Applied Materials' New SEMVision G4 System Sets the Benchmark with Defect-Per-Second Review at 2nm Resolution

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SANTA CLARA, Calif.--(BUSINESS WIRE)--Dec. 4, 2007--Applied Materials, Inc. today unveiled its most advanced defect review SEM(1), the Applied SEMVision(TM) G4, which extends the technology and productivity of Applied's highly successful SEMVision system to 45 nm and beyond applications. Key to the SEMVision G4 are its new SEM column technology and enhanced multi-perspective SEM imaging system (MPSI) that deliver state-of-the-art 2nm physical resolution for unmatched image quality at a benchmark one defect-per-second review rate.

"The task of reliable and high productivity defect review and classification at 45nm in high-aspect ratio and densely packed memory and logic structures requires unprecedented SEM performance," said Ronen Benzion, general manager of the SEM division of Applied Materials' Process Diagnostics and Control business unit. "The SEMVision G4 sets new standards for image quality and productivity while adding new technologies that allow customers to accelerate defect root cause analysis and boost yield."

"The SEMVision G4 has recently been put into production and is expected to have a significant role in our in-line defect root cause analysis strategy," said Tomoharu Watanabe, senior manager of Yokkaichi Operations Manufacturing Engineering Department, Semiconductor Company, Toshiba Corporation.

The SEMVision G4 brings several advanced defect monitoring capabilities from the engineering floor to in-line volume manufacturing. These vital analytical tools enable customers to rapidly analyze and classify defects as small as 30nm in the most sensitive device layers, such as immersion photoresist and low-k dielectrics. Featuring EDXtreme, a revolution in EDX(1)-based material analysis, the SEMVision G4 extends the chemical characterization of defects to sub-50nm particle sizes. The system's new SEM column can rotate and tilt up to 45 degrees relative to the wafer to provide complete 3-D data for superior defect visualization and classification. In addition, wafer edge and bevel analysis technology address a new frontier of yield enhancement, enabling customers to successfully address immersion-related defectivity issues.

Additional information on the SEMVision G4 will be presented at Applied Materials' booth #3D-1001 at SEMICON Japan, taking place on December 5-7, 2007 in Chiba, as part of Applied's integrated 45nm portfolio. Also, please visit www.appliedmaterials.com/products/semvision_g4_4.html.

Applied Materials, Inc. (Nasdaq:AMAT) is the global leader in Nanomanufacturing Technology(TM) solutions with a broad portfolio of innovative equipment, service and software products for the fabrication of semiconductor chips, flat panel displays, solar photovoltaic cells, flexible electronics and energy efficient glass. At Applied Materials, we apply Nanomanufacturing Technology to improve the way people live. Learn more at www.appliedmaterials.com.

(1) SEM=scanning electron microscope

EDX = Energy-dispersive X-ray spectroscopy

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