

For Immediate Release

TESCAN's Large Volume Workflow significantly improves sample processing time for semiconductor failure analysis and materials research

TESCAN's Large Volume Workflow reduces both time-to-sample and cost-per-sample by combining the thousands-times faster laser ablation technique with plasma focused ion beam (FIB) to speed sample analysis workflows.

Brno, Czech Republic, July 28, 2021— TESCAN ORSAY HOLDING a.s. launches their Large Volume Workflow to support semiconductor, automotive, and aerospace industries and their related research fields that are now experiencing an increasing need for large volume material removal to reach regions of interest faster for failure and defect root-cause analyses. In the Large Volume Workflow, a stand-alone laser tool and a Plasma FIB-SEM instrument together support rapid, cubic-millimeter-scale material removal for sample preparation and analysis workflows, harnessing the fast material removal rates inherent to both laser and plasma FIB, even for non-conductive hard materials like glass and ceramics. With the laser tool dedicated to bulk material removal operations, the plasma FIB-SEM is available to handle the final sample processing steps, including targeted material removal, sample thinning or cross-section polishing.

"Recently, the trend in industry and research has been to move to larger sample dimensions and more complex device structures which, together with pressure on time-to-result, have challenged even plasma FIB capabilities," states Jozef Vincenc Oboňa, Product Marketing Director, Semiconductors. *"This technology shift in devices and structures has meant that plasma FIB milling, which provides accelerated material removal rates for sub-mm spatial dimensions, may have a challenge achieving the speed now required to efficiently access deeply buried features of interest. Adding the faster laser ablation technique to the plasma FIB sample analysis process speeds access to defects or other regions of interest while also opening possibilities for new synergies among other instrumentation in the analytical laboratory. Moreover, this concept protects the FIB-SEM from extensive contamination."*

Laser ablation significantly improves time-to-result for extremely large volume milling operations and rapid access to deeply buried regions of interest. The implementation of laser ablation as a stand-alone tool allows labs not only to better leverage the advantages and capabilities of plasma FIB, but also to better support the analytical pipeline for other failure analysis instruments. In the Large Volume Workflow, these two technologies are deployed for the specific tasks to which they are best suited, allowing labs to process more samples during a given time-period because neither instrument is idle when the other is in use. TESCAN's laser

TESCAN ORSAY HOLDING, a.s.

Libušina tř. 21, 623 00 Brno,
Czech Republic, EU

IČO: 41600240

(phone) +420 530 353 411
(email) sales@tescan.com

www.tescan.com

www.tescan-orsay.eu

ablation tool supports TESCAN SOLARIS X, TESCAN AMBER X and TESCAN legacy plasma FIB instruments by handling the bulk milling operations, as well as supporting other analytical instruments that would benefit from the thousands of times faster laser ablation technique for sample processing.

Learn more about TESCAN's Large Volume Workflow at [webpage](#) and [webinar](#).

About TESCAN

TESCAN enables nanoscale investigation and analysis within the geosciences, materials science, life sciences and semiconductor industries. The company has a 30-year history of developing innovative electron microscopy, micro-computed tomography, and related software solutions for customers in research and industry worldwide. As a result, TESCAN has earned a leading position in micro- and nanotechnology. For more information visit: www.tescan.com.

TESCAN ORSAY HOLDING was established in 2013 as a result of long-term expansion and establishment of subsidiaries worldwide, including France-based ORSAY PHYSICS, a world leader in customized focused ion and electron beam technology. TESCAN ORSAY HOLDING maintains its headquarters, production and R&D in Brno, Czech Republic. Every TESCAN microscope is expertly produced in Brno and shipped to customers worldwide.

MEDIA CONTACT:

Sandy Fewkes, Global Public Relations for TESCAN, +1 408.529.9685, sandyfewkes@gmail.com

COMPANY CONTACT: marketing@tescan.com

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Czech Republic, EU

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