

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. 2)

Axcelis Technologies Inc.

(Name of Issuer)

Common Stock (\$0.001 par value)

(Title of Class of Securities)

054540109

(CUSIP Number)

December 31, 2004

(Date of Event Which Requires Filing of this Statement)

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

<input checked="" type="checkbox"/>	Rule 13d-1(b)
<input type="checkbox"/>	Rule 13d-1(c)
<input type="checkbox"/>	Rule 13d-1(d)

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).

CUSIP No. 054540109

1. NAME OF REPORTING PERSON

S.S. or I.R.S. IDENTIFICATION NO. OF ABOVE PERSON
Sterling Capital Management LLC
56-2226389

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

Not Applicable

(a)
(b)

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

North Carolina

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON
WITH:

5. SOLE VOTING POWER

None

6. SHARED VOTING POWER
6,100,732

7. SOLE DISPOSITIVE POWER
None

8. SHARED DISPOSITIVE POWER
6,100,732

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON
6,100,732

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES
Not Applicable

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9
6.2%

12. TYPE OF REPORTING PERSON
IA

CUSIP No. 054540109

1. NAME OF REPORTING PERSON
S.S. or I.R.S. IDENTIFICATION NO. OF ABOVE PERSON
Sterling MGT, Inc.
56-2226391

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP
Not Applicable
(a) []
(b) []

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION
North Carolina

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER
None

6. SHARED VOTING POWER
6,100,732

7. SOLE DISPOSITIVE POWER
None

8. SHARED DISPOSITIVE POWER
6,100,732

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6,100,732

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARE
Not Applicable

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9
6.2%

12. TYPE OF REPORTING PERSON
CO

CUSIP No. 054540109

1. NAME OF REPORTING PERSON
S.S. or I.R.S. IDENTIFICATION NO. OF ABOVE PERSON
Eduardo A. Brea

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

Not Applicable

(a) []
(b) []

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION
United States

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON
WITH:

5. SOLE VOTING POWER
0

6. SHARED VOTING POWER
6,100,732

7. SOLE DISPOSITIVE POWER
0

8. SHARED DISPOSITIVE POWER
6,100,732

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6,100,732

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CERTAIN SHARES
Not Applicable

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9
6.2%

12. TYPE OF REPORTING PERSON
IN

CUSIP No. 054540109

1. NAME OF REPORTING PERSON
S.S. or I.R.S. IDENTIFICATION NO. OF ABOVE PERSON
Alexander W. McAlister

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

Not Applicable

(a) []
(b) []

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION
United States

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON
WITH:

5. SOLE VOTING POWER
0

6. SHARED VOTING POWER
6,100,732

7. SOLE DISPOSITIVE POWER
0

8. SHARED DISPOSITIVE POWER
6,100,732

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CERTAIN SHARES
Not Applicable

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9
6.2%

12. TYPE OF REPORTING PERSON
IN

CUSIP No. 054540109

1. NAME OF REPORTING PERSON
S.S. or I.R.S. IDENTIFICATION NO. OF ABOVE PERSON
David M. Ralston

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

Not Applicable

(a) []

(b) []

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION
United States

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON
WITH:

5. SOLE VOTING POWER
0

6. SHARED VOTING POWER
6,100,732

7. SOLE DISPOSITIVE POWER
0

8. SHARED DISPOSITIVE POWER
6,100,732

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CERTAIN SHARES
Not Applicable

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9
6.2%

12. TYPE OF REPORTING PERSON
IN

CUSIP No. 054540109

1. NAME OF REPORTING PERSON
S.S. or I.R.S. IDENTIFICATION NO. OF ABOVE PERSON
Brian R. Walton

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

Not Applicable
(a) []
(b) []

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION
United States

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON
WITH:

5. SOLE VOTING POWER
0

6. SHARED VOTING POWER
6,100,732

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0

8. SHARED DISPOSITIVE POWER
6,100,732

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6,100,732

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CERTAIN SHARES
Not Applicable

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9
6.2%

12. TYPE OF REPORTING PERSON
IN

1. NAME OF REPORTING PERSON
S.S. or I.R.S. IDENTIFICATION NO. OF ABOVE PERSON
Mark Whalen

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

Not Applicable

(a) []

(b) []

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION
United States

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER
0

6. SHARED VOTING POWER
6,100,732

7. SOLE DISPOSITIVE POWER
0

8. SHARED DISPOSITIVE POWER
6,100,732

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6,100,732

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Not Applicable

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9
6.2%

12. TYPE OF REPORTING PERSON
IN

Item 1(a) Name of Issuer:

Axcelis Technologies Inc.

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

55 Cherry Hill Drive
Beverly, Massachusetts 01915

Item 2(a) Name of Person(s) Filing:

Sterling Capital Management LLC ("Sterling")
Sterling MGT, Inc. ("Sterling Management")
Eduardo A. Brea
Alexander W. McAlister
David M. Ralston
Brian R. Walton
Mark Whalen

Item 2(b) Address of Principal Business Office:

Sterling, Sterling Management, Mr. Brea, Mr. McAlister, Mr. Ralston, Mr. Walton and Mr. Whalen are all located at:

4064 Colony Road, Suite 300
Charlotte, NC 28211

Item 2(c) Citizenship:

Sterling is a North Carolina limited liability company.
Sterling Management is a North Carolina corporation.
Mr. Brea, Mr. McAlister, Mr. Ralston, Mr. Walton and Mr. Whalen
are U.S. citizens.

Item 2(d) Title of Class of Securities:
Common Stock (\$0.001 par value) (the "Stock")

Item 2(e) CUSIP Number:
054540109

Item 3 Type of Person:

(e) Sterling is an Investment Adviser registered under section
203 of the Investment Advisers Act of 1940, as amended.

(g) Sterling Management is the Managing Member of Sterling. Mr.
Brea, Mr. McAlister, Mr. Ralston, Mr. Walton and Mr. Whalen are
controlling shareholders of Sterling Management. Sterling
Management, Mr. Brea, Mr. McAlister, Mr. Ralston, Mr. Walton and
Mr. Whalen are control persons under 17 C.F.R. 240.13d-
1(b)(1)(ii)(G).

Item 4 Ownership:

(a) Amount beneficially owned:

See Item 9 of Cover Pages.

(b) Percent of class:

See Item 11 of Cover Pages.

(c) Number of shares as to which such person has:

(i) Sole power to vote or to direct the vote:

See Item 5 of Cover Pages.

(ii) Shared power to vote or to direct the vote:

See Item 6 of Cover Pages

(iii) Sole power to dispose or direct the disposition of:

See Item 7 of Cover Pages.

(iv) Shared power to dispose or direct the disposition of:

See Item 8 of Cover Pages.

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:

Sterling is a registered investment adviser whose clients have
the right to receive or the power to direct the receipt of
dividends from, or the proceeds from the sale of, the Stock.
None of these clients to the knowledge of Sterling, Sterling
Management, Mr. Brea, Mr. McAlister, Mr. Ralston, Mr. Walton or
Mr. Whalen beneficially owns more than 5% of the Stock.

Item 7

Identification and Classification of the Subsidiary Which
Acquired the Security Being Reported on by the Parent Holding
Company:

Sterling is an Investment Adviser registered under section 203 of
the Investment Advisers Act of 1940, as amended.

Sterling Management is the Managing Member of Sterling. Mr.

Brea, Mr. McAlister, Mr. Ralston, Mr. Walton and Mr. Whalen are controlling shareholders of Sterling Management.

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 I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and 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, I certify that the information set forth in this statement is true, complete and correct.

Date: January 7, 2005

STERLING CAPITAL MANAGEMENT LLC

By: Sterling MGT, Inc.
Its Manager

By: /s/ Kenneth R. Cotner, Attorney in Fact for Mark Whalen

Mark Whalen
President

STERLING MGT, INC.

By: /s/ Kenneth R. Cotner, Attorney in Fact for Mark Whalen

Mark Whalen
President

EDUARDO A. BREA

/s/ Kenneth R. Cotner, Attorney in Fact for Eduardo A. Brea

ALEXANDER W. MCALISTER

/s/ Kenneth R. Cotner, Attorney in Fact for Alexander W. McAlister

DAVID M. RALSTON

/s/ Kenneth R. Cotner, Attorney in Fact for David M. Ralston

BRIAN R. WALTON

/s/ Kenneth R. Cotner, Attorney in Fact for Brian R. Walton

MARK WHALEN

/s/ Kenneth R. Cotner, Attorney in Fact for Mark Whalen

EXHIBIT INDEX

Exhibit 1

Joint Filing Agreement dated as of January 7, 2005 by and among

Sterling
Capital Management LLC, Sterling MGT, Inc., Eduardo A. Brea,
Alexander W.
McAlister David M. Ralston, Brian R. Walton and Mark Whalen.

Exhibit 1

JOINT FILING AGREEMENT

This will confirm the agreement by and between the undersigned that the Schedule 13G (the "Statement") to which this Agreement is attached is being filed on behalf of the persons listed below. Each of the persons listed hereby acknowledges that pursuant to Rule 13d-1(k) promulgated under the Securities Exchange Act of 1934, as amended, each person on whose behalf the Statement is filed is responsible for the timely filing of such statement and any amendments thereto, and for the completeness and accuracy of the information concerning such person contained therein, and that such person is not responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate.

Dated: January 7, 2005

STERLING CAPITAL MANAGEMENT LLC

By: Sterling MGT, Inc.
Its Manager

By: /s/ Kenneth R. Cotner, Attorney in Fact for Mark Whalen

Mark Whalen
President

STERLING MGT, INC.

By: /s/ Kenneth R. Cotner, Attorney in Fact for Mark Whalen

Mark Whalen
President

EDUARDO A. BREA

/s/ Kenneth R. Cotner, Attorney in Fact for Eduardo A. Brea

ALEXANDER W. MCALISTER

/s/ Kenneth R. Cotner, Attorney in Fact for Alexander W.
McAlister

DAVID M. RALSTON

/s/ Kenneth R. Cotner, Attorney in Fact for David M. Ralston

BRIAN R. WALTON

/s/ Kenneth R. Cotner, Attorney in Fact for Brian R. Walton

MARK WHALEN

/s/ Kenneth R. Cotner, Attorney in Fact for Mark Whalen
