

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K/A
(Amendment No. 1)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended September 30, 2010

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number: 000-21377

ROFIN-SINAR TECHNOLOGIES INC.

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

38-3306461
(I.R.S. Employer
Identification No.)

40984 Concept Drive, Plymouth, MI
(Address of principal executive offices)

48170
(Zip Code)

Registrant's telephone number, including area code: (734) 455-5400

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Name of each exchange on which registered

Common stock, par value \$0.01 per Share
Rights Associated with common stock, par value
\$0.01 per Share

The NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act: NONE

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities

Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the

Act. Yes No

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting Company. See definition of "accelerated filer", "large accelerated filer", and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant based upon the closing price of the common stock on March 30, 2010 (the last business day of the most recently completed second fiscal quarter) as reported by the NASDAQ Global Select Market was approximately \$653,218,528. For the purposes hereof, "affiliates" include all executive officers and directors of the registrant.

28,397,796 shares of the registrant's common stock, par value \$0.01 per share, were outstanding as of November 29, 2010.

Certain sections of the Company's Proxy Statement to be filed in connection with the Company's 2011 Annual Meeting of Stockholders to be held in March 2011 are incorporated by reference herein at Part III, Items 10-14.

EXPLANATORY NOTE

This Amendment No. 1 to Form 10-K (this "Amendment") amends the Annual Report on Form 10-K for the fiscal year ended September 30, 2010, originally filed on November 30, 2010 (the "Original 10-K"), of Rofin-Sinar Technologies Inc., a Delaware corporation (the "Company" or "we"). We are filing this Amendment solely to correct an inadvertent clerical error on the cover page of the Original 10-K in which the box identifying the Company as a non-accelerated filer was incorrectly checked. The clerical error has been corrected in this Amendment by checking the "Accelerated filer" box on the cover page. This Amendment does not reflect events occurring after November 30, 2010 or otherwise modify or update the disclosures set forth in the Original 10-K, including the financial statements and notes thereto included in the Original 10-K.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

a. The following documents are filed as part of this report:

3. Exhibits

The exhibits listed in the accompanying index to exhibits are filed or incorporated by reference as part of this report.

EXHIBIT NUMBER	DESCRIPTION
31.1	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer
31.2	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer
32.1	Section 1350 Certification of Chief Executive Officer
32.2	Section 1350 Certification of Chief Financial Officer

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Amendment to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: December 23, 2010

ROFIN-SINAR TECHNOLOGIES INC.

By: /s/ Günther Braun

Günther Braun
President, Chief Executive Officer, and Director

Pursuant to the requirements of the Securities Act of 1934, this Amendment has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
/s/ Peter Wirth Peter Wirth	Chairman of the Board	December 23, 2010
/s/ Günther Braun Günther Braun	President, Chief Executive Officer, and Director	December 23, 2010
/s/ Ingrid Mittelstaedt Ingrid Mittelstaedt	Chief Financial Officer	December 23, 2010
/s/ Ralph Reins Ralph Reins	Director	December 23, 2010
/s/ Gary Willis Gary Willis	Director	December 23, 2010
/s/ Carl F. Baasel Carl F. Baasel	Director	December 23, 2010
/s/ Daniel Smoke Daniel Smoke	Director	December 23, 2010
/s/ Stephen Fantone Stephen Fantone	Director	December 23, 2010

INDEX TO EXHIBITS

<u>Exhibit No.</u>	<u>Exhibit</u>
31.1	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer
31.2	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer
32.1	Section 1350 Certification of Chief Executive Officer
32.2	Section 1356 Certification of Chief Financial Officer

Rule 13a-14(a)/15d-14(a) Certification of the Chief Executive Officer

I, Günther Braun, certify that:

1. I have reviewed this Amendment No. 1 to Annual Report on Form 10-K of Rofin-Sinar Technologies Inc.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report.
3. Based on my knowledge, the financial statements, and other financial information included in this Annual Report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this Annual Report.
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with Generally Accepted Accounting Principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: December 23, 2010

/s/ Günther Braun

Günther Braun
Chief Executive Officer

Rule 13a-14(a)/15d-14(a) Certification of the Chief Financial Officer

I, Ingrid Mittelstaedt, certify that:

1. I have reviewed this Amendment No. 1 to Annual Report on Form 10-K of Rofin-Sinar Technologies Inc.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report.
3. Based on my knowledge, the financial statements, and other financial information included in this Annual Report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this Annual Report.
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with Generally Accepted Accounting Principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: December 23, 2010

/s/ Ingrid Mittelstaedt

Ingrid Mittelstaedt
Chief Financial Officer

Section 1350 Certification of the Chief Executive Officer

In connection with Amendment No. 1 to Annual Report of Rofin-Sinar Technologies Inc. (the "Company") on Form 10-K for the year ended September 30, 2010, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Günther Braun, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: December 23, 2010

/s/ Günther Braun

Günther Braun
Chief Executive Officer

Section 1350 Certification of the Chief Financial Officer

In connection with Amendment No. 1 to Annual Report of Rofin-Sinar Technologies Inc. (the "Company") on Form 10-K for the year ended September 30, 2010, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ingrid Mittelstaedt, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: December 23, 2010

/s/ Ingrid Mittelstaedt

Ingrid Mittelstaedt
Chief Financial Officer