

**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, 2013

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 29, 2013 there were 108,310,881 shares of the registrant's common stock outstanding.

PART I - FINANCIAL INFORMATION

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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,	
	2013	2012
Revenue		
Product	\$ 34,452	\$ 47,538
Services	6,274	7,468
Total revenue	<u>40,726</u>	<u>55,006</u>
Cost of revenue		
Product	22,181	29,284
Services	5,602	5,186
Total cost of revenue	<u>27,783</u>	<u>34,470</u>
Gross profit	12,943	20,536
Operating expenses		
Research and development	9,206	11,669
Sales and marketing	5,201	6,583
General and administrative	6,590	7,799
Gain on sale of dry strip assets and intellectual property	(368)	—
Restructuring charges	1,801	2,881
Total operating expenses	<u>22,430</u>	<u>28,932</u>
Loss from operations	(9,487)	(8,396)
Other income (expense)		
Interest income	3	9
Other, net	829	(924)
Total other income (expense)	<u>832</u>	<u>(915)</u>
Loss before income taxes	(8,655)	(9,311)
Income taxes	333	717
Net loss	<u>\$ (8,988)</u>	<u>\$ (10,028)</u>
Net loss per share		
Basic and Diluted	<u>\$ (0.08)</u>	<u>\$ (0.09)</u>
Shares used in computing net loss per share		
Basic and diluted weighted average common shares	<u>108,227</u>	<u>107,067</u>

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

	Three months ended	
	March 31,	
	2013	2012
Net loss	\$ (8,988)	\$ (10,028)
Other comprehensive income (loss):		
Foreign currency translation adjustments	(2,078)	56
Amortization of actuarial losses from pension plan	8	—
Comprehensive loss	<u>\$ (11,058)</u>	<u>\$ (9,972)</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, 2013	December 31, 2012
ASSETS		
Current assets		
Cash and cash equivalents	\$ 42,441	\$ 44,986
Accounts receivable, net	23,150	24,843
Inventories, net	98,729	100,234
Restricted cash	103	106
Prepaid expenses and other current assets	5,519	5,056
Total current assets	<u>169,942</u>	<u>175,225</u>
Property, plant and equipment, net	33,663	34,413
Other assets	12,352	12,520
Total assets	<u>\$ 215,957</u>	<u>\$ 222,158</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	\$ 13,793	\$ 10,166
Accrued compensation	8,900	7,283
Warranty	1,539	1,700
Income taxes	356	278
Deferred revenue	5,714	6,423
Other current liabilities	3,768	3,932
Total current liabilities	<u>34,070</u>	<u>29,782</u>
Long-term deferred revenue	321	456
Other long-term liabilities	5,713	5,844
Total liabilities	<u>40,104</u>	<u>36,082</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; 108,405 shares issued and 108,285 shares outstanding at March 31, 2013; 108,293 shares issued and 108,173 shares outstanding at December 31, 2012	108	108
Additional paid-in capital	505,478	504,643
Treasury stock, at cost, 120 shares at March 31, 2013 and December 31, 2012	(1,218)	(1,218)
Accumulated deficit	(331,465)	(322,477)
Accumulated other comprehensive income	2,950	5,020
Total stockholders' equity	<u>175,853</u>	<u>186,076</u>
Total liabilities and stockholders' equity	<u>\$ 215,957</u>	<u>\$ 222,158</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,	
	2013	2012
Cash flows from operating activities		
Net loss	\$ (8,988)	\$ (10,028)
Adjustments to reconcile net loss to net cash used for operating activities:		
Depreciation and amortization	1,394	1,896
Gain on sale of dry strip assets and intellectual property	(368)	—
Deferred taxes	56	378
Stock-based compensation expense	839	1,082
Provision for excess inventory	2,211	248
Changes in operating assets & liabilities		
Accounts receivable	1,458	4,810
Inventories	(1,672)	(8,277)
Prepaid expenses and other current assets	(544)	(385)
Accounts payable and other current liabilities	5,043	(2,162)
Deferred revenue	(843)	(3,818)
Income taxes	84	76
Other assets and liabilities	(549)	6,483
Net cash used for operating activities	(1,879)	(9,697)
Cash flows from investing activities		
Proceeds from sale of dry strip assets and intellectual property	400	—
Expenditures for property, plant, and equipment	(150)	(141)
(Increase) decrease in restricted cash	3	(3)
Net cash provided by (used for) investing activities	253	(144)
Cash flows from financing activities		
Proceeds from exercise of stock options	49	802
Proceeds from Employee Stock Purchase Plan	—	175
Net cash provided by financing activities	49	977
Effect of exchange rate changes on cash	(968)	(795)
Net decrease in cash and cash equivalents	(2,545)	(9,659)
Cash and cash equivalents at beginning of period	44,986	46,877
Cash and cash equivalents at end of period	\$ 42,441	\$ 37,218

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, dry strip 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.

In December 2012, the Company sold its intellectual property rights and certain assets relating to the Company’s dry strip product line to Lam Research Corporation (“Lam”). As a result of this transaction, the Company will cease the sale of 300 mm dry strip wafer processing equipment in 2013. The Company will be able to continue to sell dry strip systems for smaller wafers until December 2015 and to support its installed base of all dry strip systems indefinitely. The Gain on Sale of Dry Strip Assets and Intellectual Property are more fully described in Note 3 below and in Note 3 to the consolidated financial statements in the Company’s 2012 Annual Report on Form 10-K.

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, 2012 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, 2012.

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 this 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 2012 Annual Report on Form 10-K.

The Company recognized stock-based compensation expense of \$0.8 million and \$1.1 million for the three-month periods ended March 31, 2013 and 2012, 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. 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 the lab system purchased.

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Note 4. Computation of Net Loss per Share

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 is similar to basic earnings 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.

The Company incurred net losses for the three-month periods ended March 31, 2013 and 2012, and has excluded 2,103,634 and 2,497,101 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.

The components of net loss per share are as follows:

	Three months ended March 31,	
	2013	2012
	(in thousands, except per share data)	
Net loss available to common stockholders	\$ (8,988)	\$ (10,028)
Weighted average common shares outstanding used in computing basic and diluted net loss per share	108,227	107,067
Net loss per share		
Basic and Diluted	\$ (0.08)	\$ (0.09)

Note 5. Accumulated Other Comprehensive Loss

The following table displays the changes in accumulated other comprehensive loss, net of tax, by component:

	Foreign currency	Defined benefit pension plan (in thousands)	Total
Balance at December 31, 2012	\$ 5,375	\$ (355)	\$ 5,020
Other comprehensive income before reclassifications	(2,078)	—	(2,078)
Amounts reclassified from accumulated other comprehensive income (1)	—	8	8
Net current-period other comprehensive income	(2,078)	8	(2,070)
Balance at March 31, 2013	\$ 3,297	\$ (347)	\$ 2,950

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

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Note 6. Inventories, net

The components of inventories are as follows:

	March 31, 2013	December 31, 2012
	(in thousands)	
Raw materials	\$ 65,550	\$ 72,013
Work in process	17,139	12,253
Finished goods (completed systems)	16,040	15,968
	<u>\$ 98,729</u>	<u>\$ 100,234</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 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, 2013 and December 31, 2012, inventories are stated net of inventory reserves of \$35.3 million and \$33.6 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, 2012.

Note 7. Restructuring Charges

In 2012, the Company completed reductions in force related to actions taken by management to control costs, improve the focus of its operations, sustain future profitability and conserve cash. As of December 31, 2012, approximately \$0.7 million of these costs were accrued and unpaid. During the three months ended March 31, 2013, the Company implemented further actions, which resulted in restructuring charges for severance and related costs of \$1.8 million being recorded. The liability at March 31, 2013 of \$1.4 million is expected to be paid primarily in the second quarter of 2013.

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, 2012	\$ 659
Severance and related costs	1,801
Cash payments	(1,108)
Balance at March 31, 2013	<u>\$ 1,352</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.

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

	Three months ended March 31,	
	2013	2012
	(in thousands)	
Balance at January 1 (beginning of year)	\$ 1,801	\$ 3,697
Warranties issued during the period	457	842
Settlements made during the period	(399)	(1,078)
Changes in estimate of liability for pre-existing warranties during the period	(277)	(225)
Balance at March 31 (end of period)	<u>\$ 1,582</u>	<u>\$ 3,236</u>
Amount classified as current	\$ 1,539	\$ 3,110
Amount classified as long-term	43	126
Total warranty liability	<u>\$ 1,582</u>	<u>\$ 3,236</u>

Note 9. Fair Value Measurements

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) Assets Measured at Fair Value on a Recurring Basis

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.

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The following table sets forth Company's assets which are measured at fair value on a recurring basis by level within the fair value hierarchy.

	March 31, 2013			
	Fair Value Measurements			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets				
Cash equivalents:				
Money market funds	\$ 22,881	\$ —	\$ —	\$ 22,881

	December 31, 2012			
	Fair Value Measurements			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets				
Cash equivalents:				
Money market funds	\$ 29,179	\$ —	\$ —	\$ 29,179

(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 assets, accounts payable and accrued expenses approximate fair value due to their short-term maturities.

Note 10. Financing Arrangements

Bank Credit Facility

The Company has a revolving credit facility with a bank pursuant to an Amended and Restated Loan and Security Agreement dated April 25, 2011 (the "Revolving Credit Facility"). The facility provides for borrowings up to \$30 million, based primarily on accounts receivable, and is subject to certain financial covenants requiring the Company to maintain minimum levels of operating results and liquidity. The agreement will terminate on April 10, 2015. The Company uses the facility to support letters of credit and for short term borrowing as needed.

On March 5, 2012, the Company entered into a Second Loan Modification Agreement relating to the Revolving Credit Facility to revise financial covenants. To facilitate future availability, on September 10, 2012, the Company further modified the Revolving Credit Facility by entering into the Third Loan Modification Agreement (the "Third Modification Agreement"). The Third Modification Agreement revises the covenant setting the Company's minimum trailing six month Adjusted Net Income (as such capitalized term is defined in the agreement). All other material terms of the Revolving Credit Facility are unaffected by the Third Modification Agreement.

At March 31, 2013, the Company's available borrowing capacity under the Revolving Credit Facility was \$13.0 million and the Company was compliant with all covenants of the loan agreement. There were no borrowings against this facility during the three months ended March 31, 2013.

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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 tax jurisdictions and, as a result, does not pay significant income taxes in those jurisdictions.

Note 12. Concentration of Risk

For the three months ended March 31, 2013, one customer accounted for approximately 11.5% of consolidated revenue. For the three months ended March 31, 2012, two customers accounted for approximately 24.6% and 14.4% of consolidated revenue, respectively.

At March 31, 2013, one customer accounted for 12.9% of consolidated accounts receivable. At December 31, 2012, two customers accounted for 11.9% and 11.5% of consolidated 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, 2013, the Company adopted Accounting Standards Update No. 2013-02, *Reporting of Amounts Reclassified out of Accumulated Other Comprehensive Income*. This newly issued accounting update requires that companies present either in a single note or parenthetically on the face of the financial statements, the effect of significant amounts reclassified from each component of accumulated other comprehensive income based on its source and the income statement line items affected by the reclassification. If a component is not required to be reclassified to net income in its entirety, companies would instead cross reference to the related footnote for additional information. As this update only requires enhanced disclosure, the adoption of this update did not impact the Company's financial position or results of operations.

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.

Note 15. Subsequent Events

In April 2013, the Company received \$0.8 million as consideration for achieving a milestone related to its 2012 asset purchase agreement with Lam. The proceeds will be recognized as part of the gain on sale of dry strip assets and intellectual property in the second quarter of 2013. See Note 1 and Note 3 for additional details.

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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" and "Risk Factors" and others discussed elsewhere in this Form 10-Q. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect management's analysis only as of the date hereof. We assume no obligation to update these forward-looking statements to reflect actual results or changes in factors or assumptions affecting forward-looking statements, except as may be required by law.

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. We typically become more efficient in manufacturing products as they mature. Our established cost structure does not vary significantly with changes in volume, which limits our ability to reduce costs in proportion to declining sales. Therefore, we experience fluctuations in operating results and cash flows depending on our revenue as driven by the level of capital expenditures by semiconductor manufacturers.

In December 2012, we sold to Lam Research Corporation the intellectual property rights and other assets relating to our dry strip systems product line. The purchased intellectual property rights include, among other things, worldwide patent rights, patent applications, copyrights, industrial designs, know-how and related rights used by us in our dry strip products. Lam granted us a worldwide, non-exclusive, non-transferable, royalty free license to use the intellectual property rights sold by us. The license allows us to make and sell 300 mm dry strip wafer processing equipment for semiconductor applications through September 2013. We will continue to sell dry strip systems for smaller wafers until December 2015 and support our installed base of dry strip systems indefinitely. Due to this continuing interest in the dry strip business, the sale of the intellectual property rights and other assets to Lam have been reported in continuing operations.

The sizable 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 partnering within the semiconductor manufacturing industry is increasing. We expect these trends to continue to reduce the number of our potential customers. Our net revenue from our ten largest customers accounted for 59.7% of total revenue for the three months ended March 31, 2013 compared to 79.5% of revenue for the three months ended March 31, 2012.

Weak industry conditions that we experienced in 2012 continued through the first quarter of 2013. This resulted in a decline in our revenues, with ongoing weak system sales in addition to lower aftermarket revenues, which were negatively impacted by low fab utilization rates and customers holding back on spending for consumables, spare parts and upgrades. During this period of market uncertainty, we continued to align our organization with market demands. In addition to tight control of discretionary spending, we also implemented other actions including headcount reductions and an unpaid shutdown during the first quarter of 2013. Our financial results also reflect efforts in recent years to lower our breakeven revenue levels to avoid significant losses in a downturn, while continuing to invest a significant portion of our personnel and financial resources in research and development programs.

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.

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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, 2012.

Results of Operations

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

	Three months ended March 31,	
	2013	2012
Revenue:		
Product	84.6%	86.4%
Service	15.4	13.6
Total revenue	100.0	100.0
Cost of revenue:		
Product	54.4	53.2
Services	13.8	9.5
Total cost of revenue	68.2	62.7
Gross profit	31.8	37.3
Operating expenses:		
Research and development	22.6	21.2
Sales and marketing	12.8	12.0
General and administrative	16.2	14.2
Gain on sale of dry strip assets and intellectual property	(0.9)	—
Restructuring charges	4.4	5.2
Total operating expenses	55.1	52.6
Loss from operations:	(23.3)	(15.3)
Other income (expense):		
Interest income	—	—
Other, net	2.0	(1.6)
Total other income (expense)	2.0	(1.6)
Loss before income taxes	(21.3)	(16.9)
Income taxes	0.8	1.3
Net loss	(22.1)%	(18.2)%

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Revenue

The following table sets forth our revenues.

	Three months ended March 31,		Period-to-Period change	
	2013	2012	\$	%
(dollars in thousands)				
Revenues:				
Product	\$ 34,452	\$ 47,538	\$ (13,086)	(27.5)%
Percentage of revenues	84.6%	86.4%		
Service	6,274	7,468	(1,194)	(16.0)%
Percentage of revenues	15.4%	13.6%		
Total revenues	\$ 40,726	\$ 55,006	\$ (14,280)	(26.0)%

Three Months Ended March 31, 2013 Compared with Three Months Ended March 31, 2012

Product

Product revenue which includes system sales, sales of spare parts and product upgrades was \$34.5 million, or 84.6%, of revenue during the three months ended March 31, 2013, compared with \$47.5 million, or 86.4% of revenue for the three months ended March 31, 2012. The decrease in product revenue is attributable to continued weak semiconductor market spending.

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, 2013 and December 31, 2012 was \$6.0 million and \$6.9 million, respectively. The decrease was mainly due to the decrease in systems sales in the first quarter of 2013 and the timing of acceptance of deferred system sales.

Service

Service revenue, which includes the labor component of maintenance and service contracts and fees for service hours provided by on-site service personnel, was \$6.3 million, or 15.4% of revenue for the three months ended March 31, 2013, compared with \$7.5 million, or 13.6% of revenue for the three months ended March 31, 2012. Service revenue fluctuates from period to period based on capacity utilization at customers' manufacturing facilities, which affects the need for equipment service. The decrease during the first quarter of 2013 was primarily due to a decrease in fabrication utilization in the semiconductor industry as compared to the first quarter of 2012.

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 product line (the most significant of which is ion implant) and by aftermarket, as described below.

Three Months Ended March 31, 2013 Compared with Three Months Ended March 31, 2012

Ion Implant

Included in total revenue of \$40.7 million during the three months ended March 31, 2013 is revenue from sales of ion implantation products and related service of \$32.3 million, or 79.4% of total revenue, compared with \$40.4 million, or 73.5%, of total revenue for the three months ended March 31, 2012. The dollar decrease was due to the factors discussed above for product revenue.

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Aftermarket

Our product revenue includes sales of spare parts and product upgrades as well as complete systems. We refer to the business of selling spare parts and product upgrades, combined with the sale of maintenance labor and service contracts and service hours, as the "aftermarket" business. Included in total revenue of \$40.7 million during the three months ended March 31, 2013 is revenue from our aftermarket business of \$28.0 million, compared to \$32.1 million for the three months ended March 31, 2012. Aftermarket revenue fluctuates from period to period based on capacity utilization at customers' manufacturing facilities which affects the sale of spare parts and demand for equipment service. The decrease in aftermarket revenue in first quarter of 2013 as compared to same period in 2012 was due to a decrease in fabrication utilization in the semiconductor industry that began in the second half of 2012 and has continued through the first quarter of 2013.

Gross Profit / Gross Margin

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

	Three months ended March 31,		Period-to-Period change	
	2013	2012	\$	%
(dollars in thousands)				
Gross Profit:				
Product	\$ 12,271	\$ 18,254	\$ (5,983)	(32.8)%
Product gross margin	35.6%	38.4%		
Service	672	2,282	(1,610)	(70.6)%
Service gross margin	10.7%	30.6%		
Total gross profit	\$ 12,943	20,536	\$ (7,593)	(37.0)%
Gross margin	31.8%	37.3%		

Three Months Ended March 31, 2013 Compared with Three Months Ended March 31, 2012

Product

Gross profit from product revenue was 35.6% for the three months ended March 31, 2013, compared to 38.4% for the three months ended March 31, 2012. The decrease in gross profit of 2.8 percentage points was primarily due to an incremental reserve for excess inventory which reduced gross profit by 5.7 percentage points, offset by a 2.9 percentage point increase in gross profit resulting from the favorable impact of an increased mix of parts and upgrade revenue at higher margins.

The incremental reserve of \$2.1 million was for our 300mm dry strip components. The asset purchase agreement with Lam permitted us to manufacture and sell dry strip products through September 2013. Due to changes in the forecasted sales for our dry strip products that become known in the current period, we determined that a portion of the dry strip inventory components were not recoverable.

Service

Service revenue gross margin was 10.7% for the three months ended March 31, 2013, compared to 30.6% for the three months ended March 31, 2012. The decrease in gross margin is attributable to lower sales volume and the unfavorable absorption of fixed service costs.

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Operating Expenses

The following table sets forth our operating expenses:

	Three months ended March 31,		Period-to-Period change	
	2013	2012	\$	%
	(dollars in thousands)			
Research and development	\$ 9,206	\$ 11,669	\$ (2,463)	(21.1)%
Percentage of revenues	22.6%	21.2%		
Sales and marketing	5,201	6,583	(1,382)	(21.0)%
Percentage of revenues	12.8%	12.0%		
General and administrative	6,590	7,799	(1,209)	(15.5)%
Percentage of revenues	16.2%	14.2%		
Gain on sale of dry strip assets and intellectual property	(368)	—	(368)	—
Percentage of revenues	(0.9)%	0.0%		
Restructuring charges	1,801	2,881	(1,080)	(37.5)%
Percentage of revenues	4.4%	5.2%		
Total operating expenses	\$ 22,430	\$ 28,932	\$ (6,502)	(22.5)%
Percentage of revenues	55.1%	52.6%		

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 \$12.9 million, personnel costs are our largest expense, representing 61.2% of our total operating expenses, excluding the gain on sale of the dry strip assets and intellectual property of \$0.4 million and restructuring charges of \$1.8 million for the three months ended March 31, 2013, as compared to \$15.4 million, or 59.0%, for the three months ended March 31, 2012.

We continue to align our organization with market demands and tightened control over our discretionary spending. As a result of the current economic conditions in the semiconductor industry, we took a number of actions in the first quarter of 2013 to reduce our operating expenses and manage our cash. These actions included a reduction in our global workforce; focusing our R&D spending on critical programs; and asking our employees to take one week of unpaid shutdown.

The impact of these actions and our operating results are discussed below.

Research and Development

	Three months ended March 31,		Period-to-period change	
	2013	2012	\$	%
	(dollars in thousands)			
Research and development	\$ 9,206	\$ 11,669	\$ (2,463)	(21.1)%
Percentage of revenues	22.6%	21.2%		

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, 2013 Compared with Three Months Ended March 31, 2012

Research and development expense was \$9.2 million during the three months ended March 31, 2013; a decrease of \$2.5 million, or 21.1%, compared with \$11.7 million during the three months ended March 13, 2012. The decrease included the reduction in payroll costs of \$0.9 million as a result of lowering our headcount through reductions in force and the cost

savings realized by one week of unpaid shutdown taken by our employees. As we focused our R&D spend on critical programs, consulting, project material and related costs decreased by \$1.0 million and depreciation expense for internal use assets used as demonstration and/or test systems decreased by \$0.5 million.

Sales and Marketing

	Three months ended March 31,		Period-to-period change	
	2013	2012	\$	%
	(dollars in thousands)			
Sales and marketing	\$ 5,201	\$ 6,583	\$ (1,382)	(21.0)%
Percentage of revenues	12.8%	12.0%		

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, 2013 Compared with Three Months Ended March 31, 2012

Sales and marketing expense was \$5.2 million during the three months ended March 31, 2013; a decrease of \$1.4 million, or 21.0%, compared with \$6.6 million during the three months ended March 31, 2012. The decrease was primarily due to the reduction in payroll and related costs of \$0.7 million as a result of lowering our headcount through reductions in force and the cost savings realized by one week of unpaid shutdown taken by our employees. As a result of our tightened control over discretionary spending, we reduced our travel and entertainment costs by \$0.2 million; consulting expenses by \$0.2 million; and facilities related expenses by \$0.1 million.

General and Administrative

	Three months ended March 31,		Period-to-period change	
	2013	2012	\$	%
	(dollars in thousands)			
General and administrative	\$ 6,590	\$ 7,799	\$ (1,209)	(15.5)%
Percentage of revenues	16.2%	14.2%		

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, 2013 Compared with Three Months Ended March 31, 2012

General and administrative expense was \$6.6 million during the three months ended March 31, 2013; a decrease of \$1.2 million, or 15.5%, compared with \$7.8 million during the three months ended March 31, 2012. The decrease was primarily due to the reduction in payroll and related costs of \$0.9 million as a result of lowering our headcount through reductions in force and the cost savings realized by one week of unpaid shutdown taken by our employees. As a result of our tightened control over discretionary spending we reduced our professional fees and facilities related expenses during the three months ended March 31, 2013 as compared to the same period in 2012.

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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 the lab system purchased.

Restructuring Charges

	Three months ended March 31,		Period-to-period change	
	2013	2012	\$	%
	(dollars in thousands)			
Restructuring charges	\$ 1,801	\$ 2,881	\$ (1,080)	(37.5)%
Percentage of revenues	4.4%	5.2%		

Three Months Ended March 31, 2013 Compared with Three Months Ended March 31, 2012

We continue to align our organization with market demands. Due to the current economic conditions in the semiconductor industry, 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 \$1.8 million and \$2.9 million during the three-month periods ended March 31, 2013 and 2012, respectively.

Other Income (Expense)

Three Months Ended March 31, 2013 Compared with Three Months Ended March 31, 2012

Other income was \$0.8 million for the three months ended March 31, 2013 compared with other expenses of \$0.9 million for the three months ended March 31, 2012. 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 and bank fees associated with maintaining our credit facility.

During the three-month periods ended March 31, 2013 and 2012, we had no significant off-balance-sheet risk such as foreign exchange contracts, option contracts or other foreign hedging arrangements.

Income Taxes

Income tax expense was \$0.3 million and \$0.7 million for the three-month periods ended March 31, 2013 and 2012, respectively. Our income tax expense is due primarily to operating results of foreign entities in jurisdictions in Europe and Asia, where we earn taxable income. We have significant net operating loss carryforwards in the United States and certain European jurisdictions, and, as a result, we do not currently pay significant income taxes in those jurisdictions. Additionally, we do not recognize the tax benefit for such losses in the United States and certain European taxing jurisdictions.

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 product lines, 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, which limits our ability to reduce costs in proportion to declining sales. We have tried to reduce operating expense to achieve profitability towards the lower end of our quarterly revenue swings. Therefore, we experience fluctuations in operating results and cash flows depending on our revenue as driven by the level of capital expenditures by semiconductor manufacturers.

During the three-month periods ended March 31, 2013 and 2012, the Company used \$1.9 million and \$9.7 million, respectively, of cash to support operating activities. The cash used by operations during the three months ended March 31,

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2013 was predominately driven by the Company's loss from operations excluding non-cash charges for depreciation and amortization and stock based compensation expense, the decrease in purchases of inventories, and the increase in our accounts payable and accrued liability balances. Investing activities included \$0.4 million in cash received for the achievement of a milestone associated with the Lam transaction and partially offset the use of cash in operations, resulting in cash and cash equivalents at March 31, 2013 of \$42.4 million, compared to \$45.0 million at December 31, 2012. Financing activities were not significant.

Our revolving credit facility with a bank provides for borrowings up to \$30.0 million based primarily on accounts receivable. The facility has certain financial covenants requiring us to maintain minimum levels of operating results and liquidity. The agreement will terminate on April 10, 2015. We use the facility to support letters of credit and for short term borrowing as needed. At March 31, 2013, our available borrowing capacity under the credit facility was \$13.0 million and we were compliant with all covenants of the loan agreement. There were no borrowings against this facility during the three months ended March 31, 2013.

We believe that based on our current market, revenue, expense and cash flow forecasts, our existing cash and cash equivalents 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.

Commitments and Contingencies

Significant commitments and contingencies at March 31, 2013 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, 2012.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

As of March 31, 2013, 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, 2012.

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, 2013 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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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, 2013, 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, 2012.

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 6, 2013. 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 6, 2013. 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 6, 2013. 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 6, 2013. Filed herewith.
101	The following materials from the Company's Form 10-Q for the quarter ended March 31, 2013, formatted in eXtensible Business Reporting Language (XBRL): (i) Consolidated Statements of Operations, (ii) Consolidated Statements of Comprehensive Income, (iii) Consolidated Balance Sheets, (iv) Consolidated Statements of Cash Flows and (v) Notes to Consolidated Financial Statements (Unaudited).

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SIGNATURES

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 6, 2013

AXCELIS TECHNOLOGIES, INC.

By: /s/ JAY ZAGER

Jay Zager
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 6, 2013

/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, Jay Zager, 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 6, 2013

/s/ JAY ZAGER

Jay Zager,
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 6, 2013.

/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 6, 2013.

/s/ JAY ZAGER

Jay Zager
*Executive Vice President and Chief Financial Officer of Axcelis
Technologies, Inc.*
