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): November 4, 2008

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.)

108 Cherry Hill Drive, Beverly, Massachusetts

(Address of principal executive offices)

01915 (Zip Code)

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 November 4, 2008, Axcelis Technologies, Inc. (the "Company") issued a press release regarding its financial results for the quarter ended September 30, 2008. 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

(c) Exhibits

Exhibit No. Description
99.1 Press Release dated November 4, 2008

2

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: November 4, 2008 Axcelis Technologies, Inc.

By: /s/ STEPHEN G. BASSETT

Stephen G. Bassett Executive Vice President and Chief Financial Officer Exhibit No.

99.1 Press Release dated November 4, 2008

4

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AXCELIS ANNOUNCES FINANCIAL RESULTS FOR THIRD QUARTER 2008

BEVERLY, Mass., November 4, 2008 (PRIME NEWSWIRE) – Axcelis Technologies, Inc. (Nasdaq: ACLS) today announced financial results for the third quarter ended September 30, 2008. The Company reported third quarter revenues of \$46.5 million, compared to \$76.9 million for the second quarter of 2008. Net loss for the third quarter was \$24.7 million, or \$0.24 per share. This compares to a net loss for the second quarter of 2008 of \$19.4 million, or \$0.19 per share. In the corresponding quarter for the previous year, the Company reported revenues of \$107.6 million, and net loss of \$8.2 million, or \$0.08 per share

Commenting on the Company's performance, Chairman and CEO Mary Puma said, "In light of the continuing decline in wafer fab spending Axcelis remains focused on improving financial results, increasing liquidity and continuing to penetrate with our flagship Optima and Integra products." Puma continued, "We recently implemented a comprehensive restructuring plan, which combined with prior actions, has reduced Axcelis' global workforce by 31.5% since year end 2007. Realized cost savings, coupled with our ongoing efforts to refinance our debt will position Axcelis to weather this downturn and emerge a stronger business."

Third Quarter Detail

Shipments and Margins

Shipments for the third quarter, including aftermarket business, before provision for deferred revenue totaled \$9.6 million. Geographically, Axcelis' systems shipments were to: Asia, 53%; North America, 40%; and Europe, 7%. The ion implantation business accounted for 85% of total systems shipments in the third quarter. Gross margin for the third quarter was 36.9%.

Orders and Backlog

Orders received for the third quarter (new systems bookings and aftermarket) totaled \$49.5 million. New systems bookings, excluding aftermarket, amounted to \$12.8 million. Backlog plus deferred systems revenue at quarter end was \$37.0 million. Backlog consists of systems orders (aftermarket orders are excluded) that are generally scheduled to ship within six months.

Aftermarket Business

The Company's revenues include sales of spare parts and product upgrades as well as complete systems. We refer to the business of selling spare parts and product upgrades, combined with the sale of maintenance labor and service contracts and service hours as the "Aftermarket" business. Our Aftermarket business remains relatively stable despite the significant decrease in fab utilization and continues to generate margins that are accretive to the business as a whole. Revenue from our aftermarket business was \$36.8 million for the three month period ended September 30, 2008, compared to \$38.3 million for the second quarter of 2008 and \$43.2 million for the corresponding period of the preceding year.

SEN Corporation, an SHI and Axcelis Company ("SEN")

Axcelis owns 50% of SEN, a Japanese company that is licensed by Axcelis to manufacture and sell certain implant products in Japan. SEN's revenue for the third quarter totaled \$38.0 million. Revenues in Japan are also challenged by weak market conditions, reducing SEN's contribution to the Company.

Business Outlook

Axcelis' financial outlook for the fourth quarter of 2008 includes revenues in the range of \$45 million to \$60 million. The Company also forecasts a fourth quarter loss per share in the range of \$0.24 to \$0.28, including the effect of restructuring charges of \$0.03 to \$0.04 per share. The Axcelis share of SEN net loss is projected to be in the range of \$1 to \$2 million. Royalties from SEN are projected in the range of \$0.5 million to \$1 million. Operating expenses for the quarter are forecast to be approximately at \$36 million. Axcelis assumes no responsibility to update guidance. Axcelis will only confirm or update guidance via a press release.

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 Technologies, Inc.

Axcelis Technologies, Inc., 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 cycle support of ion implantation and cleaning



Axcelis Technologies, Inc. Consolidated Balance Sheets In thousands (Unaudited)

	Sep ————————————————————————————————————	September 30, 2008		
Assets				
Current assets				
Cash and cash equivalents	\$	49,727	\$	83,877
Restricted cash		12,641		17,018
Accounts receivable, net		36,571		76,067
Inventories, net		177,012		169,278
Prepaid expenses and other current assets		19,216		32,442
Total current assets		295,167		378,682
Property, plant and equipment, net		63,997		68,101
Investment in SEN		136,131		132,911
Goodwill		42,115		42,115
Intangible assets		8,957		10,925
Other assets		33,374		37,195
	\$	579,741	\$	669,929
Liabilities and stockholders' equity				
Current liabilities				
Accounts payable	\$	12,589	\$	27,054
Accrued compensation		14,925		17,003
Warranty		3,166		5,011
Income taxes		754		531
Deferred revenue		15,107		35,827
Other current liabilities		5,294		8,577
Current portion of convertible subordinated debt		82,364		_
Total current liabilities		134,199		94,003
Convertible subordinated debt		_		79,923
Long-term deferred revenue		3,308		4,704
Other long-term liabilities		4,858		5,293
Stockholders' equity				
Preferred Stock		_		_
Common stock		103		103
Additional paid-in capital		482,725		478,726
Treasury stock		(1,218)		(1,218)
Accumulated deficit		(57,033)		(1,815)
Accumulated other comprehensive income		12,799		10,210
		437,376		486,006
	\$	579,741	\$	669,929



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

Three Months ended
September 30,

Nine Months ended September 30, 2008 2007

Revenue		46,454	10	07,553		208,237		315,152
Cost of revenue		29,295		71,284		134,772		194,043
Gross profit		17,159	:	36,269		73,465		121,109
Operating expenses								
Research and development		15,873		18,288		49,680		54,114
Sales and marketing		12,381		12,411		36,760		38,495
General and administrative		10,562		10,367				31,037
Impairment of goodwill		_		4,658				4,658
Amortization of intangible assets		656		656	1,968		1,968	
Restructuring charges		444				3,512		<u> </u>
		39,916		46,380		123,174		130,272
Loss from operations		(22,757)	(10,111)		(49,709)		(9,163)
Other income (expense)								
Equity income (loss) of SEN		(968)		1,767		(1,100)		8,340
Interest income		319		1,224		1,400		3,824
Interest expense		(1,724)		(1,587)		(5,005)		(4,822)
Other-net		763		254		314		505
		(1,610)		1,658		(4,391)		7,847
Loss before income taxes		(24,367)		(8,453)		(54,100)		(1,316)
Income taxes (credits)		374		(256)		1,118		(536)
Net loss	\$	(24,741)	\$	(8,197)	\$	(55,218)	\$	(780)
Net loss per share								
Basic	\$	(0.24)	\$	(80.0)	\$	(0.54)	\$	(0.01)
Diluted	Ψ	(0.24)	Ψ	(80.0)	Ψ	(0.54)	Ψ	(0.01)
Shares used in computing net loss per share								
Basic		103,002	10	02,206		102,635		101,772
Diluted		103,002		02,206		102,635		101,772