaton Nova Corporation and the intellectual property assets of the Axcelis Technologies Business.

WHEREAS, Eaton and Axcelis Technologies currently contemplate that, following the Separation, Axcelis Technologies will make an initial public offering ("IPO") of an amount of its common stock pursuant to a registration statement on Form S-1 under the Securities Act of 1933, as amended (the "IPO Registration Statement"), that will reduce Eaton's ownership interest in Axcelis Technologies to not less than 80.1% of the outstanding common stock of Axcelis Technologies;

WHEREAS, Eaton currently plans to consummate the divestiture of Axcelis Technologies approximately six months following such IPO by means of a distribution of all of the common stock of Axcelis Technologies owned by Eaton to holders of Eaton common stock on a tax-free basis in a split-off, a spin-off or some combination of both transactions (the "Distribution");

WHEREAS, Eaton and Axcelis Technologies intend that the Separation will qualify as a tax-free reorganization under Section 368(a)(1)(D) of the Internal Revenue Code of 1986, as

amended (the "Code"), that the Distribution will qualify as a tax-free distribution under Section 355 of the Code and that this Agreement shall be, and is hereby adopted as, a plan of reorganization under Section 368 of the Code; and

WHEREAS, the parties intend in this Agreement, including the Exhibits hereto, to set forth the principal arrangements between them regarding the Separation and to set forth certain other matters regarding the IPO and the Distribution.

NOW, THEREFORE, in consideration of the foregoing and the covenants and agreements set forth below, Eaton and Axcelis Technologies, intending to be legally bound, hereby agree as follows:

ARTICLE I

SEPARATION

Section 1.1 Separation Date. Unless otherwise provided in this Agreement or in any agreement to be executed in connection with this Agreement, the effective time and date of the Separation shall be the earlier of (i) 12:01 a.m. on the IPO Closing Date or (ii) 12:59 p.m. on June 30, 2000 or such subsequent date as may be designated at any time prior to the earlier of such dates by the Chairman or President of Eaton (the "Separation Date").

Section 1.2 Closing of Transactions. Except as otherwise provided herein, the closing of the transactions contemplated in Article II (the "Separation Closing") shall occur on the Separation Date (beginning at 10:00 a.m. Cleveland time), at the offices of Eaton at Eaton Center, 1111 Superior Avenue, Cleveland, Ohio 44114, or at such other place as Eaton may in its sole discretion determine, by the delivery of the executed instruments of transfer, assumptions of liability, undertakings, agreements, instruments or other documents to be executed pursuant to Article II of this Agreement.

ARTICLE II

DOCUMENTS AND ITEMS TO BE DELIVERED AT THE SEPARATION CLOSING

Section 2.1 Documents to Be Delivered by Eaton. On or before the Separation Date or such other date or dates as determined by Eaton in connection with the Non-US Plan (as defined in Section 5.7), Eaton will deliver, or will cause its appropriate Subsidiaries to deliver, to Axcelis Technologies all of the following items and agreements (collectively, together with all exhibits, schedules, agreements and documents contemplated by this Agreement and such agreements, the "Ancillary Agreements"):

(a) A duly executed General Assignment and Assumption Agreement (the "Assignment Agreement") substantially in the form attached hereto as Exhibit A;

(b) A duly executed Trademark License Agreement substantially in the form attached hereto as Exhibit B;

(c) A duly executed Employee Matters Agreement substantially in the form attached hereto as Exhibit C;

(d) A duly executed Tax Sharing and Indemnification Agreement substantially in the form attached hereto as Exhibit D;

(e) A duly executed Transitional Services Agreement substantially in the form attached hereto as Exhibit E;

(f) A duly executed Real Estate Matters Agreement substantially in the form attached hereto as Exhibit F;

(g) A duly executed Indemnification and Insurance Matters Agreement substantially in the form attached hereto as Exhibit G;

(h) Such other agreements, documents or instruments as Eaton may determine are necessary or desirable in order to achieve the purposes hereof.

Section 2.2 Documents to Be Delivered by Axcelis Technologies. On or before the Separation Date, Axcelis Technologies will deliver to Eaton a duly executed counterpart of any agreement or instrument referred to in Section 2.1 in each case where Axcelis Technologies is to be a party to such agreement or instrument.

Section 2.3 Cash to be Transferred. Since December 31, 1999, portions of the cash receipts and disbursements of Axcelis and certain of its Subsidiaries have been processed through Eaton's centralized cash management system and recorded as a receivable from or payable to Eaton. In connection with the Separation Closing, Eaton shall calculate the net amount, if any, of such receivables and payables for each of Axcelis and any of its Subsidiaries, and such amounts (plus any applicable interest thereon) shall be paid in cash by Eaton or Axcelis Technologies or its relevant subsidiaries, as the case may be, promptly following such determination. In addition, other intercompany receivables payable by Eaton shall be paid in cash by Eaton in connection with the Separation Closing.

ARTICLE III

THE IPO AND ACTIONS PENDING THE IPO

Section 3.1 Transactions Related to the IPO. Subject to the conditions specified in Section 3.3, Eaton and Axcelis Technologies shall use their reasonable commercial efforts to consummate the IPO. Such efforts shall include, without limitation, those specified in this Section 3.1.

(a) Registration Statement. Axcelis Technologies filed on May 4, 2000 and shall file with the Securities and Exchange Commission (the "SEC") the IPO Registration Statement and such amendments or supplements thereto as may be necessary in order to cause the same to become and remain effective as required by law, including, but not limited to, filing such amendments to the IPO Registration Statement as may be required by the underwriting agreement to be entered into between the managing underwriters for the IPO (the "Underwriters") and Axcelis Technologies, (the "Underwriting Agreement") or by the SEC or other applicable federal, state or foreign

securities laws. Eaton and Axcelis Technologies shall also cooperate in preparing, filing with the SEC and causing to become effective a registration statement registering the common stock of Axcelis Technologies under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and any registration statements or amendments thereof which are required to reflect the establishment of, or amendments to, any employee benefit and other plans necessary or appropriate in connection with the Separation, the IPO, the Distribution and the other transactions contemplated by this Agreement.

(b) Underwriting Agreement. Axcelis Technologies shall enter into the Underwriting Agreement, including indemnification by Eaton as described in the IPO Registration Statement in form and substance reasonably satisfactory to the committee established by the Board of Directors of Axcelis Technologies with respect to the IPO, consisting of the three persons constituting the directors of Axcelis Technologies on May 3, 2000 (the "Offering Committee"), and shall comply with its obligations thereunder.

(c) Nasdaq Listing. Axcelis Technologies shall prepare, file and use reasonable commercial efforts to make effective an application for listing of the common stock of Axcelis Technologies issued in the IPO on the Nasdaq National Market ("Nasdaq"), subject to official approval for quotation.

(d) Resignations. Eaton will obtain, or cause its appropriate Subsidiaries to obtain, resignations of each person who is an officer of Eaton or its Subsidiaries immediately prior to the IPO Closing and who will be an employee of Axcelis Technologies from and after the IPO Closing Date.

Section 3.2 Cooperation. Axcelis Technologies shall consult, and cooperate in all respects, with Eaton in connection with the pricing of the common stock of Axcelis Technologies to be offered in the IPO. Axcelis Technologies shall, at Eaton's direction, promptly take any and all actions necessary or desirable to consummate the IPO as contemplated by the IPO Registration Statement and the Underwriting Agreement.

Section 3.3 Conditions Precedent to Consummation of the IPO. The obligations of the parties to use their reasonable commercial efforts to consummate the IPO shall be conditioned on the satisfaction of the following conditions:

(a) Registration Statement. The IPO Registration Statement shall have been filed and declared effective by the SEC, and there shall be no stop-order in effect with respect thereto.

(b) Blue Sky and NASD. The actions and filings with regard to state securities and blue sky laws of the United States (and any comparable laws under any foreign jurisdictions) shall have been taken and, where applicable, become effective or been accepted. Where the amount of compensation to be allowed or paid to the underwriters and any other arrangement among Axcelis Technologies, Eaton, the underwriters and other broker dealers participating in the IPO are reviewed by the National Association of Securities Dealers, Inc. ("NASD"), no statement shall have been issued by the NASD prior to effectiveness expressing objections to the compensation and other arrangements which has not been resolved as of the IPO Closing Date.

(c) Nasdaq Listing. The common stock of Axcelis Technologies to be issued in the IPO shall have been accepted for listing on the Nasdaq, on official approval for quotation.

(d) Underwriting Agreement. Axcelis Technologies shall have entered into the Underwriting Agreement, including indemnification by Eaton as described in the IPO Registration Statement and all conditions to the obligations of Axcelis Technologies and the Underwriters shall have been satisfied or waived.

(e) Common Stock Ownership. Eaton shall be satisfied in its sole discretion that it will own at least 80.1% of the outstanding common stock of Axcelis Technologies following the IPO. All other conditions to permit the Separation, the IPO and the Distribution to qualify as a tax-free distribution to Eaton, Axcelis Technologies and Eaton's stockholders shall, to the extent applicable as of the time of the IPO, be satisfied. There shall be no event or condition that is likely to cause any of such conditions not to be satisfied as of the time of the IPO or thereafter.

(f) No Legal Restraints. No order, injunction or decree issued by any court or agency of competent jurisdiction or other legal restraint or prohibition preventing the consummation of the Separation or the IPO or any of the other transactions contemplated by this Agreement shall be in effect.

(g) Separation. The Separation shall have become effective in accordance with Articles I and II hereof.

(h) Other Actions. Such other actions as the parties hereto may, based upon the advice of counsel, reasonably request to be taken prior to the IPO to assure the successful completion of the IPO shall have been taken.

(i) No Termination. This Agreement shall not have been terminated.

Section 3.4 Dividend Payment. Axcelis Technologies presently expects to pay the \$300 million dividend payable to Eaton, which dividend payment Eaton intends to use directly to satisfy obligations to its lenders.

ARTICLE IV

THE DISTRIBUTION

Section 4.1 The Distribution. Subject to the provisions of Section 4.2, Eaton currently intends to consummate the Distribution within approximately six months of the IPO Closing Date. Eaton shall, in its sole and absolute discretion, determine the date of the consummation of the Distribution and all terms of the Distribution, including, without limitation, the form, structure, timing and terms of any transaction(s) and/or offering(s) to effect the Distribution and the timing of and conditions to the consummation of the Distribution. In addition, Eaton may at any time and from time to time until the consummation of the Distribution modify or change the terms of the Distribution, including without limitation by accelerating or delaying the timing of the consummation of all or part of the Distribution. Axcelis Technologies shall cooperate with Eaton in all respects to accomplish the Distribution and shall, at Eaton's direction, promptly take any and all actions necessary or desirable to effect the Distribution, including without limitation the registration under the Securities Act of the common stock of Axcelis Technologies on an appropriate registration form or forms to be designated by Eaton and any listing thereof with Nasdaq. Eaton shall select any investment banker(s) and manager(s) in connection with the Distribution, as well as any financial printer, solicitation and/or exchange agent and outside counsel for Eaton; provided, however, that nothing herein shall prohibit Axcelis Technologies from engaging (at its own expense) its own financial, legal, accounting and other advisors in

connection with the Distribution. Axcelis Technologies shall not issue or sell any shares of its common stock on or prior to the Distribution Date without the prior written consent of Eaton, although Axcelis may at any time on or after the IPO Closing Date grant options pursuant to the Axcelis Technologies 2000 Stock Option Agreement.

Section 4.2 Conditions Precedent to Distribution. Axcelis Technologies acknowledges and agrees that, notwithstanding anything to the contrary contained in this Agreement or any Ancillary Agreement, Eaton is not obligated in any respect to proceed with or consummate the Distribution and that Eaton may, in its sole discretion, at any time abandon its plan to proceed with or consummate the Distribution. Without limiting the foregoing, the following are certain conditions that must take place prior to the consummation of the Distribution:

(a) IRS Ruling. Eaton shall have obtained a private letter ruling from the Internal Revenue Service in form and substance satisfactory to Eaton (in its sole discretion), and such ruling shall remain in effect as of the date of the consummation of the Distribution (the "Distribution Date"), to the effect that (i) the transfer by Eaton and its Subsidiaries to the Axcelis Technologies Group of the property, subject to liabilities, held by Eaton of the Axcelis Technologies Business, and Axcelis Technologies' assumption of the liabilities held by Eaton and its Subsidiaries related to the Axcelis Technologies Business, followed by the distribution by Eaton of all of its Axcelis Technologies common stock to stockholders of Eaton, will qualify as a reorganization under Sections 368(a)(1)(D) and 355 of the Code; (ii) no gain or loss will be recognized by Eaton on its transfer of property of the Axcelis Technologies Business to Axcelis Technologies; (iii) no gain or loss will be recognized by Axcelis Technologies on its receipt of property of the Axcelis Technologies Business from Eaton; and (iv) no gain or loss will be recognized by (and no amount will otherwise be included in the income of) stockholders of Eaton upon their receipt of Axcelis Technologies common stock pursuant to the Distribution;

(b) Government Approvals. Any material Governmental Approvals necessary to consummate the Distribution shall have been obtained and be in full force and effect;

(c) No Legal Restraints. No order, injunction or decree issued by any court or agency of competent jurisdiction or other legal restraint or prohibition preventing the consummation of the Distribution shall be in effect, and no other event outside the control of Eaton shall have occurred or failed to occur that prevents the consummation of the Distribution; and

(d) No Material Adverse Effect. No other events or developments shall have occurred that, in the judgment of the Board of Directors of Eaton, would result in the Distribution having a material adverse effect on Eaton or on the stockholders of Eaton.

ARTICLE V

COVENANTS AND OTHER MATTERS

Section 5.1 Other Agreements. Eaton and Axcelis Technologies will execute or cause to be executed by the appropriate parties and deliver, as appropriate, such other agreements,

instruments and other documents as may be necessary or desirable in order to effect the purposes of this Agreement and the Ancillary Agreements.

Section 5.2 Further Instruments. Subject to Eaton's approval in its reasonable judgment, and without further consideration, Eaton will execute and deliver, and will cause its applicable Subsidiaries to execute and deliver, to Axcelis Technologies and its Subsidiaries such other instruments of transfer, conveyance, assignment, substitution and confirmation and take such action as Axcelis Technologies may reasonably request in order more effectively to transfer, convey and assign to Axcelis Technologies and its Subsidiaries and confirm Axcelis Technologies' and its Subsidiaries' title to all of the assets, rights and other things of value contemplated to be transferred to Axcelis Technologies and its Subsidiaries pursuant to this Agreement, the Ancillary Agreements, and any documents referred to herein and therein, to put Axcelis Technologies and its Subsidiaries in actual possession and operating control thereof and to permit Axcelis Technologies and its Subsidiaries to exercise all rights with respect thereto (including, without limitation, rights under contracts and other arrangements as to which the consent of any third party to the transfer thereof shall not have previously been obtained). At the request of Eaton and without further consideration, Axcelis Technologies will execute and deliver, and will cause its applicable Subsidiaries to execute and deliver, to Eaton and its Subsidiaries all instruments, assumptions, novations, undertakings, substitutions or other documents and take such other action as Eaton may reasonably deem necessary or desirable in order to have the Axcelis Technologies Group fully and unconditionally assume and discharge the liabilities contemplated to be assumed by the Axcelis Technologies Group under this Agreement or any document in connection herewith and to relieve the Eaton Group of any liability or obligation with respect thereto and evidence the same to third parties.

Section 5.3 Agreement for Exchange of Information.

(a) Generally. Each of Eaton and Axcelis Technologies shall provide, or cause to be provided, to each other, at any time before or after the Distribution Date, as soon as reasonably practicable after written request therefor, any Information in the possession or under the control of such party that the requesting party reasonably needs (i) to comply with reporting, disclosure, filing or other requirements imposed on the requesting party (including under applicable securities laws) by a Governmental Authority, (ii) for use in any judicial, regulatory, administrative or other proceeding or in order to satisfy audit, accounting, claims, litigation, regulatory, tax or other similar requirements, (iii) to comply with its obligations under this Agreement or any Ancillary Agreement or (iv) in connection with the ongoing businesses of Eaton or Axcelis Technologies, as the case may be; provided, however, that in the event that any party determines that any such provision of Information would be commercially detrimental, violate any law or agreement or waive any attorney-client privilege, the parties shall take all reasonable measures to permit the compliance with such obligations in a manner that avoids any such harm or consequence.

(b) Internal Accounting Controls; Financial Information. After the Separation Date, each party shall (i) maintain and cause its Subsidiaries to maintain in effect at its own cost and expense adequate systems and controls for its business to the extent necessary to enable the other party to satisfy its reporting, accounting, audit and other obligations, and (ii) provide and cause its Subsidiaries to provide, or cause to be provided, to the other party and its Subsidiaries

in such form as such requesting party shall request, at no charge to the requesting party, all financial and other data and information as the requesting party determines necessary or advisable in order to prepare its and its Subsidiaries financial statements and reports or filings with any Governmental Authority.

(c) Ownership of Information. Any Information owned by a party that is provided to a requesting party pursuant to this Section 5.3 shall remain the property of the providing party. Unless specifically set forth herein, nothing contained in this Agreement shall be construed as granting or conferring rights of license or otherwise in any such Information.

(d) Record Retention. To facilitate the possible exchange of Information pursuant to this Section 5.3 and other provisions of this Agreement after the Distribution Date, each party shall use its reasonable commercial efforts to retain all Information in its respective possession or control on the Distribution Date substantially in accordance with the policies of Eaton as in effect on the Separation Date. However, except as set forth in the Tax Sharing and Indemnification Agreement, at any time after the Distribution Date, each party may amend its respective record retention policies at such party's discretion; provided, however, that if a party desires to effect the amendment within three (3) years after the Distribution Date, the amending party must give sixty (60) days prior written notice of such change in the policy to the other party to this Agreement. No party will destroy, or permit any of its Subsidiaries to destroy, any Information that exists on the Separation Date (other than Information that is permitted to be destroyed under the current record retention policies of Eaton) and that falls under the categories listed in Section 5.3(a), without first using its reasonable commercial efforts to notify the other party of the proposed destruction and giving the other party the opportunity to take possession of such Information prior to such destruction.

(e) Limitation of Liability. No party shall have any liability to any other party in the event that any Information exchanged or provided pursuant to this Section 5.3 is found to be inaccurate, in the absence of gross negligence or willful misconduct by the party providing such Information. No party shall have any liability to any other party if any Information is destroyed or lost after reasonable commercial efforts by such party to comply with the provisions of Section 5.3(d).

(f) Other Agreements Providing for Exchange of Information. The rights and obligations granted under this Section 5.3 are subject to any specific limitations, qualifications or additional provisions on the sharing, exchange or confidential treatment of Information set forth in this Agreement or any Ancillary Agreement.

(g) Production of Witnesses; Records; Cooperation. After the Distribution Date, except in the case of a legal or other proceeding by one party against another party (which shall be governed by such discovery rules as may be applicable under Section 5.8 or otherwise), each party hereto shall use its reasonable commercial efforts to make available to each other party, upon written request, the former, current and future directors, officers, employees, other personnel and agents of such party as witnesses and any books, records or other documents within its control or which it otherwise has the ability to make available, to the extent that any such person (giving consideration to business demands of such directors, officers, employees, other personnel and agents) or books, records or other documents may reasonably be required in

connection with any legal, administrative or other proceeding in which the requesting party may from time to time be involved, regardless of whether such legal, administrative or other proceeding is a matter with respect to which indemnification may be sought hereunder. The requesting party shall bear all costs and expenses in connection therewith.

Section 5.4 Auditors and Audits; Annual and Quarterly Statements and Accounting. For as long as Eaton is required in accordance with United States generally accepted accounting principles to consolidate Axcelis Technologies' results of operations and financial position:

(a) Selection of Auditors. Axcelis Technologies shall not select a different accounting firm from that used by Eaton in each respective country to serve as its (and its Subsidiaries') independent certified public accountants ("Axcelis Technologies' Auditors") for purposes of providing an opinion on its consolidated financial statements without Eaton's prior written consent (which shall not be unreasonably withheld).

(b) Date of Auditors' Opinion and Quarterly Reviews. Axcelis Technologies shall use its reasonable commercial efforts to enable Axcelis Technologies' Auditors to complete their audit such that they will date their opinion on Axcelis Technologies' audited annual financial statements on the same date that Eaton's independent certified public accountants ("Eaton's Auditors") date their opinion on Eaton's audited annual financial statements, and to enable Eaton to meet its timetable for the printing, filing and public dissemination of Eaton's annual financial statements. Axcelis Technologies shall use its reasonable commercial efforts to enable Axcelis Technologies' Auditors to complete their quarterly review procedures such that they will provide clearance on Axcelis Technologies' quarterly financial statements on the same date that Eaton's Auditors provide clearance on Eaton's quarterly financial statements.

(c) Annual and Quarterly Financial Statements. Axcelis Technologies shall provide to Eaton on a timely basis all information that Eaton reasonably requires to meet its schedule for the preparation, printing, filing and public dissemination of Eaton's annual and quarterly financial statements. Without limiting the generality of the foregoing, Axcelis Technologies will provide all required financial information with respect to Axcelis Technologies and its Subsidiaries to Axcelis Technologies' Auditors in a sufficient and reasonable time and in sufficient detail to permit Axcelis Technologies' Auditors to take all steps and perform all reviews necessary to provide sufficient assistance to Eaton's Auditors with respect to financial information to be included or contained in Eaton's annual and quarterly financial statements. Similarly, Eaton shall provide to Axcelis Technologies on a timely basis all financial information that Axcelis Technologies reasonably requires to meet its schedule for the preparation, printing, filing and public dissemination of Axcelis Technologies' annual and quarterly financial statements. Without limiting the generality of the foregoing, Eaton will provide all required financial information with respect to Eaton and its Subsidiaries to Eaton's Auditors in a sufficient and reasonable time and in sufficient detail to permit Eaton's Auditors to take all steps and perform all reviews necessary to provide sufficient assistance to Axcelis Technologies' Auditors with respect to information to be included or contained in Axcelis Technologies' annual and quarterly financial statements.

(d) Identity of Personnel Performing the Annual Audit and Quarterly Reviews. Axcelis Technologies shall authorize Axcelis Technologies' Auditors to make

available to Eaton's Auditors both the personnel who performed or will perform the annual audits and quarterly reviews of Axcelis Technologies and work papers related to the annual audits and quarterly reviews of Axcelis Technologies, in all cases within a reasonable time prior to Axcelis Technologies' Auditors' opinion date, so that Eaton's Auditors are able to perform the procedures they consider necessary to take responsibility for the work of Axcelis Technologies' Auditors as it relates to Eaton's Auditors' report on Eaton's financial statements, all within sufficient time to enable Eaton to meet its timetable for the printing, filing and public dissemination of Eaton's annual and quarterly statements. Similarly, Eaton shall authorize Eaton's Auditors to make available to Axcelis Technologies' Auditors both the personnel who performed or will perform the annual audits and quarterly reviews of Eaton and work papers related to the annual audits and quarterly reviews of Eaton, in all cases within a reasonable time prior to Eaton's Auditors' opinion date, so that Axcelis Technologies' Auditors are able to perform the procedures they consider necessary to take responsibility for the work of Eaton's Auditors as it relates to Axcelis Technologies' Auditors' report on Axcelis Technologies' statements, all within sufficient time to enable Axcelis Technologies to meet its timetable for the printing, filing and public dissemination of Axcelis Technologies' annual and quarterly financial statements.

(e) Access to Books and Records. Axcelis Technologies shall provide Eaton's internal auditors and their designees access to Axcelis Technologies' and its Subsidiaries' books and records so that Eaton may conduct reasonable audits relating to the financial statements provided by Axcelis Technologies pursuant hereto as well as to the internal accounting controls and operations of Axcelis Technologies and its Subsidiaries. Similarly, Eaton shall provide Axcelis Technologies' internal auditors and their designees access to Eaton's and its Subsidiaries' books and records so that Axcelis Technologies may conduct reasonable audits relating to the financial statements provided by Eaton pursuant hereto as well as to the internal accounting controls and operations of Eaton and its Subsidiaries.

(f) Notice of Change in Accounting Principles. Subsequent to the Distribution, Axcelis Technologies shall give Eaton as much prior notice as reasonably practical of any proposed determination of, or any significant changes in, its accounting estimates or accounting principles from those in effect prior to the Distribution. Axcelis Technologies will consult with Eaton and, if requested by Eaton, Axcelis Technologies will consult with Eaton's Auditors with respect thereto. Eaton shall give Axcelis Technologies as much prior notice as reasonably practical of any proposed determination of, or any significant changes in, its accounting estimates or accounting principles from those in effect on the Separation Date. Eaton will consult with Axcelis Technologies and, if requested by Axcelis Technologies, Eaton will consult with Axcelis Technologies' Auditors with respect thereto.

(g) Conflict with Third-Party Agreements. Nothing in this Section 5.4 shall require Eaton or Axcelis Technologies to violate any agreement with any third party regarding the confidentiality of confidential and proprietary information relating to that third party or its business; provided that in the event that Eaton or Axcelis Technologies is required under this Section 5.4 to disclose any such information, each of Eaton and Axcelis Technologies shall use commercially reasonable efforts to seek to obtain such third party's consent to the disclosure of such information.

Section 5.5 Consistency with Past Practices. At all times prior to the consummation of the IPO, Eaton and Axcelis Technologies will use commercially reasonable efforts to conduct the Axcelis Technologies Business in the ordinary course, consistent with past practices, except as otherwise contemplated in connection with the Separation.

Section 5.6 Payment of Expenses. Except as otherwise specifically provided to the contrary in any of the Ancillary Agreements, Axcelis Technologies shall be responsible, as determined by Eaton in its sole discretion, for third party costs and expenses incurred by the parties hereto in connection with the IPO (including without limitation discounts, commissions and reimbursable expenses of the Underwriters), and Eaton shall be responsible, as determined by Eaton in its sole discretion, for the balance of such fees, costs and expenses incurred in connection with this Agreement (including such fees, costs and expenses incurred solely in connection with the Distribution). Axcelis Technologies and Eaton shall each be responsible for their own internal costs and expenses incurred in connection with the Separation, the IPO and the Distribution.

Section 5.7 Foreign Subsidiaries. Eaton and Axcelis Technologies shall cause their applicable foreign subsidiaries to execute such local transfer agreements, assignments, assumptions, novations and other documents and to take such other actions as shall be necessary to carry out the Non-US Plan, a copy of which is attached hereto as Exhibit H (the "Non-US Plan"), to effect the purposes of this Agreement with respect to their respective operations outside the United States.

Section 5.8 Dispute Resolution.

(a) If a dispute, controversy or claim ("Dispute") arises between the parties relating to the interpretation or performance of this Agreement or the Ancillary Agreements, or the grounds for the termination hereof, appropriate senior executives of each party with authority to resolve the matter shall meet to attempt in good faith to negotiate a resolution of the Dispute prior to pursuing other available remedies. The initial meeting between the appropriate senior executives shall be referred to herein as the "Dispute Resolution Commencement Date". Discussions and correspondence relating to trying to resolve such Dispute shall be treated as confidential information developed for the purpose of settlement and shall be exempt from discovery or production and shall not be admissible in arbitration or litigation. If the senior executives are unable to resolve the Dispute within thirty (30) days from the Dispute Resolution Commencement Date, and either party wishes to pursue its rights relating to such Dispute, then the Dispute will be mediated by a mutually acceptable mediator selected by the parties within forty-five (45) days after written notice by one party to the other demanding non-binding mediation. Neither party may unreasonably withhold consent to the selection of a mediator or the location of the mediation. Both parties will share the costs of the mediation equally, except that each party shall bear its own costs and expenses, including attorneys' fees, witness fees, travel expenses, and preparation costs. The parties may also agree to replace mediation with some other form of non-binding or binding ADR.

(b) Any Dispute which the parties cannot resolve through mediation within ninety (90) days of the Dispute Resolution Commencement Date, unless otherwise mutually agreed, shall be submitted to final and binding arbitration under the then current Commercial

Arbitration Rules of the American Arbitration Association ("AAA"), by three (3) arbitrators in Cleveland, Ohio. Such arbitrators shall be selected by the mutual agreement of the parties or, failing such agreement, shall be selected according to the aforesaid AAA rules. The arbitrators will be instructed to prepare and deliver a written, reasoned opinion stating their decision within thirty (30) days of the completion of the arbitration. The prevailing party in such arbitration shall be entitled to its expenses, including costs and reasonable attorneys' and other professional fees, incurred in connection with the arbitration (but excluding any costs and fees associated with prior negotiation or mediation). The decision of the arbitrators shall be final and non-appealable and may be enforced in any court of competent jurisdiction. The use of any ADR procedures will not be construed under the doctrine of laches, waiver or estoppel to adversely affect the rights of either party.

(c) Any Dispute regarding the following is not required to be negotiated, mediated or arbitrated prior to seeking relief from a court of competent jurisdiction: breach of any obligation of confidentiality; infringement, misappropriation, or misuse of any intellectual property right; or any other claim where interim relief from the court is sought to prevent serious and irreparable injury to one of the parties or to others. However, the parties to the Dispute shall make a good faith effort to negotiate and mediate such Dispute, according to the procedures described above in paragraph (a), while such court action is pending.

(d) Continuity of Service and Performance. Unless otherwise agreed to in writing, the parties will continue to provide service and honor all other commitments under this Agreement and each Ancillary Agreement during the course of dispute resolution pursuant to the provisions of this Section 5.8 with respect to all matters not subject to such dispute, controversy or claim.

Section 5.9 Governmental Approvals. To the extent that the Separation, the IPO or the Distribution requires any Governmental Approvals, the parties will use their reasonable commercial efforts to obtain such Governmental Approvals.

Section 5.10 No Representation or Warranty. Unless specifically provided to the contrary in any agreement specifically covering any portion of the non-US operations of the Axcelis Technologies Business, Eaton does not, in this Agreement or any other agreement, instrument or document contemplated by this Agreement, make any representation as to, warranty of or covenant with respect to:

(a) the value of any asset or thing of value to be transferred to Axcelis Technologies;

(b) the freedom from encumbrance of any asset or thing of value to be transferred to Axcelis Technologies;

(c) the absence of defenses or freedom from counterclaims with respect to any claim to be transferred to Axcelis Technologies; or

(d) the legal sufficiency of any assignment, document or instrument delivered hereunder to convey title to any asset or thing of value upon its execution, delivery and filing.

Except as may expressly be set forth herein or in any Ancillary Agreement, all assets to be transferred to Axcelis Technologies shall be transferred "AS IS, WHERE IS," and Axcelis Technologies shall bear the economic and legal risk that any conveyance shall prove to be insufficient to vest in Axcelis Technologies good and marketable title, free and clear of any lien, claim, equity or other encumbrance.

Section 5.11 Non-Solicitation of Employees. Eaton and Axcelis Technologies shall not solicit or recruit, without the other party's express prior written consent, any of the other party's employees for a period of two (2) years following the Distribution Date. To the extent this prohibition is waived, any recruitment efforts by either Eaton or Axcelis Technologies during such two-year period shall be coordinated by each party's senior human resources executive or his or her designee and appropriate management. Notwithstanding the foregoing, this prohibition on solicitation does not apply to actions taken by a party solely as a result of: (a) an employee's affirmative response to a general recruitment effort carried out through a public or general solicitation, or (b) an employee's initiative.

Section 5.12 Cooperation in Obtaining New Agreements. Eaton understands that, prior to the Separation Date, Axcelis Technologies has derived benefits under certain agreements and relationships between Eaton and third parties, which agreements and relationships are not being assigned or transferred to Axcelis Technologies in connection with the Separation. Upon the request of Axcelis Technologies, Eaton will make introductions of appropriate Axcelis Technologies personnel to Eaton's contacts at such third parties, and will provide reasonable assistance to Axcelis Technologies, at Eaton's expense, so that Axcelis Technologies may enter into agreements or relationships with such third parties under substantially equivalent terms and conditions, including financial terms and conditions, that apply to Eaton. Such assistance may include, but is not limited to, (i) requesting and encouraging such third parties to enter into such agreements or relationships with Axcelis Technologies, (ii) attending meetings and negotiating sessions with Axcelis Technologies and such third parties, and (iii) participating in buying consortiums with Axcelis Technologies. Eaton also understands that certain agreements between Eaton and third parties which are being assigned to Axcelis Technologies in connection with the Separation may require the consent of the applicable third party. Eaton shall assist Axcelis Technologies in seeking and obtaining the consent of such third parties to such assignment. The parties expect that the activities contemplated by this Section 5.12 will be substantially completed by the Distribution Date, but in any event Eaton's obligations hereunder will terminate after the first anniversary of the Distribution Date.

Section 5.13 Property Damage to Axcelis Technologies Assets Prior to the Separation Date. In the event of any property damage, other than ordinary wear and tear, to any Axcelis Technologies Assets held by Eaton which occurs prior to the Separation Date, Eaton shall repair or otherwise address such damage in the ordinary course of business consistent with past practices; provided, however, that nothing in this clause shall restrict Eaton from disposing of any Assets in the ordinary course of business consistent with past practices.

ARTICLE VI
MISCELLANEOUS

Section 6.1 Limitation of Liability. EXCEPT TO THE EXTENT, IF ANY, SPECIFICALLY PROVIDED TO THE CONTRARY HEREIN OR IN ANY ANCILLARY AGREEMENT, IN NO EVENT SHALL ANY MEMBER OF THE EATON GROUP OR THE AXCELIS TECHNOLOGIES GROUP BE LIABLE TO ANY OTHER MEMBER OF THE EATON GROUP OR THE AXCELIS TECHNOLOGIES GROUP FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT, INCIDENTAL OR PUNITIVE DAMAGES OR LOST PROFITS, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY (INCLUDING NEGLIGENCE), ARISING IN ANY WAY OUT OF THIS AGREEMENT OR ANY ANCILLARY AGREEMENT, WHETHER OR NOT SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES; PROVIDED THAT THE FOREGOING LIMITATIONS SHALL NOT LIMIT EITHER PARTY'S INDEMNIFICATION OBLIGATIONS FOR LIABILITIES AS SET FORTH IN THE INDEMNIFICATION AND INSURANCE MATTERS AGREEMENT.

Section 6.2 Governing Law. This Agreement and the Ancillary Agreements (except to the extent that a mandatory rule of law which governs any matter contemplated by the Non-US Plan otherwise provides) shall be construed in accordance with, and all Disputes hereunder or thereunder shall be governed by, the local laws of the State of Ohio, excluding its conflict of law rules. The United States District Court for the Northern District of Ohio shall have jurisdiction and venue over, and shall be the sole court used by the parties to initiate resolution of, all Disputes between the parties hereto and to the Ancillary Agreements.

Section 6.3 Termination. This Agreement and all Ancillary Agreements may be terminated and the IPO abandoned, or the IPO may be delayed, at any time prior to the IPO Closing by and in the sole discretion of Eaton without the consent of Axcelis Technologies. This Agreement or any of the Ancillary Agreements may be terminated at any time after the IPO Closing and before the Distribution Date by mutual consent of Eaton and Axcelis Technologies. In the event of termination pursuant to this Section 6.3, no party shall have any liability of any kind to the other party.

Section 6.4 Notices. Notices, offers, instructions, consents, requests or other communications required or permitted to be given by either party pursuant to the terms of this Agreement or any Ancillary Agreement shall be given in writing to the respective parties to the following addresses:

if to Eaton:

Office of the Secretary
Eaton Corporation
Eaton Center
1111 Superior Avenue
Cleveland, Ohio 44114
Fax: (216) 479-7103

if to Axcelis Technologies:

Chief Executive Officer
Axcelis Technologies, Inc.
55 Cherry Hill Drive
Beverly, Massachusetts 01915
Fax: (978) 232-4221

or to such other address as the party to whom notice is given may have previously furnished to the other in writing as provided herein. Any notice involving non-performance, termination, or renewal shall be sent by hand delivery, recognized overnight courier or, within the United States, may also be sent via certified mail, return receipt requested. All other notices may also be sent by fax, confirmed by first class mail. All notices shall be deemed to have been given and received on the earlier of actual delivery or three (3) days from the date of postmark.

Section 6.5 Counterparts. This Agreement and the Ancillary Agreements will be executed in counterparts, each of which shall be deemed to be an original but all of which shall constitute one and the same agreement.

Section 6.6 Binding Effect; Assignment. This Agreement and the Ancillary Agreements shall inure to the benefit of and be binding upon the parties hereto and their respective successors and permitted assigns. This Agreement may be enforced separately by each member of the Eaton Group and each member of the Axcelis Technologies Group. Neither party may assign this Agreement or any Ancillary Agreement or any rights or obligations hereunder or thereunder in whole or in part without the prior written consent of the other party, which consent shall not be unreasonably withheld, and any assignment without such consent shall be void. No permitted assignment of any rights or obligations hereunder or in any Ancillary Agreement, in whole or in part, by operation of law or otherwise, will release the assigning party as the obligor, jointly and severally with the assignee, from any of its obligations hereunder or in any Ancillary Agreement.

Section 6.7 Severability. If any term or other provision of this Agreement or any Ancillary Agreement is determined by a court, administrative agency or arbitrator to be invalid, illegal or incapable of being enforced by any rule of law or public policy, all other conditions and provisions of this Agreement or any Ancillary Agreement shall nevertheless remain in full force and effect. Upon such determination that any term or other provision is invalid, illegal or incapable of being enforced, the parties hereto shall negotiate in good faith to modify this Agreement or such Ancillary Agreement so as to effect the original intent of the parties as closely as possible in an acceptable manner to the end that the transactions contemplated hereby or in such Ancillary Agreement are fulfilled to the fullest extent possible.

Section 6.8 Failure or Indulgence Not Waiver; Remedies Cumulative. Any provision of this Agreement or any Ancillary Agreement or any breach thereof may only be waived if done specifically and in writing by the party that is entitled to the benefits thereof. No failure or delay on the part of either party hereto or thereto in the exercise of any right hereunder or thereunder shall impair such right or be construed to be a waiver of, or acquiescence in, any breach of any representation, warranty or agreement herein or therein, nor shall any single or partial exercise of any such right preclude other or further exercise thereof or of any other right. All rights and

remedies existing under this Agreement or the Ancillary Agreements are cumulative to, and not exclusive of, any rights or remedies otherwise available.

Section 6.9 Entire Agreement; Amendment. This Agreement and the Ancillary Agreements constitute the sole and entire understanding of the parties with respect to the matters contemplated hereby and thereby and supersede and render null and void all prior negotiations, representations, agreements and understandings (oral and written) between the parties with respect to such matters. No change or amendment may be made to this Agreement or any Ancillary Agreement except by an instrument in writing signed by each of the parties thereto.

Section 6.10 Authority. Each of the parties hereto represents to the other that (a) it has the corporate or other requisite power and authority to execute, deliver and perform this Agreement and the Ancillary Agreements, (b) the execution, delivery and performance of this Agreement and the Ancillary Agreements by it have been duly authorized by all necessary corporate or other actions, (c) it has duly and validly executed and delivered this Agreement and the Ancillary Agreements, and (d) this Agreement and each of the Ancillary Agreements constitutes a legal, valid and binding obligation, enforceable against it in accordance with its terms subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditors' rights generally and subject to general equity principles.

Section 6.11 Interpretation. The headings contained in this Agreement and the Ancillary Agreements and in the tables of contents to this Agreement and the Ancillary Agreements are for reference purposes only and shall not affect in any way the meaning or interpretation hereof or thereof. Any capitalized term used in any Exhibit or Schedule to this Agreement or any Ancillary Agreement but not otherwise defined therein shall have the meaning assigned to such term in this Agreement. When a reference is made in this Agreement to an Article or a Section, Exhibit or Schedule, such reference shall be to an Article or Section of, or an Exhibit or Schedule to, this Agreement unless otherwise indicated. The language used in this Agreement and in any Ancillary Agreement will be deemed to be the language chosen by the parties hereto to express their mutual intent and agreement, and no rule of strict construction or canons or aids in interpretation will be applied against either party.

Section 6.12 Conflicting Agreements. In the event of conflict between this Agreement and any Ancillary Agreement or other document executed in connection herewith, unless otherwise specifically provided in this Agreement, the provisions of such Ancillary Agreement or document shall prevail.

Section 6.13 Public Announcements. Through the Distribution Date, Eaton shall determine the contents of all press releases relating to any matters contemplated by this Agreement or any of the Ancillary Agreements, including without limitation the Separation, the IPO and the Distribution, to be issued by either of the parties, after consultation with Axcelis Technologies, including without limitation any termination of this Agreement for any reason, and such press releases shall be consistent with the respective disclosure obligations of the parties.

Section 6.14 Subsequent Legal Fees. In the event that any arbitration or litigation is initiated to interpret or enforce the terms and provisions of this Agreement or any Ancillary

Agreement, the party prevailing in said action shall be entitled to its reasonable attorneys' fees and costs and shall be paid same in full by the losing party promptly upon demand by the prevailing party. A party may also include its claim for such fees and costs in such arbitration or litigation.

Section 6.15 No Third-Party Beneficiaries or Right to Rely.

Notwithstanding anything to the contrary in this Agreement or any Ancillary Agreement, (a) nothing in this Agreement or any Ancillary Agreement is intended to or shall create for or grant to any third Person any rights or remedies whatever, as a third party beneficiary or otherwise; (b) no third Person is entitled to rely on any of the representations, warranties, covenants or agreements contained herein or in any Ancillary Agreement; and (c) no party hereto or to any Ancillary Agreement shall incur any liability or obligation to any third Person because of any reliance by such third Person on any representation, warranty, covenant or agreement herein or in any Ancillary Agreement.

ARTICLE VII

DEFINITIONS

Section 7.1 Affiliated Company. "Affiliated Company" of any Person means any entity that controls, is controlled by or is under common control with such Person. As used herein, "control" means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such entity, whether through ownership of voting securities or other interests, by contract or otherwise.

Section 7.2 Assets. "Assets" has the meaning set forth for such term in Article IV of the Assignment Agreement.

Section 7.3 Axcelis Technologies Assets. "Axcelis Technologies Assets" has the meaning set forth in Section 1.2 of the Assignment Agreement.

Section 7.4 Axcelis Technologies Group. "Axcelis Technologies Group" means Axcelis Technologies, each Subsidiary and Affiliated Company of Axcelis Technologies immediately after the Separation Date or that is contemplated to be a Subsidiary or Affiliated Company of Axcelis Technologies pursuant to the Non-US Plan and each Person (other than any member of the Axcelis Technologies Group) that becomes a Subsidiary or Affiliated Company of Axcelis Technologies after the Separation Date.

Section 7.5 Eaton Group. "Eaton Group" means Eaton, each Subsidiary and Affiliated Company of Eaton (other than any member of the Axcelis Technologies Group) immediately after the Separation Date, after giving effect to the Non-US Plan, and each Person that becomes a Subsidiary or Affiliated Company of Eaton after the Separation Date.

Section 7.6 Governmental Approvals. "Governmental Approvals" means any notices, reports or other filings to be made to, or any consents, registrations, approvals, permits or authorizations to be obtained from, any Governmental Authority.

Section 7.7 Governmental Authority. "Governmental Authority" shall mean any federal, state, local, foreign or international court, government, department, commission, board, bureau, agency, official or other regulatory, administrative or governmental authority.

Section 7.8 Information. "Information" means information, whether or not patentable or copyrightable, in written, oral, electronic or other tangible or intangible forms, stored in any medium, including studies, reports, records, books, contracts, instruments, surveys, discoveries, ideas, concepts, know-how, techniques, designs, specifications, drawings, blueprints, diagrams, models, prototypes, samples, flow charts, data, computer data, disks, diskettes, tapes, computer programs or other software, marketing plans, customer names, communications by or to attorneys (including attorney-client privileged communications), memos and other materials prepared by attorneys or under their direction (including attorney work product), and any other technical, financial, employee or business information or data.

Section 7.9 IPO Closing. "IPO Closing" means the consummation of the IPO by Axcelis in accordance with this Agreement and the Underwriting Agreement, including without limitation its delivery of Axcelis common stock to, in return for cash from, the Underwriters.

Section 7.10 IPO Closing Date. "IPO Closing Date" means the date of the IPO Closing.

Section 7.11 Liabilities. "Liabilities" has the meaning set forth for such term in Article IV of the Assignment Agreement

Section 7.12 Person. "Person" means any individual, partnership, corporation, limited liability company, association, joint stock company, trust, joint venture, unincorporated organization or governmental entity or any department, agency or political subdivision thereof.

Section 7.13 Subsidiary. "Subsidiary" of any Person means a corporation or other organization, whether incorporated or unincorporated, of which at least a majority of the securities or interests having by the terms thereof ordinary voting power to elect at least a majority of the board of directors or others performing similar functions with respect to such corporation or other organization is directly or indirectly owned or controlled by such Person and/or by any one or more of its Subsidiaries; provided that no Person that is not directly or indirectly wholly-owned by any other Person shall be a Subsidiary of such other Person unless such other Person controls, or has the right, power or ability to control, that Person.

WHEREFORE, each of the parties hereto, by its duly authorized officers or representatives, has caused this Agreement to be executed on its behalf on the date first above written.

ATTEST : AXCELIS TECHNOLOGIES, INC.
By: _____ By: _____
Name: _____ Name: _____
Title: _____ Title: _____

ATTEST: EATON CORPORATION
By: _____ By: _____
Name: _____ Name: _____
Title: _____ Title: _____

EXHIBITS

- Exhibit A General Assignment and Assumption Agreement
- Exhibit B Trademark License Agreement
- Exhibit C Employee Matters Agreement
- Exhibit D Tax Sharing and Indemnification Agreement
- Exhibit E Transitional Services Agreement
- Exhibit F Real Estate Matters Agreement
- Exhibit G Indemnification and Insurance Matters Agreement
- Exhibit H Non-US Plan

[Exhibits A through G omitted. The registrant hereby agrees to furnish supplementally, upon request, a copy of any omitted Exhibit to this agreement.]

EXHIBIT H
NON-US PLAN

EXHIBIT H

AXCELIS TECHNOLOGIES, INC.

NON-U.S. PLAN

This document describes, by jurisdiction, the transfers of assets and liabilities between various foreign subsidiaries of Eaton Corporation ("Eaton") and various foreign subsidiaries of Axcelis Technologies, Inc. ("Axcelis Technologies") that will occur as part of the separation of the Axcelis Technologies business from Eaton.

France

On the Separation Date or as soon as practicable thereafter, Axcelis Technologies Sarl, a newly formed wholly owned subsidiary of Fusion Technology International Inc. ("Fusion International"), will acquire the assets and assume the liabilities of the Ion Beam Systems Division of Eaton Technologies S.A. for cash in an amount equal to the agreed fair market value as of the Separation Date.

Italy

On the Separation Date or as soon as practicable thereafter, Axcelis Technologies Srl, a newly formed wholly owned subsidiary of Fusion International, will acquire the assets and assume the liabilities of the SED Agrate-Italy Division of Eaton Automotive Srl for cash in an amount equal to the agreed fair market value as of the Separation Date.

Germany

On the Separation Date or as soon as practicable thereafter, Axcelis Technologies GmbH, a newly formed wholly owned subsidiary of Fusion International, will acquire the assets and assume the liabilities of the Ion Beam Systems Division of Eaton GmbH and the Fusion Germany Division of Eaton GmbH for cash in an amount equal to the agreed fair market value as of the Separation Date.

United Kingdom

On the Separation Date or as soon as practicable thereafter, Axcelis Technologies Limited, a wholly owned subsidiary of Fusion International, will acquire the assets and assume the liabilities of the Ion Beam Systems Division of Eaton Limited for cash in an amount equal to the agreed fair market value as of the Separation Date.

Taiwan

As soon as practicable after the Separation Date, Axcelis Technologies will cause Fusion International to form a wholly owned subsidiary in Taiwan ("Axcelis Taiwan"). Axcelis Taiwan will agree to acquire certain assets and liabilities of the SED Taiwan Division of Eaton Limited and the Fusion Taiwan Division of Eaton Limited for cash in an amount equal to the agreed fair market value as of the Separation Date. Axcelis Technologies and Eaton will enter into an agreement pursuant to which Eaton will cause Eaton Limited to operate the business of the SED Taiwan Division of Eaton Limited and the Fusion Taiwan Division of Eaton Limited for the benefit of Axcelis Technologies between the Separation Date and the consummation of such transactions. The consummation of such transactions will occur as soon as commercially practicable subject to Taiwan business and legal requirements, but in any event no later than the date of the consummation of the divestiture of Axcelis Technologies.

South Korea

On the Separation Date or as soon as practicable thereafter, Eaton Semiconductor Ltd., a wholly owned subsidiary of Axcelis Technologies, will sell that certain land and a building located in South Korea and used in connection with the Axcelis Technologies business to Eaton Ltd. for cash in an amount equal to the appraised fair market value of such assets as of the Separation Date. Eaton Ltd. will agree to lease to Eaton Semiconductor Ltd. for a rental equal to the fair rental value that portion of the premises currently used by the semiconductor equipment operations of Eaton Semiconductor Ltd. for an agreed period after the Separation Date.

India

On the Separation Date or as soon as practicable thereafter, Implant Systems India will sell its assets which are unrelated to the Axcelis Technologies business to Eaton Industries Pvt Ltd. for cash in an amount equal to the agreed fair market value of the assets.

Consent of Independent Auditors

We consent to the reference to our firm under the captions "Summary Historical Financial Data," "Selected Historical Combined Financial Data," and "Experts," and to the use of our report dated May 3, 2000, in Amendment No. 2 to the Registration Statement (Form S-1 No. 333-36330) and related Prospectus of Axcelis Technologies, Inc. for the registration of shares of its common stock.

Cleveland, Ohio
June 16, 2000

/s/ Ernst and Young LLP