



Applied Materials' New AdvantEdge Etch Cuts Transistor CD Variation by 50% to Wafer's Edge

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SANTA CLARA, Calif.--(BUSINESS WIRE)--July 12, 2005--Applied Materials, Inc. today launched the industry's most advanced silicon etch technology, the Applied Centura(R) AdvantEdge(TM) system, delivering 2mm edge exclusion with sub-3nm CD (critical dimension) control across 300mm wafers. The AdvantEdge system cuts performance-defining transistor gate CD variation by up to 50% compared with any other etch system -- enabling chipmakers to maximize die real estate to the edge of the wafer and increase the percentage of high performance chips.

"Precise transistor gate length control has a tremendous impact on the performance and market value of the finished chip, potentially adding thousands of dollars per wafer in chipmaker revenues," noted Dr. Ashok K. Sinha, senior vice president and general manager of Applied Materials' Etch Products Business Group. "Our new AdvantEdge technology delivers such a dramatic improvement in gate stack profile and CD control that more than 40 AdvantEdge chambers have been ordered and shipped to major customers."

The Applied Centura AdvantEdge system's design allows flexible control over its process conditions, including continuous tuning of ion flux, neutrals flux, wafer temperature and gas flow. Based on Applied Materials' production-proven DPS process chamber design, the AdvantEdge system provides a comprehensive set of solutions for silicon etch applications, including gate and STI (shallow trench isolation), with demonstrated extendibility for 45 and 32nm high-k and metal gate structures.

For gate etching, the AdvantEdge system features an optional integrated Transforma(TM) controller that provides superior repeatability and run-to-run process control, while the EyeD(R) PSM (Process State Monitor) technology enables real-time monitoring of chamber conditions. The AdvantEdge system's unique high-temperature cathode option also enables future pattern transfer applications for storage elements and transistors incorporating emerging high-k dielectrics.

The AdvantEdge technology has been in use at Applied Materials' Maydan Technology Center, where technologists are collaborating with customers to develop innovative transistor applications with other leading-edge Applied fabrication technologies, including the Applied Centura(R) DPN Gate Stack cluster tool, strained dielectric films, and other strain-engineered processes. For more information on the Applied AdvantEdge etch system, please visit http://www.appliedmaterials.com/products/advantedge_etch.html

Applied Materials, Inc. (Nasdaq:AMAT), headquartered in Santa Clara, California, is the largest supplier of equipment and services to the global semiconductor industry. Applied Materials' web site is www.appliedmaterials.com

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