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KLA-Tencor and Clear Shape DFM Collaboration for 'Design-Aware' Mask Inspection Aims for Higher 45nm Device Yield

SAN JOSE, Calif. & SANTA CLARA, Calif.--(BUSINESS WIRE)--

KLA-Tencor, Inc. (NASDAQ:KLAC), and Clear Shape Technologies, Inc., today announced that they are collaborating on DFM (design for manufacturability) solutions enabling "design-aware" photomask inspection at 45nm and below. The collaboration involves using KLA-Tencor's new Terascan HR photomask inspection system, which was introduced March 15, 2007, and Clear Shape's Variability Platform products, InShape(TM) and OutPerform(TM). The two companies expect this collaboration to enable customers to achieve improved device yield and, ultimately, faster production ramp for the most advanced designs.

Clear Shape's patented modeling techniques utilize design tolerances from transistor timing analysis to identify areas on the mask that are critical to device performance. With its superb sensitivity and inspection capability, the TeraScanHR system can use this information to optimize and enhance mask inspection parameters on specific yield-critical photomask features, resulting in a more efficient inspection flow that has the potential to streamline the overall mask manufacturing process. This capability gives a mask shop's customers the flexibility to use tighter inspection specifications in just the critical areas on the mask which affect device performance, without significantly impacting overall mask yield or productivity. The technology is also extendible to various types of wafer inspection, metrology and defect review applications.

"Having the unique ability to utilize critical design intent models in our photomask inspection system should allow our customers to more quickly ramp production, with the potential to then increase yield ramp cycle time in 45nm and below manufacturing," said Harold Lehon, vice president and general manager of KLA-Tencor's Reticle and Photomask Inspection Division. "Clear Shape's electrical DFM solution, which is based on fast and accurate silicon contour prediction models, provides additional enabling capabilities for our latest generation of photomask inspection systems."

At 45nm and below, chipmakers risk an increase in systematic yield loss resulting from defects without obvious pattern transfer errors but which cause device electrical performance and/or functional problems. By understanding a photomask defect's effect on final silicon electrical performance, a higher correlation can be established between the defect and final wafer yield, significantly improving yield predictability. Clear Shape's electrical DFM technology enables a strong 'electrical design intent' relationship between design, mask manufacturing and wafer processing, so that parametric transistor gate and interconnect yield can potentially be better controlled in the design flow.

"We are proud to be working with the market and technology leader in photomask inspection to advance the tremendous potential of design-aware manufacturing," said Atul Sharan, President and CEO of Clear Shape. "Clear Shape's initial DFM products have focused on allowing designers to perform variability-aware analysis, design and optimization. This collaboration with KLA Tencor is designed to give our customers increased ability to accelerate device yield by bringing electrical design intent information directly into photomask inspection thus bridging the gap between design and manufacturing."

About KLA Tencor

KLA-Tencor is the world leader in yield management and process control solutions for semiconductor manufacturing and related industries. Headquartered in San Jose, California, the Company has sales and service offices around the world. An S&P 500 company, KLA-Tencor is traded on the NASDAQ Global Select Market under the symbol KLAC. Additional information about the Company is available at <http://www.kla-tencor.com>.

About Clear Shape

Clear Shape Technologies, Inc. is focused on delivering a complete Variability Platform that allows designers to control and optimize the parametric and catastrophic impact of systematic manufacturing variations. Clear Shape's products are based on patent-pending technologies enabling designers to efficiently achieve entitled performance and yield. Clear Shape is backed by top-tier venture investors that include USVP, Intel Capital and KT Ventures (KLA Tencor). For more information, visit www.clearshape.com or call (408) 833-7130.

Source: KLA-Tencor