

**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 March 31, 2014

Or

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

For the transition period from _____ to _____

Commission file number 000-30941

AXCELIS TECHNOLOGIES, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

34-1818596
(IRS Employer
Identification No.)

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)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No .

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer
Non-accelerated filer Smaller reporting company
(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act) Yes No

As of April 30, 2014 there were 111,202,573 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 March 31,	
	2014	2013
Revenue		
Product	\$ 55,015	\$ 34,452
Services	5,825	6,274
Total revenue	<u>60,840</u>	<u>40,726</u>
Cost of revenue		
Product	33,802	22,181
Services	5,298	5,602
Total cost of revenue	<u>39,100</u>	<u>27,783</u>
Gross profit	21,740	12,943
Operating expenses		
Research and development	9,257	9,206
Sales and marketing	5,476	5,201
General and administrative	6,481	6,590
Gain on sale of dry strip assets and intellectual property	—	(368)
Restructuring charges	200	1,801
Total operating expenses	<u>21,414</u>	<u>22,430</u>
Income (loss) from operations	326	(9,487)
Other income (expense)		
Interest income	2	3
Interest expense	(251)	—
Other, net	292	829
Total other income	<u>43</u>	<u>832</u>
Income (loss) before income taxes	369	(8,655)
Income taxes	195	333
Net income (loss)	<u>\$ 174</u>	<u>\$ (8,988)</u>
Net earnings (loss) per share		
Basic	<u>\$ 0.00</u>	<u>\$ (0.08)</u>
Diluted	<u>\$ 0.00</u>	<u>\$ (0.08)</u>
Shares used in computing net earnings (loss) per share		
Basic weighted average common shares	<u>110,649</u>	<u>108,227</u>
Diluted weighted average common shares	<u>115,798</u>	<u>108,227</u>

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Axcelis Technologies, Inc.
Consolidated Statements of Comprehensive Loss
(In thousands)
(Unaudited)

	Three months ended March 31,	
	2014	2013
Net income (loss)	\$ 174	\$ (8,988)
Other comprehensive income (loss):		
Foreign currency translation adjustments	(677)	(2,078)
Amortization of actuarial losses from pension plan	6	8
Comprehensive loss	<u>\$ (497)</u>	<u>\$ (11,058)</u>

See accompanying Notes to these Consolidated Financial Statements

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

	March 31, 2014	December 31, 2013
ASSETS		
Current assets		
Cash and cash equivalents	\$ 43,039	\$ 46,290
Accounts receivable, net	38,121	36,587
Inventories, net	95,533	95,789
Prepaid expenses and other current assets	7,476	6,242
Total current assets	<u>184,169</u>	<u>184,908</u>
Property, plant and equipment, net	31,605	32,006
Long-term restricted cash	825	825
Other assets	16,104	15,810
Total assets	<u>\$ 232,703</u>	<u>\$ 233,549</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	\$ 17,865	\$ 19,451
Accrued compensation	4,692	4,845
Warranty	1,496	1,316
Income taxes	474	417
Deferred revenue	3,836	4,387
Current portion of long-term debt	762	471
Other current liabilities	4,100	4,573
Total current liabilities	<u>33,225</u>	<u>35,460</u>
Long-term debt	14,238	14,529
Long-term deferred revenue	257	322
Other long-term liabilities	7,058	7,236
Total liabilities	<u>54,778</u>	<u>57,547</u>
Commitments and contingencies (Note 13)		
Stockholders' equity		
Preferred stock, \$0.001 par value, 30,000 shares authorized; none issued or outstanding	—	—
Common stock, \$0.001 par value, 300,000 shares authorized; 111,269 shares issued and 111,149 shares outstanding at March 31, 2014; 110,225 shares issued and 110,105 shares outstanding at December 31, 2013	111	110
Additional paid-in capital	513,411	510,992
Treasury stock, at cost, 120 shares at March 31, 2014 and December 31, 2013	(1,218)	(1,218)
Accumulated deficit	(339,447)	(339,621)
Accumulated other comprehensive income	<u>5,068</u>	<u>5,739</u>

Total stockholders' equity	177,925	176,002
Total liabilities and stockholders' equity	<u>\$ 232,703</u>	<u>\$ 233,549</u>

See accompanying Notes to these Consolidated Financial Statements

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

	Three months ended March 31,	
	2014	2013
Cash flows from operating activities		
Net income (loss)	\$ 174	\$ (8,988)
Adjustments to reconcile net income (loss) to net cash used for operating activities:		
Depreciation and amortization	1,140	1,394
Gain on sale of dry strip assets and intellectual property	—	(368)
Deferred taxes	312	56
Stock-based compensation expense	1,172	839
Provision for excess inventory	59	2,211
Changes in operating assets & liabilities		
Accounts receivable	(1,634)	1,458
Inventories	(52)	(1,672)
Prepaid expenses and other current assets	(1,252)	(544)
Accounts payable and other current liabilities	(2,025)	5,043
Deferred revenue	(614)	(843)
Income taxes	61	84
Other assets and liabilities	(1,304)	(549)
Net cash used for operating activities	<u>(3,963)</u>	<u>(1,879)</u>
Cash flows from investing activities		
Proceeds from sale of dry strip assets and intellectual property	—	400
Expenditures for property, plant, and equipment	(227)	(150)
Decrease in restricted cash	—	3
Net cash (used for) provided by investing activities	<u>(227)</u>	<u>253</u>
Cash flows from financing activities		
Proceeds from exercise of stock options	1,277	49
Net cash provided by financing activities	<u>1,277</u>	<u>49</u>
Effect of exchange rate changes on cash	(338)	(968)
Net decrease in cash and cash equivalents	(3,251)	(2,545)
Cash and cash equivalents at beginning of period	46,290	44,986
Cash and cash equivalents at end of period	<u>\$ 43,039</u>	<u>\$ 42,441</u>

See accompanying Notes to these Consolidated Financial Statements

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Axcelis Technologies, Inc.
Notes to Consolidated Financial Statements (Unaudited)

Note 1. Nature of Business

Axcelis Technologies, Inc. ("Axcelis" or the "Company") was incorporated in Delaware in 1995, and is a worldwide producer of ion implantation and other processing equipment used in the fabrication of semiconductor chips 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 to the semiconductor industry.

The accompanying unaudited consolidated financial statements have been prepared in accordance with U.S. 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 and considered necessary for a fair presentation of these financial statements 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.

The balance sheet at December 31, 2013 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, 2013.

Note 2. Stock-Based Compensation

The Company maintains the Axcelis Technologies, Inc. 2012 Equity Incentive Plan (the "2012 Equity Plan"), which became effective on May 2, 2012, and permits the issuance of options, restricted stock, restricted stock units and performance awards to selected employees, directors and consultants of the Company. The Company's 2000 Stock Plan (the "2000 Stock Plan"), expired on May 1, 2012 and no new grants may be made under that plan after that date. However, awards granted under the 2000 Stock Plan prior to the expiration remain outstanding and subject to the terms of the 2000 Stock Plan. The Company also maintains the Axcelis Technologies, Inc. Employee Stock Purchase Plan (the "ESPP"), an Internal Revenue Code Section 423 plan.

The 2012 Equity Plan and the ESPP are more fully described in Note 13 to the consolidated financial statements in the Company's 2013 Annual Report on Form 10-K.

The Company recognized stock-based compensation expense of \$1.2 million and \$0.8 million for the three-month periods ended March 31, 2014 and 2013, respectively. These amounts include compensation expense related to restricted stock units, non-qualified stock options and stock to be issued to participants under the ESPP.

Note 3. Gain on Sale of Dry Strip Assets and Intellectual Property

In December 2012, the Company sold its dry strip assets and intellectual property to Lam Research Corporation (Lam). A portion of the purchase consideration (\$2.0 million) was contingent upon the Company achieving certain milestones. During the first quarter of 2013, the Company recorded \$0.4 million for the proceeds received based on its achievement of a milestone. This amount was partially offset by additional costs associated with a lab system purchased by Lam. The Company is no longer eligible to achieve additional milestones.

Note 4. Computation of Net Earnings (Loss) per Share

Basic earnings (loss) per share is computed by dividing income (loss) 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 (loss) per share is similar to basic earnings (loss) per share, except that the denominator is increased to include the number of additional common shares that would have been outstanding if the potentially dilutive common shares had been issued, calculated using the treasury stock method.

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The components of net earnings (loss) per share are as follows:

	Three months ended March 31,	
	2014	2013
	(in thousands, except per share data)	
Net income (loss) available to common stockholders	\$ 174	\$ (8,988)
Weighted average common shares outstanding used in computing basic net earnings (loss) per share	110,649	108,227
Incremental options, RSUs and restricted stock	5,149	—
Weighted average common shares outstanding used in computing diluted net earnings (loss) per share	115,798	108,227
Net earnings (loss) per share		
Basic	\$ 0.00	\$ (0.08)
Diluted	\$ 0.00	\$ (0.08)

The Company incurred a net loss for the three-month period ended March 31, 2013, and excluded 2,103,634 incremental shares attributable to outstanding stock options, restricted stock and restricted stock units from the calculation of net loss per share because the effect would have been anti-dilutive.

Note 5. Accumulated Other Comprehensive Income

The following table displays the changes in accumulated other comprehensive income, net of tax, by component for the three months ended March 31, 2014:

	Foreign currency	Defined benefit pension plan (in thousands)	Total
Balance at December 31, 2013	\$ 6,070	\$ (331)	\$ 5,739
Other comprehensive loss before reclassifications	(677)	—	(677)
Amounts reclassified from accumulated other comprehensive loss (1)	—	6	6
Net current-period other comprehensive income (loss)	(677)	6	(671)
Balance at March 31, 2014	\$ 5,393	\$ (325)	\$ 5,068

(1) Amount presented before taxes as the tax effect is not material to the consolidated financial statements.

Note 6. Inventories, net

The components of inventories are as follows:

	March 31, 2014	December 31, 2013
	(in thousands)	
Raw materials	\$ 57,809	\$ 56,942

Work in process	29,064	27,462
Finished goods (completed systems)	\$ 8,660	11,385
	<u>\$ 95,533</u>	<u>\$ 95,789</u>

When recorded, inventory reserves are intended to reduce the carrying value of inventories to their net realizable value. The Company establishes inventory reserves when conditions exist that indicate inventory may be in excess of anticipated demand or is obsolete based upon assumptions about future demand for the Company's products or market

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conditions. The Company regularly evaluates the ability to realize the value of inventories based on a combination of factors including the following: forecasted sales or usage, estimated product end of life dates, estimated current and future market value and new product introductions. Purchasing and usage alternatives are also explored to mitigate inventory exposure. As of March 31, 2014 and December 31, 2013, inventories are stated net of inventory reserves of \$24.6 million and \$25.1 million respectively.

During the three months ended March 31, 2013, the Company recorded a charge to cost of sales of \$2.1 million for 300mm dry strip components. Under the terms of the agreement with Lam, the Company was permitted to manufacture and sell dry strip products through September 2013. Due to changes in the forecasted sales of the Company's dry strip products that become known in the current period, a portion of the dry strip inventory components were determined to be non-recoverable.

During the three months ended March 31, 2013, the Company recorded a charge to cost of sales of \$0.5 million due to production levels below normal capacity. There were no similar charges recorded for the three months ended March 31, 2014.

Note 7. Restructuring Charges

During 2013 the Company initiated reductions in force to control costs and improve the focus of its operations in order to achieve future profitability and conserve cash. As of December 31, 2013, less than \$0.1 million of these costs were accrued and unpaid. During the three months ended March 31, 2014, the Company implemented further actions, which resulted in restructuring charges for severance and related costs of \$0.2 million being recorded. The liability at March 31, 2014 of \$0.1 million is expected to be paid primarily in the second quarter of 2014.

Changes in the Company's restructuring liability, which consists primarily of severance and related costs, included in amounts reported as other current liabilities, are as follows:

	(In thousands)
Balance at December 31, 2013	\$ 43
Severance and related costs	200
Cash payments	(122)
Balance at March 31, 2014	<u>\$ 121</u>

Note 8. Product Warranty

The Company generally offers a one year warranty for all of its systems, the terms and conditions of which vary depending upon the product sold. For all systems sold, the Company accrues a liability for the estimated cost of standard warranty at the time of system shipment and defers the portion of systems revenue attributable to the fair value of non-standard warranty. Costs for non-standard warranty are expensed as incurred. Factors that affect the Company's warranty 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 liability and adjusts the amount as necessary.

The changes in the Company's product warranty liability are as follows:

	Three months ended	
	2014	March 31, 2013
	(in thousands)	
Balance at January 1 (beginning of year)	\$ 1,428	\$ 1,801
Warranties issued during the period	647	457
Settlements made during the period	(467)	(399)
Changes in estimate of liability for pre-existing warranties during the period	12	(277)
Balance at March 31 (end of period)	<u>\$ 1,620</u>	<u>\$ 1,582</u>
Amount classified as current	\$ 1,496	\$ 1,539
Amount classified as long-term	124	43
Total warranty liability	<u>\$ 1,620</u>	<u>\$ 1,582</u>

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Note 9. Fair Value Measurements

Certain of the assets and liabilities on the Company's balance sheets are reported at their "fair value". Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date.

(a) Fair Value Hierarchy

The accounting guidance for fair value measurement requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard establishes a fair value hierarchy based on the level of independent, objective evidence surrounding the inputs used to measure fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The fair value hierarchy is as follows:

Level 1 applies to assets or liabilities for which there are quoted prices in active markets for identical assets or liabilities.

Level 2 applies to assets or liabilities for which there are inputs other than quoted prices that are observable for the asset or liability, such as quoted prices for similar assets or liabilities in active markets; quoted prices for identical assets or liabilities in markets with insufficient volume or infrequent transactions (less active markets); or model-derived valuations in which significant inputs are observable or can be derived principally from, or corroborated by, observable market data.

Level 3 applies to assets or liabilities for which there are unobservable inputs to the valuation methodology that are significant to the measurement of the fair value of the assets or liabilities.

(b) Fair Value Measurements

The Company's money market funds are included in cash and cash equivalents in the consolidated balance sheets, and are considered a level 1 investment as they are valued at quoted market prices in active markets. The Company's term loan is carried at amortized cost which approximates fair value based on current market pricing of similar debt instruments and is categorized as level 2 within the fair value hierarchy.

The following table sets forth the Company's assets and liabilities by level within the fair value hierarchy:

	March 31, 2014			
	Fair Value Measurements			Total
Level 1	Level 2	Level 3		
(in thousands)				
Assets				
Cash equivalents:				
Money market funds	\$ 9,106	\$ —	\$ —	\$ 9,106
Liabilities				
Term loan	\$ —	\$ 15,000	\$ —	\$ 15,000

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	December 31, 2013			
	Fair Value Measurements			Total
Level 1	Level 2	Level 3		
(in thousands)				
Assets				
Cash equivalents:				
Money market funds	\$ 10,504	\$ —	\$ —	\$ 10,504
Liabilities				
Term loan	\$ —	\$ 15,000	\$ —	\$ 15,000

(c) Other Financial Instruments

The carrying amounts reflected in the consolidated balance sheets for cash and cash equivalents (which are comprised primarily of deposit and overnight sweep accounts), accounts receivable, prepaid expenses and other current and non-current assets, restricted cash, accounts payable and accrued expenses approximate fair value due to their short-term maturities.

Note 10. Financing Arrangements

Term Loan

The Company has a Business Loan Agreement dated July 5, 2013 with Northern Bank & Trust Company which provides for a three year term loan of \$15.0 million secured by the Company's real estate in Beverly, Massachusetts. The loan bears interest at 5.5% per annum, with payments of principal beginning August 5, 2014. Interest is payable monthly. All outstanding principal and interest on the term loan is due and payable on July 5, 2016. The Company's financial results for the quarter ended March 31, 2014 caused the Company not to meet the Debt Service Ratio covenant in the Business Loan Agreement, which covenant was waived by Northern Bank & Trust Company. In addition, the parties have entered into a letter agreement as of May 2, 2014, which amended the Debt Service Ratio covenant to defer its effectiveness until September 30, 2014. The Company was in compliance with all other covenants associated with the term loan during the first quarter of 2014.

Credit Facility

The Company has a revolving credit facility with Silicon Valley Bank dated October 31, 2013. Under this revolving credit facility, the Company has the ability to borrow up to \$10.0 million on a revolving basis during its two year term. The Company's ability to borrow under this line of credit is limited to 80% of the then current amount of qualified accounts receivable. At March 31, 2014, the Company's available borrowing capacity under the revolving credit facility was \$8.9 million. There were no borrowings against this facility during the three months ended March 31, 2014. The Company was in compliance with all covenants associated with the credit facility during the first quarter of 2014.

Note 11. Income Taxes

Income tax expense relates principally to operating results of foreign entities in jurisdictions, primarily in Europe and Asia, where the Company earns taxable income. The Company has significant net operating losses in the United States and certain other tax jurisdictions and, as a result, does not pay significant income taxes in those jurisdictions.

As of December 31, 2013, the Company's valuation allowance related to income taxes was approximately \$147.5 million. The Company is in a three year cumulative loss position in the United States. As a result, the Company maintains a 100% valuation allowance to reduce the carrying value of the related deferred tax assets to zero. The Company will continue to maintain a full valuation allowance for those tax assets until sustainable future levels of profitability are evident.

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The Financial Accounting Standards Board issued Accounting Standards Update (ASU) Number 2013-11 in July 2013 which requires that a reserve for an unrecognized tax benefit be presented as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward with certain exceptions. We have adopted this ASU effective January 1, 2014. This adoption did not have a material impact on our consolidated balance sheets.

Note 12. Concentration of Risk

For the three months ended March 31, 2014, three customers accounted for approximately 38.1%, 12.6%, and 10.2% of consolidated revenue, respectively. For the three months ended March 31, 2013, one customer accounted for approximately 11.5% of consolidated revenue.

At March 31, 2014, three customers accounted for 22.9%, 14.6% and 13.9% of consolidated gross accounts receivable. For the year ended December 31, 2013, the Company had three customers account for 23.2%, 14.2%, and 13.6% of consolidated gross accounts receivable, respectively.

Note 13. Contingencies

(a) Litigation

The Company is not presently a party to any litigation that it believes might have a material adverse effect on its business operations. The Company is, from time to time, a party to litigation that arises in the normal course of its business operations.

(b) Indemnifications

The Company's system sales agreements typically include provisions under which the Company agrees to take certain actions, provide certain remedies and defend its customers against third-party claims of intellectual property infringement under specified conditions and to indemnify customers against any damage and costs awarded in connection with such claims. The Company has not incurred any material costs as a result of such indemnifications and has not accrued any liabilities related to such obligations in the accompanying consolidated financial statements.

Note 14. Recent Accounting Guidance

Accounting Standards or Updates Recently Adopted

Effective January 1, 2014, the Company adopted Accounting Standards Update (ASU) No. 2013-11, Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exist. ASU 2013-11 amended the presentation requirements of ASC 740, Income Taxes, and requires that a reserve for an unrecognized tax benefit be presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, similar tax loss, or a tax credit carryforward. To the extent the tax benefit is not available at the reporting date under the governing tax law or if the entity does not intend to use the deferred tax asset for such purpose, the unrecognized tax benefit should be presented as a liability and not combined with deferred tax assets. The ASU became effective for annual periods, and interim periods within those years, beginning after December 15, 2013, which is fiscal 2014 for the Company. The amendments are to be applied to all unrecognized tax benefits that exist as of the effective date and may be applied retrospectively to each prior reporting period presented. The adoption of this standard did not have a material impact on our consolidated financial statements.

Accounting Standards or Updates Not Yet Effective

The Company has evaluated the accounting guidance recently issued and has determined that these standards or updates will not have a material impact on its financial position or results of operations.

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Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Overview

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 our control. As a result, our revenue and gross margins fluctuate from year to year and period to period. Our established cost structure does not vary significantly with changes in volume. We may experience fluctuations in operating results and cash flows depending on our revenue as driven by the level of capital expenditures by semiconductor manufacturers.

Consolidation and partnering within the semiconductor manufacturing industry has resulted in a small number of customers representing a substantial portion of our business. Our net revenue from our ten largest customers accounted for 81.2% of total revenue for the three months ended March 31, 2014 compared to 59.7% of revenue for the three months ended March 31, 2013.

A successful semiconductor equipment manufacturer must not only provide some of the most technically complex products manufactured in the world but also must design its business to thrive during the inevitable low points in the cycle. The industry has been in a period of gradual market improvement since the second quarter of 2013, which is expected to continue into 2015, although growth may slow or accelerate from one quarter to another during this period. Our recent financial results reflect increasing sales of our innovative Purion ion implantation systems, and our continued investment in research and development programs related to our Purion ion implantation products. These results also reflect our efforts to lower our breakeven revenue levels by maintaining tight control of discretionary spending.

Throughout 2014 we expect to continue to grow Purion system sales and maintain tight control of our cost structure. In the event that industry conditions cause the demand for our products to decline in future periods, we believe that we can align manufacturing and operating expense levels to changing business conditions and maintain sufficient liquidity to support operations. Our expectations for system sales, revenue growth, and profitability are subject to risks that may cause our actual results to differ materially from our expectations. These risks include the timing and degree of customer acceptance of our products, the continuing demand for ion implantation equipment, overall activity levels of semiconductor manufacturing, competitive pressure on sales and pricing, increases in material and other production costs that cannot be recouped in product pricing and global economic, political and financial conditions.

Operating results for the interim periods presented are not necessarily indicative of the results that may be expected for future interim periods or years 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, revenue and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate our estimates and assumptions. Management's estimates are based 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.

Management has not identified any need to make any material change in, and has not changed, any of our critical accounting estimates and judgments as described in Management's Discussion and Analysis of Financial Conditions and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2013.

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Results of Operations

The following table sets forth our results of operations as a percentage of total revenue:

	Three months ended March 31,	
	2014	2013
Revenue:		
Product	90.4%	84.6%
Services	9.6	15.4
Total revenue	100.0	100.0
Cost of revenue:		
Product	55.6	54.4
Services	8.7	13.8
Total cost of revenue	64.3	68.2
Gross profit	35.7	31.8
Operating expenses:		
Research and development	15.2	22.6
Sales and marketing	9.0	12.8
General and administrative	10.7	16.2
Gain on sale of dry strip assets and intellectual property	—	(0.9)
Restructuring charges	0.3	4.4
Total operating expenses	35.2	55.1
Income (loss) from operations	0.5	(23.3)
Other income (expense):		
Interest income	—	—
Interest expense	(0.4)	—
Other, net	0.5	2.0
Total other income	0.1	2.0
Income (loss) before income taxes	0.6	(21.3)
Income taxes	0.3	0.8
Net income (loss)	0.3%	(22.1)%

Revenue

The following table sets forth our revenues.

	Three months ended March 31,		Period-to-Period change	
	2014	2013	\$	%
(dollars in thousands)				
Revenues:				
Product	\$ 55,015	\$ 34,452	\$ 20,563	59.7%
<i>Percentage of revenues</i>	90.4%	84.6%		
Services	5,825	6,274	(449)	(7.2)%
<i>Percentage of revenues</i>	9.6%	15.4%		
Total revenues	<u>\$ 60,840</u>	<u>\$ 40,726</u>	<u>\$ 20,114</u>	49.4%

Three Months Ended March 31, 2014 Compared with Three Months Ended March 31, 2013

Product

Product revenue which includes system sales, sales of spare parts, product upgrades and used systems was \$55.0 million, or 90.4% of revenue during the three months ended March 31, 2014, compared with \$34.5 million, or 84.6% of

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revenue for the three months ended March 31, 2013. The increase in product revenue is attributable to improved semiconductor market spending which has increased system revenue levels.

A portion of our revenue from system sales is deferred until installation and other services related to future deliverables are performed. The total amount of deferred revenue at March 31, 2014 and December 31, 2013 was \$4.1 million and \$4.7 million, respectively. The decrease was mainly due to the timing of system shipments and the timing of acceptance of deferred system sales.

Services

Service revenue, which includes the labor component of maintenance and service contracts and fees for service hours provided by on-site service personnel, was \$5.8 million, or 9.6% of revenue for the three months ended March 31, 2014, compared with \$6.3 million, or 15.4% of revenue for the three months ended March 31, 2013. Although service revenue should increase with the expansion of the installed base of systems, it can fluctuate from period to period based on capacity utilization at customers' manufacturing facilities, which affects the need for equipment service. The slight decrease during the first quarter of 2014 was primarily due to changes in the mix and timing of service contracts as compared to the first quarter of 2013.

Revenue Categories used by Management

As an alternative to the line item revenue categories discussed above, management also uses revenue categorizations which look at revenue by systems and aftermarket as described below.

Three Months Ended March 31, 2014 Compared with Three Months Ended March 31, 2013

Systems

Included in total revenue of \$60.8 million during the three months ended March 31, 2014 is revenue from sales of systems of \$32.5 million, or 53.4% of total revenue, compared with \$12.7 million, or 31.2%, of total revenue for the three months ended March 31, 2013. The increase was due to higher sales of Purion systems in an improved semiconductor equipment market.

Aftermarket

We refer to the business of selling spare parts, product upgrades and used systems, combined with the sale of maintenance labor and service contracts and service hours, as the "aftermarket" business. Included in total revenue of \$60.8 million during the three months ended March 31, 2014 is revenue from our aftermarket business of \$28.3 million, compared to \$28.0 million for the three months ended March 31, 2013. Aftermarket revenue generally increases with the expansion of the installed base of systems, but can fluctuate from period to period based on capacity utilization at customers' manufacturing facilities which affects the sale of spare parts and demand for equipment service.

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Gross Profit / Gross Margin

The following table sets forth our gross profit / gross margin.

	Three months ended March 31,		Period-to-Period change	
	2014	2013	\$	%
(dollars in thousands)				
Gross Profit:				
Product	\$ 21,213	\$ 12,271	\$ 8,942	72.9%
<i>Product gross margin</i>	38.6%	35.6%		
Services	527	672	(145)	(21.6)%

Service gross margin		9.0%		10.7%	
Total gross profit	\$	21,740	\$	12,943	\$ 8,797
Gross margin		35.7%		31.8%	68.0%

Three Months Ended March 31, 2014 Compared with Three Months Ended March 31, 2013

Product

Gross profit from product revenue was 38.6% for the three months ended March 31, 2014, compared to 35.6% for the three months ended March 31, 2013. The increase in gross profit of 3.0 percentage points resulted from the net effect of higher systems sales volume and the related favorable absorption of fixed overhead costs, a lower provision for excess inventory and a decreased mix of parts and upgrade revenue.

Services

Gross profit from service revenue was 9.0% for the three months ended March 31, 2014, compared to 10.7% for the three months ended March 31, 2013. The decrease in gross profit is attributable to changes in the mix of service contracts.

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Operating Expenses

The following table sets forth our operating expenses:

	Three months ended March 31,		Period-to-Period change	
	2014	2013	\$	%
	(dollars in thousands)			
Research and development	\$ 9,257	\$ 9,206	\$ 51	0.6%
Percentage of revenues	15.2%	22.6%		
Sales and marketing	5,476	5,201	275	5.3%
Percentage of revenues	9.0%	12.8%		
General and administrative	6,481	6,590	(109)	(1.7)%
Percentage of revenues	10.7%	16.2%		
Gain on sale of dry strip assets and intellectual property	—	(368)	368	(100.0)%
Percentage of revenues	0.0%	(0.9)%		
Restructuring charges	200	1,801	(1,601)	(88.9)%
Percentage of revenues	0.3%	4.4%		
Total operating expenses	\$ 21,414	\$ 22,430	\$ (1,016)	(4.5)%
Percentage of revenues	35.2%	55.1%		

Our operating expenses consist primarily of personnel costs, including salaries, commissions, bonuses, share-based compensation and related benefits and taxes; project material costs related to the design and development of new products and enhancement of existing products; and professional fees, travel and depreciation expenses. At \$12.6 million, personnel costs are our largest expense, representing 59.5% of our total operating expenses, excluding restructuring charges of \$0.2 million, for the three months ended March 31, 2014, as compared to \$12.9 million, or 61.2%, for the three months ended March 31, 2013.

Research and Development

	Three months ended March 31,		Period-to-period change	
	2014	2013	\$	%
	(dollars in thousands)			
Research and development	\$ 9,257	\$ 9,206	\$ 51	0.6%
Percentage of revenues	15.2%	22.6%		

Our ability to remain competitive depends largely on continuously developing innovative technology, with new and enhanced features and systems, and introducing them at competitive prices on a timely basis. Accordingly, based on our strategic plan, we establish annual R&D budgets to fund programs that we expect will drive competitive advantages.

Three Months Ended March 31, 2014 Compared with Three Months Ended March 31, 2013

Research and development expense was \$9.3 million during the three months ended March 31, 2014; an increase of less than \$0.1 million, or 0.6%, compared with \$9.2 million during the three months ended March 31, 2013. The increase included higher research and development supplies and related costs offset by a reduction in payroll costs.

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Sales and Marketing

	Three months ended March 31,	Period-to-period change
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	2014		2013		S		%	
	(dollars in thousands)							
Sales and marketing	\$	5,476	\$	5,201	\$	275		5.3%
Percentage of revenues		9.0%		12.8%				

Our sales and marketing expenses result primarily from the sale of our equipment and services through our direct sales force.

Three Months Ended March 31, 2014 Compared with Three Months Ended March 31, 2013

Sales and marketing expense was \$5.5 million during the three months ended March 31, 2014; an increase of \$0.3 million, or 5.3%, compared with \$5.2 million during the three months ended March 31, 2013. The change was primarily due to increases in payroll related costs and stock-based compensation expense.

General and Administrative

	Three months ended March 31,		Period-to-period change					
	2014	2013	\$	%				
	(dollars in thousands)							
General and administrative	\$	6,481	\$	6,590	\$	(109)		(1.7)%
Percentage of revenues		10.7%		16.2%				

Our general and administrative expenses result primarily from the costs associated with our executive, finance, legal and human resource functions.

Three Months Ended March 31, 2014 Compared with Three Months Ended March 31, 2013

General and administrative expense was \$6.5 million during the three months ended March 31, 2014; a decrease of \$0.1 million, or 1.7%, compared with \$6.6 million during the three months ended March 31, 2013. The decrease was primarily due to a reduction in payroll and related costs partially offset by an increase in professional service fees relating to our patents.

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Gain on Sale of Dry Strip Assets and Intellectual Property

In December 2012, we sold our dry strip assets and intellectual property to Lam. A portion of the purchase consideration (\$2.0 million) was contingent upon our achieving certain milestones. During the first quarter of 2013, we recorded \$0.4 million for the proceeds received based on our achievement of a milestone. This amount was partially offset by additional costs associated with a lab system purchased by Lam. The Company is no longer eligible to achieve additional milestones.

Restructuring Charges

	Three months ended March 31,		Period-to-period change					
	2014	2013	\$	%				
	(dollars in thousands)							
Restructuring charges	\$	200	\$	1,801	\$	(1,601)		(88.9)%
Percentage of revenues		0.3%		4.4%				

Three Months Ended March 31, 2014 Compared with Three Months Ended March 31, 2013

We continue to align our organization with market demands. We implemented reductions in force in the periods presented to improve the focus of our operations, control costs, achieve future profitability and conserve cash. As a result of these actions, we recorded a restructuring expense for severance and related costs of \$0.2 million and \$1.8 million during the three-month periods ended March 31, 2014 and 2013, respectively.

Other Income

Three Months Ended March 31, 2014 Compared with Three Months Ended March 31, 2013

Other income was less than \$0.1 million for the three months ended March 31, 2014 compared with other income of \$0.8 million for the three months ended March 31, 2013. Other income (expense) consists primarily of foreign exchange gains and losses attributable to fluctuations of the U.S. dollar against the local currencies of certain of the countries in which we operate, interest earned on our invested cash balances, bank fees associated with our financing arrangements and interest expense related to the term loan.

During the three-month periods ended March 31, 2014 and 2013, we had no significant off-balance-sheet risk such as foreign exchange contracts, option contracts or other foreign hedging arrangements.

Income Taxes

	Three months ended March 31,		Period-to-period change					
	2014	2013	\$	%				
	(dollars in thousands)							
Income taxes	\$	195	\$	333	\$	(138)		(41.4)%
Percentage of revenues		0.3%		0.8%				

We incur income tax expense relating principally to operating results of foreign entities in Europe and Asia, where we earn taxable income. We have significant net operating loss carryforwards in the United States and certain European tax jurisdictions, and, as a result, we do not currently pay significant

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The Financial Accounting Standards Board issued Accounting Standards Update (ASU) Number 2013-11 in July 2013 which requires that a reserve for an unrecognized tax benefit be presented as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward with certain exceptions. We have adopted this ASU effective January 1, 2014. This adoption did not have a material impact on our consolidated balance sheets.

Liquidity and Capital Resources

Our liquidity is affected by many factors. Some of these relate specifically to the operations of our business, for example, the rate of sale of our products, and others relate to the uncertainties of global economies, including the availability of credit and the condition of the overall semiconductor equipment industry. Our established cost structure does not vary significantly with changes in volume. We experience fluctuations in operating results and cash flows depending on these changes in revenue levels.

During the three-month periods ended March 31, 2014 and 2013, the Company used \$4.0 million and \$1.9 million, respectively, of cash to support operating activities. The cash used by operations during the three months ended March 31, 2014 was predominately driven by the Company's income from operations excluding non-cash charges for depreciation and amortization, and stock based compensation expense; the increase in accounts receivable, the increase in prepaid expenses and other current assets, and the decrease in our accounts payable and accrued liability balances. Investing activities included \$0.2 million used for capital expenditures. Financing activities included \$1.3 million of cash received upon exercise of stock options.

Our revolving credit facility with Silicon Valley Bank provides for borrowings of up to \$10.0 million on a revolving basis during a two year term ending October 31, 2015, based primarily on accounts receivable. The Company's ability to borrow under this line of credit is limited to 80% of the then current amount of qualified accounts receivable. At March 31, 2014, our available borrowing capacity under the credit facility was \$8.9 million and we were in compliance with all covenants related to the credit facility. There were no borrowings against this facility during the three months ended March 31, 2014. The revolving credit facility is used by the Company to support letters of credit and for short-term borrowing, as needed.

We make monthly interest payments on our \$15.0 million mortgage under a July 2013 Business Loan Agreement with Northern Bank & Trust Company. The loan bears interest at 5.5% per annum. Principal payments, based on a ten year amortization schedule, will commence in August 2014, with the remaining principal amount due in July 2016. The Company's financial results for the quarter ended March 31, 2014 caused the Company to not meet the Debt Service Ratio covenant in the Business Loan Agreement, which covenant was waived by Northern Bank & Trust Company. In addition, the parties have entered into a letter agreement dated as of May 2, 2014, which amended the Debt Service Ratio covenant to defer its effectiveness until September 30, 2014. We were in compliance with all other covenants associated with the mortgage during the first quarter of 2014.

We believe that based on our current market, revenue, expense and cash flow forecasts, our existing cash, cash equivalents and borrowing capacity will be sufficient to satisfy our anticipated cash requirements for the short and long-term. In the event that demand for our products declines in future periods, we believe we can align manufacturing and operating spending levels to the changing business conditions and provide sufficient liquidity to support operations. Our expectation for adequate liquidity is subject to risks that may cause our actual results to differ materially from our expectations. These risks include the timing and degree of customer acceptance of our products, the continuing demand for ion implantation equipment, overall activity levels of semiconductor manufacturing, competitive pressure on sales and pricing, increases in material and other production costs that cannot be recouped in product pricing and global economic, political and financial conditions.

Commitments and Contingencies

Significant commitments and contingencies at March 31, 2014 are consistent with those discussed in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and Note 16 to the consolidated financial statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013.

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Item 3. Quantitative and Qualitative Disclosures about Market Risk.

As of March 31, 2014, there have been no material changes to the quantitative information about market risk disclosed in Item 7A to our annual report on Form 10-K for the year ended December 31, 2013.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") as of the end of the period covered by this report (the "Evaluation Date"). Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of the Evaluation Date, these disclosure controls and procedures are effective.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) identified in connection with the evaluation of our internal control that occurred during the three months ended March 31, 2014 that has materially affected, or is reasonably likely to

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PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

The Company is, from time to time, a party to litigation that arises in the normal course of its business operations. The Company is not presently a party to any litigation that it believes might have a material adverse effect on its business operations.

Item 1A. Risk Factors.

As of March 31, 2014, there have been no material changes to the risk factors described in Item 1A to our annual report on Form 10-K for the year ended December 31, 2013.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not Applicable.

Item 5. Other Information.

None.

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Item 6. Exhibits.

The following exhibits are filed herewith:

Exhibit No	Description
3.1	Amended and Restated Certificate of Incorporation of the Company adopted May 6, 2009. Incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K filed with the Commission on May 11, 2009.
3.2	Bylaws of the Company, as amended as of August 8, 2007. Incorporated by reference to Exhibit 3.2 of the Company's Form 10-Q for the quarterly period ended June 30, 2007, filed with the Commission on August 9, 2007.
31.1	Certification of the Principal Executive Officer under Exchange Act Rule 13a-14(a)/15d-14(a) (Section 302 of the Sarbanes-Oxley Act), dated May 8, 2014. Filed herewith.
31.2	Certification of the Principal Financial Officer under Exchange Act Rule 13a-14(a)/15d-14(a) (Section 302 of the Sarbanes-Oxley Act), dated May 8, 2014. Filed herewith.
32.1	Certification of the Principal 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 May 8, 2014. Filed herewith.
32.2	Certification of the Principal 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 May 8, 2014. Filed herewith.
101	The following materials from the Company's Form 10-Q for the quarter ended March 31, 2014, formatted in eXtensible Business Reporting Language (XBRL): (i) Consolidated Statements of Operations, (ii) Consolidated Statements of Comprehensive Loss, (iii) Consolidated Balance Sheets, (iv) Consolidated Statements of Cash Flows and (v) Notes to Consolidated Financial Statements (Unaudited).

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Pursuant to the requirements 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.

DATED: May 8, 2014

AXCELIS TECHNOLOGIES, INC.

By: /s/ KEVIN J. BREWER

Kevin J. Brewer

Executive Vice President and Chief Financial Officer

Duly Authorized Officer and Principal Financial Officer

CERTIFICATION
of the Principal Executive Officer
Pursuant to Rule 13a-14(a)/15d-14(a) (implementing Section 302 of the Sarbanes-Oxley Act)

I, Mary G. Puma, certify that:

1. I have reviewed this quarterly report on 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) 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) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) 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
 - (d) 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: May 8, 2014

/s/ MARY G. PUMA

Mary G. Puma,
Chairman, Chief Executive Officer and President

CERTIFICATION
of the Principal Financial Officer
Pursuant to Rule 13a-14(a)/15d-14(a) (implementing Section 302 of the Sarbanes-Oxley Act)

I, Kevin J. Brewer, certify that:

1. I have reviewed this quarterly report on 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) 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) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) 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
 - (d) 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: May 8, 2014

/s/ KEVIN J. BREWER

Kevin J. Brewer,
Executive Vice President and Chief Financial Officer

AXCELIS TECHNOLOGIES, INC.
Certification of the Principal 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 certifies, 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 has executed this Certification as of May 8, 2014.

/s/ MARY G. PUMA

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

AXCELIS TECHNOLOGIES, INC.
Certification of the Principal 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 certifies, 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 has executed this Certification as of May 8, 2014.

/s/ KEVIN J. BREWER

Kevin J. Brewer
*Executive Vice President and Chief Financial Officer of Axcelis
Technologies, Inc.*
