

# Applied Materials Launches Breakthrough Single-Wafer High-Current Quantum X Implanter

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Applied Materials, Inc. today introduced its breakthrough Applied Quantum(TM) X ion implanter, a single-wafer high-current system that enables transistor scaling to the 65nm node and beyond. The Quantum X system's high tilt (up to 60 degrees) and true zero degree implant capability, together with its precise energy control and low defect levels, provide semiconductor manufacturers with the process technology needed to achieve optimum transistor performance for next-generation devices. The Quantum X system also redefines implant productivity; its fast beam tuning and single-wafer processor deliver 30% higher productivity than existing high current implanters.

"The Quantum X system's breakthrough technology is its Stepscan(TM) single wafer implant processor that provides the process control to perform the most difficult and critical implants required for 65nm and 45nm logic and advanced DRAM manufacturing," said Craig Lowrie, vice president and general manager of Applied Materials' Implant division. "Leveraging our production-proven Quantum III beamline, the Quantum X's simple beam optics and short beamline enable faster beam tuning than any single-wafer system available today."

"For continued transistor scaling to 65nm and beyond, major innovations in ultra shallow junction process and manufacturing technology are critical," said Dr. Randhir Thakur, vice president and general manager of Applied Materials' Front End Products group. "By combining the Quantum X implanter with our established Applied Vantage(TM)

RadiancePlus(TM) RTP spike anneal system, leading-edge customers now have the single-wafer process control necessary to enable unsurpassed junction uniformity and repeatability for optimal transistor performance in manufacturing."

Multiple Quantum X systems are already installed at a customer's site; additional orders have been received by logic and DRAM customers in the U.S., Europe and Asia.

The Applied Quantum X and Applied Vantage RadiancePlus RTP systems will be on display at SEMICON West on July 12-14 in San Francisco at Applied Materials' booth #1026. For more information on the Applied Quantum X implant system, please visit [www.appliedmaterials.com/products/Quantum](http://www.appliedmaterials.com/products/Quantum).

The original press release can be found [here](#).

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