Applied Materials Sets New Industry Record with Shipment of 2,000 Endura Systems

October 25, 2000

SANTA CLARA, Calif.--(BUSINESS WIRE)--Oct. 25, 2000--

Industry's Most Successful Metal Deposition System Continues to Meet

Latest Chip Processing Requirements

Applied Materials, Inc. celebrates the 10th year of the Endura(R) platform with the milestone shipment of its 2,000th system. Launched in 1990, the Endura is the most successful metal deposition system in the history of the semiconductor equipment industry and is used by virtually all advanced manufacturers around the globe for fabricating chips.

"The Endura entered the market at a key transition point where chipmakers needed radically new sputtering technology to reach through the one micron barrier and create, for the first time, multiple layers of aluminum interconnects," said Dr. Fusen Chen, vice president and general manager of Applied Materials' Aluminum, Copper and Liner/Barrier Systems and Modules Product Group. "There were two basic design goals for the system: to create sputtering technology that would extend over multiple device generations, and to make it so reliable and productive that chipmakers would be confident using it in high-volume production. I think time has shown Applied Materials' success in meeting those goals."

G. Dan Hutcheson, president of VLSI Research, Inc., said, "By any standard, the Endura has been one of the chip equipment industry's landmark products. The Endura design team took PVD (physical vapor deposition) technology into the modern era, creating a product that has had tremendous success for over a decade. With its many technical innovations and legendary reliability, the Endura was a key factor in Applied Materials' growth throughout the 1990s."

Hutcheson continued, "The Endura system redefined the nature of semiconductor processing systems by clearly distinguishing the platform from the process technology, enabling a tremendous increase in the technology and capability of multi-step integrated processes, which were required for sub-micron design rules and multi-level interconnect structures. Applied Materials' focused engineering efforts on maximum reliability for the Endura gave chipmakers increased confidence in the viability of the platform-based system philosophy, which we see continuing today."

Avi Tepman, vice president of core engineering at Applied Materials, was the chief designer of the Endura system. "The Endura system pioneered many technology innovations, both in its PVD process and in semiconductor hardware design. For example, we designed the system with a unique sequence of staged vacuum wafer transfer chambers that enabled the industry's first production ultra-high vacuum (10-9 Torr) capability, for sputtered films of much higher purity than ever before possible," said Tepman.

"Another design breakthrough involved the Endura's magnetically coupled wafer transfer robots. This design allowed the system to precisely and rapidly move wafers without the risk of very high vacuum leaks. This type of robot is now extensively used by many Applied Materials products, and other equipment manufacturers have adopted its principles in their wafer transfer schemes," continued Tepman.

Beginning with sputtered aluminum, the Endura system's applications were steadily expanded to include a large variety of critical films, including various aluminum technologies, barrier films including titanium/titanium nitride, tantalum/tantalum nitride and copper seed layers, among others. The system's ability to handle many different process chambers at once has allowed its use for multi-step PVD processes or integrated CVD (chemical vapor deposition)/PVD processes such as the Endura Integrated Liner/Barrier system for CVD titanium and PVD titanium nitride deposition.

Applied Materials (NASDAQ:AMAT) is a leader of the Information Age and the world's largest supplier of products and services to the global semiconductor industry. Applied Materials' web site is http://www.appliedmaterials.com.

--30--LS/na*

CONTACT: Applied Materials, Santa Clara
Betty Newboe, 408/563-0647 (editorial/media)
or
Carolyn Schwartz, 408/748-5227 (financial community)