



Applied Materials Shatters Metrology Roadblocks for 65-45nm Production with Applied VeritySEM System

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SANTA CLARA, Calif.--(BUSINESS WIRE)--Feb. 23, 2004--Applied Materials, Inc. (Nasdaq:AMAT) extends its leadership in CD-SEM(a) technology with the new high-throughput Applied VeritySEM(TM) Metrology system. Proprietary new SEM technology enables a remarkable less than 5 angstrom precision for tightly controlling ArF(a) resist structures, line edge roughness and feature shape in 65-45nm device structures. Multiple VeritySEM systems can be matched both internally and between fabs to within one nanometer. As a result of these advancements, customers' cost of ownership is reduced by one-third over any other CD-SEM system on the market.

"Customers moving to next-generation devices face imposing technical and process control challenges, along with the need to streamline WIP(a) in 300mm fabs," said Dr. Gilad Almogy, vice president and general manager of Applied Materials' Process Diagnostics and Control group. "We've had very exciting results from customers using the Applied VeritySEM system. Customers in 65nm development have reported major improvements in their ability to control critical lithography and etch processes, while those using the system in a production environment are realizing significant throughput advantages."

The VeritySEM system's new SEM technology provides less than 1.8nm resolution at ultra low voltages (200eV) and large field-of-view scanning with no distortion, enabling the measurement of gate and ArF features with less than 5 angstrom precision -- a requirement for 45nm device production. An innovative variable beam current control module improves the signal to noise ratio and enables faster and more robust recipe automation, resulting in significantly higher throughput in production.

Multiple installations of Applied VeritySEM systems are in production fabs and development centers in Asia, North America and Europe, including several new customer penetrations. Additional shipments are scheduled and customer demand for systems is gaining momentum.

Applied Materials, Inc. (Nasdaq:AMAT) is the largest supplier of equipment and services to the global semiconductor industry. Applied Materials' Web site is <http://www.appliedmaterials.com>.

(a) CD-SEM: critical dimension -- scanning electron microscope
ArF: argon fluoride
WIP: wafers in process

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