



Applied Materials' Unique UVision5 System Delivers World-Class Pattern Monitoring for Sub-20nm Era

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- ***DUV laser, brightfield and greyfield technologies deliver up to twice the light to the wafer for unmatched detection sensitivity***
- ***Proprietary image processing algorithms cut noise by 50% to capture defects on dense features***
- ***Tool of record at leading foundries and logic fabs for 2Xnm node and beyond***

SANTA CLARA, Calif., July 9, 2012 - Applied Materials, Inc. today unveiled its [Applied UVision® 5](#) wafer [inspection](#) system for detecting defects in the critical [patterning](#) layers of logic devices at the sub-20nm node. The system's deep ultra-violet (DUV) laser and simultaneous [brightfield](#) and greyfield light collection capabilities deliver up to double the light intensity to the wafer over previous tools, enabling the UVision 5 system to capture up to twice the number of killer defects. This unmatched sensitivity allows semiconductor manufacturers to achieve more stable and robust control over the fabrication of their smallest circuit features.

"With each advance in technology node, minute imperfections that could previously be ignored suddenly become potential 'killer' defects. Innovations in the UVision 5 system are enabling chipmakers to find and characterize these ultra-small defects to boost [yield](#) and reduce [cycle time](#)," said [Itai Rosenfeld](#), corporate vice president and general manager of Applied's Process Diagnostics and Control business unit.

"We are excited about the momentum the UVision5 tool has achieved with customers. We've had repeat orders for the system and it is already tool of record at multiple leading logic and foundry manufacturers for 2Xnm device production," added Rosenfeld.

The UVision 5 system's powerful optical system provides up to twice the light density to the wafer and, using its proprietary collection optic path, accumulates up to 30% more scattered light than its predecessor. This feature, combined with new, proprietary image processing algorithms that reduce wafer-induced noise by up to 50%, boost the system's detection capabilities for critical monitoring applications, such as ArF [immersion lithography](#), [double](#) and quad patterning and [EUVL](#) layers.

For foundry customers, the UVision 5 system introduces compelling time-saving innovations that speed the daunting task of rapidly ramping production of thousands of new chip designs each year. Seamless, "hands-free" integration with Applied's industry-standard [SEMVision® G5](#) defect review system creates the industry's leading fully-integrated defect inspection and review solution, offering chipmakers the fastest, most accurate path from data to information. In addition, the system can utilize design information for building layout data which can improve defect capture rate and save up to 15 hours of operator time per inspection recipe.

For more information on the UVision 5 system, visit www.appliedmaterials.com/technologies/library/uvision-5-inspection.

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[Photo: The Applied UVision 5 wafer inspection system](#)

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