
**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 September 30, 2017

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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

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

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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 October 31, 2017 there were 31,413,168 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 September 30,		Nine months ended September 30,	
	2017	2016	2017	2016
Revenue:				
Product	\$ 98,161	\$ 59,302	\$ 276,678	\$ 180,336
Services	6,321	6,348	17,487	17,286
Total revenue	<u>104,482</u>	<u>65,650</u>	<u>294,165</u>	<u>197,622</u>
Cost of revenue:				
Product	58,056	36,360	162,542	111,262
Services	6,675	5,186	18,096	13,709
Total cost of revenue	<u>64,731</u>	<u>41,546</u>	<u>180,638</u>	<u>124,971</u>
Gross profit	<u>39,751</u>	<u>24,104</u>	<u>113,527</u>	<u>72,651</u>
Operating expenses:				
Research and development	11,003	8,493	32,154	25,607
Sales and marketing	6,801	5,992	21,335	17,742
General and administrative	8,112	5,988	22,960	18,262
Restructuring charges	—	—	—	282
Total operating expenses	<u>25,916</u>	<u>20,473</u>	<u>76,449</u>	<u>61,893</u>
Income from operations	<u>13,835</u>	<u>3,631</u>	<u>37,078</u>	<u>10,758</u>
Other (expense) income:				
Interest income	219	53	399	161
Interest expense	(1,337)	(1,342)	(3,784)	(3,727)
Other, net	138	(55)	—	(352)
Total other expense	<u>(980)</u>	<u>(1,344)</u>	<u>(3,385)</u>	<u>(3,918)</u>
Income before income taxes	12,855	2,287	33,693	6,840
Income tax provision (benefit)	1,014	136	(1,586)	(196)
Net income	<u>\$ 11,841</u>	<u>\$ 2,151</u>	<u>\$ 35,279</u>	<u>\$ 7,036</u>
Net income per share:				
Basic	<u>\$ 0.38</u>	<u>\$ 0.07</u>	<u>\$ 1.15</u>	<u>\$ 0.24</u>
Diluted	<u>\$ 0.35</u>	<u>\$ 0.07</u>	<u>\$ 1.07</u>	<u>\$ 0.23</u>
Shares used in computing net income per share:				
Basic weighted average common shares	<u>31,274</u>	<u>29,221</u>	<u>30,550</u>	<u>29,118</u>
Diluted weighted average common shares	<u>33,524</u>	<u>31,037</u>	<u>33,048</u>	<u>30,760</u>

See accompanying Notes to these Consolidated Financial Statements

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

	<u>Three months ended</u> <u>September 30,</u>		<u>Nine months ended</u> <u>September 30,</u>	
	<u>2017</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>
Net income	\$ 11,841	\$ 2,151	\$ 35,279	\$ 7,036
Other comprehensive income:				
Foreign currency translation adjustments	524	936	2,928	1,529
Amortization of actuarial gains and other adjustments from pension plan	32	26	89	78
Total other comprehensive income	<u>556</u>	<u>962</u>	<u>3,017</u>	<u>1,607</u>
Comprehensive income	<u>\$ 12,397</u>	<u>\$ 3,113</u>	<u>\$ 38,296</u>	<u>\$ 8,643</u>

See accompanying Notes to these Consolidated Financial Statements

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

	September 30, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 113,889	\$ 70,791
Accounts receivable, net	69,835	50,573
Inventories, net	123,441	113,853
Prepaid expenses and other current assets	7,466	5,512
Total current assets	<u>314,631</u>	<u>240,729</u>
Property, plant and equipment, net	35,704	30,840
Long-term restricted cash	6,799	6,864
Other assets	25,971	23,798
Total assets	<u>\$ 383,105</u>	<u>\$ 302,231</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 33,594	\$ 24,996
Accrued compensation	15,829	5,142
Warranty	4,154	2,426
Income taxes	285	240
Deferred revenue	14,447	10,335
Other current liabilities	5,388	4,592
Total current liabilities	<u>73,697</u>	<u>47,731</u>
Sale leaseback obligation	47,704	47,586
Long-term deferred revenue	1,985	674
Other long-term liabilities	5,317	4,785
Total liabilities	<u>128,703</u>	<u>100,776</u>
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Preferred stock, \$0.001 par value, 30,000 shares authorized; none issued or outstanding	—	—
Common stock, \$0.001 par value, 75,000 shares authorized; 31,433 shares issued and outstanding at September 30, 2017; 29,518 shares issued and outstanding at December 31, 2016	31	30
Additional paid-in capital	550,058	535,408
Accumulated deficit	(296,425)	(331,704)
Accumulated other comprehensive income (loss)	738	(2,279)
Total stockholders' equity	<u>254,402</u>	<u>201,455</u>
Total liabilities and stockholders' equity	<u>\$ 383,105</u>	<u>\$ 302,231</u>

See accompanying Notes to these Consolidated Financial Statements

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

	Nine months ended September 30,	
	2017	2016
Cash flows from operating activities		
Net income	\$ 35,279	\$ 7,036
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation and amortization	3,752	3,193
Gain on sale of equipment	—	(162)
Deferred taxes	(2,076)	465
Stock-based compensation expense	4,325	3,930
Provision for doubtful accounts	—	106
Provision for excess and obsolete inventory	1,547	1,142
Changes in operating assets & liabilities:		
Accounts receivable	(18,374)	(7,898)
Inventories	(8,237)	(7,534)
Prepaid expenses and other current assets	(1,645)	(58)
Accounts payable and other current liabilities	21,345	(4,120)
Deferred revenue	5,353	(704)
Income taxes	34	85
Other assets and liabilities	(981)	(8,494)
Net cash provided by (used in) operating activities	40,322	(13,013)
Cash flows from investing activities		
Proceeds from sale of equipment	—	162
Expenditures for property, plant and equipment and capitalized software	(6,910)	(2,261)
Net cash used in investing activities	(6,910)	(2,099)
Cash flows from financing activities		
Net settlement on restricted stock grants	(1,134)	(2)
Financing fees and other expenses	—	(146)
Proceeds from Employee Stock Purchase Plan	349	—
Proceeds from exercise of stock options	11,112	1,737
Net cash provided by financing activities	10,327	1,589
Effect of exchange rate changes on cash and cash equivalents	(706)	186
Net increase (decrease) in cash, cash equivalents and restricted cash	43,033	(13,337)
Cash, cash equivalents and restricted cash at beginning of period	77,655	85,825
Cash, cash equivalents and restricted cash at end of period	<u>\$ 120,688</u>	<u>\$ 72,488</u>

See accompanying Notes to these Consolidated Financial Statements

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 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 worldwide aftermarket service and support, including spare parts, equipment upgrades, used equipment 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 period 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, 2016 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, 2016.

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, unexpired awards granted under the 2000 Stock Plan 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 14 to the consolidated financial statements in the Company’s 2016 Annual Report on Form 10-K.

The Company recognized stock-based compensation expense of \$1.7 million and \$1.9 million for the three month periods ended September 30, 2017 and 2016, respectively. The Company recognized stock-based compensation expense of \$4.3 million and \$3.9 million for the nine month periods ended September 30, 2017 and 2016, 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.

In the three month periods ended September 30, 2017 and 2016, the Company issued 0.3 million and 0.2 million shares of common stock, respectively, related to stock option exercises, shares issued under the ESPP and vesting of restricted stock units. In the three month periods ended September 30, 2017 and 2016, the Company received proceeds of \$1.8 million and \$1.2 million, respectively, related to stock option exercises and ESPP purchases.

In the nine month periods ended September 30, 2017 and 2016, the Company issued 1.9 million and 0.4 million shares of common stock, respectively, related to stock option exercises, shares issued under the ESPP and vesting of restricted stock units. In the nine month periods ended September 30, 2017 and 2016, the Company received proceeds of \$11.4 million and \$1.7 million, respectively, related to stock option exercises and ESPP purchases.

Note 3. Computation of Net Earnings 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 by the number of additional common shares that would have been outstanding if the potentially dilutive common shares issuable for stock options, restricted stock units and employee stock purchase plan accounts had been issued, calculated using the treasury stock method.

The components of net earnings per share are as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2017	2016	2017	2016
	(in thousands, except per share data)			
Net income available to common stockholders	\$ 11,841	\$ 2,151	\$ 35,279	\$ 7,036
Weighted average common shares outstanding used in computing basic income per share	31,274	29,221	30,550	29,118
Incremental options and RSUs	2,250	1,816	2,498	1,642
Weighted average common shares used in computing diluted net income per share	33,524	31,037	33,048	30,760
Net income per share				
Basic	\$ 0.38	\$ 0.07	\$ 1.15	\$ 0.24
Diluted	\$ 0.35	\$ 0.07	\$ 1.07	\$ 0.23

Diluted weighted average common shares outstanding does not include options and restricted stock units outstanding to purchase four thousand and 0.9 million common equivalent shares for the three month periods ended September 30, 2017 and 2016, respectively, and does not include options and restricted stock units outstanding to purchase 0.2 million and 0.9 million common equivalent shares for the nine month periods ended September 30, 2017 and 2016, respectively, as their effect would have been anti-dilutive.

Note 4. Accumulated Other Comprehensive Income (Loss)

The following table presents the changes in accumulated other comprehensive income (loss), net of tax, by component for the nine months ended September 30, 2017:

	Foreign currency	Defined benefit pension plan	Total
	(in thousands)		
Balance at December 31, 2016	\$ (1,591)	\$ (688)	\$ (2,279)
Other comprehensive income	2,928	89	3,017
Balance at September 30, 2017	\$ 1,337	\$ (599)	\$ 738

Note 5. Cash, cash equivalents and restricted cash

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the statement of financial position that sum to the total of the same such amounts shown in the statement of cash flows.

	September 30,	
	2017	2016
	(dollars in thousands)	
Cash and cash equivalents	\$ 113,889	\$ 65,623
Long-term restricted cash	6,799	6,865
Total cash, cash equivalents and long-term restricted cash	\$ 120,688	\$ 72,488

The restricted cash balance of \$6.8 million as of September 30, 2017 includes a \$5.9 million letter of credit associated with a security deposit for the lease of our corporate headquarters in Beverly, Massachusetts, a \$0.8 million letter of credit relating to workers' compensation insurance and a \$0.1 million deposit relating to customs activity. The restricted cash balance of \$6.9 million as of September 30, 2016 includes the \$5.9 million letter of credit security deposit, a \$0.9 million letter of credit relating to workers' compensation insurance and a \$0.1 million deposit relating to customs activity.

Note 6. Inventories, net

The components of inventories are as follows:

	September 30, 2017	December 31, 2016
	(in thousands)	
Raw materials	\$ 86,342	\$ 82,263
Work in process	28,098	14,117
Finished goods (completed systems)	9,001	17,473
Inventories, net	<u>\$ 123,441</u>	<u>\$ 113,853</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 September 30, 2017 and December 31, 2016, inventories are stated net of inventory reserves of \$8.4 million and \$8.8 million, respectively.

Note 7. 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 standard product warranty liability are as follows:

	Nine months ended September 30,	
	2017	2016
	(in thousands)	
Balance at January 1 (beginning of year)	\$ 2,666	\$ 3,555
Warranties issued during the period	3,898	2,286
Settlements made during the period	(1,614)	(3,570)
Changes in estimate of liability for pre-existing warranties during the period	(562)	551
Balance at September 30 (end of period)	<u>\$ 4,388</u>	<u>\$ 2,822</u>
Amount classified as current	\$ 4,154	\$ 2,597
Amount classified as long-term	234	225
Total warranty liability	<u>\$ 4,388</u>	<u>\$ 2,822</u>

Note 8. Fair Value Measurements

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

	September 30, 2017			Total
	Fair Value Measurements			
	Level 1	Level 2	Level 3	
	(in thousands)			
Assets				
Cash equivalents:				
Money market funds, U.S. Government Securities and Agency Investments	\$ 95,510	\$ —	\$ —	\$ 95,510

	December 31, 2016			Total
	Fair Value Measurements			
	Level 1	Level 2	Level 3	
	(in thousands)			
Assets				
Cash equivalents:				
Money market funds	\$ 54,170	\$ —	\$ —	\$ 54,170

(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 investment accounts), accounts receivable, prepaid expenses and other current assets and non-current cash assets, accounts payable and accrued expenses approximate fair value due to their short-term maturities.

Note 9. Financing Arrangements

Sale Leaseback Obligation

On January 30, 2015, the Company sold its corporate headquarters facility in Beverly Massachusetts for \$48.9 million. As part of the sale, the Company also entered into a 22-year lease agreement. The sale leaseback is accounted for as a financing arrangement for financial reporting and, as such, the Company has recorded a financing obligation of \$47.7 million as of September 30, 2017. The associated lease payments are deemed to include both an interest component and payment of principal, with the underlying liability being extinguished at the end of the original lease term. The Company posted a security deposit of \$5.9 million in the form of an irrevocable letter of credit at the time of the closing. This letter of credit is cash collateralized and is included in long-term restricted cash.

Note 10. Income Taxes

During the three months ended September 30, 2017 and 2016, we recorded an income tax provision of \$1.0 million and \$0.1 million, respectively. During the nine months ended September 30, 2017 and 2016, we recorded an income tax benefit of \$1.6 million and \$0.2 million, respectively. The change in income tax provision and income tax benefit for the three and nine months ended September 30, 2017 was primarily related to excess tax benefits on the exercise of non-qualified stock options and vesting of restricted stock.

At December 31, 2016, the Company had \$124.0 million of deferred tax assets worldwide relating to net operating loss carryforwards, tax credit carryforwards and other temporary differences, which are available to reduce income taxes in future years. The Company continues to maintain a valuation allowance against certain deferred tax assets where it is more likely than not that the deferred tax asset will not be realized because of its extended history of annual losses.

During the nine months ended September 30, 2017, the statute of limitations expired with respect to certain tax positions for which the Company had previously recorded a reserve. The related tax reserve of \$0.3 million and accrued interest of \$0.2 million were reversed.

Note 11. Concentration of Risk

For the three months ended September 30, 2017, two customers accounted for 25.9% and 15.9% of consolidated revenue, respectively. For the nine months ended September 30, 2017, four customers accounted for 23.6%, 18.0%, 13.4% and 10.5% of consolidated revenue, respectively.

For the three months ended September 30, 2016, three customers accounted for 16.0%, 12.0% and 11.7%, of consolidated revenue, respectively. For the nine months ended September 30, 2016, two customers accounted for 12.3% and 10.1% of consolidated revenue, respectively.

At September 30, 2017, two customers accounted for 22.9% and 14.7% of consolidated accounts receivable, respectively. At December 31, 2016, four customers accounted for 22.0%, 12.3%, 12.0% and 10.6% of accounts receivable, respectively.

Note 12. Contingencies

(a) Litigation

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.

(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 13. Recent Accounting Guidance

Accounting Standards or Updates Adopted

In July 2015, the FASB issued Accounting Standards Update (ASU) No. 2015-11, "*Simplifying the Measurement of Inventory*," which changes the inventory measurement principles for entities using the first-in, first-out (FIFO) or average cost methods. For entities utilizing one of these methods, the inventory measurement principle changes from lower of cost or market to the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less the reasonably predictable costs of completion, disposal and transportation. The Company adopted this ASU prospectively in the first quarter of 2017, which did not have a material impact on our financial statements and disclosures.

In March 2016, the FASB issued ASU No. 2016-09 "*Compensation — Stock Compensation*," which changes the accounting for stock-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The amended guidance eliminates the requirement to record excess tax benefits as a reduction in current taxes payable and an increase to additional paid-in capital. The Company adopted this ASU in the first quarter of 2017, in part prospectively and in part retrospectively, as permitted by the ASU.

The Company prospectively adopted the provisions of ASU No. 2016-09 relating to the accounting for excess tax benefits, which resulted in the recognition of approximately \$2.0 million of tax benefit for the nine month period ending September 30, 2017.

The Company retrospectively adopted the provisions of ASU 2016-09 related to the presentation of employee taxes. These provide that when an employer withholds shares for taxes on vesting of equity compensation, the value withheld is presented as a financing activity on the statement of cash flows. This resulted in a \$1.1 million and a two thousand dollar reduction in net cash provided by financing activities for the nine month periods ended September 30, 2017 and 2016, respectively. Prior to adoption, these amounts were reflected within cash flows from operating activities.

The Company has also elected to continue to estimate a forfeiture rate associated with our stock-based awards and related expense.

In November 2016, the FASB issued ASU 2016-18, "*Statement of Cash Flows (Topic 203): Restricted Cash (a consensus of the FASB Emerging Issues Task Force)*." This ASU requires the statement of cash flows to explain the change during the period in the total cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents are to be included with cash and cash equivalents when reconciling the beginning of period and end of period amounts shown on the statement of cash flows. On January 1, 2017, the Company early adopted this ASU retrospectively, resulting in \$6.9 million of restricted cash being included in the beginning balances of cash, cash equivalents and

restricted cash balances on the statement of cash flows for the periods presented. Please see Note 5 for additional information.

Accounting Standards or Updates Not Yet Effective

In May 2014, the FASB issued ASU No. 2014-09, “*Revenue from Contracts with Customers*,” which provides guidance for revenue recognition. The standard’s core principle is that a company will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. In April 2016, the FASB issued ASU 2016-10, “*Revenue from Contracts with Customers*” (Topic 606): *Identifying Performance Obligations and Licensing*, which further clarifies performance obligations in a contract with a customer. In May 2016, the FASB issued ASU 2016-12, “*Revenue from Contracts with Customers*” (Topic 606): *Narrow-Scope Improvements and Practical Expedients*, which provides a more narrow interpretation of ASU No. 2014-09. In July 2017, the FASB issued ASU 2017-13, “*Revenue Recognition* (Topic 605), *Revenue from Contracts with Customers* (Topic 606), *Leases* (Topic 840), and *Leases* (Topic 842), which clarifies the transition periods related to public and private business entities. These ASUs (collectively referred to as “Topic 606”) are effective for annual reporting periods beginning after December 15, 2017 and interim periods within those annual periods.

We are in the process of comparing our current revenue recognition policies to the requirements of Topic 606 for each of our revenue categories. Based on our review to date, we believe that the recognition of the retention payments (the portion of the purchase price on system sales withheld by the customer until installation is complete) will in general occur earlier under the new model than under our current revenue recognition policy. Our evaluation is not complete, and we have not concluded on the overall impact of adopting Topic 606. We intend to adopt Topic 606, effective January 1, 2018, using the modified retrospective approach.

In February 2016, the FASB issued ASU No. 2016-02 “*Leases*.” The ASU requires lessees to recognize the rights and obligations created by most leases as assets and liabilities on their balance sheet and continue to recognize expenses on their income statement over the lease term. It will also require disclosures designed to give financial statement users information on the amount, timing, and uncertainty of cash flows arising from leases. The guidance is effective for annual reporting periods beginning after December 15, 2018, and interim periods within those years. Early adoption is permitted for all entities. We are currently evaluating the impact of ASU 2016-02 on the consolidated financial statements and disclosures.

In August 2016, the FASB issued ASU No. 2016-15 “*Classification of Certain Cash Receipts and Cash Payments*.” The ASU is intended to add or clarify guidance on the classification of certain receipts and payments in the statement of cash flows and to eliminate the diversity in practice related to such classifications. The guidance in ASU 2016-15 is required for annual reporting periods beginning after December 15, 2017, with early adoption permitted. We are currently evaluating the impact of ASU 2016-15 on the consolidated financial statements and disclosures.

In March 2017, the FASB issued ASU No. 2017-07 “*Compensation – Retirement Benefits* (Topic 715): *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost*.” The ASU is intended to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost. The amendment applies to all entities offering a defined benefit pension plan, other postretirement benefit plans, or other types of benefits accounted for under Topic 715. The amendments in the ASU require an employer to report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. The amendments in this ASU are effective for public business entities for annual periods beginning after December 15, 2017, including interim periods within the annual period. The amendments in this ASU should be applied retrospectively for the presentation of the service cost component and the other components of net periodic pension cost and net periodic postretirement benefit cost in the income statement and prospectively, on and after the effective date, for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit in assets. We are currently evaluating the impact of ASU 2017-07 on the consolidated financial statements and disclosures.

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 under "Risk Factors" in Part II, Item 1A to our annual report on Form 10-K for the year ended December 31, 2016, which discussion is incorporated herein by reference. 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

Axcelis is a 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 worldwide aftermarket service and support, including spare parts, equipment upgrades and maintenance services to the semiconductor industry. Consolidation and partnering within the semiconductor manufacturing industry has resulted in a small number of customers representing a substantial portion of our business. Our ten largest customers accounted for 78.1% of total revenue for the nine months ended September 30, 2017.

Our product development and manufacturing activities occur primarily in the United States. Axcelis' equipment and service products are highly technical and are sold primarily through a direct sales force in the United States, Europe and Asia.

In the third quarter of 2017, we delivered strong financial results by selling more Purion systems, with consistent gross margin performance as in the recent prior quarters. Higher revenues in the quarter were the result of customers' increasing selection of Purion ion implanters and strong spending by customers serving the memory and mature process technology segments.

Critical Accounting Estimates

Management's discussion and analysis of our financial condition and results of operations included herein and in our Annual Report on Form 10-K for the year ended December 31, 2016 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, 2016.

Results of Operations

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

	Three months ended September 30,		Nine months ended September 30,	
	2017	2016	2017	2016
Revenue:				
Product	94.0 %	90.3 %	94.1 %	91.3 %
Services	6.0	9.7	5.9	8.7
Total revenue	100.0	100.0	100.0	100.0
Cost of revenue:				
Product	55.6	55.4	55.3	56.3
Services	6.4	7.9	6.2	6.9
Total cost of revenue	62.0	63.3	61.5	63.2
Gross profit	38.0	36.7	38.5	36.8
Operating expenses:				
Research and development	10.5	12.9	10.9	13.0
Sales and marketing	6.5	9.1	7.3	9.0
General and administrative	7.8	9.1	7.8	9.2
Restructuring charges	—	—	—	0.1
Total operating expenses	24.8	31.1	26.0	31.3
Income from operations	13.2	5.6	12.5	5.5
Other (expense) income:				
Interest income	0.2	0.1	0.1	0.1
Interest expense	(1.3)	(2.0)	(1.3)	(1.9)
Other, net	0.1	(0.1)	—	(0.2)
Total other expense	(1.0)	(2.0)	(1.2)	(2.0)
Income before income taxes	12.2	3.6	11.3	3.5
Income tax provision (benefit)	1.0	0.2	(0.5)	(0.1)
Net income	11.2 %	3.4 %	11.8 %	3.6 %

Revenue

The following table sets forth our revenue:

	Three months ended September 30,		Period-to-Period Change		Nine months ended September 30,		Period-to-Period Change	
	2017	2016	\$	%	2017	2016	\$	%
(dollars in thousands)								
Revenue:								
Product	\$ 98,161	\$ 59,302	\$ 38,859	65.5 %	\$ 276,678	\$ 180,336	\$ 96,342	53.4 %
Percentage of revenue	94.0 %	90.3 %			94.1 %	91.3 %		
Services	6,321	6,348	(27)	(0.4)%	17,487	17,286	201	1.2 %
Percentage of revenue	6.0 %	9.7 %			5.9 %	8.7 %		
Total revenue	\$ 104,482	\$ 65,650	\$ 38,832	59.2 %	\$ 294,165	\$ 197,622	\$ 96,543	48.9 %

Three months ended September 30, 2017 Compared with Three months ended September 30, 2016

Product

Product revenue, which includes system sales, sales of spare parts, product upgrades and used systems was \$98.2 million, or 94.0% of revenue during the three months ended September 30, 2017, compared with \$59.3 million, or 90.3% of revenue for the three months ended September 30, 2016. The \$38.9 million increase in product revenue for the three month period ending September 30, 2017, in comparison to the same period in 2016, was primarily driven by an increase in the number of Purion systems sold.

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 September 30, 2017 and December 31, 2016 was \$16.4 million and \$11.0 million, respectively. The increase in deferred revenue is primarily due to the increase in the number of systems sold in the quarter.

Services

Services 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 6.0% of revenue for the three months ended September 30, 2017, compared with \$6.3 million, or 9.7% of revenue for the three months ended September 30, 2016. Although services revenue typically increases 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.

Nine months ended September 30, 2017 Compared with Nine months ended September 30, 2016

Product

Product revenue was \$276.7 million, or 94.1% of revenue during the nine months ended September 30, 2017, compared with \$180.3 million, or 91.3% of revenue for the nine months ended September 30, 2016. The \$96.3 million increase in product revenue for the nine month period ending September 30, 2017, in comparison to the same period in 2016, was primarily driven by an increase in the number of Purion systems sold.

Services

Services revenue was \$17.5 million, or 5.9% of revenue for the nine months ended September 30, 2017, compared with \$17.3 million, or 8.7% of revenue for the nine months ended September 30, 2016. Although services revenue typically increases 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.

Revenue Categories used by Management

As an alternative to the line item revenue categories discussed above, management also uses revenue categorizations which divide revenue into new systems sales and "aftermarket," meaning sales of spare parts, product upgrades and used systems, combined with the sale of maintenance labor and service contracts and services hours.

Three months ended September 30, 2017 Compared with Three months ended September 30, 2016

New Systems

Included in total revenue of \$104.5 million during the three months ended September 30, 2017 is revenue from sales of new systems of \$69.2 million, or 66.2% of total revenue, compared with \$30.9 million, or 47.1%, of total revenue for the three months ended September 30, 2016. The increase was due to higher sales of our Purion systems sold in the recent quarter.

Aftermarket

Included in total revenue of \$104.5 million during the three months ended September 30, 2017 is revenue from our aftermarket business of \$35.3 million, compared to \$34.8 million for the three months ended September 30, 2016. 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. Aftermarket revenue can also fluctuate from period to period based on the demand for system upgrades or used tools.

Nine months ended September 30, 2017 Compared with Nine months ended September 30, 2016

New Systems

Included in total revenue of \$294.2 million during the nine months ended September 30, 2017 is revenue from sales of new systems of \$186.9 million, or 63.6% of total revenue, compared with \$101.6 million, or 51.4%, of total revenue for the nine months ended September 30, 2016. The increase was due to higher sales of our Purion systems sold in the nine month period ended September 30, 2017.

Aftermarket

Included in total revenue of \$294.2 million during the nine months ended September 30, 2017 is revenue from our aftermarket business of \$107.3 million, compared to \$96.0 million for the nine months ended September 30, 2016. The increase was primarily due to a large sale of upgrades to one customer in Asia.

Gross Profit / Gross Margin

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

	Three months ended September 30,		Period-to-Period Change		Nine months ended September 30,		Period-to-Period Change	
	2017	2016	\$	%	2017	2016	\$	%
(dollars in thousands)								
Gross Profit:								
Product	\$ 40,105	\$ 22,942	\$17,163	74.8 %	\$114,136	\$ 69,074	\$ 45,062	65.2 %
Product gross margin	40.9 %	38.7 %			41.3 %	38.3 %		
Services	(354)	1,162	(1,516)	(130.5)%	(609)	\$ 3,577	(4,186)	(117.0)%
Services gross margin	(5.6)%	18.3 %			(3.5)%	20.7 %		
Total gross profit	\$ 39,751	\$ 24,104	\$15,647	64.9 %	\$113,527	\$ 72,651	\$ 40,876	56.3 %
Gross margin	38.0 %	36.7 %			38.5 %	36.8 %		

Three months ended September 30, 2017 Compared with Three months ended September 30, 2016

Product

Gross margin from product revenue was 40.9% for the three months ended September 30, 2017, compared to 38.7% for the three months ended September 30, 2016. The increase in gross margin of 2.2 percentage points resulted from improved margins on Purion Systems.

Services

Gross margin from services revenue was (5.6)% for the three months ended September 30, 2017, compared to 18.3% for the three months ended September 30, 2016. The decrease in gross margin in the recent period is primarily attributable to increased costs on service contracts.

Nine months ended September 30, 2017 Compared with Nine months ended September 30, 2016

Product

Gross margin from product revenue was 41.3% for the nine months ended September 30, 2017, compared to 38.3% for the nine months ended September 30, 2016. The increase in gross margin of 3.0 percentage points resulted from improved margins on Purion systems.

Services

Gross margin from services revenue was (3.5)% for the nine months ended September 30, 2017, compared to 20.7% for the nine months ended September 30, 2016. The decrease in gross margin in the recent period is primarily attributable to increased costs on service contracts.

Operating Expenses

The following table sets forth our operating expenses:

	Three months ended September 30,		Period-to-Period Change		Nine months ended September 30,		Period-to-Period Change	
	2017	2016	\$	%	2017	2016	\$	%
	(dollars in thousands)							
Research and development	\$ 11,003	\$ 8,493	\$ 2,510	29.6 %	\$ 32,154	\$ 25,607	\$ 6,547	25.6 %
Percentage of revenue	10.5 %	12.9 %			10.9 %	13.0 %		
Sales and marketing	6,801	5,992	809	13.5 %	21,335	17,742	3,593	20.3 %
Percentage of revenue	6.5 %	9.1 %			7.3 %	9.0 %		
General and administrative	8,112	5,988	2,124	35.5 %	22,960	18,262	4,698	25.7 %
Percentage of revenue	7.8 %	9.1 %			7.8 %	9.2 %		
Restructuring charges	—	—	—	— %	—	282	(282)	(100.0)%
Percentage of revenue	— %	— %			— %	0.1 %		
Total operating expenses	\$ 25,916	\$ 20,473	\$ 5,443	26.6 %	\$ 76,449	\$ 61,893	\$ 14,556	23.5 %
Percentage of revenue	24.8 %	31.1 %			26.0 %	31.3 %		

Our operating expenses consist primarily of personnel costs, including salaries, commissions, expected incentive plan payouts, stock-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.

Personnel costs are our largest expense, representing \$16.7 million and \$47.9 million, or 64.5% and 62.7%, of our total operating expenses for the three and nine month periods ended September 30, 2017, respectively. Personnel costs were \$11.8 million and \$35.8 million, or 57.9% and 58.2%, of our total operating expenses for the three and nine month periods ended September 30, 2016. The higher personnel costs for both the three and nine months ended September 30, 2017 are primarily due to increased incentive plan expense.

Research and Development

	Three months ended September 30,		Period-to-Period Change		Nine months ended September 30,		Period-to-Period Change	
	2017	2016	\$	%	2017	2016	\$	%
	(dollars in thousands)							
Research and development	\$ 11,003	\$ 8,493	\$ 2,510	29.6 %	\$ 32,154	\$ 25,607	\$ 6,547	25.6 %
Percentage of revenue	10.5 %	12.9 %			10.9 %	13.0 %		

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 September 30, 2017 Compared with Three months ended September 30, 2016

Research and development expense was \$11.0 million during the three months ended September 30, 2017; a \$2.5 million, or 29.6%, increase from \$8.5 million during the three months ended September 30, 2016. The increase is primarily due to incentive plan expense and to a lesser extent additional headcount to support the development of new Purion products.

Nine months ended September 30, 2017 Compared with Nine months ended September 30, 2016

Research and development expense was \$32.2 million during the nine months ended September 30, 2017; a \$6.5 million, or 25.6%, increase from \$25.6 million during the nine months ended September 30, 2016. The increase is primarily due to incentive plan expense and to a lesser extent additional headcount to support the development of new Purion products.

Sales and Marketing

	Three months ended September 30,		Period-to-Period Change		Nine months ended September 30,		Period-to-Period Change	
	2017	2016	\$	%	2017	2016	\$	%
	(dollars in thousands)							
Sales and marketing	\$6,801	\$5,992	\$ 809	13.5 %	\$21,335	\$17,742	\$3,593	20.3 %
Percentage of revenue	6.5 %	9.1 %			7.3 %	9.0 %		

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

Three months ended September 30, 2017 Compared with Three months ended September 30, 2016

Sales and marketing expense was \$6.8 million during the three months ended September 30, 2017; an increase of \$0.8 million, or 13.5%, compared with \$6.0 million during the three months ended September 30, 2016. The increase is primarily due to incentive plan expense and to a lesser extent, increased headcount.

Nine months ended September 30, 2017 Compared with Nine months ended September 30, 2016

Sales and marketing expense was \$21.3 million during the nine months ended September 30, 2017; an increase of \$3.6 million, or 20.3%, compared with \$17.7 million during the nine months ended September 30, 2016. The increase is primarily due to incentive plan expense and to a lesser extent, increased headcount.

General and Administrative

	Three months ended September 30,		Period-to-Period Change		Nine months ended September 30,		Period-to-Period Change	
	2017	2016	\$	%	2017	2016	\$	%
	(dollars in thousands)							
General and administrative	\$ 8,112	\$ 5,988	\$ 2,124	35.5 %	\$22,960	\$ 18,262	4,698	25.7 %
Percentage of revenue	7.8 %	9.1 %			7.8 %	9.2 %		

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

Three months ended September 30, 2017 Compared with Three months ended September 30, 2016

General and administrative expense was \$8.1 million during the three months ended September 30, 2017; an increase of \$2.1 million, or 35.5%, compared to \$6.0 million during the three months ended September 30, 2016. The increase is primarily due to increased incentive plan expense.

Nine months ended September 30, 2017 Compared with Nine months ended September 30, 2016

General and administrative expense was \$23.0 million during the nine months ended September 30, 2017; an increase of \$4.7 million, or 25.7%, compared to \$18.3 million during the nine months ended September 30, 2016. The increase is primarily due to increased incentive plan expense.

Restructuring Charges

	Three months ended September 30,		Period-to-period change		Nine months ended September 30,		Period-to-period change	
	2017	2016	\$	%	2017	2016	\$	%
	(dollars in thousands)							
Restructuring charges	\$ —	\$ —	\$ —	—%	\$ —	\$ 282	\$ (282)	(100.0)%
Percentage of revenue	—%	—%			—%	0.1%		

In the first quarter of 2016, due to changes in customer service contracts resulting from a consolidation in our customer base, we had severance and other costs related to a reduction in force.

Other (Expense) Income

	Three months ended September 30,		Period-to-period change		Nine months ended September 30,		Period-to-period change	
	2017	2016	\$	%	2017	2016	\$	%
	(dollars in thousands)							
Other (expense) income	\$ (980)	\$ (1,344)	\$ 364	27.1%	\$ (3,385)	\$ (3,918)	\$ 533	13.6%
Percentage of revenue	(1.0)%	(2.0)%			(1.2)%	(2.0)%		

Other (expense) income consists primarily of foreign exchange gains and losses attributable to fluctuations against local currencies of the countries in which we operate, interest expense related to the sale leaseback of our headquarters and interest earned on our invested cash balances. Other expense was \$1.0 million for the three months ended September 30, 2017, compared with \$1.3 million for the three months ended September 30, 2016. The \$0.3 million decrease in other expense for the three month period ended September 30, 2017 compared to the three month period ended September 30, 2016, was primarily due to interest earned on our invested cash as well as fluctuations in currency exchange. During both of the three month periods ended September 30, 2017 and 2016, the Company recorded \$1.3 million in deemed interest expense associated with the lease payments for our headquarters in Beverly, which is being accounted for as a financing obligation.

The \$0.5 million decrease in other expense for the nine month period ended September 30, 2017 compared to the nine month period ended September 30, 2016, was primarily due to interest earned on our invested cash as well as fluctuations in currency exchange.

During the three and nine month periods ended September 30, 2017 and 2016, with the exception of operating lease agreements entered into by the Company, we had no significant off-balance-sheet risk such as exchange contracts, option contracts or other foreign hedging arrangements.

Income Tax Provision (Benefit)

	Three months ended September 30,		Period-to-period change		Nine months ended September 30,		Period-to-period change	
	2017	2016	\$	%	2017	2016	\$	%
	(dollars in thousands)							
Income tax	\$ 1,014	\$ 136	\$ 878	645.6%	\$ (1,586)	\$ (196)	\$ (1,390)	709.2%
Percentage of revenue	1.0%	0.2%			(0.5)%	(0.1)%		

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 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, and will not do so until we have sufficient income such that these tax benefits can be utilized. The Company will continue to maintain a full valuation allowance for these tax assets until accounting principles require the release of the allowance based on expectations of continuing profitability.

During the three months ended September 30, 2017, the Company recorded a tax expense of approximately \$0.8 million as a discrete item in relation to excess tax benefits associated with the exercise of nonqualified stock options and vesting of restricted stock. This resulted in a net tax expense of \$1.0 million for the three months ended September 30, 2017. The income tax benefit of \$1.6 for the nine months ended September 30, 2017 includes a \$2.0 million tax benefit related to the excess tax benefit on the exercise of non-qualified stock options and the vesting of restricted stock.

During the three months ended March 31, 2017, the statute of limitations expired with respect to certain tax positions for which the Company had previously recorded a reserve. The related tax reserve of \$0.3 million and accrued interest of \$0.2 million were reversed.

During the nine months ended September 30, 2016, the statute of limitations associated with tax positions previously taken by the Company expired. The related tax reserve of \$0.6 million and accrued interest of \$0.3 million were reversed.

Liquidity and Capital Resources

The Company had \$113.9 million in unrestricted cash and cash equivalents at September 30, 2017, in addition to \$6.8 million in restricted cash, primarily comprised of the \$5.9 million security deposit under the lease on our headquarters. Management believes that maintaining a strong cash balance is necessary to provide funding for potential ramps in our business, which can require significant cash investment to meet sudden demand.

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, other than cost of goods sold, does not vary significantly with changes in volume. We experience fluctuations in operating results and cash flows depending on these factors.

During the nine months ended September 30, 2017, the Company generated \$40.3 million of cash in operating activities. This was predominately driven by strong sales resulting in net income of \$35.3 million and an increase in accounts payable and other liabilities of \$21.3 million, partially offset by increase in accounts receivable of \$18.4 million. In comparison, during the nine months ended September 30, 2016, the Company used \$13.0 million of cash in operating activities.

Investing activities for the nine months ended September 30, 2017 and 2016 resulted in cash outflows of \$6.9 million and \$2.1 million, respectively, used for capital expenditures.

Financing activities for the nine months ended September 30, 2017 and 2016 provided net cash of \$10.3 million and \$1.6 million, respectively, primarily relating to the proceeds from the exercise of stock options.

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. We currently have no credit facility but management believes we would be able to borrow on reasonable terms if needed.

Commitments and Contingencies

Significant commitments and contingencies at September 30, 2017 are consistent with those discussed in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and Note 17 to the consolidated financial statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

As of September 30, 2017, 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, 2016.

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 September 30, 2017 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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 September 30, 2017, 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, 2016.

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.

On November 2, 2017, the Company filed a Restated Certificate of Incorporation with the Secretary of State of Delaware. The Restated Certificate of Incorporation reflects the elimination of Article THIRD, Section 4.3 authorizing the Company's Series A Participating Preferred Stock, which was effected the same day, and other conforming changes, including the deletion from Article THIRD, Sections 6.2 and 6.4 of text that was no longer applicable following the declassification of the Company's Board of Directors. No shares of Series A Participating Preferred Stock were issued at any time, and the elimination was approved by the Board of Directors on August 10, 2017 pursuant to Section 151(g) of the Delaware General Corporation Law. No substantive changes were made in the Restated Certificate of Incorporation, a copy of which is filed as Exhibit 3.1 to this report on Form 10-Q. This disclosure has been made in lieu of disclosure under Item 5.03 of Form 8-K.

Item 6. Exhibits.

The following exhibits are filed herewith:

Exhibit No	Description
3.1	Restated Certificate of Incorporation of the Company filed November 2, 2017. Filed herewith.
3.2	Bylaws of the Company, as amended as of May 13, 2014. Incorporated by reference to Exhibit 3.2 of the Company's Form 8-K filed with the Commission on May 19, 2014.
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 November 3, 2017. 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 November 3, 2017. 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 November 3, 2017. 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 November 3, 2017. Filed herewith.
101	The following materials from the Company's Form 10-Q for the quarter ended September 30, 2017, 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). Filed herewith.

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: November 3, 2017

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

RESTATED CERTIFICATE OF INCORPORATION
OF
AXCELIS TECHNOLOGIES, INC.

FIRST. The name of the corporation is Axcelis Technologies, Inc. The name under which the corporation was originally incorporated is Eaton Semiconductor Equipment Inc. The Corporation's original Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on December 21, 1995.

SECOND. This Restated Certificate of Incorporation was duly adopted in accordance with the applicable provisions of Section 245(b) of the General Corporation Law of the State of Delaware. This Restated Certificate of Incorporation was adopted by the Board of Directors without a vote of the stockholders of the Corporation because it only restates and integrates and does not further amend the provisions of the Corporation's Certificate of Incorporation as heretofore amended and supplemented, and there is no discrepancy between those provisions and the provisions of this Restated Certificate of Incorporation.

THIRD. The Restated Certificate of Incorporation of the Corporation is restated to read in full as follows:

1. Name. The name of the Corporation is Axcelis Technologies, Inc.
 2. Registered Office and Agent. The address of its registered office in the State of Delaware is 1209 Orange Street, Wilmington, New Castle County, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.
 3. Purpose. The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware (the "DGCL").
 4. Capitalization.
 - 4.1. *Authorized Capitalization*. The total number of all shares of capital stock which the Corporation shall have the authority to issue is 105,000,000 shares consisting of: (i) 75,000,000 shares of Common Stock, par value of \$0.001 per share; and (ii) 30,000,000 shares of Preferred Stock, par value of \$0.001 per share.
 - 4.2. *Preferred Stock*. The Corporation's Board of Directors is hereby expressly authorized to provide by resolution or resolutions from time to time for the issue of the Preferred Stock in one or more series, the shares of each of which series may have such voting powers, full or limited, or no voting powers, and such designations, preferences and relative, participating, optional or other special rights, and qualifications, limitations or restrictions thereon, as shall be permitted under the DGCL and as shall be stated in the resolution or resolutions providing for the issue of such stock adopted by the Board of Directors pursuant to the authority expressly vested in the Board of Directors hereby.
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5. Period of Existence. The period of existence of the Corporation shall be perpetual.

6. Board of Directors.

6.1. *Number of Directors.* The number of members of the Board of Directors will be fixed from time to time by resolution adopted by the affirmative vote of a majority of the entire Board of Directors but (subject to vacancies) in no event may there be fewer than three directors nor more than 15 directors.

6.2. *Election.* At each annual meeting of shareholders, all directors shall be elected for terms expiring at the next annual meeting of shareholders. All directors shall serve until their respective successors shall be elected and qualified, subject to prior death, resignation, retirement or removal. In no event will a decrease in the number of directors shorten the term of any incumbent director. Notwithstanding the foregoing, and except as otherwise required by law, whenever the holders of any one or more series of Preferred Stock shall have the right, voting separately as a class, to elect one or more directors of the Corporation, the election, terms of office and other features of such directorships shall be governed by the terms of the vote establishing such series.

6.3. *Vacancies.* Except as otherwise determined by the Board of Directors in establishing a series of Preferred Stock as to directors elected by holders of such series, any vacancy in the Board of Directors, including a vacancy resulting from the enlargement of the Board of Directors, shall be filled by the directors then in office, though less than a quorum. A director who is elected to fill a vacancy shall be elected for a term expiring at the next annual meeting of shareholders.

6.4. *Removal.* Except as otherwise determined by the Board of Directors in establishing a series of Preferred Stock as to directors elected by holders of such series, at any special meeting of the shareholders called at least in part for the purpose, any director or directors may be removed from office only (a) for cause by the affirmative vote of at least a majority of the voting power of all of the then outstanding shares of stock entitled to vote generally in the election of directors or (b) without cause by the affirmative vote of the holders of at least seventy-five percent (75%) of the voting power of all of the then outstanding shares of stock entitled to vote generally in the election of directors. The provisions of this subsection shall be the exclusive method for the removal of directors.

7. Amendments to Certificate of Incorporation. The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon stockholders herein are granted subject to this reservation.

8. Amendments to By-laws. In furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to adopt, amend or repeal the By-laws of the Corporation.

9. Meetings of Stockholders. Meetings of stockholders may be held within or without the State of Delaware as the By-laws may provide. The books of the Corporation may be kept (subject to any provision contained in the statutes) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the By-laws of the Corporation. Elections of directors need not be by written ballot unless the By-laws of the Corporation shall so provide.

10. Liability of Directors; Indemnification.

10.1. The personal liability of the directors of the Corporation is hereby eliminated to the fullest extent permitted by Section 102(b)(7) of the DGCL, as the same may be amended and supplemented. Without limiting the generality of the foregoing, no director shall be personally liable to the Corporation or any of its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) pursuant to Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit.

10.2. The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "proceeding") by reason of the fact that such person, or a person for whom he or she is the legal representative, is or was a director, officer, employee or agent of the Corporation or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust, enterprise or non-profit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses reasonably incurred by such person. The Corporation shall be required to indemnify a person in connection with a proceeding initiated by such person only if the proceeding was authorized by the Board of Directors of the Corporation. The rights to indemnification and advancement of expenses conferred by this Article shall be presumed to have been relied upon by directors and officers of the Corporation in serving or continuing to serve the Corporation and shall be enforceable as contract rights. Said rights shall not be exclusive of any other rights to which those seeking indemnification may otherwise be entitled. The Corporation may enter into contracts to provide such persons with specific rights to indemnification, which contracts may confer rights and protections to the maximum extent permitted by the DGCL. The Corporation may create trust funds, grant security interests, obtain letters of credit, or use other means to ensure payment of such amounts as may be necessary to perform the obligations provided for in this Article or in any such contract. Any repeal or modification of this Article 10 by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of such repeal or modification with respect to acts or omissions occurring prior to such repeal or modification.

11. Other Considerations. In addition to any other considerations which the Board of Directors, any committee thereof or any individual director lawfully may take into account in determining whether to take or refrain from taking corporate action on any matter, including making or

declining to make any recommendations to the stockholders of the Corporation, the Board of Directors, any committee thereof or any individual director may in its, his or her discretion consider the long term as well as the short term best interests of the Corporation (including the possibility that these interests may best be served by the continued independence of the Corporation), taking into account and weighing as deemed appropriate the effects of such action on employees, suppliers, distributors and customers of the Corporation and its subsidiaries and the effect upon communities in which the offices or facilities of the Corporation and its subsidiaries are located and any other factors considered pertinent. This Article 11 shall be deemed to grant discretionary authority to the Board of Directors, any committee thereof and each individual director, and shall not be deemed to provide to any specific constituency any right to be considered.

12. Special Meetings of Stockholders. The stockholders of the Corporation shall have no authority to call a special meeting of the stockholders, subject to the rights of the holders of any class or series of capital stock having a preference over the Common Stock as to dividends or upon liquidation.

13. Action Without a Meeting. No action required to be taken or which may be taken at any annual or special meeting of stockholders of the Corporation may be taken without a meeting; and the power of the stockholders to consent in writing, without a meeting, to the taking of any action is specifically denied.

14. Additional Vote Required. Notwithstanding any other provisions of this Restated Certificate of Incorporation or any provision of law which might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any particular class or series of stock required by law or this Restated Certificate of Incorporation, the affirmative vote of the holders of at least 75% of the aggregate of the then outstanding shares of Common Stock and of any series of Preferred Stock the terms of which provide for voting on the matter together with the Common Stock as a single class shall be required to alter, amend, supplement or repeal, or to adopt any provision inconsistent with the purpose or intent of, Sections 4, 6.4(b), 12, 13 or 14 of this Article THIRD.

FOURTH: The foregoing restatement of the Certificate of Incorporation has been approved by the Board of Directors of the Corporation.

IN WITNESS WHEREOF Axcelis Technologies, Inc. has caused this Restated Certificate of Incorporation to be signed and attested this 1st day of November, 2017.

Attest:

AXCELIS TECHNOLOGIES, INC

By: /s/ Lynnette C. Fallon
Title: Secretary
CEO

By: /s/ Mary G. Puma
Title: President and

**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: November 3, 2017

/s/ MARY G. PUMA

Mary G. Puma,
President and Chief Executive Officer

**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: November 3, 2017

/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 November 3, 2017.

/s/ MARY G. PUMA

Mary G. Puma
*President and Chief Executive Officer 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 November 3, 2017.

/s/ KEVIN J. BREWER

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