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## KLA-Tencor Introduces Comprehensive Wafer Inspection and Review Portfolio for Leading IC Technologies

### Advanced Defect Discovery and Process Monitoring Address 10nm Yield Challenges

SAN FRANCISCO, July 11, 2016 /PRNewswire/ -- In advance of SEMICON West, [KLA-Tencor Corporation](#) (NASDAQ: KLAC) today introduced six advanced wafer defect inspection and review systems for leading-edge IC device manufacturing: the 3900 Series (previously referred to as Gen 5) and 2930 Series broadband plasma optical inspectors, the Puma™ 9980 laser scanning inspector, the CIRCL™5 all-surface inspection cluster, the Surfscan® SP5<sup>XP</sup> unpatterned wafer inspector and the eDR7280™ e-beam review and classification tool. These systems employ a range of innovative technologies to form a comprehensive wafer inspection solution that enables discovery and control of yield-critical defects at all stages of IC manufacturing— from early process characterization to production process monitoring.



"Early collaboration with our customers strengthens our understanding of inspection requirements for future process nodes and, as a result, we're able to direct our R&D and engineering efforts to deliver the inspection systems and solutions that will help them solve critical yield issues," said Mike Kirk, executive vice president of KLA-Tencor's Wafer Inspection Division. "As an example, the 3900 Series broadband plasma inspector not only produces impressive inspection performance— optical detection of sub-10nm defects—but it is also aiding our customers with process debug for their most complex device designs. All of the systems in our new wafer inspection portfolio integrate innovative technologies that support advanced defect discovery and monitoring, enabling our customers to develop and ramp their leading-edge devices."

#### Defect Discovery

The 3900 Series, 2930 Series and eDR7280 merge inspection, design and review information to form a defect discovery solution that drives process and yield improvements through the detection and characterization of critical defects. This solution helps IC manufacturers address advanced design node challenges such as process window discovery and yield loss associated with the proliferation of pattern and process systematic defects.

The revolutionary 3900 Series broadband plasma optical inspectors utilize a new super resolution deep ultra violet (SR-DUV) wavelength range and scanner-grade stage accuracy to produce superior optical resolution for proven detection of sub-10nm defects. With DUV/UV wavelength bands, the 2930 Series broadband plasma optical inspectors complement the 3900 Series, ensuring optimal contrast for yield-relevant defect detection across all process layers. Both broadband plasma optical inspectors provide full wafer inspection in approximately an hour, allowing collection of wafer-level and lot-level defect data for a complete understanding and quick debug of complex process issues.

Design information is leveraged on both the 3900 Series and 2930 Series systems through pin•point™ and super•cell™—patented technologies that improve sensitivity to yield-limiting defects on critical features, including those related to design weak points, and reduce nuisance related to non-critical features, such as dummy patterns. With enhanced imaging and automatic defect classification capability, the eDR7280 e-beam review system quickly delivers an accurate representation of the defect population detected by the broadband plasma inspectors, dramatically reducing the time required for defect discovery.

## Defect Monitoring

The Puma 9980, CIRCL5 and Surfscan SP5<sup>XP</sup> provide early identification of yield excursions across a broad range of line, process and tool monitoring applications, helping chipmakers accelerate the production ramp and maximize the yield of leading-edge device technologies. With enhanced defect type capture, the Puma 9980 laser scanning inspector supports high throughput production ramp monitoring of comprehensive front- and back-end-of-line advanced patterning applications. The Puma 9980's new [NanoPoint™](#) design-aware capability improves defect sensitivity and suppresses systematic nuisance defects, increasing the yield-relevance of inspection results.

The CIRCL5 includes configurable modules that utilize parallel data collection for fast, cost-efficient process monitoring: the 8920i front side inspection module, the CV350i edge inspection, review and metrology module, the BDR300 back side inspection and review module and the Micro automated defect review and metrology module. By correlating inspection results from all wafer surfaces, such as the relation of edge peeling defects to front side particle defects, the CIRCL5 can facilitate the quick identification of the source of production excursions.

Essential for cost-effective, early detection of relevant random substrate or film defects and excursions, the Surfscan SP5<sup>XP</sup> unpatterned wafer inspector utilizes extended DUV technology and innovative algorithms to produce new operating modes. One mode offers industry-leading sensitivity for advanced process debug applications, while another provides the highest throughput-to-date on the Surfscan platform for production process monitoring.

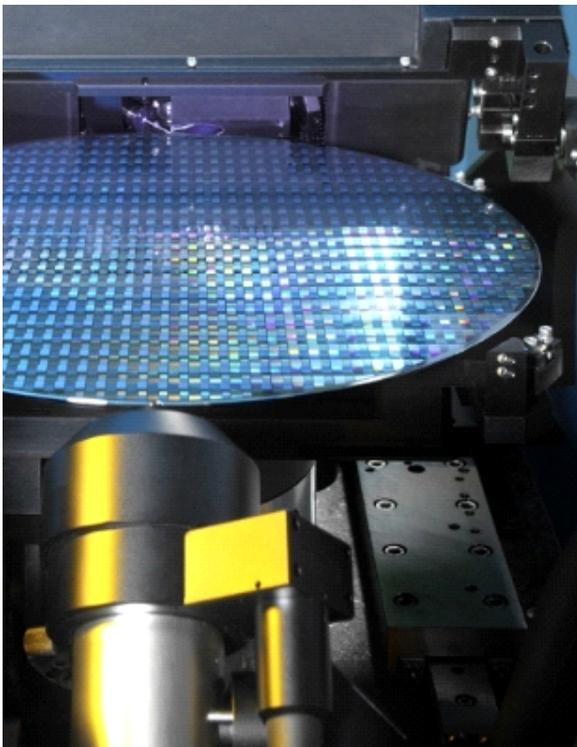
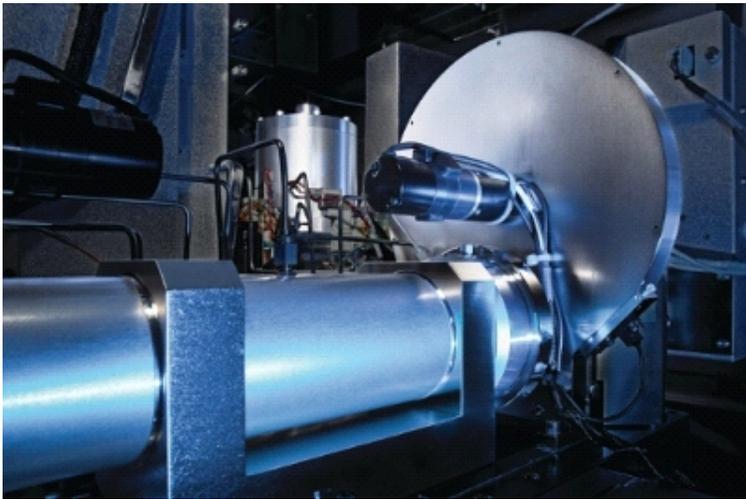
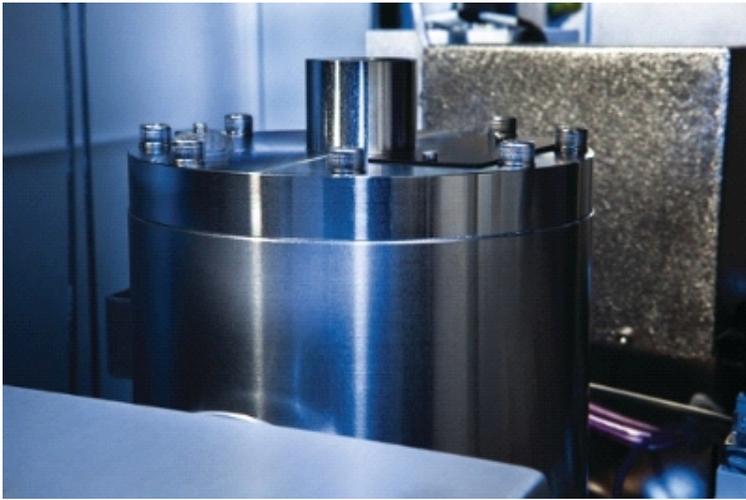
Multiple 3900 Series, 2930 Series, Puma 9980, CIRCL5, Surfscan SP5<sup>XP</sup> and eDR7280 systems have been installed at IC manufacturers worldwide where they are being used for development and production ramp of logic and memory devices at advanced technology nodes. The 2930 Series, Puma 9980, CIRCL5, Surfscan SP5<sup>XP</sup> and eDR7280 are field-upgradeable from their predecessors, providing extendibility that protects a fab's capital investment. To maintain the high performance and productivity demanded by IC manufacturing, all six systems are backed by [KLA-Tencor's global comprehensive service network](#). More information can be found on the [Advanced Wafer Inspection Portfolio web page](#).

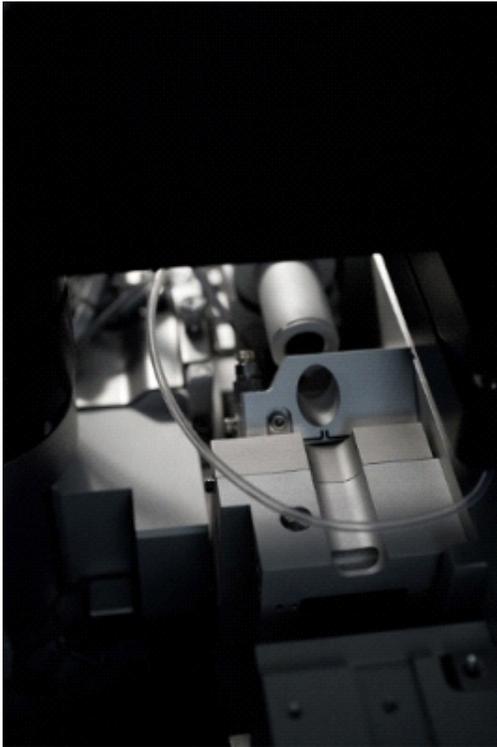
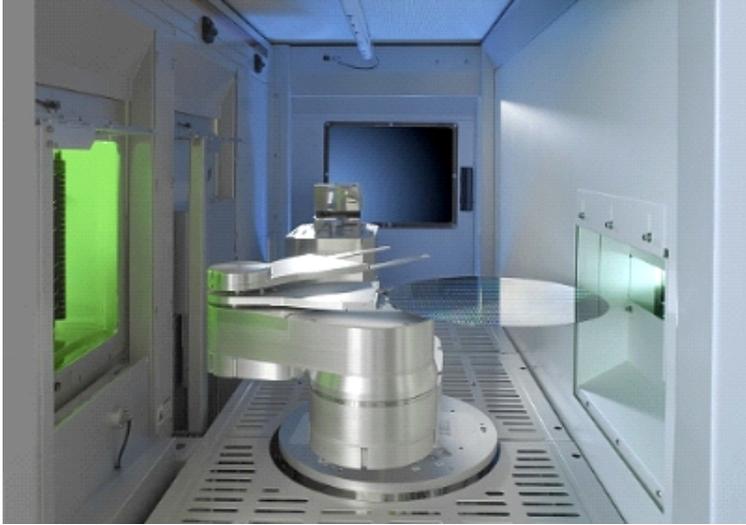
## About KLA-Tencor:

KLA-Tencor Corporation, a leading provider of process control and yield management solutions, partners with customers around the world to develop state-of-the-art inspection and metrology technologies. These technologies serve the semiconductor, LED, and other related nanoelectronics industries. With a portfolio of industry standard products and a team of world-class engineers and scientists, the company has created superior solutions for its customers for 40 years. Headquartered in Milpitas, Calif., KLA-Tencor has dedicated customer operations and service centers around the world. Additional information may be found at [www.kla-tencor.com](http://www.kla-tencor.com) (KLAC-P).

## Forward Looking Statements:

Statements in this press release other than historical facts, such as statements regarding the expected performance of the 3900 Series, 2930 Series, Puma 9980, Surfscan SP5<sup>XP</sup>, CIRCL5 and eDR7280 systems; the extendibility of the 3900 Series, 2930 Series, Puma 9980, Surfscan SP5<sup>XP</sup>, CIRCL5 and eDR7280 systems to future technology nodes; expected uses of the 3900 Series, 2930 Series, Puma 9980, Surfscan SP5<sup>XP</sup>, CIRCL5 and eDR7280 systems by KLA-Tencor's customers; and the anticipated cost, operational and other benefits realizable by users of the 3900 Series, 2930 Series, Puma 9980, Surfscan SP5<sup>XP</sup>, CIRCL5 and eDR7280 systems, are forward-looking statements, and are subject to the Safe Harbor provisions created by the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current information and expectations, and involve a number of risks and uncertainties. Actual results may differ materially from those projected in such statements due to various factors, including delays in the adoption of new technologies (whether due to cost or performance issues or otherwise), the introduction of competing products by other companies or unanticipated technological challenges or limitations that affect the implementation, performance or use of KLA-Tencor's products.





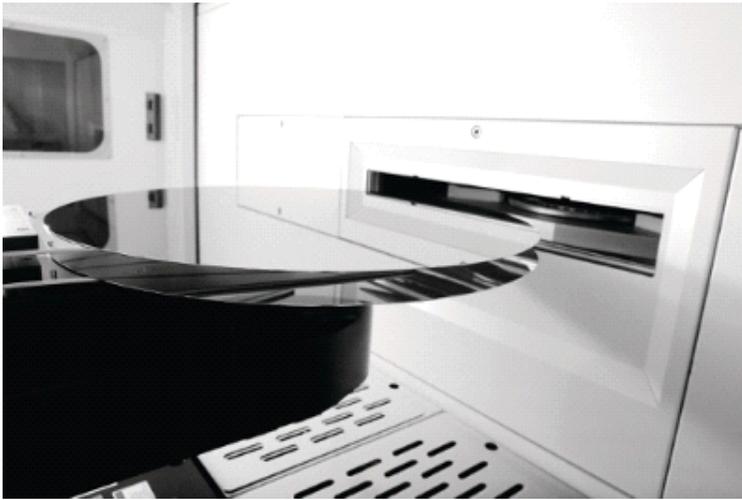


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