

# Product News



Archer AIM+

## Archer AIM+

### *Advanced optical overlay metrology*

Featuring an improved optics design, enhanced light system, and a new advanced focus mechanism, the Archer AIM+ continues to set the standard for lithography process control through the  $\geq 45$ -nm node. By leveraging the field-proven box-in-box (BiB) and AIM grating-style technology with hardware and optics improvements, the Archer AIM+ further reduces the measurement uncertainty associated with traditional overlay metrology at shrinking design rules. Fabs using the tool, which provides 20 percent better throughput than previous-generation solutions, can achieve tighter overlay control, improved yield, and enhanced cost of ownership.



Archer XT+

## Archer XT+

### *Advanced overlay metrology*

The Archer XT+ provides an advanced optical overlay metrology solution with an improved optics design, enhanced light system, and a new advanced focus mechanism. The tool further reduces the measurement uncertainty associated with traditional overlay metrology at shrinking design rules. Based on the widely adopted Archer platforms, the Archer XT+ improves yield and cost of ownership by boosting throughput 20 percent over previous-generation solutions.

## Phoenix Handler

### *Standardized platform for better performance and cost control*

To continue driving enhancements in performance, cost, reliability, and serviceability, KLA-Tencor's Automation Standards Division (ASD) has launched a standardized tool handler platform, the Phoenix handler. Supporting nearly all KLA-Tencor wafer inspection and metrology tools, the Phoenix handler provides a dual-blade robot design that brings enhancements to several areas:

- **Reliability:** Mean cycle before failure (MCBF) and mean time before failure (MTBF) have been extended, in one case by as much as 4x
- **Serviceability:** The new handler offers ease of service with slide-out access to electronics and fast module replacement, and a diagnostics graphical user interface (GUI) that is accessible via laptop or the tool
- **Performance:** Wafer placement repeatability is 50 percent better, and tool- and recipe-dependent throughput have been improved by up to 30 percent
- **Cleanliness:** The new handler offers a 10x improvement in airborne performance, with a positive exhaust flow, no re-circulation zones, and no dead zones. In other words, much less frequent occurrence of frontside and backside particles.



Phoenix Handler

## Online Recipe Services

### *Faster tool recipe qualification and troubleshooting*

Online Recipe Services leverages online access to KLA-Tencor applications experts worldwide to speed tool recipe qualification and troubleshooting. Available through iSupport—our highly secure network that includes expert onsite support, 24/7 online support, and e-diagnostics built into every new KLA-Tencor tool—Online Recipe Services delivers fast response to recipe issues through measurement effectiveness. When a recipe issue arises, applications experts can remotely access the tool from a worldwide online support center to quickly troubleshoot the issue or help qualify a new recipe, reducing or eliminating the wait time needed for onsite support. Onsite personnel, in the meantime, can focus their efforts on the highest priority tool and recipe issues. Online Recipe Services also helps facilitate customer training and knowledge transfer in the customer's local language.



Online Recipe Services

## SP2 Wins 2005 Best Product Award

KLA-Tencor's Surfscan SP2 unpatterned wafer inspection system has earned one of *Semiconductor International's* 2005 Editors' Choice Best Product Awards. The product was honored, along with other winners, during SEMICON West, held in July in San Francisco, California.

As one of 20 products selected to receive this honor, the SP2 met the publication's stringent criteria for, in its case, proven excellence in the advancement of wafer processing. The magazine's editors rated award entries based on answers to key questions, their own knowledge of the products, and user feedback.

The Surfscan SP2 is the most sensitive bare wafer inspection tool on the market. Wafer and IC manufacturers recognize SP2 as TOR, and utilize the tool to qualify current and next-generation substrates and to qualify and monitor process tools at the 90-, 65-, and 45-nm nodes, respectively. Introduced in June 2004, the SP2 incorporates revolutionary UV laser technology, darkfield optics, and advanced algorithms to find defects as small as 30 nm. The production performance of the SP2, and the extendibility of the technology, are marked by the size and number of defects that the tool can reliably detect on a bare wafer with a shorter wavelength UV laser. Compared to the previous industry benchmark system, the Surfscan SP1, the SP2 offers up to a five-fold throughput increase for wafer manufacturers and a three-fold increase for IC manufacturers. The platform is also the only production-worthy solution that enables consistently reliable and accurate defect detection on sub-45-nm engineered substrates, including SOI, strained silicon, and strained silicon-on-insulator.

*"We are delighted to receive this honor from **Semiconductor International**,"* says Mike Kirk, vice president and general manager of KLA-Tencor's Surfscan Division. *"This award recognizes the value that our customers already experience in the SP2—that it is a high-performance solution delivering the low cost of ownership that wafer and IC manufacturers need in order to thrive amidst increasingly challenging demands for quality."*



You better hope to find me,  
before I find you.



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## STARlight™ Reticle Inspection

Finds crystal growth on your reticles before they devour your yield.

- Provides early detection of crystal growth and other progressive defects
  - Prevents catastrophic yield loss due to printable contamination
- Enables engineers to locate and eliminate defect sources before they affect yield

For a white paper and product results visit: [www.kla-tencor.com/starlight](http://www.kla-tencor.com/starlight)

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