



Applied Materials Ships Milestone 50th SEMVision System to Lucent

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SANTA CLARA, Calif.--(BUSINESS WIRE)--March 15, 2000--

Market-Leading Automatic Defect Review and Classification
System To Be Used for Sub-0.12 Micron Chip Development

Applied Materials, Inc. has shipped its 50th SEMVision(TM) Defect

Review Scanning Electron Microscope (DR-SEM) only 18 months after the product was first introduced to the industry.

Lucent Technologies has purchased the milestone SEMVision cX system for its Advanced Development and Research Facility in Orlando, Florida, where it will be used in the development of next-generation sub-0.12 micron (120 nanometer) communications devices.

The SEMVision's unique defect review technology is capable of automatically classifying a broad range of process defects five to ten times faster than manual systems and is expected to enable Lucent to quickly develop its latest chip designs. Since defect material and origin information provided by the SEMVision on both patterned and bare wafers can be traced directly to processing equipment, the system can improve Lucent's ability to quickly find the source of defects that appear during development.

The SEMVision cX is a high throughput defect review system that can be used for both in-line defect review as well as off-line analysis in process engineering. SEMVision's patented Multiple Perspective SEM Imaging (MPSI(TM)) technology simultaneously provides three different perspectives of an image: one enhances material and edge contrast and two others enhance topographic contrast of defects. These different perspectives provide superior imaging capability and a very high defect redetection rate for all types of defects. The system's automatic defect classification (ADC) technology helps customers accelerate fab ramp-up and provides tighter yield control in volume production.

The latest SEMVision cX features automatic EDX (energy dispersive x-ray) analysis to identify the precise material composition of many defect types so that users can determine their source. The system's OperatorFree(TM) EDX analysis provides process tool monitoring at a very high throughput, while requiring less engineering expertise than currently available EDX-capable systems. The SEMVision cX also offers high-productivity operation at 500 defects per hour and color MPSI.

"We are pleased with Lucent's selection of our SEMVision system for advanced device development applications," said Gino Addiego, president of Applied Materials' Process Diagnostics and Control product business group. "For the first time in the industry, the SEMVision technology offers chipmakers a truly in-line defect review and classification capability that is easier, faster and more reliable than earlier off-line systems, yet also provides tremendous benefits in process development control."

Combining material information with automated defect classification, the SEMVision cX gives chipmakers a higher order of information, called "classified defect density." This automatically classifies defects by type (particle, scratch, buried layer, etc.), material properties, and other operator-specified characteristics that help find defect sources in the process flow much more rapidly and create a useful database of information for continued operation.

Since the introduction of SEMVision one and a half years ago as the world's first fully automatic defect review and classification SEM, it has been widely accepted by the industry. The SEMVision system is already in use by 16 of the top 20 chipmakers in the U.S., Europe, Korea, Taiwan and Japan. Earlier this year, the SEMVision was recognized with an Editors' Choice Best Product Award from Semiconductor International magazine.

According to Dataquest, a market research firm, the market for Automatic Review and Classification systems, which includes optical, SEM-based and dual-beam systems, is estimated to be \$201 million in 1999, and is expected to grow to \$387 million by the year 2004.

Lucent Technologies designs, builds and delivers a wide range of public and private networks, communications systems and software, data networking systems, business telephone systems and microelectronics components. Bell Laboratories is the research and development arm for the company. For more information on Lucent Technologies, headquartered in Murray Hill, N.J., USA, visit its web site at www.lucent.com.

Lucent's Microelectronics Group designs and manufactures integrated circuits and optoelectronics components for the computer and communications industries. More information about the Microelectronics Group is available from its web site at www.lucent.com/micro.

Applied Materials, Inc. is a Fortune 500 global growth company and the world's largest supplier of wafer fabrication systems and services to the global semiconductor industry. Applied Materials is traded on the Nasdaq National Market System under the symbol "AMAT." Applied Materials' web site is www.appliedmaterials.com.

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