

**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): **January 28, 2005**

Axcelis Technologies, Inc.
(Exact name of registrant as specified in 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 1.01. Entry into a Material Definitive Agreement

Adoption of Executive Separation Agreement. On January 28, 2005, the Company entered into an Executive Separation Agreement with Jan Paul van Maaren, Ph.D., pursuant to which Dr. van Maaren will resign from his position as Vice President and General Manager of the Company's Curing and Cleaning product division, on February 11, 2005, but will continue as a part-time employee of the Company until December 30, 2005 (the "Separation Date"). The Separation Agreement releases Axcelis from any claims by Dr. van Maaren and supersedes the Change in Control Agreement, dated December 20, 2001, between Dr. van Maaren and Axcelis. The Separation Agreement describes the transition and separation benefits to be provided to Dr. van Maaren. A brief description of the material terms and conditions of the Separation Agreement is set forth below, and a copy of the Separation Agreement is attached hereto as Exhibit 10.1 to this Report on Form 8-K and is incorporated by reference herein.

Pursuant to the Separation Agreement, Dr. van Maaren will receive all compensation due to him through the Separation Date including salary and a payout under the Axcelis Team Incentive Plan for 2004. Dr. van Maaren will be eligible to participate in substantially all benefit plans in which he currently participates until the Separation Date.

Dr. van Maaren is entitled to contribute to the Employee Stock Purchase Plan until the Separation Date and as otherwise provided by such plan. Dr. van Maaren may exercise his stock options that are vested as of the Separation Date in accordance with the terms of Axcelis' 2000 Stock Plan.

In addition, the Separation Agreement provides that Dr. van Maaren and his enrolled dependents will be eligible for health insurance coverage under the Axcelis health insurance program in accordance with the terms thereof until the Separation Date. Dr. van Maaren will cease to have life or disability insurance when he ceases to be an active employee as required by such benefit plans. Axcelis will pay to Dr. van Maaren all amounts due as a company match under the 401(k) plan for his contributions to that plan through December 31, 2004. Axcelis will reimburse Dr. van Maaren up to \$12,500 for outplacement services.

The Separation Agreement contains non-competition and non-solicitation covenants that restrict Dr. van Maaren for a period ending on the first anniversary of the Separation Date. In addition, Dr. van Maaren continues to be subject to the covenants in his Employee Inventions and Confidentiality Agreement with the Company. The Separation Agreement provides that Dr. van Maaren must cooperate with Axcelis with respect to any action, proceeding, investigation or litigation involving Axcelis, with respect to which Dr. van Maaren has knowledge.

Item 2.02 Results of Operations and Financial Condition

On February 3, 2005, Axcelis Technologies, Inc. (the "Company") issued a press release regarding its financial results for the quarter and year ended December 31, 2004. The Company's press release is attached as Exhibit 99.1 to this Current Report on Form 8-K and incorporated by reference herein.

The information under this Item in this Current Report on Form 8-K and Exhibit 99.1 attached hereto shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, regardless of any general incorporation language in such filing.

Item 2.05 Costs Associated with Exit or Disposal Activities

On November 18, 2004, Axcelis Technologies, Inc. (the "Company"), in an employee communication, committed Axcelis to an exit plan involving the termination of employees under a plan of termination described in paragraph 8 of FASB Statement of Financial Accounting Standards No. 146 "Accounting For Costs Associated With Exit or Disposal Activities", under which material charges will be incurred under generally accepted accounting principles. The Company filed a Form 8-K relating to this event on November 24, 2004, at which time it was unable in good faith to make a determination of the estimates of the amounts required by Item 2.05(b).

(b) As of the date of this filing, the Company estimates that the amounts for each major type of cost associated with this course of action are as follows:

Relocation costs	\$	4.2 – 4.8 million
One-time termination benefits	\$	2.0 – 2.2 million
Facility disposition	\$	0.8 – 1.0 million
Total	\$	7.0 – 8.0 million

(c) In the November 18, 2004 8-K filing described in (b) above, the Company estimated that the costs of the consolidation to be incurred over the next three quarters to be approximately \$10 million. As of the date of this filing, the Company estimates that the cost of the consolidation to be incurred over the next four quarters to be approximately \$7 to \$8 million.

(d) In the November 18, 2004 8-K filing described in (b) above, the Company estimated that approximately \$8.5 million of the total cost of the consolidation is expected to result in future cash expenditures. As of the date of this filing, the Company estimates that approximately \$6.5-\$7.7 million of the total cost of the consolidation is expected to result in future cash expenditures.

Item 9.01 Financial Statements and Exhibits

(c) Exhibits

Exhibit No.	Description
10.1	Executive Separation Agreement dated as of January 28, 2005, between Axcelis Technologies, Inc. and Jan Paul van Maaren
99.1	Press Release dated February 3, 2005

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: February 3, 2005

Axcelis Technologies, Inc.

By: /s/ Stephen G. Bassett
 Stephen G. Bassett
 Senior Vice President and Chief Financial Officer

EXHIBIT INDEX

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AXCELIS TECHNOLOGIES, INC.

EXECUTIVE SEPARATION AGREEMENT

THIS EXECUTIVE SEPARATION AGREEMENT, dated as of January 28, 2005, is made by and between Axcelis Technologies, Inc. (hereinafter referred to as the "Company") and Jan Paul van Maaren (hereinafter referred to as "Executive"). In consideration of the mutual covenants contained herein, the parties agree as follows:

1. Termination of Active Employment; Separation Period. Executive's last day in the Company's offices will be Friday, February 11, 2005. Executive's active employment with the Company will terminate not later than Thursday, March 31, 2005 (the "Separation Commencement Date"). During the period from April 1, 2005 through December 30, 2005, Executive will continue to provide services to the Company on a part time basis from his home office. As described in Section 2, Executive will receive the salary continuation and benefits during the period following the Separation Commencement Date and ending Friday, December 30, 2005 (the "Separation Period"). It is understood that Executive may accept employment with a third party during the Separation Period. During the Separation Period, the Executive shall:

- 1.1. cooperate with the reasonable requests of the Company to support the transition of the Executive's duties to other Company personnel; and
- 1.2. continue to be an employee to the extent necessary to provide the benefits described in Section 2.

At the end of the Separation Period, all aspects of Executive's employment shall terminate (the Termination Date").

2. Termination Compensation.

2.1 Axcelis Time Management (ATM). Employee will receive a lump sum amount for his ATM balance, following the commencement of the Separation Period (ATM will cease to accrue as of the commencement of the Separation Period).

2.2 Axcelis Team Incentive. Executive will continue to be eligible for the 2004 Axcelis Team Incentive (ATI) payout as long as Executive does not voluntarily terminate employment or is terminated for misconduct prior to the Separation Commencement Date. Executive's 2004 ATI payment will continue to be determined by the individual target previously communicated to the Executive as well as your individual performance multiplier and the company performance score for 2004, determined by the Board of Directors. It is contemplated that the 2004 ATI payout will be distributed to employees no later than March 15, 2005.

2.3 Salary Continuation. The Company will pay Executive, on a salary continuation basis, Executive's base salary at the Separation Commencement Date during the Separation Period, less legally required payroll tax deductions and the elective deductions referred to in Section 2.4.

2.4 Benefits. **Attachment A** sets forth detailed information on the impact of Executive's separation on Company-provided benefits. During the Separation Period, the Company shall:

(a) Allow Executive to continue to contribute to the Company's 401(k) Plan, (the Executive shall receive any contribution that may be made by the Company to his account) to the extent permissible under the Plan and applicable law and maintain Executive's status as employed for the purposes of the Eaton Cash Balance Plan, if applicable;

(b) Allow Executive to continue to participate in the Company's Employee Stock Purchase Plan in accordance with plan terms, subject to the applicable deductions from the payments under Section 2.1 to reflect such participation;

(c) Allow Executive to continue to vest in his stock options until the Termination Date and to exercise any vested options until the Termination Date and for 90 days thereafter, to the extent so provided in the option;

(d) Continue Executive's participation in the medical and dental plans (including the Mass General Hospital Executive Registry Program) selected by Executive prior to the Separation Commencement Date, subject to the applicable deductions from the payments under Section 2.1 to reflect such participation (Executive will cease to be covered by the Company's short and long term disability insurance upon the Separation Commencement Date and your Company-provided life insurance on March 31, 2005);

(e) Continue to afford the Executive the privileges afforded under the "Executive Tax Preparation and Financial Planning Program" subject to the limits outlined in the program overview document;

(f) The Company agrees to allow the Executive to retain the laptop computer used by him during the Separation Period;

(g) The Company agrees to allow Executive to maintain email during his Separation Period or until Executive finds other employment; and

(h) The Company agrees to give the mobile phone to the Executive and pay the Executive a lump sum amount to cover cell phone premiums at the standard plan level (\$99 per month) covering the Separation Period.

2.5 Outplacement Services. At the request of Executive, the Company will pay up to \$12,500 for an outplacement service for services rendered in assisting Executive in locating other employment. These payments are contingent upon Executive's cooperation with the outplacement service and upon active efforts by Executive to locate another position.

2.6 Home Office Furniture. On or prior to the Separation Commencement Date, the Company will transfer to Executive, without charge, the office furniture listed on **Attachment B**. This office furniture will be delivered to the Executive's home at the Company's expense and shall be used by Executive in performing services hereunder as well as personal use.

2.7 Relocation. In the event that the Executive wishes to return to the Boston metropolitan area other than in connection with new employment, Axcelis will pay for the move, provided the relocation is substantially completed during the Separation Period. The scope and obligations of the Company in connection with this relocation are set forth in the Company's domestic relocation program. If the Executive fails to substantially complete his return move prior to the Termination Date, he will forfeit this benefit.

2.8 Executive Acknowledgement of Compensation. The Executive acknowledges that in exchange for entering into this Agreement the Executive has received good, sufficient and valuable consideration in excess of that to which the Executive would otherwise have been entitled in the absence of this Agreement. The Executive acknowledges that the Executive has been paid in full for any and all wages, including accrued unused vacation pay. Unless otherwise provided for expressly in this Agreement, all other benefits have ceased as of the Separation Commencement Date.

2.9 Effect of Breach on Compensation. The Executive agrees that the compensation and benefits contained in this Agreement and which flow to the Executive from the Company are subject to termination, reduction or cancellation in the event that the Executive takes any action or engages in any conduct deemed by the Company to be in violation of this Agreement.

3. Executive Obligations.

3.1 Return of Property. The Executive shall return all papers, files, documents, computers, reference guides, equipment, keys, identification, credit cards, software, computer access codes, disks and institutional manuals, or other property belonging to the Company within one week after the Separation Commencement Date; provided the Executive shall return the laptop computer referenced in Section 2 above not later than the end of the Separation Period. The Executive shall not retain any copies, duplicates, reproductions or excerpts of any of the Company's property. The executive may retain copies of all agreements between the Executive and the Company and other documents relating to his personal performance.

3.2 Nondisclosure of Confidential Information. During the course of the Executive's employment with the Company, the Executive has become acquainted with and/or developed confidential information belonging to the Company and its customers. The Executive agrees not to use or to disclose to any person or entity any confidential information of the Company or of any past or present customer of the Company, including but not limited to financial data or projections, customer lists, projects, economic information, systems, plans, methods, procedures, operations, techniques, know-how, trade secrets or merchandising or marketing strategies. In addition, Executive shall continue to be bound by the terms of Employee Invention Assignment, and Confidentiality Agreement, which the Executive executed in connection with his employment. That Agreement is affixed hereto and incorporated by reference as **Attachment C**.

3.3 Nondisparagement. Provided the Executive is not in breach of his obligations under this Agreement, the Company agrees not to disparage or make negative statements about the Executive. The Executive agrees not to disparage or make negative statements about the Company or any of its officers, directors, agents, employees, successors and assigns.

3.4 Non-Compete and Non-Solicitation. The Executive hereby agrees with the Company that for a period of 12 months following the Termination Date:

(a) The Executive shall not, without the prior written consent of the Chief Financial Officer of the Company, directly or indirectly, engage in, be employed by, act as a consultant or advisor to, be a director, officer, owner or partner of, or acquire an interest in, any business competing with any of the businesses conducted by the Company or any of its subsidiaries or affiliates, nor directly or indirectly have any interest in, own, manage, operate, control, be connected with as a stockholder, lender, joint venturer, officer, employee, partner or consultant, or otherwise engage, invest or participate in any business that is competitive with any of the businesses conducted by the Company or by any subsidiary or affiliate of the Company; provided, however, that nothing contained in this Section 3.4 shall prevent the Executive from investing or trading in publicly traded stocks, bonds, commodities or securities or in real estate or other forms of investment for Executive's own account and benefit (directly or indirectly);

(b) The Executive shall not actively solicit any employee of the Company or any of its subsidiaries or affiliates to leave the employment thereof; and the Executive shall not enter onto Company property without prior written consent from the Chief Executive Officer of the Company or other executive officer of the Company; and

(c) The Executive shall not induce or attempt to induce any customer, supplier, licensor, licensee or other individual, corporation or business organization having a business relationship with the Company or its subsidiaries or affiliates to cease doing business with the Company or its subsidiaries or affiliates or in any way interfere with the relationship between any such customer, supplier, licensor, licensee or other individual, corporation or business organization and the Company or its subsidiaries or affiliates.

Solicitation of customers for the purposes of this obligation refers to existing and/or contemplated products as of the time of this Agreement.

(d) The applicable time periods set forth in this Section 3.4 shall be extended by the time of any (1) breach by the Executive of any terms of this Agreement, or (2) litigation involving the Executive and the Company in respect of any of the provisions of this Agreement (whether by the Executive seeking relief from the terms hereof or by the Company seeking to enforce the terms hereof or otherwise).

3.5 Resignations from Corporate Office. Not later than the Separation Commencement Date, the Executive will execute and deliver to the Company his resignation as a Vice President of the Company and any subsidiaries of the Company, attached here to as **Attachment D**. Executive expressly acknowledges that the compensation payable to Executive under this Agreement is in full satisfaction of any compensation due to him in connection with his corporate positions described in this Section 3.5.

3.6 Cooperation. The Executive will cooperate fully with the Company in its defense of or other participation in any administrative, judicial or other proceeding arising from any charge, complaint or other action which has been or may be filed against the Company and with respect to which Executive has knowledge. The Executive agrees to be responsive to requests for information related to the smooth transition of a successor to his position.

4. SEC Reporting and Applicability of the Company's Insider Trading Policy.

4.1 Rule 144. For the purposes of Rule 144 promulgated by the Securities Exchange Commission, the Executive shall cease to be an "affiliate" of the Company on the Separation Commencement Date.

4.2 Section 16 Reporting. The Executive shall cease to be a reporting person under the Securities Exchange Act of 1934, as amended, as of the Separation Commencement Date, provided however, the Executive must file a Form 4 with the SEC to report any purchase, sale, or option exercise after the Separation Commencement Date if the transaction occurs within six months following a Form 4 transaction going the opposite way (e.g., sale vs. purchase) prior to the Separation Commencement Date.

5. Insider Trading Policy. Assuming the Executive does not acquire material non-public information after the Separation Commencement Date, beginning on the date two trading days after the Company's public announcement of its earnings for the fiscal quarter ending after the Separation Commencement Date, the Executive will no longer be subject to restrictions on trading arising under the Company's insider trading policy.

6. General Release and Covenant Not to Sue.

Release. In consideration of the Company's covenants in this Agreement, the Executive hereby releases and discharges the Company and its officers, directors, agents, employees, successors and assigns ("Released Parties") from any and all claims by the Executive arising before the signing of this Agreement, including all claims arising out of the Executive's employment with the Company or the termination thereof (except those relating to performance of this Agreement and the Company's obligations under the Indemnification Agreement between the Executive and the Company dated September 21, 2000 (the "Indemnification Agreement")) and claims arising under common law and claims arising under federal or state labor and employment laws and laws prohibiting discrimination on the basis of age, sex, race, national origin or disability. The laws referred to in the preceding sentence include Title VII of the Civil Rights Act of 1964, as amended; the Equal Pay Act of 1963, as amended; the Age Discrimination in Employment Act of 1967 (ADEA), as amended; the Fair Labor Standards Act of 1938, as amended; the Americans With Disabilities Act of 1990, as amended; the Rehabilitation Act of 1973, as amended; the Family and Medical Leave Act of 1993, as amended; Chapter 151B of the Massachusetts General Laws, Chapter 149 of the Massachusetts General Laws; the Massachusetts Civil Rights Act and the Massachusetts Equal Rights Law; the Worker Adjustment

and Retraining Notification ("WARN") Act; Maryland Ann. Code Article 100 Sections 88-94, and Maryland Ann. Code Article 49B, Sections 1 *et seq*; or any other state or federal law, order, public policy or regulation affecting or relating to the rights and/or claims of employees. Nothing in this Agreement shall be construed to be a release of certain ADEA and Title VII rights that is not allowed by law, except that the Executive waives and shall not accept any damages from any such claims.

6.2 Covenant Not to Sue. The Executive represents and warrants that he has not filed any complaints, charges, or claims for relief against the Released Parties with any local, state or federal court or administrative agency. The Executive agrees and covenants not to sue or bring any claims or charges against the Released Parties with respect to any matters arising out of or relating to the Executive's employment with or separation from the Company, other than enforcement of the terms of this Agreement or the Indemnification Agreement. In the event that the Executive institutes any such action, that claim shall be dismissed upon presentation of this Agreement and he shall reimburse the Company for all legal fees and expenses incurred in defending such claim and obtaining its dismissal.

6.3 No Implied Admission. It is understood and agreed that this Agreement does not constitute any admission by the Company that any action taken with respect to the Executive was unlawful or wrongful, or that such action constituted a breach of contract or violated any federal or state law, policy, rule or regulation.

7. Compliance with Federal Older Workers Benefit Protection Act of 1990.

7.1 Time To Consider Agreement. The Executive acknowledges that he has been advised in writing to consult with an attorney and has had ample opportunity to consult with and review this Agreement with an attorney of his choice, and has been given a period of at least forty-five (45) days within which to consider whether to sign this Agreement. If the Executive has signed this Agreement prior to the end of this forty-five (45) day period, he represents that he has done so knowingly and voluntarily.

7.2 Revocation Right. It is agreed and understood that for a period of seven (7) days following the execution of this Agreement, which period shall end at 5:00 p.m. on the seventh day following the date of execution by the Executive, he may revoke this Agreement. This Agreement will not become effective until this revocation period has expired. This seven (7) day revocation period cannot be shortened by agreement of the parties or by any other means.

8. Miscellaneous.

8.1 Availability of Equitable Remedies. The Executive agrees and warrants that the covenants contained herein are reasonable, that valid consideration has been and will be received therefor and that the agreements set forth herein are the result of arms-length negotiations between the parties hereto. The Executive recognizes and acknowledges that the provisions of Section 3 are vitally important to the continuing welfare of the Company, and its subsidiaries and affiliates, and that money damages constitute a totally inadequate remedy for any violation thereof. Accordingly, in the event of any such violation by the Executive, the Company, and its subsidiaries and affiliates, in addition to any other remedies they may have, shall have the right to institute and maintain a proceeding to compel specific performance thereof or to obtain an injunction restraining any action by the Executive in violation of Section 3.

8.2 Severability. In the event that any provision of this Agreement is found by a court, arbitrator or other tribunal to be illegal, invalid or unenforceable, then such provision shall not be voided, but shall be enforced to the maximum extent permissible under applicable law, and the remainder of this Agreement shall remain in full force and effect.

8.3 Entire Agreement. This Agreement and its Exhibits constitutes the entire agreement between the parties about or relating to the Executive's termination of employment from the Company, or the Company's obligations to the Executive with respect to his termination and fully supersedes any and all prior agreements or understanding between the parties, other than the Indemification Agreement.

8.4 Binding Benefit. This agreement shall be binding on the parties and upon their heirs, administrators, representatives, executors, successors and assigns and shall inure to their benefit and to that of their heirs, administrators, representatives, executors, successors and assigns.

8.5 Amendments. This Agreement may not be altered, amended or modified, except by a further written document signed by the Executive and the Company.

8.6 Governing Law. This Agreement shall be governed by the laws of the Commonwealth of Massachusetts, without regard to or application of choice-of-law rules or principles.

8.7 Limitations on Recovery. In the event that the Executive institutes legal proceedings to enforce this Agreement, he agrees that the sole remedy available shall be enforcement of the terms of this Agreement and/or a claim for damages resulting from the breach of this Agreement, but that under no circumstances shall the Executive be entitled to receive or collect any damages for claims that Executive has released under this Agreement.

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first set forth above.

AXCELIS TECHNOLOGIES, INC.

By : /s/ Lynnette C. Fallon
Lynnette C. Fallon, Sr. Vice President, HR/Legal and General
Counsel

/s/ Jan Paul van Maaren
Jan Paul van Maaren

Attachments (to be separately delivered)

- A — Benefits After Termination Date
 - B — Transferred Office Furniture
 - C — Employee Invention Assignment and Confidentiality Agreement
 - D — Resignation from Office
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FOR IMMEDIATE RELEASE

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**AXCELIS ANNOUNCES FINANCIAL RESULTS FOR THE
FOURTH QUARTER AND FULL YEAR 2004**

BEVERLY, Mass. — February 3, 2005 – Axcelis Technologies, Inc. (NASDAQ: ACLS) today announced financial results for its fourth quarter and year ended December 31, 2004. The Company reported net revenues of \$94.5 million, compared to \$127.9 million for the third quarter of 2004, and \$98.6 million for the corresponding quarter of the previous year. Worldwide revenues for the fourth quarter, including revenues of the Company's 50% owned joint venture in Japan, Sumitomo Eaton Nova Corporation ("SEN"), were \$184.5 million, compared to \$219.0 million for the preceding quarter, and \$161.0 million for the fourth quarter of 2003. Net income for the quarter was \$7.0 million, or \$0.07 per diluted share, compared to \$19.1 million, or \$0.19 per diluted share, in the third quarter of 2004, and \$3.3 million, or \$0.03 per diluted share, for the fourth quarter of 2003. Gross margin for the fourth quarter of 2004 was 41.1%.

For the full year 2004, worldwide revenues, including revenues of SEN, were \$837.7 million, compared with \$492.2 million in 2003. Net revenues, excluding SEN revenues, were \$508.0 million, compared with \$328.0 million in 2003. Net income for the year was \$74.2 million, or \$0.73 per diluted share, compared to a net loss of \$113.9 million in 2003, or \$1.16 per share including the effect of a non-cash charge to income tax expense of \$69.7 million, or \$0.70 per share.

Mary Puma, president and chief executive officer stated, "We concluded a year in which we achieved several important operational and financial goals. Our 2004 financial accomplishments include improving operating efficiencies, reducing fixed costs, growing margins and generating cash."

"In 2004 we also made significant investments in developing products that meet the emerging needs of our customers, positioning us very well for long-term growth. Our new products for ion implant and low-k curing and cleaning continue to develop strong customer interest. This quarter we will launch a new single wafer implant platform that maximizes performance while minimizing the challenges and costs associated with scaling. Our next-generation product platforms will put us in a unique position to deliver exceptional value to our customers for 65 nanometer production and beyond," continued Puma.

"In terms of the fourth quarter, our financial results were in line with our expectations. Compared to the fourth quarter of 2003, we appreciably improved profitability and increased positive cash flow on lower revenue. Our fourth quarter bookings reflect weak customer demand primarily attributable to declining fab utilization. We anticipate that our first quarter bookings will show improvement, since several orders expected to book in the fourth quarter pushed out to the first quarter of 2005. Although visibility is poor, we are hopeful that this signals a bottoming of industry fundamentals," concluded Puma.

Axcelis believes that the information regarding the aggregate revenues of SEN, a 50% owned unconsolidated subsidiary of Axcelis, combined with Axcelis' own revenues for the quarter and full year, is useful to investors. SEN's ion implant products are covered by a license from Axcelis and therefore the combined revenue of the two companies indicates the full market penetration of Axcelis' technology.

Fourth Quarter Detail

Shipments

Shipments for the fourth quarter on a worldwide basis, including SEN, totaled \$150.4 million with net shipments, excluding SEN, totaling \$90.3 million. Worldwide shipments were down 33% from the third quarter of 2004 and net shipments were down 30%.

Geographically, systems shipments excluding SEN were to: Asia 66%, Europe 8% and North America 26%.

Service revenue (service labor, spare parts and consumables) was \$41.9 million for the quarter, down 6.5% from the third quarter of 2004.

The ion implantation business (excluding SEN) accounted for 76% of total shipments in the fourth quarter while the complementary products (RTP, Dry Strip and Curing) accounted for 24%.

Orders and Backlog

Orders (new systems bookings and service excluding SEN) received for the fourth quarter totaled \$87.4 million, compared to \$126.3 million for the third quarter of 2004. New system bookings, excluding service, amounted to \$45.5 million compared to \$81.5 million for the preceding quarter. Worldwide orders, including SEN, were \$122.7 million, compared to \$234.3 million for the third quarter of 2004.

Geographically, net system orders without SEN were split as follows: Asia 70%, Europe 9% and North America 21%. Logic manufacturers (integrated device manufacturers and foundries) accounted for 52% of systems orders while memory manufacturers made up 48%.

Backlog plus deferred systems revenue for the quarter ended at \$118.4 million, a decrease of 19.3% since the end of the third quarter of 2004. Reported backlog consists of systems only (i.e., excluding service contracts) that are generally scheduled to ship within six months.

Balance Sheet

Axcelis ended the year with \$193.4 million in cash and cash equivalents, restricted cash and short-term investments. The Company generated \$25.8 million in cash during the fourth quarter.

First Quarter Outlook

Net revenues (excluding SEN) for the first quarter of 2005 are forecast in the range of \$95 million to \$105 million. Gross margins are projected in the range of 42% to 43%. The Company expects to earn between \$0.01 and \$0.05 per share. Results for the first quarter will be impacted negatively by restructuring and relocation costs of \$2 to \$3 million (\$0.02 to \$0.03 per share). The Company has also forecast the contribution from SEN for the quarter to decrease significantly due to the declining market in Japan.

The Company expects cash outflow to approximate \$15 million in the first quarter as several annual or semi annual payments for variable compensation, insurance, 401K matching, and interest become payable.

Fourth Quarter 2004 Conference Call

The company will be hosting a conference call today, Thursday, February 3, 2005, beginning at 5:00 p.m. EST. The purpose of the call is to discuss fourth quarter results for 2004 and to provide guidance for the first quarter of 2005. 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 1-800-475-3716 (1-719-457-2728 outside North America). Participants calling into the conference call will be requested to provide the company name: Axcelis Technologies, the conference leader: James Kawski, and pass code: Axcelis Q4. A telephone replay will be available from 8:00 p.m. EST on February 3, 2005 until 11:59 p.m. EST on February 10, 2005. Dial 1-888-203-1112 (1-719-457-0820 outside North America), and enter conference ID code #938183. A webcast replay will be available from 8:00 p.m. EST on February 3, 2005 until 5:00 p.m. EST March 3, 2005.

New Single Wafer Implant Product Announcement Conference Call

To learn more about Axcelis' new single wafer product platform, please join Axcelis for a webcast at 1:00 p.m. EST on February 16, 2005. The live presentation will be accessible through Axcelis' home page at www.axcelis.com. Prior to the start of the webcast, please access the presentation feed by clicking on "Investors" and "Events" and click on the appropriate icon. For audio only and to participate in the Q&A, dial 1-800-967-7135 (1-719-457-2626 outside North America). Participants calling into the conference call will be requested to provide the company name: Axcelis Technologies and the conference leader: James Kawski. A telephone replay will be available from 8:00 p.m. EST on February 16, 2005 until 11:59 p.m. EST on February 23, 2005. Dial 1-888-203-1112 (1-719-457-0820 outside North America), and enter conference ID code #6444767. A webcast replay will be available from 8:00 p.m. EST on February 16, 2005 until 5:00 p.m. EST on March 16, 2005.

Safe Harbor Statement

This document contains forward-looking statements under the SEC safe harbor provisions. These statements 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 conversion of orders to revenue in any particular quarter, or at all, our ability to implement successfully our profit plans and our product development and product introduction targets, 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, rapid thermal processing, and cleaning and curing systems. Axcelis Technologies has key product development centers in Beverly, Massachusetts, as well as in Toyo, Japan through its joint venture, SEN. The company's Internet address is: www.axcelis.com.

Axcelis Technologies, Inc. Consolidated Balance Sheets In thousands

	December 31, 2004	December 31, 2003
Assets		
Current assets		
Cash and cash equivalents	\$ 168,495	\$ 93,249
Restricted cash	3,498	3,800
Short-term investments	18,517	14,972
Accounts receivable, net	83,767	73,751
Inventories	116,330	123,985
Other current assets	14,986	19,554
Total current assets	405,593	329,311
Property, plant & equipment, net	75,275	80,927
Investment in Sumitomo Eaton Nova Corporation	109,095	73,327
Goodwill	46,773	46,774
Intangible assets	17,671	20,119
Restricted cash, long-term portion	2,841	2,616
Other assets	32,992	31,973
	<u>\$ 690,240</u>	<u>\$ 585,047</u>
Liabilities and stockholders' equity		

Current liabilities			
Accounts payable		\$ 24,278	\$ 35,787
Accrued compensation		27,030	15,061
Warranty		9,218	17,000
Income taxes		5,894	7,109
Deferred revenue		34,050	14,441
Other current liabilities		8,289	11,925
Total current liabilities		108,759	101,323
Long-term debt		125,000	125,000
Other long-term liabilities		12,994	5,474
Stockholders' equity			
Common stock		100	99
Additional paid-in capital		457,335	451,389
Deferred compensation		(566)	(811)
Treasury stock - at cost		(1,218)	(1,218)
Retained earnings deficit		(27,332)	(101,507)
Accumulated other comprehensive income		15,168	5,298
		443,487	353,250
		<u>\$ 690,240</u>	<u>\$ 585,047</u>

Axcelis Technologies, Inc.
Consolidated Statements of Operations

In thousands, except per share amounts

	Three months ended December 31,		Twelve Months Ended December 31,	
	2004	2003	2004	2003
Revenue				
Systems	\$ 48,529	\$ 60,187	\$ 326,521	\$ 194,889
Services	41,930	35,703	167,027	127,084
Royalties	4,048	2,729	14,428	6,017
	<u>94,507</u>	<u>98,619</u>	<u>507,976</u>	<u>327,990</u>
Cost of Revenue	<u>55,634</u>	<u>60,129</u>	<u>296,448</u>	<u>217,622</u>
Gross profit	38,873	38,490	211,528	110,368
Operating expenses				
Research & development	15,200	14,908	63,209	63,284
Selling	10,910	10,612	47,593	46,202
General and administrative	11,504	10,674	46,149	41,057
Amortization of intangible assets	612	662	2,448	1,955
Restructuring charges	994	162	994	4,907
	<u>39,220</u>	<u>37,018</u>	<u>160,393</u>	<u>157,405</u>
Income (loss) from operations	(347)	1,472	51,135	(47,037)
Other income (expense)				
Equity income of Sumitomo				
Eaton Nova Corporation	8,319	4,420	30,531	8,954
Interest income	827	322	2,032	1,807
Interest expense	(1,656)	(1,566)	(6,673)	(6,229)
Other-net	(795)	(891)	(1,886)	(1,836)
	<u>6,695</u>	<u>2,285</u>	<u>24,004</u>	<u>2,696</u>
Income (loss) before income taxes	6,348	3,757	75,139	(44,341)
Income taxes (credit)	<u>(693)</u>	<u>487</u>	<u>964</u>	<u>69,535</u>
Net income (loss)	<u>\$ 7,041</u>	<u>\$ 3,270</u>	<u>\$ 74,175</u>	<u>\$ (113,876)</u>
Basic net income (loss) per share	\$ 0.07	\$ 0.03	\$ 0.75	\$ (1.16)
Diluted net income (loss) per share	\$ 0.07	\$ 0.03	\$ 0.73	\$ (1.16)
Shares used in computing:				
Basic net income (loss) per share	99,814	98,785	99,528	98,514
Diluted net income (loss) per share	100,620	98,785	101,205	98,514