UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): July 28, 2010

Axcelis Technologies, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation) **000-30941** (Commission File Number) **34-1818596** (IRS Employer Identification No.)

01915 (Zip Code)

108 Cherry Hill Drive, Beverly, Massachusetts

(Address of principal executive offices)

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

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 2.02 Results of Operations and Financial Condition

On July 28, 2010, Axcelis Technologies, Inc. (the "Company") issued a press release regarding its financial results for the quarter ended June 30, 2010. The Company's press release is attached as Exhibit 99.1 to this Current Report on Form 8-K and incorporated by reference herein

Item 9.01 Financial Statements and Exhibits

- (d) Exhibits
- 99.1 Press Release dated July 28, 2010. Filed herewith.

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SIGNATURE

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 hereunto duly authorized.

Date: July 28, 2010

Axcelis Technologies, Inc.

By: /s/ STEPHEN G. BASSETT Stephen G. Bassett

Executive Vice President and Chief Financial Officer



AXCELIS ANNOUNCES FINANCIAL RESULTS FOR SECOND QUARTER 2010 Company Reports Strong Growth in Revenues, Cash and System Orders

BEVERLY, Mass.— July 28, 2010—Axcelis Technologies, Inc. (Nasdaq: ACLS) today announced financial results for the quarter ended June 30, 2010.

The Company reported second quarter revenue of \$58.2 million, compared to \$48.5 million for the first quarter of 2010, a 20% increase. Net loss for the second quarter was \$4.5 million, or \$0.04 per share. This compares to a net loss for the first quarter of 2010 of \$11.1 million, or \$0.11 per share. Cash and cash equivalents, including restricted cash, were \$51.9 million at June 30, 2010. The Company generated positive cash flow from operations of \$12.1 million for the quarter and ended the quarter with working capital of \$153.8 million.

"We had a much improved second quarter, posting better than expected results," said Mary Puma, chairman and CEO. "We saw substantial increases in revenues, cash flow and orders for both capacity expansions and leading-edge process design wins from all regions of the world. This has had a very positive effect on our financial performance; we generated positive cash flow from operations for the first half of the year and remain well on track to return to profitability." She continued, "We are seeing growing demand from both new and existing customers for our high current product line due to significant productivity and device performance advantages the Optima HDx system provides. We expect this to translate into market share gains in 2010 and beyond."

Second Quarter 2010 Conference Call

The Company will host a conference call today at 5:00 pm ET to discuss results for the second quarter 2010. The call will be available to interested listeners via an audio webcast that can be accessed through Axcelis' home page at www.axcelis.com, or by

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dialing 1-888-679-8033 (1-617-213-4846 outside North America). Participants calling into the conference call will be requested to provide the company name, Axcelis Technologies and pass code: 30719656. Webcast and telephone replays will be available from 8 pm ET on July 28, 2010 until 11:59 pm on October 26, 2010. Dial 1- 888-286-8010 (1-617-801-6888 outside North America), and enter conference ID code# 41501993.

Safe Harbor Statement

This document contains forward-looking statements under the SEC safe harbor provisions. These statements, which include our guidance for future financial performance, are based on management's current expectations and should be viewed with caution. They are subject to various risks and uncertainties, many of which are outside the control of the Company, including the timing of orders and shipments, the conversion of orders to revenue in any particular quarter, or at all, our ability to implement successfully our profit plans, the continuing demand for semiconductor equipment, relative market growth, continuity of business relationships with and purchases by major customers, competitive pressure on sales and pricing, increases in material and other production costs that cannot be recouped in product pricing and global economic, political and financial conditions. These risks and other risk factors relating to Axcelis are described more fully in the most recent Form 10-K filed by Axcelis and in other documents filed from time to time with the Securities and Exchange Commission.

About Axcelis

Axcelis Technologies, Inc. (Nasdaq: ACLS) headquartered in Beverly, Massachusetts, provides innovative, high-productivity solutions for the semiconductor industry. Axcelis is dedicated to developing enabling process applications through the design, manufacture and complete life support of ion implantation and cleaning systems. The company's Internet address is: www.axcelis.com.

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Axcelis Technologies, Inc.

Consolidated Statements of Operations

In thousands, except per share amounts

(Unaudited)

2010

Three months ended June 30. 2009

Six months ended June 30. 2010 2009

Revenue					
Product	\$ 50,693	\$ 25,764	\$ 90,971	\$	43,498
Service	7,510	7,611	15,732		15,395
Royalties from SEN	_	175	_		385
	58,203	 33,550	 106,703		59,278
Cost of revenue					
Product	33,690	22,658	64,010		40,890
Service	4,645	5,006	9,818		9,495
	38,335	 27,664	 73,828		50,385
Gross profit	19,868	5,886	32,875		8,893
Operating expenses					
Research and development	9,477	7,752	18,610		17,287
Sales and marketing	6,606	6,285	13,210		13,164
General and administrative	7,464	8,531	15,164		19,201
Restructuring charges	 	4,114	 	_	5,098
	23,547	 26,682	 46,984		54,750
Loss from operations	 (3,679)	 (20,796)	 (14,109)		(45,857)
Other income (expense)					
Gain on sale of SEN	—		—		1,080
Equity loss of SEN	—	—	—		(3,238)
Interest income	25	30	54		93
Interest expense	—		_		(1,676)
Other, net	 342	(1,311)	(65)		(1,516)
	367	(1,281)	(11)		(5,257)
Loss before income taxes	 (3,312)	 (22,077)	(14,120)		(51,114)
Income taxes	1,217	302	1,510		420
Net loss	\$ (4,529)	\$ (22,379)	\$ (15,630)	\$	(51,534)
Net loss per share	 				
Basic and diluted net loss per share	\$ (0.04)	\$ (0.22)	\$ (0.15)	\$	(0.50)
Shares used in computing basic and diluted net loss per share	 	 	 		
Weighted average common shares	104,170	103,286	104,143		103,285
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Axcelis Technologies, Inc.

Consolidated Balance Sheets

In thousands

(Unaudited)

	June 30, 2010		December 31, 2009	
ASSETS				
Current assets				
Cash and cash equivalents	\$	47,886	\$	45,020
Restricted cash		4,047		4,918
Accounts receivable, net		34,264		19,094
Inventories, net		97,824		114,558
Prepaid expenses and other current assets		14,877		10,016
Total current assets		198,898		193,606
Property, plant and equipment, net		39,521		40,868
Long-term restricted cash				2,245
Other assets		10,255		13,884
	\$	248,674	\$	250,603
LIABILITIES AND STOCKHOLDERS' EQUITY				
Current liabilities				
Accounts payable	\$	17,854	\$	9,680
Accrued compensation		10,402		9,267
Warranty		974		638
Income taxes		1,367		1,499
Deferred revenue		10,097		5,127
Other current liabilities		4,424		3,546
Total current liabilities		45,118		29,757
Long-term deferred revenue		895		563
Other long-term liabilities		3,630		3,884
Stockholders' equity				
Preferred stock				_
Common stock		104		104
Additional paid-in capital		490,686		488,321
Treasury stock		(1,218)		(1,218)

Accumulated deficit	(291,577)	(275,947)
Accumulated other comprehensive income	1,036	5,139
	199,031	216,399
	\$ 248,674	\$ 250,603

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Axcelis Technologies, Inc.

Consolidated Statements of Cash Flow

In thousands

(Unaudited)

	Six months ended June 30,			
		2010		2009
Cash flows from operating activities				
Net loss	\$	(15,630)	\$	(51,534)
Adjustments to reconcile net loss to net cash used for operating activities				
Undistributed loss of SEN		—		3,238
Depreciation and amortization		3,711		3,727
Gain on sale of SEN		—		(1,080)
Accretion of premium on convertible debt		—		133
Stock-based compensation expense		1,568		1,316
Provision for excess inventory		1,331		7,492
Changes in operating assets & liabilities				
Accounts receivable		(16,011)		4,117
Inventories		13,844		9,229
Prepaid expenses and other current assets		(5,051)		5,956
Accounts payable & other current liabilities		11,502		(5,932)
Deferred revenue		5,366		(5,072)
Income taxes		(110)		139
Other assets and liabilities		1,673		(401)
Net cash provided by (used for) operating activities		2,193		(28,672)
Cash flows from investing activities				
Expenditures for property, plant, and equipment		(480)		(354)
Decrease in restricted cash		3,116		1,741
Proceeds from sale of SEN		—		132,847
Payments related to sale of SEN		—		(10,590)
Net cash provided by investing activities		2,636		123,644
Cash flows from financing activities				
Repayment of convertible debt				(83,344)
Financing fees and other expenses		(514)		_
Proceeds from exercise of stock options		55		
Proceeds from Employee Stock Purchase Plan		206		65
Net cash used for financing activities		(253)		(83,279)
Effect of exchange rate changes on cash		(1,710)		384
Net increase in cash and cash equivalents		2,866		12,077
Cash and cash equivalents at beginning of period		45,020		37,694
Cash and cash equivalents at end of period	\$	47,886	\$	49,771

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