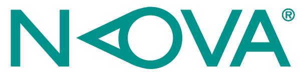
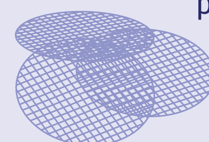


partnering for process control

Company Profile

Nova Measuring Instruments Ltd. develops, produces and markets metrology systems for process control that are integrated into process equipment tools, or used as stand-alone metrology platforms for the global semiconductor manufacturing industry. Nova's comprehensive portfolio of superior metrology products, services and expertise helps IC manufacturers to meet the challenges posed by today's advanced process requirements.



passion
innovation
performance

Nova Measuring Instruments Ltd. is a leading global semiconductor equipment manufacturer with solutions and services that are used by 21 of the largest 25 IC manufacturers. Nova's expertise in Thin Film and Optical CD & shape profiling metrology systems are addressing the complex measurement and process control challenges of High Volume Production (HVM) in 300 & 200 mm IC manufacturing, from 90nm to the demanding 45nm and32nm technology nodes.

The company's systems utilize a combination of Spectroscopic Reflectrometry and Scatterometry to measure CD, trench depth, photoresist height, thickness and shape of complex layer stacks, as well as a variety of other features and parameters guaranteeing the delivery of tight wafer-to-wafer and within-wafer control. Nova offers Integrated Metrology (IM) and Stand-alone (SA) metrology product lines addressing different metrology needs. These hardware products are complemented by advanced structure modeling and application development software empowering fab engineers with the automation and flexibility necessary to develop in-fab 2D/3D and in-die applications for high-end semiconductor devices.

Nova is also developing new metrology products and solutions based on Wide-Angle X-Ray Diffraction (WA-XRD) technologies. The addition of X-ray based metrology to the company's product portfolio allows Nova to expand its reach into other areas in the fab, such as metallization, which includes the copper interconnect module.

Solid Integrated Metrology Foundations Yielding Industry-Leading Success

Founded in 1993, Nova pioneered the field of IM for thin film measurement on semiconductor wafers, and was the first to introduce an IM solution for chemical-mechanical polishing (CMP). Later versions of Nova's IM products have been integrated into Etchers, Photolithography Tracks as well as CVD tools manufactured by leading process equipment manufacturers in each of these segments. Today, IM solutions continue to fuel our core market dominance. This is directly attributable to the technological leadership offered by the NovaScan 3090 and NovaScan 3090Next series of platforms, as well as our company's world-class service organization and team of professionals.

Nova's Product Offering

Nova's tools can be integrated into virtually every 200 & 300mm platform to control key processes in IC manufacturing.

NovaScan 3090Next SA: Stand-alone metrology platform for optical CD and shape profiling metrology applications. Leverages upon a combination of Spectroscopic Reflectrometry and Optical Scatterometry technologies in tandem with Nova's proprietary productivity tools to deliver the market's most advanced solution for HVM and process development environments.

NovaScan 3090Next IM: Next-Generation HVM integrated metrology platform and APC Enabler. Enables wafer-to-wafer, and within-wafer Advanced Process Control (APC) and Closed Loop Control. Handles an extensive range of Dielectric CMP, Copper CMP, Lithography, Etch, OCD Shape Profiling, CVD and EPI applications.

NovaMARS: Advanced structure modeling and application development software tool, providing fab engineers with the automation and flexibility necessary to develop in-fab 2D/3D and in-die applications. NovaMARS is supported by NovaHPC, a scalable high power computer option necessary to compute multi-variable models.

CrystalX II: In-line WA-XRD microstructure monitoring tool designed for R&D and production monitoring in advanced IC fabs. The system optimizes and troubleshoots metal deposition and annealing tools, and optimizes processing of interconnect and contact metals. CrystalX II improves performance, yield and reliability of devices by providing information on quantitative Texture, Phase and Relative Grain Size of polycrystalline materials.

partnering for process control

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