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 1, 2007

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 1, 2007, Axcelis Technologies, Inc. (the "Company") issued a press release regarding its financial results for the quarter ended September 30, 2007. 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.

99.1 Press Release dated November 1, 2007

Description

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 1, 2007 Axcelis Technologies, Inc.

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

Stephen G. Bassett Executive Vice President and Chief Financial Officer

3

4

Exhibit No.Exhibit Index99.1Press Release dated November 1, 2007

Company Contact: David Snyder Axcelis Technologies, Inc. Tel: +1 (978) 787 4273 Fax: +1 (978) 787 4275 david.snyder@axcelis.com Investor Contact: Stephen Bassett Axcelis Technologies, Inc. Tel: +1 (978) 787 4000 Fax: +1 (978) 787 9133 investor.relations@axcelis.com Agency Contact: Heather Smith Loomis Group Tel: +1 (617) 309 8005 Fax: +1 (617) 638 0033 smithh@loomisgroup.com

AXCELIS ANNOUNCES FINANCIAL RESULTS FOR THIRD QUARTER 2007

BEVERLY, Mass. — **November 1, 2007** — Axcelis Technologies, Inc. (Nasdaq: ACLS) today announced financial results for the third quarter ended September 30, 2007. The Company reported revenues of \$107.6 million, compared to \$110.1 million for the second quarter of 2007. Net loss for the third quarter was \$8.2 million or \$0.08 per share, of which \$0.05 is attributable to a charge for impairment of goodwill relating to the discontinuance of future development of RTP and curing products. This compares to net income for the second quarter of \$4.7 million or \$0.05 per share. In the corresponding quarter for the previous year, the Company reported revenues of \$122.8 million and net income of \$12.5 million, or \$0.12 per share.

"Increasing weakness in the semiconductor market has caused a more significant softening in our base business than we had anticipated. During the third quarter, we experienced a push out of several shipments, driven mainly by changes in the timing of memory projects," commented Chairman and CEO Mary Puma. "As we previously announced, we are streamlining operations to focus on our core implant and dry strip product lines. We have implemented other significant cost-out actions, including a reduction in force and an extended holiday shutdown, that will reduce our operating expenses by approximately 10%."

Puma continued, "Despite the ongoing softness in the industry, our customers continue to validate the production and process advantages of the Optima HD. We received a follow-on order this quarter for an Optima HD for high volume manufacturing where we demonstrated these advantages in head-to-head competition. Our customers are conveying to us that the Optima HD will capture a measurable split of their future high dose business."

Third Quarter Detail

Shipments and Margins

Shipments, including aftermarket business, before provision for deferred revenue for the third quarter totaled \$103.4 million. Geographically, Axcelis' systems shipments for the quarter were to: Asia, 66%; North America, 12%; and Europe, 22%. The ion implantation business accounted for 70% of total shipments in the third quarter. Gross margin for the third quarter was approximately 34%.

Orders and Backlog

Orders (new systems bookings and aftermarket) received for the third quarter totaled \$76.2 million. New systems bookings, excluding aftermarket, amounted to \$33.0 million. Backlog plus deferred systems revenue at quarter end was \$63.5 million. Backlog consists of systems orders (aftermarket orders are excluded) that are generally scheduled to ship within six months.

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

Axcelis owns 50% of SEN, a Japanese company that is licensed to make and sell certain Axcelis ion implanters in Japan. SEN's revenue for the third quarter totaled \$49.7 million.

Business Outlook

Axcelis' financial outlook for the fourth quarter of 2007 includes revenues in the range of \$80 million to \$95 million. The Company also forecasts a fourth quarter loss per share in the range of \$0.07 to \$0.13 of which \$0.02 is attributed to the restructuring of the business. Axcelis assumes no responsibility to update guidance. Axcelis will only confirm or update guidance via a press release.

Third Quarter 2007 Conference Call

The Company will be hosting a conference call today, Thursday, November 1, 2007, beginning at 5:00 pm ET. The purpose of the call is to discuss third quarter results and to provide guidance for the fourth quarter of 2007.

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 dialing 1-800-479-1628 (1-719-457-2729 outside North America). Participants calling into the conference call will be requested to provide the company name: Axcelis Technologies, the conference leader: Stephen Bassett, and pass code: #3354400. A webcast replay will be available from 8:00 pm ET on November 1, 2007 until 5:00 pm ET December 1, 2007.

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 systems. Axcelis also licenses its 50% owned joint venture, SEN Corporation, an SHI and Axcelis Company, to manufacture and sell certain implant products in Japan. The company's Internet address is: www.axcelis.com.



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

	 Three months ended September 30,			Nine months ended September 30,			
	 2007	2006		2007		2006	
Revenue	\$ 107,553	\$ 122,817	\$	315,152	\$	338,378	
Cost of Revenue	71,284	69,551		194,043		198,128	
Gross profit	36,269	53,266		121,109		140,250	
Operating expenses							
Research and development	18,288	17,597		54,114		54,000	
Sales and marketing	12,411	11,743		38,495		33,919	
General and administrative	10,367	11,986		31,037		34,258	
Impairment of goodwill	4,658	_		4,658		_	
Amortization of intangible assets	656	656		1,968		1,895	
Restructuring charges	 <u> </u>	53		<u> </u>		147	
	46,380	42,035		130,272	_	124,219	
Income (loss) from operations	(10,111)	11,231		(9,163)		16,031	
Other income (expense)							
Equity income of SEN	1,767	2,372		8,340		10,734	
Interest income	1,224	2,250		3,824		5,816	
Interest expense	(1,587)	(2,570)		(4,822)		(6,657)	
Other-net	254	153		505		837	
	1,658	2,205		7,847		10,730	
Income (loss) before income taxes	(8,453)	13,436		(1,316)		26,761	
Income taxes (credits)	 (256)	916		(536)		1,552	
Net income (loss)	\$ (8,197)	\$ 12,520	\$	(780)	\$	25,209	
Net income (loss) per share							
Basic	\$ (0.08)	\$ 0.12	\$	(0.01)	\$	0.25	
Diluted	\$ (80.0)		\$	(0.01)		0.25	
Shares used in computing net income (loss) per share							
Basic	102,206	101,165		101,772		101,003	
Diluted	102,206	101,612		101,772		101,205	
Diane	102,200	101,012		101,772		101,200	



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

	September 30, 2007		December 31, 2006	
Assets				
Current assets				
Cash and cash equivalents	\$ 83,152	\$	140,451	
Marketable securities	_		63,200	
Restricted cash	16,656		11,019	
Accounts receivable, net	76,191		73,635	
Inventories, net	175,547		160,107	
Prepaid expenses and other current assets	30,361		26,639	
Total current assets	381,907		475,051	
Property, plant and equipment, net	68,492		66,678	
Investment in SEN	126,971		126,688	
Goodwill	42,115		46,773	
Intangible assets	11,581		13,549	
Restricted cash, long-term portion	_		1,137	

		24.227		24.417
Other assets		34,327		24,117
	\$	665,393	\$	753,993
Liabilities and stockholders' equity				
Current liabilities				
Accounts payable	\$	21,891	\$	37,312
Accrued compensation		14,285		26,996
Warranty		4,989		5,229
Income taxes		672		3,906
Deferred revenue		35,228		28,811
Current portion of convertible subordinated debt		_		74,217
Other current liabilities		7,727		13,670
Total current liabilities	'	84,792		190,141
Convertible subordinated debt		79,142		76,887
Long-term deferred revenue		5,082		5,054
Other long-term liabilities		6,667		4,349
Stockholders' equity				
Preferred Stock		_		_
Common stock		102		101
Additional paid-in capital		476,549		469,967
Treasury stock		(1,218)		(1,218)
Retained earnings		8,803		9,583
Accumulated other comprehensive income (loss)		5,474		(871)
·		489,710		477,562
	\$	665,393	\$	753,993
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