Applied Materials Ships Milestone 100th Endura PVD 300mm System

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Growing Number of Leading-Edge Processes and Integrated Applications Extends 300mm Endura Platform to Sub-100nm Chipmaking

Applied Materials, Inc. has achieved a significant milestone with the shipment of more than 100 Endura(R) 300mm PVD (physical vapor deposition) systems used for copper and other key metal film deposition applications. This strong acceptance is based on the Endura system's demonstrated reliability, cost-effectiveness and high productivity, as well as its broad range of technologically advanced, production-ready processes that enable fast ramping of new 300mm fabs.

The Endura's success has contributed significantly to Applied Materials' industry leadership in 300mm equipment and technology innovation. The company has over 700 systems in a broad range of technologies currently installed in 300mm fabs worldwide, with many being used for the development of 65nm and below chip generations.

"The industry's shift to 300mm wafers is driven by the combination of cost benefits and the availability of new technology for sub-100nm chip generations. This 100th system milestone illustrates the Endura system's position as the technology and market-leading metallization solution for 300mm processing. Many of these systems are in volume production and others are already being used in R&D for 45nm-generation device development," said Dr. Fusen Chen, vice president and general manager of Applied Materials' Cu, PVD and Integrated Systems Business Group.

"The Endura 300mm system offers a tremendous number of technology innovations, while meeting rigorous 300mm fab requirements through its self-diagnostic and advanced factory automation capabilities. Every 300mm manufacturer worldwide uses an Endura system, and its unique integrated processes, including combinations of PVD, CVD (chemical vapor deposition) and ALD* (atomic layer deposition), provide exceptional extendibility to future device generations," Chen said.

A unique feature of the Endura platform is its ability to accommodate integrated process sequences for making very advanced copper and non-copper devices. The industry's first integrated ALD (atomic layer deposition)/PVD copper barrier/seed system, Endura iCuB/S(TM), significantly extends the system's capability beyond 90nm. This system's well-characterized in-situ ALD/PVD process sequence enables 90nm and below dual damascene copper interconnect designs, and works with advanced low k dielectrics for 65nm production. Another integrated Endura system, the Endura iLB(TM), offers an integrated CVD (chemical vapor deposition)/PVD solution for the most advanced high aspect ratio contact barriers and unlanded via structures.

The Endura 300mm system supports the industry's widest array of metallization applications, including barrier/seed layers for copper-based chips, conductor and barrier films for aluminum-based devices, transistor and contact-level metals and barriers, and packaging applications such as under bump metallization and bondpads.

According to Dataquest, the total market for PVD technology is estimated to be $918 million in 2002, and is projected to reach $1.98 billion by 2005.

Applied Materials (Nasdaq:AMAT), the largest supplier of products and services to the global semiconductor industry, is one of the world's leading information infrastructure providers. Applied Materials enables Information for Everyone(TM) by helping semiconductor manufacturers produce more powerful, portable and affordable chips. Applied Materials' Web site is http://www.appliedmaterials.com.

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