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# **KLA-Tencor and TEL Introduce AcuShape™ to Enhance Optical CD Measurement of Advanced Memory and Logic Structures**

MILPITAS, Calif. & TOKYO--(BUSINESS WIRE)-- Today, [KLA-Tencor Corporation](#) (NASDAQ:KLAC) and Tokyo Electron Limited (TEL) announced AcuShape(TM), a new modeling and library-generation package to meet optical critical dimension metrology requirements for the 32nm node and below. Developed as part of a cooperative agreement between KLA-Tencor and Timbre Technologies, Inc., a subsidiary of TEL, this new software package leverages the strength of the two industry leaders to enable metrology engineers in IC fabs to measure the dimensions of 3D logic and memory structures, such as FinFETs\*, bulb RCATs\*\*, and structures created by the advanced patterning technique called spacer pitch splitting. This new software package operates on KLA-Tencor's stand-alone optical critical dimension platform, SpectraCD(TM), and Timbre Integrated Metrology (IM) CD systems.

As fabs prepare their next-generation chips, they are turning to innovative patterning technologies and designs to enhance device performance and solve power-management issues. A new technique called spacer pitch splitting (SPS) enables fabs to print smaller lines and spaces to enhance device speed and lower costs. In order to solve leakage current issues associated with small, densely spaced lines, three-dimensional transistors have also been introduced. The shapes of these SPS and 3D transistor structures are new to the semiconductor industry, and control of their widths and profiles can be critical to device yield or performance. Unlike established CD-SEM technology, which can measure line widths but has limited ability to measure profiles, the optical CD technology enabled by AcuShape is well-suited for measuring both line widths and profiles of 3D features.

"Whether on integrated or stand alone platforms, optical CD measurements have become more critical to dimensional control as the industry has progressed through each technology node," said Jim Hamajima, Timbre president. "At the 32nm node, we are seeing some very new structures emerging, and the shrink to 22nm will further increase complexity. The cooperation between KLA-Tencor and Timbre benefits customers of both companies, bringing new capability for measuring these structures as they are developed. Furthermore, having a common platform on their integrated and stand-alone optical CD tools brings efficiency in training and server resources, which helps in today's lean manufacturing environment."

Ahmad Khan, vice president and general manager of KLA-Tencor's Films and Scatterometry Technology (FaST) Division added, "We are delighted that our year-long project with Timbre and TEL has allowed us to extend the capability of our successful SpectraCD product line. By giving our customers tools to manage innovative structures, they will be able to forge

ahead with their next-generation product development."

Available as an upgrade to the industry-leading SpectraCD products, AcuShape is a key element in KLA-Tencor's portfolio of advanced metrology solutions. AcuShape has been shipped to several memory, logic and foundry fabs in the United States, Europe, Japan, Korea and Taiwan, where it is being used to measure production wafers and provide early learning on advanced R&D structures.

The AcuShape trademark is the property of TEL and is licensed to KLA-Tencor. The SpectraCD trademark is the property of KLA-Tencor Corporation.

\*FinFET = "Fin"-shaped Field Effect Transistor (FET)

\*\*RCAT = Recessed Channel Array Transistor

About KLA-Tencor:

KLA-Tencor Corporation (NASDAQ: KLAC), 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, data storage, compound semiconductor, photovoltaic, 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 over 30 years. Headquartered in Milpitas, California, 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)

About Timbre Technologies:

Timbre Technologies is the industry leader in scatterometry based solutions for optical metrology, and a wholly owned subsidiary of Tokyo Electron Limited.

About TEL:

[Tokyo Electron Limited](http://www.tel.com), established in 1963, is a leading supplier of innovative semiconductor and FPD production equipment worldwide. In Japan, TEL also distributes computer network related products and electronic components of global leading suppliers. To support this diverse product base, TEL is strategically located around the world. TEL is a publicly held company listed on the Tokyo Stock Exchange. <http://www.tel.com/eng>.

Forward Looking Statements:

Statements in this press release other than historical facts, such as statements regarding the anticipated technology shift to spacer pitch splitting patterning and 3D structures, and AcuShape's ability to handle challenges related to this anticipated shift, 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 due to unanticipated cost or performance issues.

Source: KLA-Tencor Corporation