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**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, 2020

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)

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

Title of each class	Trading symbol	Name of each exchange on which registered
Common Stock, \$.001 par value	ACLS	Nasdaq Global Select Market

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 every Interactive Data File required to be submitted 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 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   
Non-accelerated filer

Accelerated filer   
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 May 4, 2020 there were 32,875,141 shares of the registrant's common stock outstanding.

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**PART 1—FINANCIAL INFORMATION****Item 1. Financial Statements.**

**Axcelis Technologies, Inc.**  
**Consolidated Statements of Operations**  
(In thousands, except per share amounts)  
(Unaudited)

	Three months ended March 31,	
	2020	2019
Revenue:		
Product	\$ 112,133	\$ 84,197
Services	6,858	7,280
Total revenue	<u>118,991</u>	<u>91,477</u>
Cost of revenue:		
Product	67,172	47,338
Services	6,270	6,633
Total cost of revenue	<u>73,442</u>	<u>53,971</u>
Gross profit	45,549	37,506
Operating expenses:		
Research and development	14,606	13,685
Sales and marketing	8,204	8,918
General and administrative	9,036	7,807
Total operating expenses	<u>31,846</u>	<u>30,410</u>
Income from operations	13,703	7,096
Other (expense) income:		
Interest income	482	841
Interest expense	(1,303)	(1,230)
Other, net	(620)	(173)
Total other expense	<u>(1,441)</u>	<u>(562)</u>
Income before income taxes	12,262	6,534
Income tax provision	1,041	472
Net income	<u>\$ 11,221</u>	<u>\$ 6,062</u>
Net income per share:		
Basic	<u>\$ 0.34</u>	<u>\$ 0.19</u>
Diluted	<u>\$ 0.33</u>	<u>\$ 0.18</u>
Shares used in computing net income per share:		
Basic weighted average common shares	<u>32,872</u>	<u>32,683</u>
Diluted weighted average common shares	<u>34,057</u>	<u>34,224</u>

See accompanying Notes to these Consolidated Financial Statements

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

	Three months ended	
	March 31,	
	2020	2019
Net income	\$ 11,221	\$ 6,062
Other comprehensive loss:		
Foreign currency translation adjustments	(1,112)	(495)
Amortization of actuarial loss and other adjustments from pension plan	57	30
Total other comprehensive loss	(1,055)	(465)
Comprehensive income	<u>\$ 10,166</u>	<u>\$ 5,597</u>

See accompanying Notes to these Consolidated Financial Statements

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

	March 31, 2020	December 31, 2019
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 174,745	\$ 139,881
Accounts receivable, net	64,238	83,753
Inventories, net	136,068	140,364
Prepaid expenses and other current assets	16,621	11,681
Total current assets	391,672	375,679
Property, plant and equipment, net	26,363	25,328
Operating lease assets	5,583	5,849
Finance lease assets, net	21,528	21,880
Long-term restricted cash	6,671	6,653
Deferred income taxes	66,607	68,060
Other assets	44,149	44,645
Total assets	<u>\$ 562,573</u>	<u>\$ 548,094</u>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 26,089	\$ 25,341
Accrued compensation	9,237	7,631
Warranty	3,431	2,759
Income taxes	344	294
Deferred revenue	28,892	24,601
Current portion of finance lease obligation	573	399
Other current liabilities	6,807	7,639
Total current liabilities	75,373	68,664
Long-term finance lease obligation	47,976	48,149
Long-term deferred revenue	5,214	4,650
Other long-term liabilities	6,838	7,204
Total liabilities	135,401	128,667
Commitments and contingencies (Note 16)		
Stockholders' equity:		
Common stock, \$0.001 par value, 75,000 shares authorized; 32,837 shares issued and outstanding at March 31, 2020; 32,585 shares issued and outstanding at December 31, 2019	33	33
Additional paid-in capital	559,182	559,878
Accumulated deficit	(130,730)	(140,226)
Accumulated other comprehensive loss	(1,313)	(258)
Total stockholders' equity	427,172	419,427
Total liabilities and stockholders' equity	<u>\$ 562,573</u>	<u>\$ 548,094</u>

See accompanying Notes to these Consolidated Financial Statements

**Axcelis Technologies, Inc.**  
**Consolidated Statements of Stockholders' Equity**  
(In thousands)  
(Unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2018	32,558	\$ 33	\$ 565,116	\$ (157,260)	\$ 448	\$ 408,337
Net income	—	—	—	6,062	—	6,062
Foreign currency translation adjustments	—	—	—	—	(495)	(495)
Change in pension obligation	—	—	—	—	30	30
Exercise of stock options	288	—	1,828	—	—	1,828
Issuance of restricted common shares	35	—	(281)	—	—	(281)
Stock-based compensation expense	—	—	1,672	—	—	1,672
Balance at March 31, 2019	<u>32,881</u>	<u>\$ 33</u>	<u>\$ 568,335</u>	<u>\$ (151,198)</u>	<u>\$ (17)</u>	<u>\$ 417,153</u>
	Common Stock	Additional	Additional	Accumulated	Accumulated	Total
	Shares	Amount	Paid-in	Deficit	Other	Stockholders'
			Capital		Comprehensive	Equity
					Income (Loss)	
Balance at December 31, 2019	32,585	\$ 33	\$ 559,878	\$ (140,226)	\$ (258)	\$ 419,427
Net income	—	—	—	11,221	—	11,221
Foreign currency translation adjustments	—	—	—	—	(1,112)	(1,112)
Change in pension obligation	—	—	—	—	57	57
Exercise of stock options	540	1	4,498	—	—	4,499
Issuance of shares under Employee Stock Purchase Plan	1	—	19	—	—	19
Issuance of restricted common shares	69	—	(1,162)	—	—	(1,162)
Stock-based compensation expense	—	—	1,724	—	—	1,724
Repurchase of common stock	(358)	(1)	(5,775)	(1,725)	—	(7,501)
Balance at March 31, 2020	<u>32,837</u>	<u>\$ 33</u>	<u>\$ 559,182</u>	<u>\$ (130,730)</u>	<u>\$ (1,313)</u>	<u>\$ 427,172</u>

See accompanying Notes to these Consolidated Financial Statements

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

	<b>Three months ended</b>	
	<b>March 31,</b>	
	<b>2020</b>	<b>2019</b>
<b>Cash flows from operating activities</b>		
Net income	\$ 11,221	\$ 6,062
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation and amortization	2,363	1,615
Deferred income taxes	899	582
Stock-based compensation expense	1,724	1,672
Provision for excess and obsolete inventory	802	607
Changes in operating assets & liabilities:		
Accounts receivable	19,223	7,642
Inventories	1,924	(6,171)
Prepaid expenses and other current assets	(4,435)	(1,174)
Accounts payable and other current liabilities	1,689	(16,911)
Deferred revenue	4,859	(2,098)
Income taxes	53	32
Other assets and liabilities	(645)	(4,207)
Net cash provided by (used in) operating activities	39,677	(12,349)
<b>Cash flows from investing activities</b>		
Expenditures for property, plant and equipment and capitalized software	(1,290)	(4,255)
Net cash used in investing activities	(1,290)	(4,255)
<b>Cash flows from financing activities</b>		
Net settlement on restricted stock grants	(1,162)	(281)
Repurchase of common stock	(7,501)	—
Proceeds from Employee Stock Purchase Plan	19	—
Proceeds from exercise of stock options	4,499	1,828
Net cash (used in) provided by financing activities	(4,145)	1,547
Effect of exchange rate changes on cash and cash equivalents	640	123
Net increase (decrease) in cash, cash equivalents and restricted cash	34,882	(14,934)
Cash, cash equivalents and restricted cash at beginning of period	146,534	184,902
Cash, cash equivalents and restricted cash at end of period	<u>\$ 181,416</u>	<u>\$ 169,968</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 equipment used in the fabrication of semiconductor chips in the United States, Europe and Asia. In addition, we provide 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 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, 2019 has been derived from the audited consolidated 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, 2019.

**Note 2. Stock-Based Compensation**

We maintain 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 (“RSUs”) and performance awards to selected employees, directors and consultants of the Company. Our 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. We also maintain 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 our 2019 Annual Report on Form 10-K.

We recognized stock-based compensation expense of \$1.7 million for the three month periods ended March 31, 2020 and 2019, respectively. These amounts include compensation expense related to RSUs, non-qualified stock options and stock to be issued to participants under the ESPP.

In the three month periods ended March 31, 2020 and 2019, we issued 0.6 million and 0.3 million shares of common stock, respectively, upon stock option exercises, purchases under the ESPP and vesting of RSUs. In the three month periods ended March 31, 2020 and 2019, we received proceeds of \$4.5 million and \$1.8 million, respectively, in connection with the exercise of stock options.

**Note 3. Leases**

We have operating leases for office space, warehouse space, computer and office equipment and vehicles used in our business operations. We have a finance lease in relation to the 2015 sale-leaseback of our corporate headquarters in Beverly, Massachusetts. We review all agreements to determine if they contain a lease component. An agreement contains a lease component if it provides the use of a specific physical space or a specific physical item. We recognize the lease obligation on a discounted basis using the explicit or implicit discount rate stated within the agreement. We recognize a corresponding right-of-use asset, which is initially determined based upon the net present value of the associated liability and is adjusted for deferred costs and possible impairment, if any. For those lease agreements that do not indicate the applicable discount rate, we use our incremental borrowing rate. We have made the following policy elections: (i) operating



leases with an initial term of 12 months or less are not recorded on the consolidated balance sheet; (ii) we recognize lease expense for operating leases on a straight-line basis over the lease term; and (iii) we account for lease components and non-lease components that are fixed payments as one component. Some of our operating leases include one or more options to renew, with renewal terms that can extend the respective lease term 1 to 3 years. The exercise of lease renewal options are at our sole discretion. For lease extensions that are reasonably certain to occur, we have included these renewal periods in our calculation of the net present value of the lease obligation and related right-of-use asset. Certain leases also include options to purchase the leased property. The depreciable life of certain assets and leasehold improvements are limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain of exercise. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants. The amounts of operating and finance lease right-of-use assets and related lease obligations recorded within our consolidated balance sheet are as follows:

<b>Leases</b>	<b>Classification</b>	<b>March 31, 2020</b>	<b>December 31, 2019</b>
<b>Assets</b>			
<b>(in thousands)</b>			
Operating lease	Operating lease assets	\$ 5,583	\$ 5,849
Finance lease	Finance lease assets *	21,528	21,880
<b>Total leased assets</b>		<b>\$ 27,111</b>	<b>\$ 27,729</b>
<b>Liabilities</b>			
<b>Current</b>			
Operating	Other current liabilities	\$ 3,233	\$ 3,144
Finance	Current portion of finance lease obligation	573	399
<b>Noncurrent</b>			
Operating	Other long-term liabilities	2,326	2,553
Finance	Finance lease obligation	47,976	48,149
<b>Total lease liabilities</b>		<b>\$ 54,108</b>	<b>\$ 54,245</b>

\* Finance lease assets are recorded net of accumulated depreciation of \$47.6 million and include \$0.7 million of prepaid financing costs as of March 31, 2020. Finance lease assets are recorded net of accumulated depreciation of \$47.4 million and include \$0.7 million of prepaid financing costs as of December 31, 2019.

All of our office locations support selling and servicing functions. Lease expense, depreciation expense relating to finance leased assets and interest expense relating to our finance lease obligation recognized within our consolidated statement of operations for the three months ended March 31, 2020 are as follows:

Lease cost	Classification	Three months ended	
		March 31,	
		2020	2019
(in thousands)			
<b>Operating lease cost</b>			
Service	Cost of revenue	\$ 550	\$ 597
Research and development	Operating expenses	81	66
Sales and marketing*	Operating expenses	332	355
General and administrative*	Operating expenses	215	208
<b>Total operating lease cost</b>		<b>\$ 1,178</b>	<b>\$ 1,226</b>
<b>Finance lease cost</b>			
Depreciation of leased assets	Cost of revenue, R&D, Sales and marketing and G&A	\$ 353	\$ 333
Interest on lease liabilities	Interest expense	1,303	1,230
<b>Total finance lease cost</b>		<b>\$ 1,656</b>	<b>\$ 1,563</b>
<b>Total lease cost</b>		<b>\$ 2,834</b>	<b>\$ 2,789</b>

\* Sales and marketing, general and administrative expense includes short-term lease and variable lease costs of approximately \$0.2 million for the three months ended March 31, 2020 and 2019, respectively.

Our corporate headquarters, shown below under finance leases, has an original lease term of 22 years. All other locations are treated as operating leases, with lease terms ranging from 1 to 10 years. The tables below reflect the minimum cash outflow regarding our current lease obligations as well as the weighted-average remaining lease term and weighted-average discount rates used on our calculation of our lease obligations and right-of-use assets as of March 31, 2020:

Maturity of Lease Liabilities	Finance Leases	Operating Leases	Total Leases
	(in thousands)		
2020	\$ 4,298	\$ 2,728	\$ 7,026
2021	5,848	2,094	7,942
2022	5,980	838	6,818
2023	6,114	168	6,282
2024	6,252	70	6,322
Thereafter	79,653	203	79,856
<b>Total lease payments</b>	<b>\$ 108,145</b>	<b>\$ 6,101</b>	<b>\$ 114,246</b>
Less interest portion*	(59,596)	(542)	(60,138)
<b>Finance lease and operating lease obligations</b>	<b>\$ 48,549</b>	<b>\$ 5,559</b>	<b>\$ 54,108</b>

\* Finance lease interest calculated using the implied interest rate; operating lease interest calculated using estimated corporate borrowing rate.

Lease term and discount rate	March 31,
	2020
Weighted-average remaining lease term (years):	
Operating leases	1.8
Finance leases	16.8
Weighted-average discount rate:	
Operating leases	4.5%
Finance leases	10.5%

Our cash outflows from our operating leases include rent expense and other charges associated with these leases. These cash flows are included within the operating section of our statement of cash flows. Our cash flows from our finance lease currently include an interest only component and starting in April 2020, both an interest and payment of principal component. The table below shows our cash outflows, by lease type and related section of our statement of cash flows as well as the non-cash amount capitalized on our balance sheet in relation to our operating lease right-of-use assets:

<b>Cash paid for amounts included in the measurement of lease liabilities</b>	<b>Three months ended</b>	
	<b>March 31,</b>	
	<b>2020</b>	<b>2019</b>
	<b>(in thousands)</b>	
Operating cash outflows from operating leases	\$ 1,178	\$ 1,226
Operating cash outflows from finance leases	1,422	1,391
Financing cash outflows from finance leases	—	—
Operating lease assets obtained in exchange for operating lease liabilities	765	7,453
Finance lease assets obtained in exchange for new finance lease liabilities	\$ —	\$ —

**Note 4. Revenue**

To reflect the organization of our business operations, we divide revenue into two categories: revenue from sales of new systems and revenue arising from the sale of used systems, parts and labor to customers who own systems, which we refer to as “Aftermarket.”

Revenue by categories used by management are as follows:

	<b>Three months ended</b>	
	<b>March 31,</b>	
	<b>2020</b>	<b>2019</b>
	<b>(in thousands)</b>	
Systems	\$ 82,338	\$ 57,092
Aftermarket	36,653	34,385
	<u>\$ 118,991</u>	<u>\$ 91,477</u>

We also consider revenue by geography. Revenue is allocated to geographic markets based upon the location to which our products are shipped and in which our services are performed. Revenue in our principal geographic markets is as follows:

	<b>Three months ended</b>	
	<b>March 31,</b>	
	<b>2020</b>	<b>2019</b>
	<b>(in thousands)</b>	
North America	\$ 10,661	\$ 11,607
Asia Pacific	96,828	62,927
Europe	11,502	16,943
	<u>\$ 118,991</u>	<u>\$ 91,477</u>

Our system sales revenue transactions give rise to contract liabilities (in the case of pre-payments and the fair value of goods and services to be delivered after the system delivery, such as installation and certain warranty obligations).

Contract liabilities are as follows:

	<b>March 31,</b>	<b>December 31,</b>
	<b>2020</b>	<b>2019</b>
	<b>(in thousands)</b>	
Contract liabilities	<u>\$ 34,106</u>	<u>\$ 29,251</u>

Contract liabilities are reflected as deferred revenue on the consolidated balance sheet and relate to payments invoiced or received in advance of completion of performance obligations under a contract. Contract liabilities are recognized as revenue upon the fulfillment of performance obligations.

	Three months ended	
	March 31,	
	2020	2019
	(in thousands)	
Balance, beginning of the period	\$ 29,251	\$ 22,584
Deferral of revenue	9,799	4,078
Recognition of deferred revenue	(4,944)	(6,181)
Balance, ending of the period	<u>\$ 34,106</u>	<u>\$ 20,481</u>

The majority of our system transactions have payment terms of 90% due upon shipment of the tool and 10% due upon acceptance. Aftermarket transaction payment terms usually provide that payment is due either within 30 or 60 days after the service is provided or parts delivered.

#### **Note 5. Receivables and Allowances for Credit Losses**

All trade receivables are reported on the Condensed Consolidated Balance Sheets at their amortized cost adjusted for any write-offs and net of allowances for credit losses.

Axcelis maintains an allowance for credit losses, which represent an estimate of expected losses over the remaining contractual life of its receivables considering current market conditions and estimates for supportable forecasts when appropriate. The estimate is a result of the Company's ongoing assessments and evaluations of collectability, historical loss experience, and future expectations in estimating credit losses in its receivable portfolio. Axcelis uses historical loss experience rates and applies them to a related aging analysis while also considering customer and/or economic risk where appropriate. Determination of the proper amount of allowances requires management to exercise judgment about the timing, frequency and severity of credit losses that could materially affect the provision for credit losses and, as a result, net earnings. The allowance takes into consideration numerous quantitative and qualitative factors that include receivable type, historical loss experience, loss migration, delinquency trends, collection experience, current economic conditions, estimates for supportable forecasts, when appropriate, and credit risk characteristics.

Axcelis evaluates the credit risk of the customer when extending credit based on a combination of various financial and qualitative factors that may affect its customers' ability to pay. These factors may include the customer's financial condition, past payment experience, and credit bureau, as well as the value of the underlying collateral.

Management performs detailed reviews of its receivables on quarterly basis to assess the adequacy of the allowances and to determine if any impairment has occurred. Amounts determined to be uncollectable are charged directly against the allowances, while amounts recovered on previously written-off accounts increase the allowances. Changes to the allowances for credit losses are maintained through adjustments to the provision for credit losses, which are charged to current period earnings.

The following table shows changes of the allowances for credit losses related to trade receivables for the three months ended March 31, 2020:

	Three months ended	
	March 31,	
	2020	
	(in thousands)	
Balance at January 1 (beginning of year)	\$	818
Provision for credit losses		—
Charge-offs		(818)
Recoveries		—
Balance at March 31 (end of period)	\$	—

#### Note 6. 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 on exercise of stock options and vesting of RSUs had been issued, calculated using the treasury stock method.

The components of net earnings per share are as follows:

	Three months ended	
	March 31,	
	2020	2019
	(in thousands, except per share amounts)	
Net income available to common stockholders	\$ 11,221	\$ 6,062
Weighted average common shares outstanding used in computing basic income per share	32,872	32,683
Incremental options and RSUs	1,185	1,541
Weighted average common shares used in computing diluted net income per share	34,057	34,224
Net income per share		
Basic	\$ 0.34	\$ 0.19
Diluted	\$ 0.33	\$ 0.18

Diluted weighted average common shares outstanding does not include options and RSUs outstanding to purchase 1,675 and 9,213 common equivalent shares for the three month periods ended March 31, 2020 and 2019, respectively, as their effect would have been anti-dilutive.

#### Note 7. Accumulated Other Comprehensive Loss

The following table presents the changes in accumulated other comprehensive loss, net of tax, by component, for the three months ended March 31, 2020:

	Foreign currency	Defined benefit pension plan	Total
	(in thousands)		
Balance at December 31, 2019	\$ 518	\$ (776)	\$ (258)
Other comprehensive loss and pension reclassification	(1,112)	57	(1,055)
Balance at March 31, 2020	\$ (594)	\$ (719)	\$ (1,313)

**Note 8. Cash, cash equivalents and restricted cash**

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the consolidated balance sheet to the total of the amounts shown in the statement of cash flows:

	March 31, 2020	December 31, 2019
	(in thousands)	
Cash and cash equivalents	\$ 174,745	\$ 139,881
Long-term restricted cash	6,671	6,653
Total cash, cash equivalents and restricted cash	<u>\$ 181,416</u>	<u>\$ 146,534</u>

As of March 31, 2020, we had \$6.7 million in restricted cash representing the total of (i) a \$5.9 million letter of credit serving as security for the lease of our corporate headquarters in Beverly, Massachusetts, (ii) a \$0.7 million letter of credit relating to workers' compensation insurance and (iii) a \$0.1 million deposit relating to customs activity.

**Note 9. Inventories, net**

The components of inventories are as follows:

	March 31, 2020	December 31, 2019
	(in thousands)	
Raw materials	\$ 87,772	\$ 95,867
Work in process	37,978	32,131
Finished goods (completed systems)	10,318	12,366
Inventories, net	<u>\$ 136,068</u>	<u>\$ 140,364</u>

When recorded, inventory reserves reduce the carrying value of inventories to their net realizable value. We establish 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. We regularly evaluate 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.

**Note 10. Product Warranty**

We generally offer a one year warranty for all of our systems, the terms and conditions of which vary depending upon the product sold. For all systems sold, we accrue a liability for the estimated cost of standard warranty at the time of system shipment and defer 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 our warranty liability include the number of installed units, historical and anticipated product failure rates, material usage and service labor costs. We periodically assess the adequacy of our recorded liability and adjust the amount as necessary.

The changes in our standard product warranty liability are as follows:

	Three months ended	
	March 31,	
	2020	2019
	(in thousands)	
Balance at January 1 (beginning of year)	\$ 3,244	\$ 5,091
Warranties issued during the period	1,385	954
Settlements made during the period	(950)	(1,475)
Changes in estimate of liability for pre-existing warranties during the period	126	89
Balance at March 31 (end of period)	<u>\$ 3,805</u>	<u>\$ 4,659</u>
Amount classified as current	\$ 3,431	\$ 4,319
Amount classified as long-term	374	340
Total warranty liability	<u>\$ 3,805</u>	<u>\$ 4,659</u>

#### Note 11. Fair Value Measurements

Certain assets on our balance sheets are reported at their fair value. Fair value is defined as the 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

Our money market funds and short-term investments are included in cash and cash equivalents in the consolidated balance sheets.

The following table sets forth our assets by level within the fair value hierarchy:

	March 31, 2020			
	Fair Value Measurements			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
<b>Assets</b>				
Cash equivalents:				
Money market funds, U.S. Government Securities and Agency Investments	\$ 148,566	\$ —	\$ —	\$ 148,566

	December 31, 2019			
	Fair Value Measurements			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
<b>Assets</b>				
Cash equivalents:				
Money market funds, U.S. Government Securities and Agency Investments	\$ 92,872	\$ 24,000	\$ —	\$ 116,872

**(c) Other Financial Instruments**

The carrying amounts reflected in the consolidated balance sheets for accounts receivable, prepaid expenses and other current assets and non-current assets, restricted cash, accounts payable and accrued expenses approximate fair value due to their short-term maturities.

**Note 12. Financing Arrangements**

On January 30, 2015, we sold our corporate headquarters facility in Beverly Massachusetts for \$48.9 million. As part of the sale, we also entered into a 22-year lease agreement of our headquarters facility. This sale-leaseback is accounted for as a financing lease under generally accepted accounting principles and, as such, we have recorded a financing obligation of \$48.5 million as of March 31, 2020. Our current lease payments are interest only payments. Commencing in April 2020, the associated lease payments will include both an interest component and payment of principal, with the remaining liability being extinguished at the end of the original lease term. We 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 the associated cash is included in long-term restricted cash.

**Note 13. Income Taxes**

Income tax expense was \$1.0 million for the three months ended March 31, 2020, compared to \$0.5 million the three months ended March 31, 2019. The \$0.5 million increase was primarily due to a \$5.7 million increase in pretax income, which was slightly offset by excess tax benefits associated with stock option exercises for the three months ended March 31, 2020, compared to the three months ended March 31, 2019.

We had \$66.6 million and \$68.1 million of net deferred tax assets worldwide relating to net operating loss carryforwards, tax credit carryforwards and other temporary differences, as of March 31, 2020 and December 31, 2019, respectively. These deferred tax assets are available to reduce income taxes in future years. We have a \$9.1 million valuation allowance in the U.S. against certain tax credits and state net operating losses due to the uncertainty of their realization based on long-term Company forecasts and the expiration dates on these tax assets. If future operating results of the U.S. or these foreign jurisdictions are significantly less than our expectations, it is reasonably possible that we would be required to record an additional valuation allowance on our deferred tax assets in the future.



**Note 14. Concentration of Risk**

For the three months ended March 31, 2020, four customers accounted for 20.9%, 16.9%, 14.6% and 10.7% of total revenue, respectively. For the three months ended March 31, 2019, three customers accounted for 16.4%, 13.4% and 10.2% of total revenue, respectively.

At March 31, 2020, two customers accounted for 21.2% and 18.3% of accounts receivable, respectively. At December 31, 2019, three customers accounted for 24.9%, 15.3% and 11.1% of accounts receivable, respectively.

**Note 15. Share Repurchase**

The Board has approved stock repurchases of up to \$50 million of our common stock through the end of 2020. During the three months ended March 31, 2020, we purchased approximately 0.4 million shares at an average cost of \$20.92 per share but have suspended the repurchase program while we continue to invest in the business during these difficult times in the midst of COVID-19. The timing and actual number of shares repurchased in 2020 will depend on various factors, including the price of our common stock, general business and market conditions, and alternative investment opportunities or other uses of cash.

Shares repurchased are accounted for when the transaction is settled. There were no unsettled share repurchases at March 31, 2020.

**Note 16. Contingencies**

**(a) Litigation**

We are from time to time a party to litigation that arises in the normal course of our business operations. We are not presently a party to any litigation that we believe might have a material adverse effect on our business operations.

**(b) Indemnifications**

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

**Note 17. Recent Accounting Guidance**

We adopted Financial Accounting Standards Board ASU No. 2019-04 “*Codification Improvements to Topic 326, Financial Instruments – Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments*” as of January 1, 2020, using the modified-retrospective approach resulting in no cumulative adjustment to retained earnings. The amendments in this Update clarify the guidance within Topic 326 relating to credit losses. Topic 326 replaces the current incurred loss impairment methodology for financial assets measured at amortized cost with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information, including forecasted information, to develop credit loss estimates. Due to the requirements of Topic 326, management reviews the average annual write-off rate along with an assessment of current micro and macro-economic factors to determine any expected losses. The adoption of this Update did not have any material impact on our results of operations or cash flows. See Note 5 above for further discussion.

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

*Certain statements within "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" below and under "Risk Factors" in Part I, Item 1A to our [annual report on Form 10-K for the year ended December 31, 2019](#) and in Part II, Item 1A to this report on Form 10-Q, 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

We are primarily a producer of ion implantation equipment used in the fabrication of semiconductor chips in the United States, Europe and Asia. In addition, we provide extensive worldwide aftermarket service and support, including spare parts, equipment upgrades and maintenance services to the semiconductor industry. Our product development and manufacturing activities occur primarily in the United States. Our equipment and service products are highly technical and are sold through a direct sales force in the United States, Europe and Asia. 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 85.9% of total revenue for the three months ended March 31, 2020.

In the first three months of 2020, we delivered strong financial performance driven by demand for our Purion systems. The semiconductor supply chain was identified as a critical infrastructure sector in the Advisory Memorandum issued by the U.S. Department of Homeland Security’s Cybersecurity and Infrastructure Security Agency (“CISA”) on March 19, 2020 and updated on March 28, 2020. CISA’s list has been incorporated in orders by the Governor of Massachusetts and other states, which urge critical infrastructure sector businesses to continue to operate during the COVID-19 pandemic. Axcelis has continued to operate during this time, with a combination of work from home and the implementation of protocols for social distancing and other practices in our facilities, as recommended by the U.S. Centers for Disease Control and Prevention. Business travel has been substantially curtailed. Operations outside of the U.S. have also been conducted in accordance with applicable local governmental laws and public health recommendations. We are closely monitoring the impact of the pandemic on our business and will adjust operations as needed.

The ultimate consequence of the pandemic on the semiconductor industry will be the aggregation of both positive and negative forces on various customer market segments. For example, the pandemic may drive enhanced investment in PCs, video streaming and communications technologies. On the other hand, it is dampening the demand for semiconductors for automotive and aviation applications. Our customers will be adapting to the changes in the volumes of different types of semiconductors demanded by the market. These adaptations could cause delay and uncertainty that could impact Axcelis. However, we are working closely with our customers across market segments, even during this difficult time, to provide them with the best ion implant solutions for their specific manufacturing challenges.

The currently implemented, and potential additional, disruptions and restrictions on our operations and ability to travel, and similar disruptions and restrictions impacting our suppliers or customers, could adversely affect our sales and operating results. Axcelis’ products rely on an extensive global supply chain, and shortages of certain parts could impact our ability to meet customer’s shipment expectations, negatively affecting our revenues. The COVID-19 pandemic may drive changes in the demand for certain of our customers’ products, resulting in their delay or cancellation of purchases from us. The extent to which the COVID-19 coronavirus may impact our results will depend on future developments, which are highly uncertain and cannot be predicted, including the severity of the coronavirus and the duration of the current pandemic.

## **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, 2019 are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. On an on-going basis, 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, 2019.

## Results of Operations

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

	Three months ended March 31,	
	2020	2019
<b>Revenue:</b>		
Product	94.2 %	92.0 %
Services	5.8	8.0
Total revenue	100.0	100.0
<b>Cost of revenue:</b>		
Product	56.5	51.7
Services	5.3	7.3
Total cost of revenue	61.8	59.0
Gross profit	38.2	41.0
<b>Operating expenses:</b>		
Research and development	12.3	15.0
Sales and marketing	6.9	9.7
General and administrative	7.6	8.5
Total operating expenses	26.8	33.2
Income from operations	11.4	7.8
<b>Other (expense) income:</b>		
Interest income	0.4	0.9
Interest expense	(1.1)	(1.3)
Other, net	(0.5)	(0.2)
Total other expense	(1.2)	(0.6)
Income before income taxes	10.2	7.2
Income tax provision	0.9	0.5
Net income	9.3 %	6.7 %

## Revenue

The following table sets forth our product and services revenue:

	Three months ended March 31,		Period-to-Period Change	
	2020	2019	\$	%
(dollars in thousands)				
<b>Revenue:</b>				
Product	\$ 112,133	\$ 84,197	\$ 27,936	33.2 %
Percentage of revenue	94.2 %	92.0 %		
Services	6,858	7,280	(422)	(5.8)%
Percentage of revenue	5.8 %	8.0 %		
Total revenue	\$ 118,991	\$ 91,477	\$ 27,514	30.1 %

Three months ended March 31, 2020 Compared with Three months ended March 31, 2019

### Product

Product revenue, which includes systems sales, sales of spare parts, product upgrades and used systems was \$112.1 million, or 94.2% of revenue during the three months ended March 31, 2020, compared with \$84.2 million, or 92.0% of revenue for the three months ended March 31, 2019. The \$27.9 million increase in product revenue for the three

month period ending March 31, 2020, in comparison to the same period in 2019, was primarily driven by an increase in the number of systems sold.

A portion of our revenue from systems sales is deferred until installation and other services related to future performance obligations are performed. The total amount of deferred revenue at March 31, 2020 and December 31, 2019 was \$34.1 million and \$29.3 million, respectively. The net increase in deferred revenue was primarily due to collection of advance payments on systems.

#### *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 \$6.9 million, or 5.8% of revenue for the three months ended March 31, 2020, compared with \$7.3 million, or 8.0% of revenue for the three months ended March 31, 2019. 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**

In addition to the line item revenue categories discussed above, management also regularly disaggregates revenue in the following categories, which it finds relevant and useful:

- Ion implant revenue separate from revenue from legacy non-implant product lines, given that ion implantation systems are the primary driver of our growth and strategic objectives;
- Systems and Aftermarket revenues, in which "Aftermarket" is
  - A. the portion of Product revenue relating to spare parts, product upgrades and used systems combined with
  - B. Services revenue, which is the labor component of Aftermarket revenues;

Aftermarket purchases reflect current fab utilization as opposed to Systems purchases which reflect capital investment decisions by our customers, which have differing economic drivers;

- Revenue by geographic regions, since economic factors impacting customer purchasing decisions may vary by geographic region; and
- Revenue by our customer market segments, since they can be subject to different economic drivers at different periods of time, impacting a customer's likelihood of purchasing capital equipment during any particular period. Currently, management references three customer market segments: memory, mature technology processes and leading edge foundry and logic.

The ion implant and Aftermarket revenue categories for recent periods are discussed below.

#### *Three months ended March 31, 2020 Compared with Three months ended March 31, 2019*

##### *Ion Implant*

Included in total revenue of \$119.0 million during the three months ended March 31, 2020 is revenue from sales of ion implant products and services of \$115.0 million, or 96.7% of total revenue, compared with \$87.0 million, or 95.1%, of total revenue for the three months ended March 31, 2019. The remaining \$4.0 million of revenue for the three months ended March 31, 2020 was non-ion implant parts and services.

### Aftermarket

Included in total revenue of \$119.0 million during the three months ended March 31, 2020 is revenue from our Aftermarket business of \$36.7 million, compared to \$34.4 million for the three months ended March 31, 2019. The remaining \$82.3 million of revenue for the three months ended March 31, 2020 was from system sales. 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.

### Gross Profit / Gross Margin

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

	Three months ended March 31,		Period-to-Period Change	
	2020	2019	\$	%
(dollars in thousands)				
Gross Profit:				
Product	\$ 44,961	\$ 36,859	\$ 8,102	22.0 %
Product gross margin	40.1 %	43.8 %		
Services	588	647	(59)	(9.1)%
Services gross margin	8.6 %	8.9 %		
Total gross profit	\$ 45,549	\$ 37,506	\$ 8,043	21.4 %
Gross margin	38.2 %	41.0 %		

### Three months ended March 31, 2020 Compared with Three months ended March 31, 2019

#### Product

Gross margin from product revenue was 40.1% for the three months ended March 31, 2020, compared to 43.8% for the three months ended March 31, 2019. The decrease in gross margin resulted from the successful conversion of three evaluation systems into sales during the quarter.

#### Services

Gross margin from services revenue was 8.6% for the three months ended March 31, 2020, compared to 8.9% for the three months ended March 31, 2019. The decrease in gross margin is attributable to changes in the mix of service contracts.

## Operating Expenses

The following table sets forth our operating expenses:

	Three months ended March 31,		Period-to-Period Change	
	2020	2019	\$	%
	(dollars in thousands)			
Research and development	\$ 14,606	\$ 13,685	\$ 921	6.7 %
Percentage of revenue	12.3 %	15.0 %		
Sales and marketing	8,204	8,918	(714)	(8.0)%
Percentage of revenue	6.9 %	9.7 %		
General and administrative	9,036	7,807	1,229	15.7 %
Percentage of revenue	7.6 %	8.5 %		
Total operating expenses	\$ 31,846	\$ 30,410	\$ 1,436	4.7 %
Percentage of revenue	26.8 %	33.2 %		

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 \$19.9 million or 62.6% of our total operating expenses for the three month period ended March 31, 2020, compared to \$17.8 million or 58.4% of our total operating expenses for the three month period ended March 31, 2019. The higher personnel costs for the three month periods ended March 31, 2020 is primarily due to higher incentive based pay expense.

## Research and Development

	Three months ended March 31,		Period-to-Period Change	
	2020	2019	\$	%
	(dollars in thousands)			
Research and development	\$ 14,606	\$ 13,685	\$ 921	6.7 %
Percentage of revenue	12.3 %	15.0 %		

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 solve customers' high value, high impact, ion implantation challenges.

### Three months ended March 31, 2020 Compared with Three months ended March 31, 2019

Research and development expense was \$14.6 million during the three months ended March 31, 2020, an increase of \$0.9 million, or 6.7%, compared with \$13.7 million during the three months ended March 31, 2019. The increase is primarily due to higher incentive based pay expense and increased depreciation associated with capital additions.

## Sales and Marketing

	Three months ended March 31,		Period-to-Period Change	
	2020	2019	\$	%
	(dollars in thousands)			
Sales and marketing	\$ 8,204	\$ 8,918	\$ (714)	(8.0)%
Percentage of revenue	6.9 %	9.7 %		

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, 2020 Compared with Three months ended March 31, 2019

Sales and marketing expense was \$8.2 million during the three months ended March 31, 2020, a decrease of \$0.7 million, or 8.0%, compared with \$8.9 million during the three months ended March 31, 2019. The decrease is primarily due to reduced tariffs.

**General and Administrative**

	Three months ended March 31,		Period-to-Period Change	
	2020	2019	\$	%
	(dollars in thousands)			
General and administrative	\$ 9,036	\$ 7,807	\$ 1,229	15.7 %
Percentage of revenue	7.6 %	8.5 %		

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 March 31, 2020 Compared with Three months ended March 31, 2019

General and administrative expense was \$9.0 million during the three months ended March 31, 2020, an increase of \$1.2 million, or 15.7%, compared with \$7.8 million during the three months ended March 31, 2019. The increase is primarily due to an increase in incentive based pay expense.

**Other (Expense) Income**

	Three months ended March 31,		Period-to-period change	
	2020	2019	\$	%
	(dollars in thousands)			
Other expense	\$ (1,441)	\$ (562)	\$ (879)	(156.4)%
Percentage of revenue	(1.2)%	(0.6)%		

Other (expense) income consists primarily of interest expense relating to the finance lease obligation we incurred in connection with the 2015 sale of our headquarters facility and other financing obligations, foreign exchange gains and losses attributable to fluctuations of the US dollar against local currencies of certain of the countries in which we operate as well as interest earned on our invested cash balances.

Other expense was \$1.4 million for the three months ended March 31, 2020, compared with \$0.6 million for the three months ended March 31, 2019. The increase in other expense of \$0.9 million for the three month period ended March 31, 2020 compared to the three month period ended March 31, 2019, was primarily due to higher foreign currency exchange losses in the current year period compared to the prior year.

During the three month periods ended March 31, 2020 and 2019, we had no significant off-balance-sheet risk such as exchange contracts, option contracts or other hedging arrangements.

**Income Tax Provision**

	Three months ended March 31,		Period-to-period change	
	2020	2019	\$	%
	(dollars in thousands)			
Income tax provision	\$ 1,041	\$ 472	\$ 569	120.6 %
Percentage of revenue	0.9 %	0.5 %		



Income tax expense was \$1.0 million for the three months ended March 31, 2020, compared to \$0.5 million the three months ended March 31, 2019. The \$0.5 million increase was primarily due to a \$5.7 million increase in pretax income, which was slightly offset by excess tax benefits associated with stock option exercises for the three months ended March 31, 2020, compared to the three months ended March 31, 2019.

We had \$66.6 million and \$68.1 million of net deferred tax assets worldwide relating to net operating loss carryforwards, tax credit carryforwards and other temporary differences, as of March 31, 2020 and December 31, 2019, respectively. These deferred tax assets are available to reduce income taxes in future years. We have a \$9.1 million valuation allowance in the U.S. against certain tax credits and state net operating losses due to the uncertainty of their realization based on long-term Company forecasts and the expiration dates on these tax assets. If future operating results of the U.S. or these foreign jurisdictions are significantly less than our expectations, it is reasonably possible that we would be required to record an additional valuation allowance on our deferred tax assets in the future.

### **Liquidity and Capital Resources**

We had \$174.7 million in unrestricted cash and cash equivalents at March 31, 2020, in addition to \$6.7 million in restricted cash, primarily comprised of the \$5.9 million security for the lease of our corporate 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. Additionally, we are considering both organic and inorganic opportunities to drive future growth, for which cash resources will be necessary.

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 economic conditions, 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. We may also engage in stock repurchases, as discussed below.

During the three months ended March 31, 2020, we generated \$39.7 million of cash related to operating activities. In comparison, during the three months ended March 31, 2019, we used \$12.3 million of cash from operations.

Investing activities for the three months ended March 31, 2020 and 2019 resulted in cash outflows of \$1.3 million and \$4.3 million, respectively, used for capital expenditures.

Financing activities for the three months ended March 31, 2020 resulted in a net cash usage of \$4.1 million. During the quarter, \$7.5 million in cash was used to repurchase common stock and \$1.2 million was used for payments to government tax authorities for income tax withholding on RSU vesting, where shares are withheld by the Company. These amounts were partially offset by \$4.5 million of proceeds from the exercise of stock options and purchases under the ESPP. Financing activities for the three months ended March 31, 2019 generated net cash of \$1.5 million, of which \$1.8 million related to the exercise of stock options, partially offset by \$0.3 million related to payments made to government tax authorities for income tax withholding on RSU vesting.

We believe that based on our current market, revenue, expense and cash flow forecasts, our existing cash, cash equivalents and borrowing capacity will be sufficient to satisfy our anticipated cash requirements for the short and long-term. We currently have no credit facility but management believes we would be able to borrow if needed.

In December 2019, our Board of Directors authorized an increase and extension of the share repurchase program, of up to \$50 million of the Company's common stock through 2020. These shares could be purchased in the open market or through privately negotiated transactions. As of March 31, 2020, we had approximately \$24.8 million remaining under the share repurchase program but have suspended the repurchase program while we continue to invest in the business during these difficult times. See Part II, Item 2 of this report for purchases under this program. The timing and actual number of shares repurchased in 2020 will depend on various factors, including the price of our common stock, general business and market conditions, and alternative investment opportunities. Consideration of each of these factors will include an evaluation of the known and anticipated effects of the COVID-19 pandemic on our business and industry. See Note 15 to the financial statements above.

**Commitments and Contingencies**

Significant commitments and contingencies at March 31, 2020 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, 2019.

**Item 3. Quantitative and Qualitative Disclosures about Market Risk.**

As of March 31, 2020, 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, 2019.

**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, 2020 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.**

We are, from time to time, a party to litigation that arises in the normal course of our business operations. We are not presently a party to any litigation that we believe might have a material adverse effect on our business operations.

**Item 1A. Risk Factors.**

As of March 31, 2020, 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, 2019, other than the addition of the risk factor set forth below.

***Our financial condition and results of operations could be adversely affected by the recent coronavirus outbreak.***

The novel strain of coronavirus which causes the illness referred to as COVID-19, as with other contagious diseases or other adverse public health developments, may have a material and adverse effect on our business operations. In the case of COVID-19, governmental orders and employee health and safety concerns have caused Axcelis to continue its operations using a combination of work from home and social distancing protocols in our facilities. Business travel has also been substantially curtailed. These and potential other disruptions or restrictions on our operations and ability to travel, and similar disruptions and restrictions impacting our suppliers or customers could adversely affect our sales and operating results. Axcelis' products rely on an extensive global supply chain, and shortages of certain parts could impact our ability to meet customer's shipment expectations, negatively affecting our revenues. The COVID-19 pandemic may drive changes in the demand for certain of our customers' products, resulting in their delay or cancelation of purchases from us. The extent to which the COVID-19 coronavirus may impact our results will depend on future developments, which are highly uncertain and cannot be predicted, including the severity of the coronavirus and the duration of the current pandemic.

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

In December 2019, our Board of Directors authorized an increase and extension of the share repurchase program, of up to \$50 million of the Company's common stock. The timing and actual number of shares repurchased in 2020 will depend on various factors, including the price of our common stock, general business and market conditions, and alternative investment opportunities or other uses of cash.

The following table summarizes the stock repurchase activity for the three months ended March 31, 2020 and the approximate dollar value of shares that may yet be purchased pursuant to our stock repurchase program:

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program*	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program
	(in thousands except per share amounts)			
March 1, 2020 through March 31, 2020	358	\$20.92	358	\$ 24,756

**Item 3. Defaults Upon Senior Securities.**

None.

**Item 4. Mine Safety Disclosures.**

Not Applicable.

**Item 5. Other Information.**

None.

**Item 6. Exhibits.**

The following exhibits are filed herewith:

<b>Exhibit No</b>	<b>Description</b>
3.1	<a href="#">Restated Certificate of Incorporation of the Company filed November 2, 2017. Incorporated by reference to Exhibit 3.1 of the Company's Form 10-Q filed with the Commission on November 3, 2017.</a>
3.2	<a href="#">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.</a>
31.1	<a href="#">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, 2020. Filed herewith.</a>
31.2	<a href="#">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, 2020. Filed herewith.</a>
32.1	<a href="#">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, 2020. Filed herewith.</a>
32.2	<a href="#">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, 2020. Filed herewith.</a>
101	The following materials from the Company's Form 10-Q for the quarter ended March 31, 2020, 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: May 6, 2020

AXCELIS TECHNOLOGIES, INC.

By: /s/ KEVIN J. BREWER

Kevin J. Brewer  
*Executive Vice President and Chief Financial Officer*  
*Duly Authorized Officer and Principal Financial Officer*

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

I, Mary G. Puma, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Axcelis Technologies, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 6, 2020

/s/ MARY G. PUMA

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

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

I, Kevin J. Brewer, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Axcelis Technologies, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 6, 2020

/s/ KEVIN J. BREWER

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

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**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, 2020.

/s/ MARY G. PUMA

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

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**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, 2020.

/s/ KEVIN J. BREWER

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

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