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

FORM 6-K

Report of Foreign Private Issuer
Pursuant to Rule 13a-16 or 15d-16 of
The Securities Exchange Act of 1934

May 6, 2008
Commission File No.: 000-30668

NOVA MEASURING INSTRUMENTS LTD.

(Translation of registrant's name into English)

**Weizmann Science Park
Building 22, 2nd Floor
Ness-Ziona 76100, Israel
+972 (8) 938-7505**

(Address and telephone number of Registrant's principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports
under cover Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark whether the registrant is submitting this Form 6-K in paper as permitted by
Regulation S-T Rule 101(b)(1): ____

Indicate by check mark whether the registrant by furnishing the information
contained in this form is also thereby furnishing the information to the
Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes ☐ No ☒

If "Yes" is marked, indicate below the file number assigned to the registrant in
connection with Rule 12g3-2(b): **N/A**

Attached hereto and incorporated by way of reference herein is a management's discussion and analysis of financial condition and results of operations with respect to the quarter ended March 31, 2008.

This Report on Form 6-K is hereby incorporated by reference into Nova Measuring Instruments Ltd.'s registration statements on Form S-8, filed with the Securities and Exchange Commission on the following dates: September 13, 2000 (File No. 333-12546); March 5, 2002 (File No. 333-83734); December 24, 2002 (File No. 333-102193, as amended by Amendment No. 1, filed on January 5, 2006); March 24, 2003 (File No. 333-103981); May 17, 2004 (three files, File Nos. 333-115554, 333-115555, and 333-115556, as amended by Amendment No. 1, filed on January 5, 2006); March 7, 2005 (File No. 333-123158); December 29, 2005 (File No. 333-130745); September 21, 2006 (File No. 333-137491) and November 5, 2007 (File No. 333-147140) and into Nova Measuring Instruments Ltd.'s registration statement on Form F-3, filed with the Securities and Exchange Commission on May 11, 2007 (File No. 333-142834).

SIGNATURES

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, thereunto duly authorized.

NOVA MEASURING INSTRUMENTS LTD.
(Registrant)

By: /s/ Gabi Seligsohn

Gabi Seligsohn
President & Chief Executive Officer

By: /s/ Dror David

Dror David
Chief Financial Officer

Date: May 6, 2008

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion in conjunction with our consolidated financial statements and related notes contained in our Annual Report on Form 20-F filed with the Securities and Exchange Commission on March 28, 2008 (the "Annual Report") and other financial information contained in our Report on Form 6-K filed with the Securities and Exchange Commission on May 5, 2008. In addition to historical information, this discussion may contain forward looking statements that involve risks, uncertainties and assumptions that could cause actual results to differ materially from management's expectations. Factors that could cause such differences include, but not limited to: our dependency on a single integrated process control product line; the highly cyclical nature of the markets we target; our inability to reduce spending during a slowdown in the semiconductor industry; our ability to respond effectively on a timely basis to rapid technological changes; risks associated with our dependence on a single manufacturing facility; our dependency on a small number of large customers and small number of suppliers and those other risks and factors described under the heading "Risk Factors" in our Annual Report.

We are a worldwide leading designer, developer and producer of integrated process control metrology systems and design, manufacture and sell leading edge stand-alone metrology used in the manufacturing process of semiconductors. Metrology systems measure various thin film properties and critical circuit dimensions during various steps in the semiconductor manufacturing process, allowing semiconductor manufacturers to increase quality, productivity and yields, lower their manufacturing costs and increase their profitability. We supply our metrology systems to major semiconductor manufacturers worldwide, either directly or through process equipment manufacturers. Of the 20 semiconductor manufacturers that had the highest capital equipment expenditures in 2007, 17 use our systems. The majority of our integrated metrology systems are sold to process equipment manufacturers. These process equipment manufacturers integrate our metrology systems into their process equipment which is then sold to the semiconductor manufacturers. Our systems were first installed in 1995 and, since that time, we have sold more than 1,800 metrology systems. We have always emphasized our integrated metrology solutions as this continues to be an area where we have a leading position. In addition, in the past few years we developed and started manufacturing stand-alone metrology systems as well. We plan to leverage our technology, methods, metrology expertise and market position in the integrated metrology field to expand our offerings of stand-alone metrology systems. Today, both stand alone and integrated metrology solutions have reached a level of maturity allowing semiconductor manufactures to choose how to use either technology and make decisions based on merit specific to the process step in question, always balancing between the amount of data attained and the use made of the data for capabilities such as automated process control. Our long-term strategy is focused on advanced metrology and process control solutions where our integrated process control products and stand alone products are compatible or complementary and used in a customized way to meet specific customer needs. The financial information below reflects the operations of the Company and its subsidiaries on a consolidated basis.

Comparison of the Three Months Ended March 31, 2008 and 2007

- **Revenues**

Revenues for the first quarter ended March 31, 2008 decreased by 4.2% to \$12.8 million, compared to revenues of \$13.4 million for the first quarter ended March 31, 2007. The decrease is mainly attributed to overall decrease in demand for our integrated metrology products resulting from an overall slow-down in the semiconductor industry.

- **Cost of revenues and gross margins**

Cost of revenues consists of the labor, material and overhead costs of manufacturing our systems, and the costs associated with our worldwide service and support infrastructure. It also consists of inventory write-offs, provision for estimated future warranty costs for systems we have sold. Our cost of revenues attributable to product sales in the first quarter of 2008 was \$4.5 million, a decrease of \$0.4 million, or 7.8%, compared to \$4.9 million in the first quarter of 2007. This decrease is attributable to the decrease in product revenues in the first quarter of 2008. As a percentage of revenues, our cost of revenues attributable to product sales in the first quarter of 2008 and the first quarter of 2007 was 47% of product sales. Our cost of revenues attributable to services in the first quarter of 2008 was \$3.2 million, an increase of \$0.5 million, or 18.4%, compared to \$2.7 million in the first quarter of 2007. This increase is attributable mainly to the increase in headcount and its related salary and overhead costs, to support our world wide service contracts.

Our gross margins attributable to product revenues in the first quarter of 2008 and the first quarter of 2007 was 53% of product sales. Our gross margins attributable to services revenues in the first quarter of 2008 was 1.2% of services sales, a decrease of 7.6% relative to 8.8% of service sales in the first quarter of 2007. This decrease is attributable mainly to increased headcount and its related salary and overhead costs which were not fully accommodated by an increase in service contract prices.

- **Research & development expenses, net**

Research and development expenses, net, consist primarily of salaries and related expenses and also include consulting fees, subcontracting costs, related materials and overhead expenses, after offsetting conditional grants received or receivable from the Office of the Chief Scientist (“OCS”). Our research and development expenses, net, in the first quarter of 2008 were \$1.9 million, compared to \$2.3 in the first quarter of 2007. Research and development expenses, net, represented 15% of our revenues in the first quarter of 2008, compared to 17.5% of our revenues in the first quarter of 2007. This decrease is mainly attributed to the decrease in our research and development investments x-ray technologies and to an increase in OCS grants.

- **Sales and marketing expenses**

Sales and marketing expenses are comprised of salaries and related costs for sales and marketing personnel, related travel expenses, and overhead. They also include commissions to our representatives and sales personnel. Our sales and marketing expenses increased by 11% to \$2.4 million in the first quarter of 2008, compared to \$2.2 million in the first quarter of 2007. The increase in sales and marketing expenses is mainly attributed to increased commission costs related to sales through agents. Sales and marketing expenses represented 19% and 16.4%, respectively, of our revenues in the first quarter of 2008 and first quarter of 2007. This increase is mainly attributed to the increase in sales and marketing expenses in the first quarter of 2008 as described above.

- **General and administrative expenses**

General and administrative expenses are comprised of salaries and related expenses and other non-personnel related expenses such as legal expenses. Our general and administrative expenses decreased by 57% to \$0.9 million in the first quarter of 2008, compared to \$2.1 million in the first quarter of 2007. General and administrative expenses decreased to 7.1% of our revenues in the first quarter of 2008 compared to 15.8% of our revenues in the first quarter of 2007. This decrease is primarily attributed to a decrease in legal expenses related to the Nanometrics intellectual property infringement law suits which were settled in April 2007.

Liquidity and Capital Resources

Cash reserves and cash investments at the end of the first quarter of 2008 amounted to \$20.1 million relative to \$22.9 million at the end of the first quarter of 2007. This decrease in our cash reserves is related mainly to a \$1.7 million impairment of Auction Rate Securities (of which \$0.3 million were impaired during the first quarter of 2008).

Working capital at the end of the first quarter of 2008 amounted to \$22.5 million relative to \$22 million at the end of the first quarter of 2007.
