UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2004

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

For the transition period from to

Commission file number 000-30941

AXCELIS TECHNOLOGIES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**34-1818596**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

108 Cherry Hill Drive
Beverly, Massachusetts 01915
(Address of principal executive offices, including zip code)

(978) 787-4000
(Registrant's telephone number, including area code)

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

Title of class	Name of each exchange on which registered
None	**None**

Securities registered pursuant to Section 12(g) of the Act:
Common Stock, $.001 par value
Preferred Share Purchase Rights

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

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

As of August 4, 2004 there were 99,949,743 shares of the registrant's common stock outstanding.

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PART 1. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

AXCELIS TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amounts)
(Unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2004	2003	2004	2003
Revenue				
Systems	$ 106,834	$ 53,910	$ 198,590	$ 106,477
Services	41,178	30,761	80,270	60,599
Royalties, primarily Sumitomo Eaton Nova Corporation	3,336	1,258	6,713	3,023
	151,348	85,929	285,573	170,099
Cost of revenue	82,948	57,655	166,997	112,385
Gross profit	68,400	28,274	118,576	57,714
Operating expenses				
Research & development	15,927	15,927	31,364	32,103
Selling	12,836	11,509	24,435	23,607
General & administrative	11,607	9,099	22,702	19,542
Amortization of intangible assets	612	365	1,224	730
	40,982	36,900	79,725	75,982
Income (loss) from operations	27,418	(8,626)	38,851	(18,268)
Other income (expense)				
Equity income of Sumitomo Eaton Nova Corporation	7,578	1,298	13,147	4,493
Interest income	338	523	634	1,054
Interest expense	(1,702)	(1,571)	(3,374)	(3,111)
Other—net	(55)	(557)	(646)	(678)
	6,159	(307)	9,761	1,758
Income (loss) before income taxes	33,577	(8,933)	48,612	(16,510)
Income taxes (credit)	(894)	69,945	560	68,694
Net income (loss)	$ 34,471	$ (78,878)	$ 48,052	$ (85,204)
Basic net income (loss) per share	$ 0.35	$ (0.80)	$ 0.48	$ (0.87)

Diluted net income (loss) per share	0.33	(0.80)	0.47	(0.87)
Shares used in computing				
Basic net income (loss) per share	99,286	98,289	99,247	98,284
Diluted net income (loss) per share	107,763	98,289	107,724	98,284

See accompanying Notes to Consolidated Financial Statements

AXCELIS TECHNOLOGIES, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except per share amounts)
(Unaudited)

	June 30, 2004	December 31, 2003
ASSETS		
Current assets		
Cash & cash equivalents	$ 139,095	$ 93,249
Restricted cash	3,370	3,800
Short-term investments	18,616	14,972
Accounts receivable, net	106,756	73,751
Inventories	122,259	123,985
Other current assets	16,356	20,102
Total current assets	406,452	329,859
Property, plant & equipment, net	77,604	80,927
Investment in Sumitomo Eaton Nova Corporation	85,455	73,327
Goodwill	46,773	46,774
Intangible assets	18,895	20,119
Restricted cash, long-term portion	2,616	2,616
Other assets	27,783	31,973
	$ 665,578	$ 585,595
LIABILITIES AND STOCKHOLDERS’ EQUITY		
Current liabilities		
Accounts payable	$ 40,731	$ 36,335
Accrued compensation	19,224	15,061
Warranty	15,762	17,000
Income taxes	5,694	7,109
Deferred revenue	30,923	14,441
Other current liabilities	14,218	11,925
Total current liabilities	126,552	101,871
Long-term debt	125,000	125,000
Other long-term liabilities	10,683	5,474
Stockholders’ equity		
Preferred stock	—	—
Common stock	100	99
Additional paid-in capital	454,550	451,389
Deferred compensation	(590)	(811)
Treasury stock	(1,218)	(1,218)
Retained earnings deficit	(53,455)	(101,507)
Accumulated other comprehensive income	3,956	5,298
	403,343	353,250
	$ 665,578	$ 585,595

See accompanying Notes to Consolidated Financial Statements

AXCELIS TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Six months ended June30,	
	2004	2003
Operating activities		

Net income (loss)	$ 48,052	$ (85,204)
Adjustments required to reconcile net income (loss) to net cash provided by (used for) operating activities		
Depreciation and amortization	10,006	11,712
Amortization of intangible assets	1,224	730
Stock compensation expense, net of forfeitures	133	85
Undistributed income of Sumitomo Eaton Nova Corporation	(13,147)	(4,493)
Deferred income taxes	—	73,685
Changes in operating assets & liabilities		
Accounts receivable	(33,151)	(9,900)
Inventories	1,219	6,243
Other current assets	(2,669)	(3,106)
Accounts payable & other current liabilities	9,641	(7,816)
Deferred revenue	21,508	—
Income taxes	(1,415)	(5,340)
Other assets and liabilities	(343)	(6,875)
Other—net	—	(1,777)
Net cash provided by (used for) operating activities	41,058	(32,056)
Investing activities		
Purchases of short-term investments, net	(3,644)	(1,934)
Proceeds from sale of building	5,958	—
Expenditures for property, plant & equipment	(1,995)	(2,170)
Decrease in restricted cash	430	135
Other-net	—	75
Net cash provided by (used for) investing activities	749	(3,894)
Financing activities		
Proceeds from the exercise of stock options	1,310	—
Proceeds from employee stock purchase plan	2,436	2,147
Net cash provided by financing activities	3,746	2,147
Effect of exchange rate changes on cash	293	(91)
Net increase (decrease) in cash & cash equivalents	45,846	(33,894)
Cash & cash equivalents at beginning of period	93,249	146,298
Cash & cash equivalents at end of period	$ 139,095	$ 112,404

See accompanying Notes to Consolidated Financial Statements

AXCELIS TECHNOLOGIES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)
(In thousands, except per share amounts)

Note 1. Nature of Business and Basis of Presentation

Axcelis Technologies, Inc. ("Axcelis" or the "Company"), is a worldwide producer of ion implantation, dry strip, rapid thermal processing and photostabilization equipment used in the fabrication of semiconductors in the United States, Europe and Asia. In addition, the Company provides extensive aftermarket service and support, including spare parts, equipment upgrades, and maintenance services. The Company owns 50% of the equity of a joint venture with Sumitomo Heavy Industries, Ltd. in Japan. This joint venture, which is known as Sumitomo Eaton Nova Corporation, or SEN, licenses technology from the Company relating to the manufacture of ion implantation products and has exclusive rights to manufacture and sell these products to the territory of Japan. SEN is the leading producer of ion implantation equipment in Japan.

The accompanying unaudited consolidated financial statements have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments which are of a normal recurring nature (except for adjustments to record a valuation allowance for deferred tax assets in 2003 and to record the reversal of income taxes payable in 2004 (see Note 9) and to reflect a change in estimate relating to unfunded pension liabilities and other benefit claims in 2003 (see Note 10)), considered necessary for a fair presentation have been included. Operating results for the interim periods presented are not necessarily indicative of the results that may be expected for other interim periods or for the year as a whole.

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

The balance sheet at December 31, 2003 has been derived from the audited financial statements at that date but does not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. For further information, refer to the consolidated financial statements and footnotes thereto included in Axcelis Technologies, Inc.'s annual report on Form 10-K for the year ended December 31, 2003.

Note 2. Revenue Recognition

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

For revenue arrangements prior to July 1, 2003 Axcelis generally recognized the full sale price at the time of shipment to the customer. The costs of system installation at the customer's site were accrued at the time of shipment for installation and acceptance testing performance obligations incurred at the time of sale. The Company recognized the full sales price at the time of shipment as management believes that the customer's post delivery acceptance provisions and installation process were established to be routine, commercially inconsequential and perfunctory because the process was a replication of the pre-shipment procedures. Also, customer payment terms typically provide that the majority of the purchase price is payable upon shipment. Terms do generally contain delayed payment arrangements for a portion of the purchase price, which are typically time-based.

In November 2002, the Financial Accounting Standards Board's Emerging Issues Task Force reached a consensus on Issue No. 00-21, "Accounting for Revenue Arrangements with Multiple Deliverables" ("EITF 00-21"). This issue addresses determination of whether an arrangement involving more than one deliverable contains more than one unit of accounting and how the arrangement consideration should be measured and allocated to the separate units of accounting. EITF 00-21 became effective for revenue arrangements entered into in periods beginning after June 15, 2003. For revenue arrangements occurring

on or after July 1, 2003, the Company has revised its revenue recognition policy to comply with the provisions of EITF 00-21.

In December 2003, the Securities and Exchange Commission ("SEC") issued Staff Accounting Bulletin No. 104 ("SAB 104"), "Revenue Recognition." SAB 104 supersedes Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements ("SAB 101"). SAB 104's primary purpose is to rescind accounting guidance contained in SAB 101 related to multiple element revenue arrangements, superseded as a result of the issuance of EITF 00-21. Additionally, SAB 104 rescinds the SEC's Revenue Recognition in Financial Statements Frequently Asked Questions and Answers ("the FAQ") issued with SAB 101 that had been codified in SEC Topic 13, Revenue Recognition. Selected portions of the FAQ have been incorporated into SAB 104. While the wording of SAB 104 has changed to reflect the issuance of EITF 00-21, the revenue recognition principles of SAB 101 remain largely unchanged by the issuance of SAB 104. As a result, the adoption of this pronouncement did not have any impact on the Company's consolidated financial statements.

Axcelis' revenue transactions include sales of systems under multiple element arrangements. Revenue under these arrangements is allocated to each element, except systems, based upon its estimated fair market value. The amount of revenue allocated to systems is calculated on a residual method. Under this method, the total value of the arrangement is allocated first to the undelivered elements, with the residual amount being allocated to systems revenue. The value of the undelivered elements includes (a) the greater of (i) the fair value of the installation or (ii) the portion of the sales price that will not be received until the installation is completed (the "retention") plus (b) the fair value of all other undelivered elements. The amount allocated to installation is based upon hourly rates and the estimated time to complete the service. The fair value of all other undelivered elements is based upon the price charged when these elements are sold separately. System revenue is generally recognized upon shipment provided title and risk of loss has passed to the customer, evidence of an arrangement exists, fees are contractually fixed or determinable, collectibility is reasonably assured through historical collection results and regular credit evaluations, and there are no uncertainties regarding customer acceptance. Revenue for installation services is recognized at the time of customer acceptance. Revenue for other elements is recognized at the time products are shipped or the related services are performed.

Management continues to believe recognition of systems revenue at the time of shipment is appropriate because 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, many customers request that newer systems are to be tested at Axcelis' facilities prior to shipment, normally with the customer present, under conditions that substantially replicate the customer's production environment and the customer's criteria are confirmed to have been met. Customers for mature products generally do not require pre-shipment testing. 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.

In the small number of instances where Axcelis is unsure of meeting the customer's specifications or obtaining customer acceptance upon shipment of the system or for initial shipments of systems with new technologies, Axcelis will defer the recognition of systems revenue until written customer acceptance of the system. This deferral period is generally within twelve months of shipment.

Service revenue includes revenue from spare parts, equipment upgrades and maintenance services. Revenue related to maintenance and service contracts is recognized ratably over the duration of the contracts. Revenue related to time and material services is recorded when the services are performed. Revenue related to spare parts sales is recognized upon the later of shipment or when the title and risk of loss passes to the customer.

Note 3. Net Income (Loss) Per Share

Statement of Financial Accounting Standards ("SFAS") No. 128, "Earnings Per Share," requires two presentations of earnings per share, "basic" and "diluted." Basic earnings per share is computed by dividing income available to common stockholders (the numerator) by the weighted-average number of common shares outstanding (the denominator) for the period. The computation of diluted earnings per share includes the number of additional common shares that would have been outstanding if potentially dilutive common shares had been issued. A reconciliation of net income and shares used in computing basic and diluted earnings per share follows:

	Three Months Ended June 30, 2004			Six Months Ended June 30, 2004		
	Income (numerator)	Shares (denominator)	Per Share Amount	Income (numerator)	Shares (denominator)	Per Share Amount
Basic EPS						
Income available to common stockholders	$ 34,471	99,286	$ 0.35	$ 48,052	99,247	$ 0.48
Effect of Diliutive Securities						
Options		2,227			2,227	

	Income (numerator)	Shares (denominator)	Per Share Amount	Income (numerator)	Shares (denominator)	Per Share Amount
Convertible bonds		6,250			6,250	
Interest on convertible bonds, net of tax	1,448			2,897		
Diluted EPS						
Income available to common stockholders adjusted for options and conversion of bonds	$ 35,919	107,763	$ 0.33	$ 50,949	107,724	$ 0.47

	Three Months Ended June 30, 2003			Six Months Ended June 30, 2003		
	Income (numerator)	Shares (denominator)	Per Share Amount	Income (numerator)	Shares (denominator)	Per Share Amount
Basic EPS						
Income available to common stockholders	$ (78,878)	98,289	$ (0.80)	$ (85,204)	98,284	$ (0.87)
Effect of Dilutive Securities	—	—	—	—	—	—
Diluted EPS						
Income available to common stockholders adjusted for options and conversion of bonds	$ (78,878)	98,289	$ (0.80)	$ (85,204)	98,284	$ (0.87)

The Company has excluded 6,511 and 6,514 of common stock equivalents attributable to outstanding stock options and restricted stock, computed using the treasury stock method, and conversion of the notes, computed using the if converted method, from the computation of diluted earnings per share for the three and six months ended June 30, 2003, respectively, because they were not dilutive.

Note 4. Comprehensive Income (Loss)

The components of comprehensive income (loss) follow:

	Three months ended June 30,		Six months ended June 30,	
	2004	2003	2004	2003
Net income (loss)	$ 34,471	$ (78,878)	$ 48,052	$ (85,204)
Foreign currency translation adjustments	(4,076)	803	(1,342)	1,199
Comprehensive income (loss)	$ 30,395	$ (78,075)	$ 46,710	$ (84,005)

Note 5. Inventories

The components of inventories follow:

	June 30, 2004	December 31, 2003
Raw materials	$ 82,954	$ 84,773
Work-in-process	32,751	32,292
Finished goods	6,554	6,920
	$ 122,259	$ 123,985

Note 6. Restructuring

In 2003 the Company recorded a restructuring charge of $4.9 million related to severance and other benefits associated with reduction in force actions, which reduced headcount by approximately 200 permanent positions. At June 30, 2004, $4.7 million had been paid, of which $0.3 million was paid in the second quarter of 2004 and $0.7 million was paid during the six months ended June 30, 2004. The remaining balance of $0.2 million is expected to be paid by the end of the third quarter of 2004.

Note 7. Product Warranty and Installation

The Company offers a one to three year warranty for all of its products, the terms and conditions of which vary depending upon the product sold. Prior to July 1, 2003, the Company estimated the warranty and product installation costs that may be incurred and recorded a liability in the amount of such costs at the time product revenue was recognized. Subsequent to July 1, 2003, in connection with the change in its revenue recognition policy (see Revenue Recognition), the Company no longer accrues the estimated costs of its installation but defers the revenue related to the greater of the fair value of the installation services or the amount of revenue that is contingent upon the completion of the installation services. Factors that affect the Company's determination of warranty and installation liability include the number of installed units, historical and anticipated product failure rates, material usage and service labor costs. The Company periodically assesses the adequacy of its recorded warranty liability and adjusts the amount as necessary.

Changes in the Company's product warranty and installation liability are as follows:

	2004	2003
Balance at December 31	$ 17,000	$ 16,625
Warranties and installations issued during the period	13,526	12,875
Settlements made during the period	(15,014)	(12,949)
Changes in liability for pre-existing warranties and installation during the period	250	(1,603)

Balance as of June 30	$ 15,762	$ 14,948

Note 8. Stock-Based Compensation

As permitted under Statement of Financial Accounting Standards (SFAS) No. 123, “Accounting for Stock-Based Compensation,” as amended by SFAS No. 148, “Accounting for Stock-Based Compensation Transition and Disclosure,” Axcelis has elected to follow the provisions of Accounting Principles Board (APB) No. 25, “Accounting for Stock Issued to Employees,” to account for stock-based awards to employees. Under APB No. 25, compensation expense with respect to such awards is not recognized, if on the date the awards were granted, the exercise price was not less than the market value of the common shares.

As required by SFAS No. 123 the following pro forma information is presented as if Axcelis had accounted for stock-based awards to its employees granted subsequent to 1995 under the fair value method. The fair values of the options granted and shares purchased under the Employee Stock Purchase Plan have been estimated at the date of grant using the Black-Scholes options valuation model. The Black-Scholes options valuation model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions, including the expected stock price volatility. Because Axcelis’ options have

characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in the opinion of management, the existing models do not necessarily provide a reliable single measure of the fair value of the Company’s options.

For purposes of the following pro forma information, the estimated fair values of the options are assumed to be amortized to expense over the options’ vesting periods.

	Three months ended June 30,		Six months ended June 30,	
	2004	2003	2004	2003
Net income (loss)	$ 34,471	$ (78,878)	$ 48,052	$ (85,204)
Deduct: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	(6,070)	(4,178)	(10,394)	(9,364)
Pro forma net income (loss)	$ 28,401	$ (83,056)	$ 37,658	$ (94,568)
Net income (loss) per share				
Basic – as reported	$ 0.35	$ (0.80)	$ 0.48	$ (0.87)
Basic – pro forma	0.29	(0.85)	0.38	(0.96)
Diluted – as reported	$ 0.33	$ (0.80)	$ 0.47	$ (0.87)
Diluted – pro forma	0.28	(0.85)	0.37	(0.96)

Note 9. Income Taxes

The Company has deferred tax assets resulting from tax credit carryforwards, net operating losses and other deductible temporary differences, which are available to reduce taxable income in future periods. The aggregate amount of deferred tax assets before valuation allowance was $91.6 million at December 31, 2003. SFAS No. 109, “Accounting for Income Taxes,” requires that a valuation allowance be established when it is “more likely than not” that all or a portion of deferred tax assets will not be realized. A review of all available positive and negative evidence needs to be considered, including a company’s performance, the market environment in which the Company operates, length of carryback and carryforward periods, existing sales backlog and projections of future operating results. Where there are cumulative losses in recent years, SFAS No. 109 creates a strong presumption that a valuation allowance is needed. This presumption can be overcome in very limited circumstances.

As of March 31, 2003 and December 31, 2002, the Company’s evaluation of the realization of these assets was based upon evidence of cumulative historical profitability and estimates of future taxable income. The Company was profitable in year 2000 but was not profitable in years 2001 and 2002. Projections of future earnings were based on revenue assumptions consistent with industry forecasts for the next three years along with the necessary operating expenses to support the Company’s revenue assumptions. Based on these projections, the Company estimated that the loss carryforwards would be fully utilized. During the second quarter of 2003, the Company entered a three year cumulative loss position and revised its projections of the amount and timing of future earnings. Due to these factors as well as the uncertainty of the amount and timing of profitability in future periods, the Company increased its valuation allowance by $69.7 million to record a full valuation allowance for all future tax benefits during the second quarter of 2003.

The Company expects to record a full valuation allowance on future tax benefits until it can sustain an appropriate level of profitability and until such time, the Company would not expect to recognize such future tax benefits in its future results of operations. However, going forward, if there is sufficient evidence, in accordance with the provisions of SFAS No. 109, to support the ultimate realization of income tax benefits attributable to net operating losses, tax credit carryforwards and other deductible temporary differences, a reduction in the valuation allowance may be recorded and the carrying value of deferred tax assets may be restored, resulting in a non-cash credit to earnings.

Income tax expense, primarily attributable to foreign operations, for the three and six month periods ended June 30, 2004 has been reduced by $4.0 million from reversal of income tax accruals recorded in prior years related to the underlying tax matters that were resolved in the second quarter of 2004.

Note 10. General and Administrative Expenses

General and administrative expenses for the three and six month periods ended June 30, 2003 were reduced by $1.7 million, representing an adjustment to reflect a change in estimate relating to an overaccrual for unfunded pension liabilities and other benefit claims recorded in prior periods.

Note 11. Recent Accounting Pronouncements

In January 2003, the Financial Accounting Standards Board ("FASB") issued Interpretation No. 46 "Consolidation of Variable Interest Entities, an Interpretation of Accounting Research Bulletin No. 51" (FIN 46). FIN 46 provides a new consolidation model that determines control and consolidation based on potential variability in gains and losses. The provisions of FIN 46 are effective for enterprises with variable interests in variable interest entities created after January 31, 2003. For public companies with variable interest in variable interest entities created before February 1, 2003, the provisions of FIN 46 are to be applied no later than March 31, 2004. The Company has determined that its equity investment in SEN does not constitute a variable interest entity that would require consolidation. Accordingly, FIN 46 did not have any impact on the Company's consolidated financial statements.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Certain statements in "Management's Discussion and Analysis of Financial Condition and Results of Operations" are forward-looking statements that involve risks and uncertainties. Words such as may, will, should, would, anticipates, expects, intends, plans, believes, seeks, estimates and similar expressions identify such forward-looking statements. The forward-looking statements contained herein are based on current expectations and entail various risks and uncertainties that could cause actual results to differ materially from those expressed in such forward-looking statements. Factors that might cause such a difference include, among other things, those set forth under "Liquidity and Capital Resources," "Outlook," and "Risk Factors" in this MD&A. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect management's analysis only as of the date hereof. The Company assumes no obligation to update these forward-looking statements to reflect actual results or changes in factors or assumptions affecting forward-looking statements.

Overview

We are a worldwide producer of ion implantation, dry strip, rapid thermal processing and photostabilization equipment used in the fabrication of semiconductors. In addition, we provide extensive aftermarket service and support, including spare parts, equipment upgrades, and maintenance services. We own 50% of the equity of a joint venture, known as SEN, with Sumitomo Heavy Industries, Ltd. in Japan. SEN licenses technology from the Company relating to the manufacture of ion implantation products and has exclusive rights to manufacture and sell these products to the territory of Japan. SEN is the leading producer of ion implantation equipment in Japan.

The semiconductor capital equipment industry is subject to significant cyclical swings in capital spending by semiconductor manufacturers. Capital spending is influenced by demand for semiconductors and the products using them, the utilization rate and capacity of existing semiconductor manufacturing facilities and changes in semiconductor technology, all of which are outside of the Company's control. As a result, the Company's revenues and gross margins, to the extent affected by increases or decreases in volume, can fluctuate significantly from year to year and period to period. The Company's expense base is largely fixed and does not vary significantly with changes in volume. Therefore, the Company expects to experience significant fluctuations in operating results and cash flows depending on the level of capital expenditures by semiconductor equipment manufacturers.

Operating results for the interim periods presented are not necessarily indicative of the results that may be expected for other interim periods or for the year as a whole.

Critical Accounting Estimates

Management's discussion and analysis of our financial condition and results of operations are based upon Axcelis' consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On

an on-going basis, the Company evaluates its estimates, including those related to revenue recognition, income taxes, accounts receivable, inventory and warranty obligations. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

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

Revenue Recognition

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

For revenue arrangements prior to July 1, 2003 Axcelis generally recognized the full sale price at the time of shipment to the customer. The costs of system installation at the customer's site were accrued at the time of shipment for installation and acceptance testing performance obligations incurred at the time of sale. The Company recognized the full sales price at the time of shipment as management believes that the customer's post delivery acceptance provisions and installation process were established to be routine, commercially inconsequential and perfunctory because the process was a replication of the pre-shipment procedures. Also, customer payment terms typically provide that the majority of the purchase price is payable upon shipment. Terms do generally contain delayed payment arrangements for a portion of the purchase price, which are typically time-based.

In November 2002, the Financial Accounting Standards Board's Emerging Issues Task Force reached a consensus on Issue No. 00-21, "Accounting for Revenue Arrangements with Multiple Deliverables" ("EITF 00-21"). This issue addresses determination of whether an arrangement involving more than one deliverable contains more than one unit of accounting and how the arrangement consideration should be measured and allocated to the separate units of accounting. EITF 00-21 became effective for revenue arrangements entered into in periods beginning after June 15, 2003. For revenue arrangements occurring on or after July 1, 2003, the Company has revised its revenue recognition policy to comply with the provisions of EITF 00-21.

In December 2003, the Securities and Exchange Commission ("SEC") issued Staff Accounting Bulletin No. 104 ("SAB 104"), "Revenue Recognition." SAB 104 supersedes Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements ("SAB 101"). SAB 104's primary purpose is to rescind accounting guidance contained in SAB 101 related to multiple element revenue arrangements, superseded as a result of the issuance of EITF 00-21. Additionally, SAB 104 rescinds the SEC's Revenue Recognition in Financial Statements Frequently Asked Questions and Answers ("the FAQ") issued with SAB 101 that had been codified in SEC Topic 13, Revenue Recognition. Selected portions of the FAQ have been incorporated into SAB 104. While the wording of SAB 104 has changed to reflect the issuance of EITF 00-21, the revenue recognition principles of SAB 101 remain largely unchanged by the issuance of SAB 104. As a result, the adoption of this pronouncement did not have any impact on the Company's consolidated financial statements.

Axcelis' revenue transactions include sales of systems under multiple element arrangements. Revenue under these arrangements is allocated to each element, except systems, based upon its estimated fair market value. The amount of revenue allocated to systems is calculated on a residual method. Under this method, the total value of the arrangement is allocated first to the undelivered elements, with the residual amount being allocated to systems revenue. The value of the undelivered elements includes (a) the greater of (i) the fair value of the installation or (ii) the portion of the sales price that will not be received until the installation is completed (the "retention") plus (b) the fair value of all other undelivered elements. The amount allocated to installation is based upon hourly rates and the estimated time to complete the service. The fair value of all other undelivered elements is based upon the price charged when these elements are sold separately. System revenue is generally recognized upon shipment provided title and risk of loss has passed to the customer, evidence of an arrangement exists, fees are contractually fixed or determinable, collectibility is reasonably assured through historical collection results and regular credit evaluations, and there are no uncertainties regarding customer acceptance. Revenue for installation services is recognized at the time of customer acceptance. Revenue for other elements is recognized at the time products are shipped or the

related services are performed.

Management continues to believe recognition of systems revenue at the time of shipment is appropriate because 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, many customers request that newer systems are to be tested at Axcelis' facilities prior to shipment, normally with the customer present, under conditions that substantially replicate the customer's production environment and the customer's criteria are confirmed to have been met. Customers for mature products generally do not require pre-shipment testing. 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.

In the small number of instances where Axcelis is unsure of meeting the customer's specifications or obtaining customer acceptance upon shipment of the system or for initial shipments of systems with new technologies, Axcelis will defer the recognition of systems revenue until written customer acceptance of the system. This deferral period is generally within twelve months of shipment.

Service revenue includes revenue from spare parts, equipment upgrades and maintenance services. Revenue related to maintenance and service contracts is recognized ratably over the duration of the contracts. Revenue related to time and material services is recorded when the services are performed. Revenue related to spare parts sales is recognized upon the later of shipment or when the title and risk of loss passes to the customer.

Deferred Tax Assets

The Company has deferred tax assets resulting from tax credit carryforwards, net operating losses and other deductible temporary differences, which are available to reduce taxable income in future periods. The aggregate amount of deferred tax assets before valuation allowance was $91.6 million at December 31, 2003. SFAS No. 109 "Accounting for Income Taxes" requires that a valuation allowance be established when it is "more likely than not" that all or a portion of deferred tax assets will not be realized. A review of all available positive and negative evidence needs to be considered, including a company's performance, the market environment in which the Company operates, length of carryback and carryforward periods, existing sales backlog and projections of future operating results. Where there are cumulative losses in recent years, SFAS No. 109 creates a strong presumption that a valuation allowance is needed. This presumption can be overcome in very limited circumstances.

As of March 31, 2003 and December 31, 2002, the Company's evaluation of the realization of these assets was based upon evidence of cumulative historical profitability and estimates of future taxable income. The Company was profitable in year 2000 but was not profitable in years 2001 and 2002. Projections of future earnings were based on revenue assumptions consistent with industry forecasts for the next three years along with the necessary operating expenses to support the Company's revenue assumptions. Based on these projections, the Company estimated that the loss carryforwards would be fully utilized within three years. During the second quarter of 2003, the Company entered a three year cumulative loss position and revised its projections of the amount and timing of future earnings. Due to these factors as well as the uncertainty of the amount and timing of profitability in future periods, the Company increased its valuation allowance by $69.7 million to record a full valuation allowance for all future tax benefits during the second quarter of 2003.

The Company expects to record a full valuation allowance on future tax benefits until it can sustain an appropriate level of profitability and until such time, the Company would not expect to recognize any significant tax benefits in its future results of operations. However, going forward, if there is sufficient evidence, in accordance with the provisions of SFAS No. 109, to support the ultimate realization of income tax benefits attributable to net operating losses, tax credit carryforwards and other deductible temporary differences, a reduction in the valuation allowance may be recorded and the carrying value of deferred tax assets may be restored, resulting in a non-cash credit to earnings.

Goodwill and Other Intangible Assets

We account for our acquisitions under the purchase method of accounting pursuant to Statement of Financial Accounting Standard (SFAS) No. 141, "Business Combinations." Goodwill represents the excess of cost over net assets,

including all identifiable intangible assets of acquired businesses that are consolidated. Pursuant to SFAS No. 142, "Goodwill and Other Intangible Assets," goodwill is not amortized. Other intangible assets that are separable from goodwill and have determinable useful lives are valued separately and amortized over their useful lives. Such other identifiable intangible assets consist mainly of developed technology and customer related intangibles and are generally amortized over periods ranging from five to ten years. We have determined that all of our other intangible assets have finite lives.

The Company performs an annual impairment review of our goodwill. Impairment reviews may be performed more frequently if there are other indicators of impairment. The annual impairment test consists of determining the fair market value of the business unit through a discounted cash flow analysis. Management's best judgments are employed in determining future market conditions that impact this discounted cash flow analysis. As a result of our annual review conducted as of December 31, 2003, we determined that there was no impairment of our goodwill. If we determine through the impairment review process that goodwill has been impaired, we would record the impairment charge in our statement of operations as a non-cash charge to earnings.

We assess the impairment of intangible assets, other than goodwill, whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important that could trigger an impairment review include the following:

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

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

Accounts Receivable—Allowance for Doubtful Accounts

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

*Inventory—Allowance for Excess and Obsolescenc*e

Axcelis records an allowance for estimated excess and obsolete inventory. The allowance is determined using management's assumptions of future materials usage, based on estimates of future demand and market conditions. If actual market conditions become less favorable than those projected by management, additional inventory write-downs may be required.

Product Warranty and Installation Costs

The Company offers a one to three year warranty for all of its products, the terms and conditions of which vary depending upon the product sold. Prior to July 1, 2003, the Company estimated the costs that may be incurred under its standard warranty and product installation obligation and recorded a liability in the amount of such costs at the time product revenue was recognized. Subsequent to July 1, 2003, in connection with the change in its revenue recognition policy (see Revenue Recognition), the Company no longer accrues the estimated costs of its installation but defers the revenue related to the greater of the fair value of the installation services or the amount of revenue that is contingent upon the completion of the installation services. Factors that affect the Company's warranty and installation liability include the number of installed units, historical and anticipated product failure rates, material usage and service labor costs. The Company periodically assesses the adequacy of its recorded warranty liability and adjusts the amount as necessary.

Results of Operations

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

	Three months ended June,		Six months ended June,	
	2004	2003	2004	2003
Revenue				
Systems	70.6%	62.7%	69.5%	62.6%
Services	27.2	35.8	28.1	35.6
Royalties	2.2	1.5	2.4	1.8
	100.0	100.0	100.0	100.0
Gross profit	45.2	32.9	41.5	33.9
Other costs and expenses				

Research & development	10.5	18.5	11.0	18.9
Selling	8.5	13.4	8.6	13.9
General & administrative	7.7	10.6	7.9	11.5
Amortization of intangible assets	0.4	0.4	0.4	0.4
Income (loss) from operations	18.1	(10.0)	13.6	(10.7)
Other income (expense)				
Equity income of Sumitomo Eaton Nova Corporation	5.0	1.5	4.6	2.6
Interest income	0.2	0.6	0.2	0.6
Interest expense	(1.1)	(1.8)	(1.2)	(1.8)
Other-net	—	(0.6)	(0.2)	(0.4)
Income (loss) before income taxes	22.2	(10.4)	17.0	(9.7)
Income taxes (credit)	(0.6)	81.4	0.2	40.4
Net income (loss)	22.8%	(91.8)%	16.8%	(50.1)%

Revenue

Revenue from systems was $106.8 million, or 70.6% of revenue for the second quarter of 2004 versus revenue from systems of $53.9 million, or 62.7% of revenue for the second quarter of 2003. Revenue from systems was $198.6 million, or 69.5% of revenue for the six months ended June 30, 2004 versus revenue from systems $106.5 million, or 62.6% of revenue for the six months ended June 30, 2003. The increase in sales of systems was primarily attributable to strong market demand resulting from high levels of chip production by our semiconductor manufacturing customers.

On a product basis, approximately 72% of revenue from systems for the second quarter of 2004 was from the sale of 200mm (8 inches) products and 28% was from the sale of 300mm (12 inches) products compared with 75% and 25%, respectively, for the second quarter of 2003. For the six months ended June 30, 2004 approximately 63% of systems revenue was from 200mm products and 37% was from 300mm products compared with 69% and 31%, respectively, for the six months ended June 30, 2003. Sales of 200mm products continue to be strong due to the expansion of existing 200 mm production capacity which has outpaced the investment in new 300 mm fabrication facilities.

Service revenue, which includes spare parts, equipment upgrades and maintenance services, was $41.2 million, or 27.2% of revenue for the second quarter of 2004, compared with $30.8 million, or 35.8% of revenue, for the second quarter of 2003. Service revenue was $80.3 million, or 28.1% of revenue for the six months ended June 30, 2004, compared with $60.6 million, or 35.6% of revenue for the six months ended June 30, 2003. The demand for our services increased primarily as a result of improved capacity utilization by our customers.

Royalties for the second quarter were $3.3 million, or 2.2% of revenue, in the second quarter of 2004, compared with $1.3 million, or 1.5% of revenue, in the second quarter of 2003. Royalties for the six months ended June 30, 2004 were $6.7 million, or 2.4% of revenue, compared with $3.0 million, or 1.8% of revenue, in the six months ended June 30, 2003.

Royalties increased by $2.0 million in the second quarter of 2004 compared with the second quarter of 2003 and by $3.7 million in the first half of 2004 due to higher SEN sales volume reflecting growth in demand for equipment by Japanese semiconductor manufacturers.

Revenue from sales of ion implantation products and services for the second quarter accounted for $120.9 million, or 79.9%, of total revenue in the second quarter of 2004, compared with $59.5 million, or 69.3%, of total revenue in the second quarter of 2003. Revenue from sales of ion implantation products and services for the six months ended June 30, 2004 accounted for $236.2 million, or 82.7%, of total revenue, compared with $126.7 million, or 74.5%, of total revenue for the six months ended June 30, 2003. The higher proportion of total revenue from the sale of ion implantation products and services in 2004 is a result of capacity expansion and investment in new technology by semiconductor manufacturers whereby capital spending for ion implantation products has outpaced increases in total wafer fab equipment spending.

Revenue from sales of other products and services, including dry strip products, photostabilization products and rapid thermal processing systems, accounted for $30.4 million, or 20.1%, of total revenue in the second quarter of 2004, compared with $26.4 million, or 30.7%, of total revenue in the second quarter of 2003. Revenue from sales of other products and services for the six months ended June 30, 2004 accounted for $49.4 million, or 17.3%, of total revenue, compared with $43.4 million, or 25.5%, of total revenue for the six months ended June 30, 2003. As discussed above, the lower proportion of revenue from sales of other products and services is the result of capital spending for ion implantation products outpacing total water fabrication equipment spending.

Gross Profit

Gross profit was 45.2% of revenue in the second quarter of 2004 compared with gross profit of 32.9% of revenue in the second quarter of 2003. Gross profit was 41.5% of revenue for the six months ended June 30, 2004 compared with gross profit of 33.9% of revenue for the six months ended June 30, 2003. Increased sales volume and the related increased absorption of fixed manufacturing costs were the primary drivers of the increase in gross profit in both the second quarter and six months ended June 30, 2004, as well as improved pricing due to favorable market conditions which have provided increased demand and an expanded customer base. Improved pricing accounted for approximately 3.1 of the 7.6 point increase in gross profit for the six months ended June 30, 2004.

Research and Development

Research and development expense was $15.9 million in the second quarter of 2004. While the components of research and development expense varied from year to year, the total amount of research and development expense did not change compared with the second quarter of 2003. Research and development expense was $31.4 million for the six months ended June 30, 2004, a decrease of $0.7 million, or 2.3%, compared with $32.1 million for the six months ended June 30, 2003 due primarily to lower R&D utilized demo tool amortization. Quarterly fluctuations are attributable principally to the timing of projects.

Selling

Selling expense was $12.8 million in the second quarter of 2004, an increase of $1.3 million, or 11.5%, compared with $11.5 million in the second quarter of 2003 primarily due to increased customer support and evaluation tool support costs, as well as increased variable compensation, offset in part by a lower salary expense due to an approximate 10% reduction in headcount. Selling expense was $24.4 million for the six months ended June 30, 2004, an increase of $0.8 million, or 3.5%, compared with $23.6 million for the six months ended June 30, 2003 primarily due to increased customer and evaluation tool support costs, as well as increased variable compensation, offset in part by a lower salary expense due to an approximate 10% reduction in headcount.

General and Administrative

General and administrative expense was $11.6 million in the second quarter of 2004, an increase of $2.5 million, or 27.6%, compared with $9.1 million in the second quarter of 2003. General and administrative expense was $22.7 million for the six months ended June 30, 2004, an increase of $3.2 million, or 16.4%, compared with $19.5 million for the six months ended June 30, 2003. General and administrative expense increased in the second quarter and six months ended June 30, 2004 due primarily to increased variable compensation as well as a $1.7 million adjustment recorded in the second quarter of 2003 related to a change in the estimated unfunded pension expense and other benefit claims recorded in prior periods.

Amortization of Intangible Assets

Amortization of intangible assets was $0.6 million in the second quarter of 2004, an increase of $0.2 million, or 67.7%, compared with $0.4 million in the second quarter of 2003. Amortization of intangible assets was $1.2 million for the six months ended June 30, 2004, an increase of $0.5 million, or 67.7%, from $0.7 million for the six months ended June 30, 2003. The increase in amortization is due primarily to the incremental amortization of intangible assets arising from the July 2003 acquisition of Matrix Integrated Systems, Inc.

Other Income (Expense)

Total other income was $6.2 million in the second quarter of 2004, an increase of $6.5 million compared with ($0.3) million in the second quarter of 2003. Total other income was $9.8 million for the six months ended June 30, 2004, an increase of $8.0 million compared with $1.8 million for the six months ended June 30, 2003. Other income consists primarily of equity income from SEN, which increased by $6.3 million and $8.6 million, respectively, for the three and six months ended June 30, 2004, compared with the same periods in 2003, due to higher SEN sales volume and profitability.

Income Taxes (Credit)

Income tax expense for the three and six month periods ended June 30, 2004 has been reduced by $4.0 million from reversal of income tax accruals recorded in prior years related to the underlying tax matters that were resolved in the second quarter of 2004. In 2004 the income tax provision is set at an estimated annual effective rate of 9%. Income tax expense relates principally to operating results of foreign entities in jurisdictions where the Company is taxable. Income tax expense attributable to U.S. operations is minimal because taxable income derived from the current year operating results is substantially offset by available net operating loss carryforwards.

The Company recorded income tax expense of $69.9 million and $68.7 million for the three and six months ending June 30, 2003. Income taxes in 2003 consisted primarily of a valuation allowance of $69.7 million recorded at June 30, 2003 to reduce the carrying value of deferred tax assets to zero.

Liquidity and Capital Resources

Cash, cash equivalents and short-term investments at June 30, 2004 were $157.7 million compared with $108.2 million at December 31, 2003. The $49.5 million increase in cash, cash equivalents and short-term investments is mainly attributable to $41.1 million in cash generated by operations, $6 million in net proceeds from the sale of a building located in Beverly, Massachusetts in January 2004, and $3.7 million in proceeds from the exercise of stock options and the stock purchases under the Employee Stock Purchase Plan.

Net working capital was $279.9 million at June 30, 2004 compared with $228.0 million at December 31, 2003. The $51.9 increase in net working capital is attributable principally to the Company's results of operations.

Capital expenditures were $2.0 million and $2.2 million for the six months ended June 30, 2004 and June 30, 2003, respectively. The Company has no significant capital projects planned for 2004 and total capital expenditures are projected to be at or below depreciation expense. Future capital expenditures beyond 2004 will depend on a number of factors, including the timing and rate of the expansion of our business.

Expenditures for demo tools, used in-house for research and development and training, and evaluation tools, which are located at customer's sites and are being evaluated for potential purchase, were approximately $5.6 million and $1.1 million for the first six months of 2003 as a result of a reduction in spending in response to existing market conditions in 2003. As market conditions began to improve in the latter half of 2003, spending on demo tools increased, resulting in full year spending of approximately $6.1 million. The Company expects to spend at least this amount for the full year of 2004. Demo and evaluation tools are reflected in other assets on the balance sheet.

The Company has no off-balance sheet arrangements.

In October 2003 the Company renegotiated its $50 million revolving credit facility to extend the maturity to October

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2006. The purpose of the facility is to provide funds for working capital and general corporate purposes as required. To the extent that the Company has borrowings under the agreement, those borrowings would bear interest at the bank's base rate, as defined in the agreement, or LIBOR plus an applicable

percentage. The Company currently has no plans to borrow against the facility but may use the facility to support letters of credit in the future. The credit facility is secured by substantially all of the Company's assets and contains certain financial and other restrictive covenants including minimum levels of tangible net worth, liquidity, profitability and indebtedness as well as maximum levels of capital spending. At June 30, 2004, the Company was in compliance with all covenants.

Axcelis' liquidity is affected by many factors. Some of these factors are based on normal operations of the business and others relate to the uncertainties of global economies and the semiconductor equipment industry. See "Outlook" below. Although our cash requirements fluctuate based on the timing and extent of these factors, we believe that our existing cash and cash equivalents will be sufficient to satisfy our anticipated cash requirements for at least the next twelve months.

The Company has standby letters of credit of approximately $3.4 million to support certain operating lease obligations, workers' compensation insurance, and certain value added tax claims in Europe. In addition, the Company has guarantees and surety bonds of approximately $9.1 million related to value added tax refunds in Europe. Of these standby letters of credit, guarantees and surety bonds, $6.0 million is cash collateralized at June 30, 2004. This is reflected as restricted cash on the balance sheet.

Outlook

The Company's performance for the quarter ended June 30, 2004 was directly related to semiconductor manufacturers' increasing levels of capital expenditures to open new fabrication facilities and expand existing ones, as well as operational improvements implemented by the Company in recent quarters. The level of capital expenditures by these manufacturers depends upon the current and anticipated market demand for semiconductors and the products utilizing them, the available manufacturing capacity in manufacturers' fabrication facilities, and the ability of manufacturers to increase productivity in existing facilities without incurring additional capital expenditures. Currently, management believes that semiconductor manufacturers will continue to invest in capacity expansions and new technology through at least 2004. Based on bookings received in the first half of 2004, the Company believes it will realize benefits in terms of continuing high levels of revenues and profitability from this anticipated continuance of capital spending.

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

On July 28, 2004, the Company announced its expectation that its revenues for the third quarter of 2004 will be in the range of $155 million to $165 million. Gross margins will be approximately 45%. Net income is expected to be $31 million to $35 million, the equivalent of $0.30 to $0.34 per diluted share. The Company also expects to generate $10 million to $15 million of cash during the third quarter.

Risk Factors

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

Item 3. Quantitative and Qualitative Disclosures about Market Risk

A discussion of market risk exposures is included Exhibit 99.1 filed herewith. There has been no material change in the information provided as of the end of 2003.

Item 4. Controls and Procedures

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

(b) **Changes in Internal Controls.** Except as set forth below, there was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended) identified in connection with the evaluation of our internal control performed during our second quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

    In response to the reportable conditions related to certain inventory and revenue recognition transactions disclosed in the Company's Annual Report on Form 10-K for the year ended December 31, 2003, the Company has implemented enhancements to internal controls and procedures over revenue recognition and certain inventory accounting processes, which the Company believes adequately address the reportable conditions.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The Company is not a party to any material pending legal proceedings.

ITEM 2. CHANGES IN SECURITIES, USE OF PROCEEDS AND ISSUER PURCHASES OF EQUITY SECURITIES

None

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None

ITEM 4. SUBMISSION OF MATTERS TO VOTE OF SECURITY HOLDERS

The Annual Meeting of Stockholders of Axcelis Technologies, Inc. was held at the offices of Palmer & Dodge, LLP, 111 Huntington Avenue, Boston, Massachusetts on April 29, 2004. Out of 99,535,944 shares of Common Stock (as of the record date of March 8, 2004) entitled to vote at the meeting, 90,864,523 shares, or 91.3%, were present in person or by proxy.

(a) Election of Directors. Each of the three directors nominated for election at the Annual Meeting was elected by a plurality of votes cast, to serve for a three year term ending in 2006 and, until their successors are elected. The vote was as follows:

Nominee	Number of Votes For	Number of Votes Withheld
Gary L. Tooker	83,684,265	7,180,258
Patrick H. Nettles	86,930,372	3,934,151
Alexander M. Cutler	65,899,381	24,965,142

(b) Ratification of Appointment of Auditors. A majority of the securities present, or represented, and entitled to vote at the meeting voted in favor of the proposal to ratify the appointment by the Board of Directors of Ernst & Young LLP as independent auditors of the Company's financial statements for the year ending December 31, 2004. The following sets forth the tally of the votes cast on the proposal:

Number of Votes For	Number of Votes Against	Number of Votes Abstaining	Percentage For
87,473,536	3,312,269	78,718	99.3%

ITEM 5. OTHER INFORMATION

None

ITEM 6. EXHIBITS AND REPORTS ON FORM 8-K

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

Exhibit No.	Description
3.1	Amended and Restated Certificate of Incorporation of the Company. Incorporated by reference from Exhibit 3.1 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
3.2	Bylaws of the Company, as amended as of January 23, 2002. Incorporated by reference from Exhibit 3.2 of the Company's Form 10-K for the year ended December 31, 2001, filed with the Commission on March 12, 2002.
3.3	Certificate of Designation of Series A Participating Preferred Stock, filed with the Secretary of State of Delaware on July 5, 2000. Incorporated by reference from Exhibit 3.3 of the Company's Form 10-K for the year ended December 31, 2000, filed with the Commission on March 30, 2001.
4.1	Indenture between the Company and State Street Bank and Trust Company, as Trustee, including the form of note, dated as of January 15, 2002. Incorporated by reference from Exhibit 4.1 to the Company's Report on Form 8-K filed with the Commission on January 15, 2002.
4.5	Revolving Credit Agreement dated as of October 3, 2003 among the Company, ABN Amro Bank N.V. and the other lenders named therein, as amended by the First Amendment to Revolving Credit Agreement, dated as of May 3, 2004. Pursuant to Regulation S-K, Item 601(b)(4)(iii), this exhibit has not been filed, since the total amount of the facility does not exceed 10% of the Company's total assets at this time. The Company will furnish a copy of the Credit Agreement to the Commission on request.
31.1	Certification of the Chief Executive Officer under Exchange Act Rule 13a-14(a)/15d-14(a) (Section 302 of the Sarbanes-Oxley Act), dated August 6, 2004. Filed herewith.
31.2	Certification of the Chief Financial Officer under Exchange Act Rule 13a-14(a)/15d-14(a) (Section 302 of the Sarbanes-Oxley Act), dated August 6, 2004. Filed herewith.
32.1	Certification of the Chief Executive Officer pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code (Section 906 of the Sarbanes-Oxley Act), dated August 6, 2004. Filed herewith.
32.2	Certification of the Chief Financial Officer pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code (Section 906

of the Sarbanes-Oxley Act), dated August 6, 2004. Filed herewith.

99.1 Factors Affecting Future Operating Results as of June 30, 2004. Filed herewith.

99.2 Charter of the Audit Committee of the Board of Directors of Axcelis, as adopted on April 29, 2004.Filed herewith.

b) Reports on Form 8-K

(i) A Current Report on Form 8-K was furnished to the Securities and Exchange Commission on April 27, 2004 relating to the Company's announcement of earnings for its first quarter ended March 31, 2004.

(ii) A Current Report on Form 8-K was filed with the Securities and Exchange Commission on June 14, 2004 relating to the establishment by each Mary G. Puma, President and Chief Executive Officer, and Michael J. Luttati, Executive Vice President and Chief Operating Officer, of a Rule 10b5-1 Sales Plan to sell a portion of their equity positions in the Company on a predetermined schedule of minimum prices in an effort to gradually diversify their portfolios.

SIGNATURES

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

AXCELIS TECHNOLOGIES, INC.

/s/ Stephen G. Bassett

DATED: August 6, 2004

By: Stephen G. Bassett, Chief Financial Officer
Duly authorized officer and Principal financial Officer

CERTIFICATION
of the Principal Executive Officer of Axelis Technologies, Inc.
under Section 302 of the Sarbanes-Oxley Act of 2002

I, Mary G. Puma, certify that:

1. I have reviewed this Form 10-Q of Axcelis Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 6, 2004

By: /s/ Mary G. Puma
Mary G. Puma
President and Chief Executive Officer

CERTIFICATION
of the Principal Financial Officer of Axelis Technologies, Inc.
under Section 302 of the Sarbanes-Oxley Act of 2002

I, Stephen G. Bassett, certify that:

1. I have reviewed this Form 10-Q of Axcelis Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

c) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: August 6, 2004

By: /s/ Stephen G. Bassett
Stephen G. Bassett
Chief Financial Officer

EXHIBIT 32.1

AXCELIS TECHNOLOGIES, INC.

Certification of the Chief Executive Officer

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

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

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

IN WITNESS WHEREOF, the undersigned have executed this Certification as of August 6, 2004.

/s/ Mary G. Puma

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

EXHIBIT 32.2

AXCELIS TECHNOLOGIES, INC.

Certification of the Chief Financial Officer

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

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

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

IN WITNESS WHEREOF, the undersigned have executed this Certification as of August 6, 2004.

/s/ Stephen G. Bassett

Stephen G. Bassett
Chief Financial Officer of Axcelis Technologies, Inc.

AXCELIS TECHNOLOGIES, INC.

Form 10-Q for the quarter ended June 30, 2004

FACTORS AFFECTING FUTURE OPERATING RESULTS

From time to time, we may make forward-looking public statements, such as statements concerning our then expected future revenues or earnings or concerning the prospects for our markets or our product development, projected plans, performance, order procurement as well as other estimates relating to future operations. Forward-looking statements may be in reports filed under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), in registration statements filed under the Securities Act of 1933, as amended (the "Securities Act"), in press releases or informal statements made with the approval of an authorized executive officer. The words or phrases "will likely result," "are expected to," "will continue," "is anticipated," "estimate," "project," or similar expressions are intended to identify "forward-looking statements" within the meaning of Section 21E of the Exchange Act and Section 27A of the Securities Act, as enacted by the Private Securities Litigation Reform Act of 1995.

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

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

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

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

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

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

Our quarterly financial results may fluctuate significantly and may fall short of anticipated levels; forecasting quarterly revenues and profitability is complex and may be inaccurate.

We derive most of our revenues from the sale of a relatively small number of expensive products to a small number of customers. The list prices on these products range from $200,000 to over $4.0 million. At our current sales level, each sale, or failure to make a sale, could have a material effect on us in a particular quarter. Our lengthy sales cycle, coupled with customers' competing capital budget considerations, make the timing of customer orders uneven and difficult to predict. In a given quarter, a number of factors can adversely affect our revenues and results, including changes in our product mix, increased fixed expenses per unit due to reductions in the number of products manufactured, and higher fixed costs due to increased levels of research and development and expansion of our worldwide sales and marketing organization. Our gross margins also may be affected by the introduction of new products. We typically become more efficient in producing our products as they mature. For example, our gross margins in 2001, 2002 and 2003 were adversely affected in part as a result of the increased proportion of systems sold to process 300 mm wafers.

In addition, our backlog at the beginning of a quarter typically does not include all orders required to achieve our sales objectives for that quarter and is not a reliable indicator of our future sales. As a result, our net sales and operating results for a quarter depend on our shipping orders as scheduled during that quarter as well as obtaining new orders for products to be shipped in that same quarter. Any delay in, or cancellation of, scheduled shipments or in shipments from new orders could materially and adversely affect our financial results. Due to the foregoing factors, we believe that period-to-period comparisons of our operating results should not be relied upon as an indicator of our future performance.

The SEC's Staff Accounting Bulletin 101 and the Financial Accounting Standard Board's Emerging Issues Tax Force 00-21, as incorporated in the SEC's Staff Accounting Bulletin 104, addressing revenue recognition have added additional complexity in forecasting quarterly revenues and profitability. Orders for our products may contain multiple delivery elements that result in revenue deferral under generally accepted accounting principles. Management typically provides financial forecasts for the subsequent quarter in the earnings release for each quarter. These forecasts are based on reasonable assumptions of shipment timing and contract terms, but in some cases, at the time the forecast is made the final customer terms may not have been agreed and documented, so the level of revenues recognizable in a particular quarter may vary from the forecast.

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

The semiconductor business is highly cyclical and the industry was in a severe down cycle from early 2001 through the third quarter of 2003. It is anticipated that such a downturn will return after several robust quarters. Such downturns reduce demand for new or expanded fabrication facilities. Any continuing weakness or future downturns or slowdowns in the industry may adversely affect our financial condition.

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

From time to time, inventory buildups in the semiconductor industry, resulting in part from the down cycle, produce an oversupply of semiconductors. This will cause semiconductor manufacturers to revise capital spending plans, resulting in reduced demand for capital equipment such as our products. If an oversupply is not reduced by increasing demand from the various electronics industries that use semiconductors, which we cannot accurately predict, our sales and profitability will be harmed.

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

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

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

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

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

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

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

The market for semiconductor manufacturing equipment is highly competitive and includes companies with substantially greater financial, engineering, manufacturing, marketing and customer service and support resources than we have that may be better positioned to compete successfully in the industry. In addition, there are smaller, emerging semiconductor equipment companies that provide innovative systems with technology that may have performance advantages over our systems. Competitors are expected to continue to improve the design and performance of their existing products and processes and to introduce new products and processes with improved price and performance characteristics. If we are unable to improve or introduce competing products when demanded by the markets, our business will be harmed. In addition, if competitors enter into strategic relationships with leading semiconductor manufacturers covering products similar to those sold or being developed by us, our ability to sell products to those manufacturers may be adversely affected.

We have been dependent on sales to a limited number of large customers; the loss of any of these customers or any reduction in orders from them could materially affect our sales.

Historically, we have sold a significant proportion of our products and services to a limited number of fabricators of semiconductor products. For example, in 2003,our customer, Samsung accounted for 12% of our net sales and Micron represented 10.4% of net sales. Also, in 2003, our top ten customers accounted for 65% of our net sales. None of our customers has entered into a long-term agreement requiring it to purchase our products. Although the composition of the group comprising our largest customers has varied from year to year, the loss of a significant customer or any reduction or delays in orders from any significant customer, including reductions or delays due to customer departures from recent buying patterns, or market, economic or competitive conditions in the semiconductor industry, could adversely affect us. The ongoing consolidation of semiconductor manufacturers may also increase the harmful effect of losing a significant customer.

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

We own 50% of the equity of a Japanese corporation called Sumitomo Eaton Nova or SEN, to which we have granted an exclusive license to manufacture and sell ion implanters in Japan. Sumitomo Heavy Industries, Ltd., a Japanese manufacturer of industrial machinery and ships, owns the remaining 50% of the equity. Neither Axcelis nor Sumitomo has the right to buy out the other's interest in SEN and the SEN joint venture is perpetual. Our joint venture agreement with Sumitomo gives both owners veto rights, so that neither of us alone can effectively control SEN. SEN's business is subject to the same risks as our business. Royalties and income from SEN have been a substantial contribution to our earnings, and a substantial decline in SEN's sales and income from operations could have a material adverse effect on our net income. As a result of this joint venture structure, we have less control over SEN management than over our own management and may not have timely knowledge of factors affecting SEN's business. In addition, given the equal balance of ownership, it is possible that the SEN Board may be unable to reach consensus from time to time.

In December 2003, each of SEN and Axcelis elected to trigger a provision requiring a one year negotiation in good faith on modifications to the license agreement. If modifications are not agreed to, the license agreement will continue in its existing form on a year-to-year basis, subject to the right of either party to terminate. Under the SEN bylaws, termination of the license agreement by SEN would be

an important matter requiring approval of a majority of the SEN directors. Given Axcelis' 50% representation on the SEN Board, the license agreement will be perpetual until such time as Axcelis deems a termination to be in its interest. Axcelis does not expect to terminate the SEN license agreement.

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

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

We are substantially dependent on sales of our products and services to customers outside the United States. We anticipate that international sales will continue to account for a significant portion of our net sales. Because of our dependence upon international sales, our results and prospects may be adversely affected by a number of factors, including:

- unexpected changes in laws or regulations resulting in more burdensome governmental controls, tariffs, restrictions, embargoes or export license requirements;
- difficulties in obtaining required export licenses;
- volatility in currency exchange rates;
- political and economic instability, particularly in Asia;
- difficulties in accounts receivable collections;
- extended payment terms beyond those customarily offered in the United States;
- difficulties in managing distributors or representatives outside the United States;
- difficulties in staffing and managing foreign subsidiary and branch operations; and
- potentially adverse tax consequences.

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

Substantially all of our sales to date have been denominated in U.S. dollars. Our products become less price competitive in countries with currencies that are declining in value in comparison to the dollar. This could cause us to lose sales or force us to lower our prices, which would reduce our gross margins. Our equity income and royalty income from SEN are denominated in Japanese yen, which exposes us to some risk of currency fluctuations. If it becomes necessary for us to make more sales denominated in foreign currencies to counteract the strong dollar, we will become more exposed to these risks.

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

Our business depends on our ability to attract and retain qualified, experienced employees. There is substantial competition for experienced engineering, technical, financial, sales and marketing personnel

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in our industry. In particular, we must attract and retain highly skilled design and process engineers. Competition for such personnel is intense, particularly in the areas where we are based, including the Boston metropolitan area and the Rockville, Maryland area, as well as in other locations around the world. If we are unable to retain our existing key personnel, or attract and retain additional qualified personnel, we may from time to time experience levels of staffing inadequate to develop, manufacture and market our products and perform services for our customers. As a result, our growth could be limited or we could fail to meet our delivery commitments or experience deterioration in service levels or decreased customer satisfaction, all of which could adversely affect our financial results and cause the value of our notes and stock to decline.

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

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

In addition, we often quote prices to our customers and accept customer orders for our products before purchasing components and 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.

In certain circumstances, we may need additional capital.

Our capital requirements may vary widely from quarter to quarter, depending on, among other things, capital expenditures, fluctuations in our operating results, financing activities, acquisitions and investments and inventory and receivables management. We believe that our available cash, our credit line and our future cash flow from operations will be sufficient to satisfy our working capital, capital expenditure and research and development requirements for the foreseeable future. This, of course, depends on the accuracy of our assumptions about levels of sales and expenses, and a number of factors, including those described in these "Risk Factors," could cause us to require additional capital from external sources. In addition, in the future, we may require or choose

to obtain additional debt or equity financing in order to finance acquisitions or other investments in our business. Depending on market conditions, future equity financings may not be possible on attractive terms and would be dilutive to the existing holders of our common stock and convertible notes. Our existing credit agreement contains restrictive covenants and future debt financings could involve additional restrictive covenants, all of which may limit the manner in which we conduct our business.

We seek to protect our proprietary technology through patents and trade secrets which may be vulnerable to efforts by competitors to challenge or design around, potentially reducing our 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. Finally, all patents expire after a period of time (in the U.S., patents expire 20 years from the date of filing of the patent application). Our market share could be negatively impacted by the expiration of a patent which had created a barrier for our competitors, but the impact will be offset by both the challenges of late market entry by a competitor and by other continuing patent protection which may apply to an affected product.

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

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

AXCELIS TECHNOLOGIES, INC.

Audit Committee Charter, as amended

As Adopted by the Board of Directors on April 29, 2004

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

Composition of the Audit Committee

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

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

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

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

Authority to Engage Advisors

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

Audit Committee Duties

The Audit Committee shall:

Audit Committee Charter

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

Review of Financial Statements and Accounting Policies

2. Discuss with management and the independent auditor the Company's quarterly earnings press releases, including the quarterly financial information and business outlook included therein. Prior to the filing of each Form 10-Q, review with management and the independent auditor such Form 10-Q, including the quarterly financial statements therein. This review may be conducted either through the entire Committee or through its Chairman on the Committee's behalf.

3. Review and discuss reports from management and the independent auditors on (a) all critical accounting policies and practices used by the Company, and (b) alternative accounting treatments within GAAP related to material items that have been discussed with management including the ramifications of the use of the alternative treatments and the treatment preferred by the independent auditor. Discuss with the independent auditor any accounting issues which were referred to the auditor's national office during the period. In regard to quarterly reviews, this discussion may be held either through the entire Committee or through its Chairman on the Committee's behalf.

4. Review the Form 10-K, including the Company's annual audited financial statements with management and the independent auditor before publication, including major issues regarding accounting and auditing principles and practices as well as the adequacy of internal controls that could significantly affect the financial statements, and the schedule of audit adjustments if any. When satisfied, recommend to the Board that the financial statements be included in the annual report to shareholders and annual report on Form 10-K.

5. Review with management any off-balance sheet related entities on the Company's financial statements.

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

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

8. Review with the Company's General Counsel legal matters that may have a material

impact on the Company's financial statements.

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

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

***Appointment and Review of External Auditing Function*.**

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

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

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

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

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

16. At least every five years, evaluate together with the Board the performance of the

independent auditor and determine whether to recommend that the Board replace the independent auditor.

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

Internal Audit Function.

18. Review and approve the internal controls framework implemented by management for the Company.

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

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

21. Review the reports of the director of internal auditing or provider of out-sourced internal audit services, and observations of the independent auditor regarding internal control issues. Review and discuss with management the Company's responses to such reports and observations.

Committee Meetings; Reporting and Oversight Functions.

22. Meet at least quarterly with the Company's chief financial officer, director of internal auditing and out-sourced internal audit function representatives and independent auditor in separate executive sessions. Meet with the general counsel in a separate executive session as needed.

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

24. Establish procedures for:

(i) the receipt, retention, and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing maters; and

(ii) the confidential, anonymous submission by employees of the Company regarding questionable accounting or auditing matters.

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

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