



Cirent Semiconductor Selects Applied Materials' IMP Liner/Barrier Technology for Most Advanced Devices

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Lucent Technologies and Cirrus Logic Joint Venture
Places Multiple System Order

Cirent Semiconductor, the manufacturing joint venture of Lucent Technologies and Cirrus Logic, has selected Applied Materials' Endura Vectra(TM) IMP Ti/TiN system to deposit the critical Ti (titanium) liner and TiN (titanium nitride) barrier layers of aluminum interconnect structures for Lucent's most advanced 0.25 micron generation logic devices. The order is expected to be shipped in early 1999 to Cirent's Orlando, Florida, semiconductor fab.

The Endura Vectra IMP (ion metal plasma) system uses Applied Materials' market-leading IMP PVD (physical vapor deposition) technology to deposit thin layers of Ti and/or TiN in very small, high aspect ratio vias that connect the layers of aluminum device circuitry. In a major advance over conventional PVD techniques, Vectra IMP technology, introduced in 1996, offers highly directional, vertical deposition of sputtered metals for high throughput in the most demanding applications.

"Cirent is one of our most technically advanced customers, and their choice of the IMP liner technology for speed-sensitive DSP devices shows a high level of confidence in the capability of our system," noted Dr. Sergio Edelstein, general manager of Applied Materials' Metal Deposition Product Business Group, PVD Division. "Our IMP technology is the global standard for the most advanced aluminum liner/barrier applications, as well as the technology of choice for tantalum-based barrier layers and copper seed layers in emerging copper interconnect designs. IMP's excellent film performance and cost-effective PVD-based processes offer the technical and productivity advantages our customers are looking for in a metal deposition system."

PVD is one of the largest markets in semiconductor process equipment. Dataquest projects that sales of PVD equipment, estimated at \$1.2 billion in 1998, will grow to \$2.35 billion by 2003. Dataquest also projects that the market for Ti/TiN applications, estimated at \$340 million in 1998, will grow to \$680 million by the year 2003, pointing to a continuing strong market for aluminum-based technology. Applied Materials is the global market leader in PVD, including liner/barrier applications, with a broad range of products and processes for all kinds of semiconductor devices, including both aluminum and copper interconnect technologies.

Cirent Semiconductor is a manufacturing joint venture of Lucent Technologies' (NYSE:LU) Microelectronics Group and Cirrus Logic, Inc. (Nasdaq:CRUS). The joint venture, initiated in October 1995, enhances both companies' ability to meet the worldwide demand for advanced integrated circuits, which are used increasingly in products such as computing equipment, cellular phones, pagers, and other electronic devices. The Orlando, Florida, facility is the largest manufacturer of semiconductor devices in Florida. Bell Labs' process development laboratories are located at the Cirent Semiconductor facility.

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 <http://www.AppliedMaterials.com>.