



Applied Materials Sets Industry Record with Shipment of 3,000th Endura PVD System

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SANTA CLARA, Calif.--(BUSINESS WIRE)--June 10, 2003--

Industry's Most Successful Process System Expands Key Applications
for Nanochip Generation

Applied Materials, Inc. has shipped its 3,000th Endura(R) PVD system, setting an industry record for the most successful processing system in the history of the semiconductor equipment industry. Launched in 1990, the Endura is used by virtually every major chipmaker in the world for depositing aluminum, copper and other metal films.

The Endura has been the market leader in PVD (physical vapor deposition) technology for over a decade, spanning three wafer size transitions, from 150mm (6 inch) through 200mm (8 inch) to today's 300mm wafers. The latest family of Endura systems offers a variety of metal deposition technologies that are extendible to the 65nm technology generation and beyond.

"Over the past dozen years the Endura system has evolved far beyond its original PVD (physical vapor deposition) aluminum processes and now supports a broad range of very advanced metal deposition applications, including multi-technology integrated processes," said Dr. Fusen Chen, vice president and general manager of Applied Materials' Cu, PVD and Integrated Systems Product Group. "Using the Endura's unique integration capabilities, customers can now create specialized composite films that are critical for nanometer devices, particularly those using high-speed copper interconnects."

G. Dan Hutcheson, president of VLSI Research, Inc., said, "It is a remarkable tribute to the Endura's design foresight that it still leads the industry after more than 13 years in production, which is an eternity in the semiconductor business. Its basic architecture was an evolutionary departure when it was introduced, and has since proven to be truly a pioneering piece of semiconductor manufacturing technology that has contributed meaningfully to the long-term growth of the chip industry. It's no exaggeration to say that the vast majority of leading-edge chips made in the past decade have passed through an Endura system."

Beginning with sputtered aluminum, the Endura system's applications have been steadily expanded to include a large variety of critical films, including various aluminum technologies, barrier films such as titanium/titanium nitride, tantalum/tantalum nitride and copper seed layers, as well as cobalt and PVD tungsten films. The system's ability to utilize several different process chambers at once has enabled its use for multi-step PVD processes or integrated CVD/PVD and ALD/PVD processes used to create high-quality film stacks in copper interconnects. Because of its high productivity, the system is also being increasingly used for pre-packaging applications like under bump metallization (UBM) and bond pads.

The Endura system pioneered many hardware and process technology innovations. Its unique sequence of staged vacuum wafer transfer chambers enabled the industry's first production ultra-high vacuum (10exp-9 Torr) capability, which in turn made possible sputtered films of much higher purity than ever before. The Endura's breakthrough magnetically-coupled wafer transfer robots 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 in many Applied Materials products as well as those of other equipment manufacturers.

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 www.appliedmaterials.com.

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