



Applied Materials Collaborates with TSMC on Advanced Copper Chip Development Using SlimCell ECP System

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SlimCell(TM) System Brings Major Advancements to Copper Plating
Technology for Future Device Designs

Applied Materials, Inc. (Nasdaq:AMAT) announced that it has entered into a joint development agreement with Taiwan Semiconductor Manufacturing Company (TSMC), the world's leading foundry chipmaker, to develop TSMC's next generation of copper chips on Applied Materials' new SlimCell(TM) ECP (electrochemical plating) system.

Dr. M.S. Liang, senior director of TSMC R&D, said, "Our early work with SlimCell ECP demonstrated the defect elimination capability of this new plating technology. We appreciate Applied Materials' product innovation and excellent support and look forward to continuing this close relationship."

The new SlimCell ECP system features a new platform, plating cell and small chemical bath design that dramatically increases the technical capability, process repeatability and production-worthiness of the electroplating process. The system's advanced design links a small-volume plating cell to its own small chemical tank, which is completely replaced after processing a set number of wafers. This method dramatically improves process repeatability and reduces chemical cost per wafer by more than 2x over conventional large bath systems. This individual-cell circulation approach also enables chipmakers to perform multi-step processing with specific chemistries that independently optimize the gap-fill and planarization portions of the plating sequence.

"TSMC is a leader in the manufacture of copper devices and requires a very high degree of technical capability and cost-effectiveness in its process systems," said Russell Ellwanger, vice president and general manager of Applied Materials' Planarization and Plating Product Business Group. "We are very pleased with TSMC's choice of the SlimCell system and the opportunity to collaborate with them at their advanced research and development facility."

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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