

**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): **March 17, 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:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 7.01. Regulation FD Disclosure.

On March 17, 2008, Mary Puma, Chairman and Chief Executive Officer of Axcelis Technologies, Inc., distributed a memorandum to the employees of Axcelis regarding the Board of Directors' review and evaluation of the unsolicited proposal to acquire Axcelis made by Sumitomo Heavy Industries, Ltd. on March 10, 2008. A copy of the memorandum is furnished as Exhibit 99.1 to this Form 8-K.

Exhibit 99.1 shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities under that Section and shall not be deemed to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Exchange Act.

Item 8.01. Other Events.

Axcelis Technologies, Inc. issued a press release on March 17, 2008 in response to the unsolicited proposal to acquire Axcelis made by Sumitomo Heavy Industries, Ltd. on March 10, 2008.

A copy of the press release is filed as Exhibit 99.2 to this Current Report on Form 8-K and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Memorandum from the Chairman and Chief Executive Officer to Axcelis Technologies, Inc. employees dated March 17, 2008
99.2	Axcelis Technologies, Inc. press release dated March 17, 2008

Forward-Looking Statements

This Current Report on Form 8-K and its exhibits contain statements about Axcelis' strategic and operational plans and potential financial performance. These are forward-looking statements that involve risks and uncertainties. Actual events or results may differ materially from those described in the forward-looking statements due to a number of important factors involving risks and uncertainties. The potential risks and uncertainties include, but are not limited to: the impact of the cyclical nature of the semiconductor industry, Axcelis' ability to keep pace with rapid technological changes in the semiconductor manufacturing processes, the impact of the highly competitive nature of the semiconductor equipment industry, quarterly fluctuations in operating results attributable to the timing and amount of orders for our products and services, and Axcelis' dependence on SEN (Axcelis' Japanese joint venture) for access to the Japanese semiconductor equipment market. Further risks and uncertainties associated with Sumitomo Heavy Industries' unsolicited proposal to acquire Axcelis include: the risk that key employees may leave for other employment opportunities due to concerns for their employment security with Axcelis, the risk of creating uncertainty and disruption in customers' purchasing plans, the risk that the acquisition proposal will make it more difficult for Axcelis to execute its strategic plan and pursue other strategic opportunities, and the risk that stockholder litigation in connection with Sumitomo Heavy Industries' unsolicited proposal may result in significant costs of defense, indemnification and liability. If any of those or other risks or uncertainties materializes, Axcelis' business, financial condition and results of operations could be seriously harmed and the trading price of its common stock could decline. More information about potential factors that could affect Axcelis' business and financial results is included under the captions "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the Company's Annual Report on Form 10-K for the year ended December 31, 2007, which is on file with the SEC and available at the SEC's website at www.sec.gov. All forward-looking statements are qualified by these cautionary statements and are made only as of the date they are made. The Company is under no obligation (and expressly disclaims any such obligation) to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise.

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: March 17, 2008

Axcelis Technologies, Inc.

By: /s/ STEPHEN G. BASSETT
 Stephen G. Bassett
 Executive Vice President
 and Chief Financial Officer

Exhibit No.	Exhibit Index
99.1	Memorandum from the Chairman and Chief Executive Officer to Axcelis Technologies, Inc. employees dated March 17, 2008
99.2	Axcelis Technologies, Inc. press release dated March 17, 2008

To: All Axcelis Employees

From: Mary Puma, Chairman and CEO

Date: March 17, 2008

Re: Axcelis response to new proposal from SHI

Dear Axcelis Employees,

Earlier this morning, Axcelis issued a press release responding to the proposal received by Sumitomo Heavy Industries (SHI) on March 10, 2008. Attached is a copy of the release, which reports on and explains the decision of our Board of Directors on this proposal.

As we indicated last time, we do not know how this matter will progress. There may be further activity in the short or longer term and there may not. Please focus on your work at Axcelis, which is the most important contribution you can make to our success.

If you receive inquiries on the SHI matter from customers, vendors, business partners, or media we ask you to direct them to our press release issued today, which incorporates all there is say on this matter at this time. If you have any concerns, please contact Lynnette Fallon, our EVP HR/Legal and General Counsel (978-787-4120).

Thank you.

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**Axcelis Technologies Board of Directors Determines Revised Unsolicited Proposal by
Sumitomo Heavy Industries Undervalues Axcelis and is Not in the Best Interests of Axcelis
and its Shareholders**

BEVERLY, Mass. — (Prime Newswire) — March 17, 2008 — Axcelis Technologies, Inc. (Nasdaq: ACLS) today reported that its Board of Directors has unanimously rejected the unsolicited proposal by Sumitomo Heavy Industries, Ltd. (SHI) (TSE: 6302) and its private equity partner, TPG, to acquire all Axcelis common stock for \$6.00 per share. The Axcelis Board, after carefully evaluating the offer with its financial and legal advisors, determined the proposal undervalues Axcelis and is not in the best interests of Axcelis and its shareholders. Axcelis' Board is determined to do what is best for the Company and its shareholders and is committed to pursuing all initiatives to achieve this goal and to best position Axcelis to capitalize on its strengths and realize its business potential.

Mary G. Puma, Chairman and Chief Executive Officer stated, "SHI's \$6.00 unsolicited proposal undervalues the Company based on the intrinsic value of the business in light of the Company's product portfolio and global market reach. The Board of Directors' decision is supported by extensive valuation analyses and by our trading prices over the last year. Although Axcelis' recent trading prices, along with others' in the industry, have been depressed, the Board believes the Company is well positioned for the future and worth more than \$6.00 per share."

Stephen R. Hardis, Lead Director of Axcelis' Board of Directors, commented, "While Axcelis and the Board recognize that Axcelis' financial performance has been adversely affected by the delay of Optima HD products to market, among other factors, we are confident about the Company's future. Given our robust product pipeline and Axcelis' customers' favorable reaction to Optima HD products, the Board believes that Axcelis shareholders are in a strong position to benefit as Axcelis realizes its business potential."

In rejecting the SHI proposal, the Board specifically cited its view that:

- Axcelis has a clear opportunity to regain high current implant market share. Optima HD products are demonstrating in head to head manufacturing that they are more productive than competitive systems. The upside of these new products is just beginning to be realized. Axcelis is recognizing revenues from Optima HD products for the first time in the first quarter of 2008. Even modest gains in market share will result in significant improvement to Axcelis' financial performance. Historically, market share in ion implantation has shifted dramatically based on changes in manufacturing processes, chip

technology advances and semiconductor equipment competitive portfolios. In fact, Axcelis and its leading competitor have traded the number one spot four times since 1990. Customers are making it clear that Axcelis is well positioned both technically and commercially. SHI's proposal does not take into account even modest market share gains.

- As a 50% owner of SEN (the joint venture between Axcelis and SHI), SHI uniquely understands the significant commercial and operational synergies that could result from a combination of Axcelis and SEN. There are meaningful financial and operational synergies to be realized in a "one company" strategy. Axcelis shareholders should participate in the value of those synergies. SHI's proposal fails to reflect the value of the benefits of SHI's gaining full ownership of SEN.

Axcelis also noted that SHI has not accurately portrayed Axcelis' willingness to hold discussions with SHI. Axcelis' CEO, Mary Puma, and other members of Axcelis' senior management team meet regularly with SHI representatives to discuss how to optimize the value of SEN. In fact, these meetings have occurred seven times since SHI first expressed an interest in acquiring Axcelis in July 2006. Notably, in November 2006, Axcelis offered, subject to SHI's agreeing to sign a customary nondisclosure agreement, to meet and provide SHI with confidential information that would further demonstrate Axcelis' market opportunity. SHI never responded to Axcelis' invitation. Conversations between Axcelis and SHI were restarted in March 2007 but, after meetings in November 2007, representatives of SHI declined to attend further meetings offered by Axcelis.

Ms. Puma stated, "In all of our meetings, Axcelis management has worked to optimize the value of SEN, an important Axcelis asset, while keeping the Axcelis shareholders' interest at the forefront. Axcelis management, with the agreement of the Board, has vigorously pursued numerous ways to enable Axcelis and SEN to become a single company through operational agreements or an equity transfer. It has been clear for a number of years that substantial cost savings and significant synergies could be realized in such a transaction."

Despite these concerns and the rejection of SHI's proposal of \$6.00 per share, Axcelis remains ready to meet again with SHI on a private basis to determine if there is a mutually beneficial transaction to resolve the joint venture relationship for both Axcelis shareholders and SHI. Axcelis expects that any discussions with SHI, if they occur, would be on a confidential basis and would explore all alternatives to the current situation.

Goldman, Sachs & Co. is acting as financial advisor and Wachtell, Lipton, Rosen & Katz and Edwards Angell Palmer & Dodge LLP are acting as legal advisors to Axcelis.

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.
