



## Applied Materials Announces Major Advancement for Defect Detection

September 14, 1999

Business Editors/High-Tech Writers

SANTA CLARA, Calif.--(BUSINESS WIRE)--Sept. 14, 1999--

WF-736 XS System Adds High Sensitivity Detection and Automation Technology for Increased Productivity

Applied Materials, Inc. (Nasdaq:AMAT), introduces the WF-736 XS system, a significant enhancement of its breakthrough WF-736 defect detection technology.

The WF-736 XS features major advancements in defect sensitivity and capture rate for defects in devices using geometries as small as 0.15 micron. Improvements in light collection technology allow the capture of smaller defects with an extremely low false or "nuisance" defect rate. The new features also enable users to process many more wafers per hour in each system for greater productivity.

"In designing the WF-736 XS, our efforts have been focused at increasing peak sensitivity to enable volume manufacturing at extremely small geometries," said Dr. Gino Addiego, president of Applied Materials' Process Diagnostics and Control Group.

"Our new Customized Light Collection technology allows customers to detect smaller defects, particularly on dense and repetitive patterns. The system also features remarkably fast turnaround times for setting up and changing process recipes. In production environments, especially where many new setups are required, customers have been able to develop a recipe and optimize the defect process in as little as 15 minutes.

"This latest upgrade continues the extended list of technology 'firsts' pioneered by our WF series systems. The WF-736 was the first system to offer the advantages of combined darkfield-brightfield detection technology, which dramatically increased the number and types of defects chipmakers could detect. It was also the first system to have On-The-Fly Automatic Defect Classification that enabled customers to determine specific defect types and prioritize their importance. We are now further elevating the system automation to provide a new level of utilization and effectiveness."

One of the key features of the WF-736 XS is an automatic recipe-making enhancement that selects the detection parameters, then optimizes the defect scanning. Best-Known-Method (BKM) libraries in the recipe database enable the user to quickly create a recipe based on similar conditions. Users can save substantial amounts of time formerly needed for recipe creation and setup, and the technology requires far less training for operation.

Another unique feature of the WF-736 XS is its advanced multi-tasking capability, which allows operators to input data simultaneous to inspection. Results at customer fabs have shown up to 25 percent higher net output because of the increased utilization.

The WF-736 XS technology is being extensively used at Applied Materials' Equipment and Process Integration Center (EPIC) in Santa Clara, California, for inspection of a wide variety of copper and aluminum interconnect processes. The EPIC facility enables the tool to inspect very advanced wafers as well as test next-generation technology for advanced process development within Applied Materials.

The enhancements made to the WF-736 XS have been engineered to allow previous WF-736 systems to be retrofitted in the field with the latest technology. The WF-736 XS is also available for use with 300mm wafers.

According to Dataquest, a market research firm, the market for wafer defect detection systems totaled \$359 million in 1998, and is projected to grow to \$867 million by the year 2003.

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).

--30--aj/sf\*

CONTACT: Applied Materials, Inc.  
Betty Newboe, 408/563-0647 (Editorial/Media)  
Carolyn Schwartz, 408/748-5227 (Financial Community)

KEYWORD: CALIFORNIA

INDUSTRY KEYWORD: COMPUTERS/ELECTRONICS COMED PRODUCT