

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 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 5, 2010

Commission File No.: 000-30688

**NOVA MEASURING INSTRUMENTS LTD.**

(Translation of registrant's name into English)

**Building 22 Weizmann Science Park, Rehovot  
P.O.B 266  
Israel**

(Address of 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 if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): \_\_\_\_\_

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): \_\_\_\_\_

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

Yes  No

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, 2010.

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 (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 the Registrant's registration statements on Form F-3, filed with the Securities and Exchange Commission on May 11, 2007 (File No. 333-142834), and on December 8, 2009 (File No. 333-163561, as amended by Amendment No. 1, filed on December 29, 2009).

## 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 Seligohn*

---

Gabi Selogsohn  
President & Chief Executive Officer

By: */s/ Dror David*

---

Dror David  
Chief Financial Officer

Date: May 5, 2010

## 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 26, 2010 (the "Annual Report") and other financial information contained in our Report on Form 6-K filed with the Securities and Exchange Commission on May 4, 2010. 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 ability to expand our manufacturing capacity or marketing efforts to support our future growth; our dependency on a small number of large customers and small number of suppliers; risks related to our intellectual property; changes in customer demands for our products; new product offerings from our competitors; changes in or an inability to execute our business strategy; unanticipated manufacturing or supply problems; changes in tax requirements; changes in customer demand for our products; risks related to currency fluctuations; unanticipated consequences of the global economic crisis and risks related to our operations in Israel 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 2009, 15 use our systems. Our integrated metrology systems are sold either through process equipment manufacturers and then resold to end users or sold directly to end users. These process equipment manufacturers either integrate our metrology systems into their process equipment which is then sold to the semiconductor manufacturers or allow our systems to be integrated into the process equipment at the semiconductor manufacturing facilities. Our systems were first installed in 1995 and, since that time, we have sold more than 2,000 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, 2010 and 2009**

- **Revenues**

Revenues for the first quarter ended March 31, 2010 increased by 179% to \$16.0 million, compared to revenues of \$5.7 million for the first quarter ended March 31, 2009. The increase is mainly attributed to the increase in demand for our stand alone and integrated metrology products combined with higher service revenues, resulting from the recovery 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 and provision for estimated future warranty costs for systems we have sold. Our cost of revenues attributable to product sales in the first quarter of 2010 was \$5.5 million, an increase of \$3.9 million, or 246%, compared to \$1.6 million in the first quarter of 2009. This increase is attributable to the increase in head count and related salary costs due to the increase in product revenues in the first quarter of 2010. As a percentage of revenues, our cost of revenues attributable to product sales in the first quarter of 2010 decreased to 42.5% of product sales compared to 43.4% in the first quarter of 2009, due to the increase in sales volume which enabled us to better utilize our manufacturing infrastructure. Our cost of revenues attributable to services in the first quarter of 2010 was \$2.4 million, an increase of \$0.1 million, or 5.0%, compared to \$2.3 million in the first quarter of 2009.

Our gross margins attributable to product revenues in the first quarter of 2010 increased to 57.5% of product sales compared to 56.6% in the first quarter of 2009, due to the increase in sales volume which enabled us to better utilize our manufacturing infrastructure. Our gross margins attributable to services revenues in the first quarter of 2010 increased to a positive 22.4% of services revenues compared with a negative 9.6% of services revenues in the first quarter of 2009. This increase in gross margins is attributable to the significant increase in service revenues following industry recovery which was accompanied with effective cost management.

- **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. Our net research and development expenses in the first quarter of 2010 were \$2.6 million, compared to \$1.8 million in the first quarter of 2009. This increase is mainly attributed to acceleration of investments in expenditures and increase in head count to support new and existing product platforms in order to meet current and future market technology needs.

Net research and development expenses represented 16.0% of our revenues in the first quarter of 2010, compared to 31.2% of our revenues in the first quarter of 2009. This decrease is mainly attributed to the significant increase in revenues in the first quarter of 2010.

- **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 87.2% to \$2.2 million in the first quarter of 2010, compared to \$1.2 million in the first quarter of 2009. The increase in sales and marketing expenses is mainly attributed to the increase in revenue-based payments and the increase in head count costs in order to support our growth. Sales and marketing expenses represented 13.7% and 20.5%, respectively, of our revenues in the first quarter of 2010 and first quarter of 2009. This decrease is mainly attributed to the significant increase in revenues in the first quarter of 2010.

- **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 increased by 29.4% to \$0.7 million in the first quarter of 2010, compared to \$0.5 million in the first quarter of 2009. This increase is mainly attributed to the increase in compensation costs. General and administrative expenses decreased to 4.1% of our revenues in the first quarter of 2010 compared to 8.8% of our revenues in the first quarter of 2009. This decrease is mainly attributed to the significant increase in revenues in the first quarter of 2010.

### **Liquidity and Capital Resources**

Cash reserves and cash investments at the end of the first quarter of 2010 amounted to \$40.7 million, relative to \$16.4 million at the end of the first quarter of 2009. This increase in our cash reserves is related mainly to \$17 million net proceeds from a public offering in February 2010 and to positive cash flow from operating activities in recent quarters.

Working capital at the end of the first quarter of 2010 amounted to \$44.9 million relative to \$18.4 million at the end of the first quarter of 2009. The increase in working capital is related mainly to the increase in our cash reserves during recent quarters, while the increase in current assets other than cash was offset by a parallel increase in current liabilities.

\*\*\*\*\*