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Nova Introduces Unique Portfolio to Address Next-Generation Logic Fabrication Challenges

Rehovot, Israel – February 17, 2021 – Nova (Nasdaq: NVMI) announced today its metrology portfolio for advanced gate-all-around (GAA). To enhance its market-leading portfolio, the Company is unveiling multiple advanced solutions uniquely equipped to address the manufacturing challenges of next-generation logic devices.

As the semiconductors industry transitions toward advanced technology nodes, process challenges increase dramatically. Time to yield becomes a critical parameter, conflicting with an increasing number of process steps, higher sampling and design rule shrinkage. This clash is further complicated by the need to measure on-device and in-die, as the test structures are no longer representative of the actual process. Moreover, an abundance of new materials necessitates inline control of parameters, such as thickness, composition, stress, and local variations within the device. To address these needs, process control solutions must be more accurate and applicable for complex 3D structures and new materials, applied to more layers and utilized to more physical and chemical inline parameters.

In logic manufacturing, the most significant transition is from fin field-effect transistor (FinFET) to gate-all-around transistor (GAA), which complicates the fabrication process. Nanosheet transistors set new constraints, dictating a complete characterization of multiple individual nanosheets for dimensional and material properties. Multiple nanosheet critical steps, such as inner spacer formation and replacement metal gate formation, require much tighter process control.

“Nova’s rich and differentiated portfolio is built to meet the challenges of next-generation device fabrication,” said Eitan Oppenheim, President and CEO. “On top of the challenging design, materials are becoming an increasingly crucial key to device evolution, and our elevated investment in this domain provides our customers with a unique complementary value. This is further enhanced by the synergy between our market-leading dimensional metrology, ground-breaking materials metrology portfolio, and the recent addition of chemical metrology.”

Nova's complementary offering allows customers to get a better insight into the most complicated semiconductor structures through a wider view on geometrical dimensions, physical materials properties and chemical analytics. The overall solution has already been rolled out to the market and is in use by leading customers to stabilize the GAA process steps and increase yield.

Nova's rich next-generation portfolio includes:

Nova PRISM enables superior metrology performance in critical applications, enabled by the platform's spectral interferometry (SI) technology. SI technology was proven to add an entirely new dimension of spectral information inaccessible to current traditional optical CD methods by providing absolute phase information that improves sensitivity to weak target parameters, specifically required by the complexity introduced in the new GAA design rules.

Nova i570 is Nova's top performance integrated metrology platform for high-volume manufacturing, cementing Nova's leadership in this domain. The platform improves total inline measurement capabilities in small structures and multiple layers.

Nova METRION® brings SIMS technology to high-volume manufacturing, enabling depth profiles of the materials composition, previously limited to a lab environment, in the critical step of material deposition in nanosheets manufacturing. Manufacturers must tightly control materials' concentration and uniform deposition on individual nanosheets.

Nova ELIPSON™ utilizes advanced Raman spectroscopy technology for optical materials metrology (OMM) to extract materials properties of in-die structures by fast and non-destructive means. ELIPSON™ provides multiple solutions for next-generation production challenges, including strain formation and defectivity measurements through the process.

Nova VERAFLX® IV is the latest industry standard for in-line and in-die X-ray photoelectron spectroscopy (XPS) with integrated X-ray fluorescence (XRF). VERAFLX® IV delivers direct measurement control over mono-layer film stacks and dopant concentrations by generating the industry's highest X-ray flux and proprietary optical system necessary to address complex structures.

All platforms are unified by Nova's machine learning software suite, **Nova FIT 2.0**, the Company's newest machine learning solution, powered by advanced algorithms and a state-of-the-art computational layer.

About Nova:

Nova is a leading innovator and key provider of material, optical and chemical metrology solutions for advanced process control in semiconductor manufacturing. Nova delivers continuous innovation by providing 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, provides its customers with deep insight into developing and producing the most advanced semiconductor devices. Nova's unique capability to deliver innovative solutions enables its customers to

improve performance, enhance product yields and accelerate time to market. Nova acts as a partner to semiconductor manufacturers from its offices worldwide. Additional information may be found at [Nova's website link](https://www.novami.com/) - <https://www.novami.com/>.

Nova is traded on Nasdaq & TASE, Nasdaq ticker symbol NVMI

Forward looking statement:

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 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: catastrophic events such as the outbreak of COVID-19; increased information technology security threats and sophisticated computer crime; foreign political and economic risks; changes in U.S. trade policies; inability to protect intellectual property; open source technology exposure; failure to compete effectively or to respond to the rapid technological changes; consolidation in our industry; difficulty to predict the length and strength of any downturn or expansion period of the market we target; factors that adversely affect the pricing and demand for our product lines; risks related to introduction of new product lines which may require us to allocate time and financial resources; dependency on a small number of large customers; dependency on a single manufacturing facility per product line; dependency on a limited number of suppliers; difficulty to integrate current or future acquisitions; lengthy sales cycle and customer delays in orders; political, economic, and military instability in Israel; risks related to our convertible notes; currency fluctuations; and quarterly fluctuations in our operating results. 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, 2020 filed with the Securities and Exchange Commission on March 1, 2021. These factors are updated from time to time through the filing of reports and registration statements with the Securities and Exchange Commission. Nova Ltd. does not assume any obligation to update the forward-looking information contained in this press release