



## Applied Materials Announces First Fully-Autonomous Defect Review SEM for Leading-Edge Chip Production

December 5, 2011

- **SEMVision G5 system brings breakthrough "hands-free" capability to semiconductor manufacturing**
- **Superior image quality enabled by unmatched 1nm pixel size**
- **Delivers highest rate of relevant defects in critical 22nm patterning layers for rapid yield ramp**

SANTA CLARA, Calif., December 5, 2011 - Applied Materials, Inc. today extends its leadership in defect review SEM\* technology with the launch of its [Applied SEMVision™ G5](#) system - the first tool that enables chipmakers to image and analyze 20nm yield-limiting defects in a production environment without manual intervention. Uniquely capable of identifying and imaging relevant defects with 1nm pixel size, the SEMVision G5 system allows logic and memory customers to streamline manufacturing, pinpointing the root cause of defects faster and more accurately than ever before.

The system's best-in-class 1nm pixel size, unmatched image quality and powerful analysis engine make the SEMVision G5 system the only [DR-SEM\\*](#) capable of identifying, analyzing and finding defects in the most challenging patterning layers while also increasing throughput. In addition, the system sets new benchmarks in separating real from false alarm, or [nuisance defects](#). In tests, the system was both more accurate and vastly quicker than an expert human operator, enabling customers to inspect more wafers more often, accelerating cycles of learning and accelerating [yield](#) ramp rates.

The breakthrough SEMVision G5 system is an open architecture platform that dynamically combines data received from a [wafer inspection system](#) with a library of predefined review strategies. The system automatically creates new review recipes - a major benefit over competing tools that require time-consuming manual recipe creation for every chip type to be inspected. This feature is critical for foundry customers that must rapidly achieve good yield in the thousands of new chip designs they manufacture each year.

"The excellent imaging capabilities and hands-free approach of the SEMVision G5 system can give our customers a competitive edge by helping them reduce time-to-market - which is essential to achieving the short product cycles demanded by today's fast-paced electronics industry," said Itai Rosenfeld, corporate vice president and general manager of Applied's Process Diagnostics and Control business unit. "We've already shipped multiple SEMVision G5 systems to customers, including repeat orders. This rapid adoption demonstrates the value of the product and continues our thirteen-year leadership in this key chipmaking technology."

Applied Materials, Inc. (Nasdaq:AMAT) is the global leader in providing innovative equipment, services and software to enable the manufacture of advanced semiconductor, flat panel display and solar photovoltaic products. Our technologies help make innovations like smartphones, flat screen TVs and solar panels more affordable and accessible to consumers and businesses around the world. At Applied Materials, we turn today's innovations into the industries of tomorrow. Learn more at [www.appliedmaterials.com](http://www.appliedmaterials.com).

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\*SEM = scanning electron microscope

\*\*DR-SEM = defect review SEM

[The Fully-Autonomous Applied SEMVision G5 Defect Review System](#)

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