



Applied Materials Delivers Critical Photomask Etch Technology for 22nm Lithography

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- **New Tetra X system breaks the 2nm uniformity barrier to enable critical layer masks at 22nm**
- **Delivers industry's best pattern-to-specification performance for optimized device yield**
- **Underlines Applied's commitment to providing leading-edge mask etch technology**

SANTA CLARA, Calif., Sep 27, 2010 (BUSINESS WIRE) --

Applied Materials today launched its new [Applied Centura^{\(R\)} Tetra^{\(TM\)} X](#) Advanced Reticle Etch system - the only system capable of etching the [photomasks](#) needed for customers' most challenging device layers at 22nm and beyond. Expanding the capabilities of Applied's industry-standard Tetra III platform, the Tetra X breaks the 2nm critical dimension uniformity ([CDU](#)) barrier across all feature sizes - delivering the critical mask accuracy that can enable mask makers to exceed their customers' strictest pattern-to-specification requirements for all device types.

"Next-generation [lithography](#) techniques place tremendous demands on the mask where accuracy of the pattern is crucial," said Ajay Kumar, vice president and general manager of Applied's Mask and [TSV](#)¹ Etch product division. "Only the Tetra X system delivers the technology necessary to achieve this accuracy, enabling chipmakers to optimize lithography process capability for their highest performing memory and logic chips. This state-of-the-art system, which has already been qualified for 22nm production at a leading mask shop, demonstrates our continued commitment to providing photomask customers with world-class etch technology."

The Tetra X system's uniformity performance uniquely enables enhanced lithography resolution for demanding [double-patterning](#) and [source-mask optimization](#) (SMO) techniques by delivering highly uniform, linear etch across all features sizes and pattern densities while maintaining virtually-zero defectivity. The Tetra X system employs a wide range of system enhancements, including proprietary, real-time process monitoring technology to enable the next-generation hard mask, opaque MoSi², and quartz etch processes used to fabricate [advanced binary](#) and [phase shift](#) photomasks.

Applied's Tetra systems have been used by mask makers worldwide to etch the vast majority of high-end masks over the last five years including virtually every 32nm node and [EUVL](#)³ development mask. For more information, visit www.appliedmaterials.com/products/photomask_etch_4.html.

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¹ TSV = through-silicon via

² MoSi = molybdenum silicon oxynitride

³ EUVL = extreme ultraviolet lithography

Photos/Multimedia Gallery Available: <http://www.businesswire.com/cgi-bin/mmg.cgi?eid=6443494&lang=en>

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