

SCHEDULE 13G

Under the Securities Exchange Act of 1934  
(Amendment No. )\*

Axcelis Technologies, Inc.  
(Name of Issuer)

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Common Stock, \$0.001 par value  
(Title of Class of Securities)

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054540109  
(CUSIP Number)

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June 23, 2015  
(Date of Event Which Requires Filing of this Statement)

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Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- ☐ Rule 13d-1(b)  
☒ Rule 13d-1(c)  
☐ Rule 13d-1(d)

(Page 1 of 8 Pages)

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\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

|   |   |                                       |
|---|---|---------------------------------------|
| 1   | NAME OF REPORTING PERSON<br><br>Senvest Management, LLC   |                                       |
| 2   | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP<br><div>(a) <input type="checkbox"/></div> <div>(b) <input type="checkbox"/></div> |                                       |
| 3   | SEC USE ONLY  |                                       |
| 4   | CITIZENSHIP OR PLACE OF ORGANIZATION<br>Delaware  |                                       |
| NUMBER OF<br>SHARES<br>BENEFICIALLY<br>OWNED BY<br>EACH<br>REPORTING<br>PERSON WITH | 5   | SOLE VOTING POWER<br>0                |
|   | 6   | SHARED VOTING POWER<br>4,246,076      |
|   | 7   | SOLE DISPOSITIVE POWER<br>0           |
|   | 8   | SHARED DISPOSITIVE POWER<br>4,246,076 |
| 9   | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON<br>4,246,076   |                                       |
| 10  | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN<br>SHARES <input type="checkbox"/>                                    |                                       |
| 11  | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)<br>3.74%  |                                       |
| 12  | TYPE OF REPORTING PERSON<br>OO, IA  |                                       |

|   |  |                                       |
|---|--|---------------------------------------|
| <b>1</b>  | NAME OF REPORTING PERSON<br><br>Richard Mashaal  |                                       |
| <b>2</b>  | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP<br>(a) <input type="checkbox"/><br>(b) <input type="checkbox"/> |                                       |
| <b>3</b>  | SEC USE ONLY   |                                       |
| <b>4</b>  | CITIZENSHIP OR PLACE OF ORGANIZATION<br>Canada   |                                       |
| NUMBER OF<br>SHARES<br>BENEFICIALLY<br>OWNED BY<br>EACH<br>REPORTING<br>PERSON WITH | <b>5</b>   | SOLE VOTING POWER<br>0                |
|   | <b>6</b>   | SHARED VOTING POWER<br>6,003,434      |
|   | <b>7</b>   | SOLE DISPOSITIVE POWER<br>0           |
|   | <b>8</b>   | SHARED DISPOSITIVE POWER<br>6,003,434 |
| <b>9</b>  | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON<br>6,003,434  |                                       |
| <b>10</b>   | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN<br>SHARES <input type="checkbox"/>                 |                                       |
| <b>11</b>   | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)<br>5.29%   |                                       |
| <b>12</b>   | TYPE OF REPORTING PERSON<br>IN, HC   |                                       |

**Item 1(a). Name of Issuer.**

Axcelis Technologies, Inc. (the "Issuer")

**Item 1(b). Address of Issuer's Principal Executive Offices.**

108 Cherry Hill Drive  
Beverly, Massachusetts 01915

**Item 2(a). Name of Person Filing.**

This statement is filed by Senvest Management, LLC and Richard Mashaal.

The reported securities are held in the accounts of Senvest Master Fund, L.P. and Senvest International L.L.C. (the "Investment Vehicles").

Senvest Management, LLC serves as investment manager of Senvest Master Fund, L.P. Richard Mashaal is the managing member of Senvest Management, LLC and is president of, exercising investment and voting powers over, Senvest International L.L.C. Mr. Mashaal may be deemed to have voting and dispositive powers over the securities held by the Investment Vehicles.

Senvest Management, LLC may be deemed to beneficially own the securities held by Senvest Master Fund, L.P. by virtue of Senvest Management, LLC's position as investment manager of Senvest Master Fund, L.P. Mr. Mashaal may be deemed to beneficially own the securities held by the Investment Vehicles by virtue of Mr. Mashaal's status as the managing member of Senvest Management, LLC and his investment and voting powers over Senvest International L.L.C. None of the foregoing should be construed in and of itself as an admission by any Reporting Person as to beneficial ownership of the securities reported herein.

**Item 2(b). Address of Principal Business Office.**

Senvest Management, LLC  
540 Madison Avenue, 32<sup>nd</sup> Floor  
New York, New York 10022

Richard Mashaal  
c/o Senvest Management, LLC  
540 Madison Avenue, 32<sup>nd</sup> Floor  
New York, New York 10022

**Item 2(c). Place of Organization.**

Senvest Management, LLC – Delaware  
Richard Mashaal – Canada

**Item 2(d). Title of Class of Securities.**

Common Stock, \$0.001 par value

**Item 2(e). CUSIP Number.**

054540109

**Item 3. If this Statement is Filed Pursuant to §§ 240.13d-1(b) or 240.13d-2(b), or (c), check whether the Person Filing is a:**

- (a) ☐ Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o);
- (b) ☐ Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);
- (c) ☐ Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);
- (d) ☐ Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);
- (e) ☐ An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);
- (f) ☐ An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);
- (g) ☐ A parent holding company or control person in accordance with §240.13d-1(b)(1)(ii)(G);
- (h) ☐ A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C.1813);
- (i) ☐ A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) ☐ A non-U.S. institution in accordance with §240.13d-1(b)(1)(ii)(J);
- (k) ☐ Group, in accordance with §240.13d-1(b)(1)(ii)(K). If filing as a non-U.S. institution in accordance with §240.13d-1(b)(1)(ii)(J), please specify the type of institution.

**Item 4. Ownership.**

The information required by Items 4(a) – (c) is set forth in Rows (5) – (11) of the cover page for each Reporting Person hereto and is incorporated herein by reference for each such Reporting Person. The percentages set forth in this Schedule 13G are calculated based upon an aggregate of 113,528,503 shares of Common Stock outstanding as of May 1, 2015 as reported in the Issuer's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2015 filed on May 6, 2015.

**Item 5. Ownership of Five Percent or Less of a Class.**

Not applicable.

**Item 6. Ownership of More Than Five Percent on Behalf of Another Person.**

The Investment Vehicles have the right to receive and the power to direct the receipt of dividends from, and the proceeds from the sale of, the securities reported herein.

**Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company or Control Person.**

Not applicable.

**Item 8. Identification and Classification of Members of the Group.**

Not applicable.

**Item 9. Notice of Dissolution of Group.**

Not applicable.

**Item 10. Certification.**

By signing below each Reporting Person certifies that, to the best of his or its knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

**SIGNATURE**

After reasonable inquiry and to the best of my knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Date: June 30, 2015

SENVEST MANAGEMENT, LLC

By: /s/ George Malikotsis  
Name: George Malikotsis  
Title: Chief Financial Officer

/s/ Richard Mashaal  
RICHARD MASHAAL

Exhibit A

## JOINT FILING AGREEMENT

The undersigned acknowledge and agree that the foregoing statement on Schedule 13G is filed on behalf of each of the undersigned and that all subsequent amendments to this statement on Schedule 13G shall be filed on behalf of each of the undersigned without the necessity of filing additional joint filing agreements. The undersigned acknowledge that each shall be responsible for the timely filing of such amendments, and for the completeness and accuracy of the information concerning him or it contained herein and therein, but shall not be responsible for the completeness and accuracy of the information concerning the others, except to the extent that he or it knows or has reason to believe that such information is inaccurate.

Date: June 30, 2015

SENVEST MANAGEMENT, LLC

By: /s/ George Malikotsis

Name: George Malikotsis

Title: Chief Financial Officer

/s/ Richard Mashaal

RICHARD MASHAAL