



## Applied Materials Dramatically Reduces Cost and Increases Productivity of Solar Ingot Squaring with New HCT Diamond Squarer System

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SANTA CLARA, Calif.--(BUSINESS WIRE)--Sep. 21, 2009-- Applied Materials, Inc. today extended its leadership in pioneering solar wafering technology with its new **Applied HCT Diamond Squarer**™ system. This innovative new system can reduce the cost of squaring silicon ingots by up to one-third while offering at least twice the cutting speed of conventional squaring processes. Key to the HCT Diamond Squarer's high performance is its novel diamond wire technology that eliminates the need for abrasive slurry and cuts electricity consumption in half. The compelling benefits of diamond wire are also available for Applied's currently-installed HCT Squarer systems as a cost-effective, easily deployable upgrade kit.

In the conventional squaring process, a rapidly moving wire, carrying abrasive slurry, is used to cut monocrystalline or multi-crystalline silicon ingots into standard size bricks which are then sliced into wafers for photovoltaic (PV) applications. The HCT Diamond Squarer system uses diamond particles bonded to a metallic wire core to cut the ingot faster. In addition to increasing machine capacity and lowering energy consumption, this technology simplifies the squaring process by eliminating the complexity and expense of slurry management.

The performance of the new HCT diamond wire process has been validated by multiple customers. Maxim Vediankin, general director at high-quality wafer producer Silicio Solar, commented, "We are very impressed with HCT's Diamond Squarer technology since it doubled our solar ingot squaring capacity. We've also seen a 50% reduction in energy use – which is vital to our roadmap for reducing the carbon footprint of our wafering operations."

"We are continuously working on advanced technologies such as diamond wire to drive down the cost-per-watt of solar electricity," said Jean-Maurice Imbert, general manager of Applied Materials' Precision Wafering Systems division. "Integration of the squarer and the diamond wire is critical, requiring an in-depth understanding of the interaction between the two components to optimize the process and environmental advantages."

The Applied HCT Diamond Squarer system is the latest addition to Applied's production-proven suite of solutions for manufacturing silicon wafers for solar PV cells, which includes the market-leading **Applied HCT MaxEdge**™ wire saw for slicing ingots into ultra-thin wafers. For more information, visit [http://www.appliedmaterials.com/products/solar\\_crystal\\_precision\\_wafer\\_sys\\_3.html](http://www.appliedmaterials.com/products/solar_crystal_precision_wafer_sys_3.html).

Applied Materials, Inc. (Nasdaq:AMAT) is the global leader in Nanomanufacturing Technology™ solutions with a broad portfolio of innovative equipment, service and software products for the fabrication of semiconductor chips, flat panel displays, solar photovoltaic cells, flexible electronics and energy efficient glass. At Applied Materials, we apply Nanomanufacturing Technology to improve the way people live. Learn more at [www.appliedmaterials.com](http://www.appliedmaterials.com).

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Applied Materials, Inc.  
Betty Newboe, 408-563-0647 (editorial/media)  
Michael Sullivan, 408-986-7977 (financial community)