

NOVA MEASURING INSTRUMENTS LTD  
Form 6-K  
July 14, 2010

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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

July 14, 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 press release issued by the Registrant and entitled "Nova Introduces Fourth Generation NovaMARS® Optical CD Application Development Solution".

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)

Date: July 14, 2010

By: /s/ Dror David

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Dror David  
Chief Financial Officer

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Nova Introduces Fourth Generation NovaMARS® Optical CD Application  
Development Solution

NovaMARS 4.0 brings a new level of accuracy and speed to advanced 3D  
measurements at 22nm and below

REHOVOT, Israel, July 14, 2010 - Nova Measuring Instruments Ltd. (NASDAQ: NVMI) provider of leading edge stand-alone metrology and the market leader of integrated metrology solutions to the semiconductor process control market, today introduced its fourth generation NovaMARS optical CD application development solution. Nova MARS 4.0 provides a solution for semiconductor manufacturers developing advanced technology of 22nm and below who are faced with a need to visualize complex 3D structures by non-destructive and highly accurate metrology. The new NovaMARS 4.0 provides greater details of the 3D structure, allows shorter time-to-solution and measures with higher accuracy and sensitivity than before. The new release, deployed on the state-of-the-art Nova T500 stand-alone optical CD tool, demonstrated more than 50 times reduction in library calculation time and generated library sizes that are more than 100 times smaller on advanced applications such as logic FinFET, Flash bit-lines and Copper interconnect lines.

Boaz Brill, Nova's Chief Technology Officer, said: "NovaMARS was the first application development tool to introduce full 3D modeling capabilities. Today, 3D structures are commonly used as test vehicles, and in-die measurements are becoming a reality. The fourth generation of NovaMARS enables new levels of information to be extracted from the structure, faster than ever before. With this technology, we foresee increased deployment of our Optical CD solutions in research and development of advanced technology nodes both at foundry and memory manufacturers."

NovaMARS 4.0 uses an innovative compact library design that enables measurement of more parameters of the complex structure while reducing the size of the library by orders of magnitude. Novel interpretation algorithms boost sensitivity by increasing the amount of spectral information attained during measurement. An improved calculation engine reduces real time regression and library generation time. A new high power computing architecture powered by the latest Microsoft Windows HPC platform provide seamless computing power distribution and multi-user management.

About Nova: Nova Measuring Instruments Ltd. develops, produces and markets advanced integrated and stand alone metrology solutions for the semiconductor manufacturing industry. Nova is traded on the NASDAQ & TASE under the symbol NVMI. The Company's website is [www.nova.co.il](http://www.nova.co.il).

This press release contains forward-looking statements within the meaning of safe harbor provisions of the Private Securities Litigation Reform Act of 1995 relating to future events or our future performance, such as statements regarding trends, demand for our products, expected deliveries, transaction, expected revenues, operating results, earnings and profitability. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied in those forward looking statements. These risks and other factors include but are not limited to: our dependency on two process control product lines; 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; our dependency on OEM suppliers; 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 and risks related to our operations in Israel. We cannot guarantee future results, levels of activity, performance or achievements. The matters discussed in this press release also involve risks and uncertainties summarized under the heading "Risk Factors" in Nova's Annual Report on Form 20-F for the year ended December 31, 2009 filed with the Securities and Exchange Commission on March 26, 2010. These factors are updated from time to time through the filing of reports and registration statements with the Securities and Exchange Commission. Nova Measuring Instruments Ltd. does not assume any obligation to update the forward-looking information contained in this press release.

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