



## Applied Materials Announces Industry's First High-Speed Defect Detection System for 100nm Chip Designs

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SANTA CLARA, Calif.--(BUSINESS WIRE)--June 19, 2000--

New Compass(TM) System Inspects Critical Yield-Limiting

Defects at Production Throughputs

Applied Materials, Inc. announces its new Compass system, the industry's first patterned wafer inspection system to detect critical defects in devices with design rules as small as 100 nanometers and below at the high speeds required for chipmakers' volume production lines. Featuring new OmniView(TM) imaging technology, single button recipe set-up and On-The-Fly (OTF(TM)) defect grouping, the Compass system allows users to rapidly detect a wide range of process problems in-line for early correction and minimal yield loss.

"For many years chipmakers had to compromise between defect sensitivity and throughput in their inspection systems," said Gino Addiego, president of Applied Materials' Process Diagnostics and Control Group. "Our new Compass system revolutionizes wafer inspection technology, offering the potential to help increase fab productivity. Providing the high sensitivity needed to find and identify critical yield-limiting defects at speeds of up to 60 wafers per hour, the Compass system enables our customers to inspect many more wafers than before and thus achieve much better production performance.

"Acceptance of the Compass system has been overwhelming. After a six-month testing period in a production fab, we've received multiple orders from customers in the U.S., Europe and Asia. We are currently accelerating our manufacturing capability to meet the strong demand for this system."

Rinn Cleavelin, chief operating officer of International SEMATECH, said, "We assessed the capabilities of the Compass system as part of SEMATECH's High Aspect Ratio Imaging (HARI) project and found that the system's innovative technology was able to detect many of our critical defect categories not previously detectable by non-SEM technologies. The system performed with high sensitivity and resolution even on the most critical gate and interconnect layers."

The Compass system features OmniView multi-perspective laser scanning technology that compiles information from six different scattering directions to ensure the robust detection of a wide variety of defect types across all process layers. The system's extremely high scanning speed enables throughputs up to 60 wafers per hour, depending on the selected scan mode.

As the wafers are scanned, the Compass system's unique OTF grouping capability automatically sorts all detected defects into coarse bins, separating critical from nuisance defects for tighter excursion control. On-The-Fly grouping also allows optimal use of Applied Materials' leading-edge SEMVision cX defect review system for rapid, automatic classification and identification of the defects' source. In addition, a variable sensitivity feature on the Compass system enables users to adjust the system's sensitivity and throughput for different materials, patterns, layers and production requirements.

Market researcher Dataquest estimates the market for patterned wafer inspection systems in 1999 at \$440 million and projects it to grow to \$960 million by 2004.

Applied Materials also announced its new Excite(TM) process tool monitoring system in a separate news release. Excite is the first system to detect particles on both blanket (monitoring) and patterned (product) wafers at production speeds. Cost reductions and increased productivity are achieved by early detection of process excursions and the use of fewer test monitor wafers. Excite and Compass complement one another to provide a full range of wafer inspection systems for increased fab production efficiency. These systems revolutionize the way chipmakers look at wafer inspection and yield -- as offering the potential to make major contributions to a fab's profitability.

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](http://www.appliedmaterials.com).

Note: A Photo is available at URL:

<http://www.businesswire.com/cgi-bin/photo.cgi?pw.061900/bb3>

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