



Applied Materials Extends RF PVD Technology to Enable 22nm Transistor Contacts

March 17, 2011

SANTA CLARA, Calif., March 17, 2011 - Applied Materials, Inc. today announced it has expanded its portfolio of applications for the [Applied Endura® Avenir™ RF PVD*](#) system to include the deposition of nickel-platinum (NiPt) alloys, enabling the scaling of [transistor contacts](#) to the 22nm technology node and beyond. High-quality NiPt films for transistor contacts are essential for device performance - but depositing material at the bottom of these high aspect ratio (HAR) features is a significant challenge. To assure uniform contact resistance and optimized yield, the Avenir system provides greater than 50% [bottom coverage](#) in deep, 5:1 HAR contact holes - at up to 30% lower cost-per-wafer than Applied's previous market-leading system.

"By extending the applications served by our benchmark [RF PVD](#) technology, Applied continues to demonstrate its leadership in providing advanced metallization solutions to our customers," said Prabu Raja, vice president and general manager of the Metal Deposition Products business unit at Applied Materials. "Applied's RF PVD technology offers chipmakers a low-risk path to create robust, low-resistance transistor contacts using production-proven technology to minimize development time. Avenir systems have already achieved design-tool-of-record status for contact applications at multiple logic and foundry customers."

Integrated on the highly-successful Endura platform, Applied's breakthrough radio frequency-enhanced PVD technology, launched in 2010, enables chipmakers to incorporate the latest [metal gate transistor](#) technology in their most advanced high-performance logic devices. Incorporating a more powerful RF source, the Avenir system allows manufacturers to deposit highly-uniform NiPt layers at the bottom of narrow, deep contact holes less than 30nm in diameter - a capability that is essential for reduced contact resistance and optimized transistor performance.

To learn more about the Endura Avenir technology, visit www.becauseinnovationmatters.com.

Applied Materials, Inc. (Nasdaq:AMAT) is the global leader in providing innovative equipment, services and software to enable the manufacture of advanced semiconductor, flat panel display and solar photovoltaic products. Our technologies help make innovations like smartphones, flat screen TVs and solar panels more affordable and accessible to consumers and businesses around the world. At Applied Materials, we turn today's innovations into the industries of tomorrow. Learn more at www.appliedmaterials.com.

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* *RF PVD = radio frequency physical vapor deposition*

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[The Applied Endura Avenir for 22nm Transistor Contact Fabrication](#)

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