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Nova's Advanced XPS Solution Selected by the World's Leading Foundry

Rehovot, Israel – September 27, 2017 – Nova (Nasdaq: NVMI), a leading innovator and a key provider of metrology solutions for advanced process control used in semiconductor manufacturing, announced today that its most advanced XPS platform was selected by the world's leading Foundry for inline applications to be deployed in its advanced technology nodes. Revenue from this order is expected to be recognized during the third quarter of 2017.

The VeraFlex III XF is the latest generation of the VF XPS series, which offers superior sensitivity to sub-angstrom thickness and composition characterization used for monitoring critical processes such as atomic layer deposition (ALD) at the most advanced Logic nodes.

The VeraFlex product family of in-line XPS metrology tools is a critical component to almost every semiconductor manufacturer's process control strategy as they advance to more complex structures. With ever-improving productivity, precision and sensitivity, the VeraFlex III is increasingly being utilized in more production lines, adding more applications for both thickness and composition measurement steps.

"The selection of VeraFlex III XF by this customer highlights the value XPS brings to advanced process control in our customers' highly scaled technology nodes," said Glyn Davies, Executive Vice President and Nova's Materials Metrology Division General Manager. "This new order offers yet more proof of our position as the leading provider of X-ray metrology solutions to semiconductor customers. We are excited by the progress made this year with both leading Memory and Foundry customers, which supports our strategy to increase XPS inline metrology steps and expand the overall available market."

About Nova: Nova delivers continuous innovation by providing advanced metrology solutions for the semiconductor manufacturing industry. Deployed with the world's largest integrated-circuit manufacturers, Nova's products deliver state-of-the-art, high-performance metrology solutions for effective process control throughout the semiconductor fabrication lifecycle. Nova's product portfolio, which combines high-precision hardware and cutting-edge software, supports the development and production of the most advanced devices in today's high-end semiconductor market. Nova's technical innovation and market leadership enable customers to improve process performance, enhance products' yields and

accelerate time to market. Nova acts as a partner to semiconductor manufacturers from its offices around the world. Additional information may be found at www.novameasuring.com.

Nova is traded on the NASDAQ & TASE under the symbol NVMI.

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, but are not limited to, anticipated growth opportunities and projections about our business and its future revenues, expenses 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. Factors that may affect our results, performance, circumstances or achievements include, but are not limited to, the following: our dependency on three product lines; our dependency on a small number of large customers and small number of suppliers; the highly cyclical and competitive nature of the markets we target and we operate in; 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 ability to recognize the benefits of ReVera acquisition and risks that the acquisition may disrupt current plans and operations and impact relationships with customers, distributors and suppliers; our dependency on PEMs; risks related to exclusivity obligations and non-limited liability that may be included in our commercial agreements and arrangements; our ability to retain our competitive position despite the ongoing consolidation in our industry; risks related to our dependence on our manufacturing facilities; risks related to changes in our order backlog; risks related to efforts to complete and integrate current and/or future acquisitions; risks related to the worldwide financial instabilities; risks related to our intellectual property; new product offerings from our competitors; unanticipated manufacturing or supply problems; risks related to government programs we participate in; risks related to taxation; changes in customer demand for our products; risks related to currency fluctuations, risks related to acquisitions we may pursue 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, 2016 filed with the Securities and Exchange Commission on March 3, 2017. 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.