



Applied Materials Redefines Mask Inspection with Powerful Aera2 System

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TOKYO--(BUSINESS WIRE)--April 15, 2008--Applied Materials, Inc. today unveiled its groundbreaking Applied Aera2(TM) Mask Inspection system, delivering the fastest, most powerful inspection and qualification solution for all advanced photomasks. Using sophisticated aerial imaging technology, the Aera2 is the first and only mask inspection system that enables users to immediately see how the pattern on the mask will appear on the wafer. The system detects defects according to their impact on the wafer, filtering out the large number of non-printing defects that plague conventional mask inspection systems.

"The Aera2 system revolutionizes mask inspection technology to meet the most critical defect detection challenges of immersion and double patterning masks for 45nm and beyond," said Ronen Benzion, vice president and general manager of Applied Materials' Process Diagnostics and Control group. "The Aera2 system addresses all mask shop inspection applications and provides more than twice the throughput of any competing system. Both mask and wafer manufacturers are very excited about the Aera2 system's unmatched capabilities and have placed advance orders for multiple systems."

Each new generation of photomasks incorporates increasingly sophisticated resolution enhancement techniques that reduce the correlation between the pattern on the mask and the pattern on the printed wafer. This presents a challenge for traditional inspection systems since they can only produce an image of the mask itself. By emulating the optical system of 193nm lithography scanners and placing an image sensor in the wafer plane, the Aera2 system inspects the mask under the same optical conditions as when it is exposed in a stepper to provide "what you see is what you print" capability.

The Aera2 system's aerial inspection technology also creates an entirely new set of enabling capabilities that strengthen the link between the mask shop and lithography cell by ensuring the printability of a mask before delivery. The system features an optional IntenCD(TM) application that leverages the aerial imaging data to create high precision, high-density CD uniformity maps of an entire mask. These maps can reveal subtle manufacturing effects, helping mask makers to fine tune the mask manufacturing process. For more information, visit www.appliedmaterials.com/products/mask_inspection_4.html.

According to market researcher Gartner Dataquest, the market for mask inspection and review equipment was estimated at \$464 million in 2007.(1) The Aera2 system will be showcased at the Applied Materials Technical Forum being held in Yokohama, Japan, on April 15 during SPIE Photomask Japan 2008. For more information, please visit www.appliedmaterials.com/2008_PMJ.

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) Semiconductor Manufacturing Equipment Market Share: Database, Market View Section, published April 2008, Gartner, Inc.

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