Press Release

Carl Zeiss and Synopsys cooperate in Critical Dimension metrology

Carl Zeiss and Synopsys have released a new output module for accurately measuring of critical dimensions (CD) in photomasks using the metrology tool WLCD.

Jena/Germany - 29.11.2012

Carl Zeiss and Synopsys have released a new output module for CATS™, a solution for data preparation for mask metrology, supporting the ZEISS WLCD tool. The solution offers mask shops a powerful capability for ensuring tight control over CD uniformity in photomasks. While the ZEISS WLCD tool measures the CD in the aerial image, the new CATS output module enables the engineer to mark the measurement sites for WLCD. The result is improved productivity for users in ensuring correct CD uniformity which is necessary for high manufacturing yield in silicon fabrication process.

"Applying CATS as mask data preparation software allows users a seamless integration of high precision CD measurements using the WLCD metrology system in their workflow .” states Ute Buttgereit, Senior Product Manager WLCD at Carl Zeiss SMS GmbH. “Users working with WLCD benefit from significantly improved efficiency in generating error-free input data and enables them to perform high precision CD measurement.”

"Synopsys is making a continued effort to provide comprehensive support for mask manufacturing. Our collaboration with Carl Zeiss can bring a powerful CD metrology capability to customers," said Fabio Angelillis, vice president of engineering for the silicon engineering group at Synopsys. “To achieve good yields in silicon fabrication it is critical that the photomasks are of highest quality and this solution delivers on this objective.”

The WLCD measures the critical dimension on photomasks under scanner relevant illumination conditions with high throughput. Proven aerial imaging technology is used to qualify the printing performance of the mask.

CATS is the industry’s leading solution for data preparation for mask lithography, inspection and metrology. Used in most advanced technology mask shops, CATS delivers superior quality of results in fractured data while offering fast throughput on standard compute clusters. After ZEISS PROVE® mask registration and overlay system, WLCD is the second metrology tool running with a CATS output module.
Carl Zeiss
The Carl Zeiss Group is an international leader in the fields of optics and opto-electronics. In fiscal year 2010/11 the company’s approx. 24,000 employees generated revenue of about 4.237 billion euros. In the markets for Industrial Solutions, Research Solutions, Medical Technology and Consumer Optics, Carl Zeiss has contributed to technological progress all over the world for more than 160 years. With its innovative technologies and leading-edge solutions, Carl Zeiss is successful in the fields of Semiconductor Manufacturing Technology, Industrial Metrology, Microscopy, Medical Technology, Vision Care and Consumer Optics/Optronics. Carl Zeiss AG is fully owned by the Carl Zeiss Stiftung (Carl Zeiss Foundation).

Semiconductor Manufacturing Technology
The Semiconductor Manufacturing Technology business group of the Carl Zeiss Group comprises Carl Zeiss SMT and its subsidiaries Carl Zeiss Laser Optics and Carl Zeiss SMS. With a broad portfolio of products and globally leading know-how in the areas of lithography and optical modules, the business group covers various key processes in microchip production: as a developer and manufacturer of lithography optics, for example, Carl Zeiss SMT is a technology and market leader in this sector of the semiconductor industry. The portfolio of Carl Zeiss Laser Optics includes optical components for lithography lasers and subsystems for wafer inspection systems. With its inspection, repair and metrology systems, Carl Zeiss SMS focuses on the photomask, one of the core components of chip fabrication. In fiscal year 2010/11 the three divisions generated revenue of around 1.2 billion euros with a workforce of about 2,100 people. The business group is headquartered in Oberkochen.

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