Applied Materials Unlocks the Future of Defect Inspection with Breakthrough UVision System

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SANTA CLARA, Calif.--(BUSINESS WIRE)--June 6, 2005--Applied Materials, Inc. revolutionizes defect inspection with its innovative Applied UVision(TM) system, the semiconductor industry's first laser 3D brightfield inspection tool. The UVision system targets chipmakers' vital need for higher inspection sensitivity and productivity as they move to 65nm manufacturing and beyond, enabling them to uncover and resolve "killer" defects never seen before. Delivering 30nm sensitivity at production-level speeds, the UVision system allows customers to rapidly resolve performance-limiting defect issues and achieve greater chip yields. The UVision system also marks Applied Materials' entry into the brightfield inspection market.

"The UVision system is a new technology paradigm that takes customers far into the future of brightfield inspection, setting the direction for the industry's push into deep sub-nanometer geometries," said Mike Splinter, president and CEO of Applied Materials. "No other system provides chipmakers with the resolution needed for advanced chip development, the rapid throughput required for volume production and the extendibility to sub-45nm device designs. The UVision system is a testament to Applied's technical leadership and is a key part of Applied Materials' growth strategy in the expanding metrology and inspection market."

Brightfield inspection is used by chipmakers to find the most critical defects during wafer manufacturing. Traditional brightfield systems are similar to microscopes; they employ a multi-wavelength lamp source, single light detection channel and CCD* detection, and provide users with limited imaging capability. The UVision system illuminates the wafer with multiple beams from a 266nm DUV* laser source. Light reflected from the wafer is collected using high-efficiency PMT (photomultiplier tube) technology, allowing high sensitivity even in low light situations without compromising throughput. Simultaneous brightfield and 3D imaging rapidly detects both shallow-pattern defects (brightfield channel) and topographical defects such as particles and voids (3D channel) in a single scan.

"The introduction of new materials and processes at the 65nm technology node has produced new classes of small defects that directly affect fab yield," noted Dr. Gilad Almogy, vice president and general manager of Applied Materials' Process Diagnostics and Control group. "The UVision system has proven its value for critical chip layers, such as STI*, contact, poly and gate etch, where chipmakers have isolated killer defects not found with traditional brightfield tools. Customer response to our new UVision technology has been enthusiastic; we have already shipped multiple systems to both memory and logic customers in several regions, including repeat orders."

The Applied UVision system is part of the company's Resolution(TM) initiative -- Applied's commitment to dramatically cut the time and cost of resolving yield-limiting defects through continuous advances in technology. For more information, please visit: www.appliedmaterials.com/resolution/

Forward-looking statements. This press release contains forward-looking statements, including those relating to the capabilities of and market opportunities for Applied's UVision system. These statements are subject to known and unknown risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements including, without limitation: the sustainability of demand in the semiconductor and semiconductor equipment industries, which is subject to many factors, including global economic conditions, business spending, consumer confidence, demand for electronic products and semiconductors, and geopolitical uncertainties; customers' capacity requirements, including capacity utilizing the latest technology; the timing, rate, amount and sustainability of capital spending for new technology, such as 300mm and sub-100 nanometer applications; the company's ability to develop, deliver and support a broad range of products and services, and to expand its markets and penetrate new markets; and other risks described in Applied Materials' Forms 10-K, 10-Q and 8-K. All forward-looking statements are based on management's estimates, projections and assumptions as of the date hereof and Applied Materials undertakes no obligation to update any such statements.

Applied Materials, Inc. (Nasdaq:AMAT), headquartered in Santa Clara, California, is the largest supplier of equipment and services to the global semiconductor industry. Applied Materials' web site is www.appliedmaterials.com

Note(*):
CCD: charge-coupled device
STI: shallow trench isolation
DUV: deep ultraviolet

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