Tescan AMBER 2

FIB-SEM

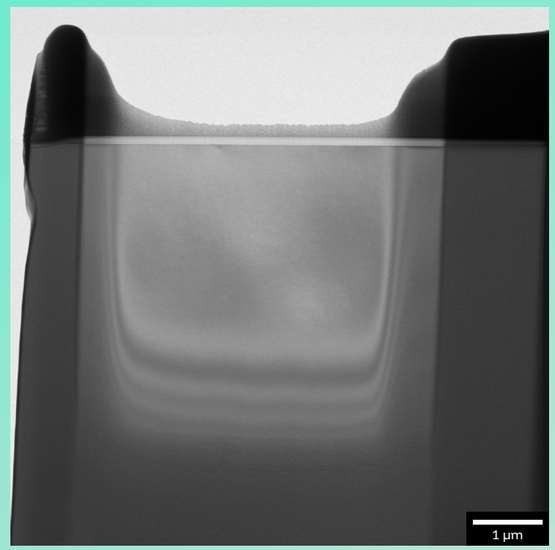
Fully automated Ga^+ FIB-SEM for routine sample preparation, nanoscale characterization, and comprehensive prototyping applications

Tescan AMBER 2 FIB-SEM

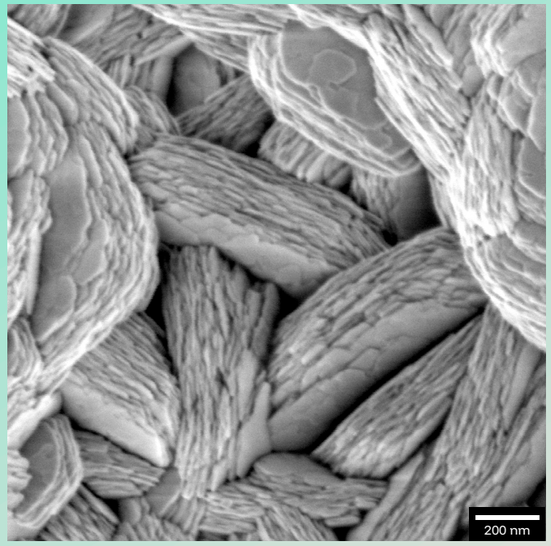
Nanoscale materials characterization and sample preparation with multi-user lab requirements in mind

Reliable, robust, and versatile, Tescan AMBER 2 is the ideal solution for multi-user laboratories that routinely require preparation of TEM samples, ultra-high-resolution imaging and analysis across a diverse range of samples.
With today's novel materials being of mixed compositions, smaller scale, and more delicate compared to materials of the past, Tescan AMBER's 2 field-free UHR SEM delivers the low keV, high surface sensitivity imaging performance needed for accurate visualization of surface topography, material contrast, and details of these types of samples.

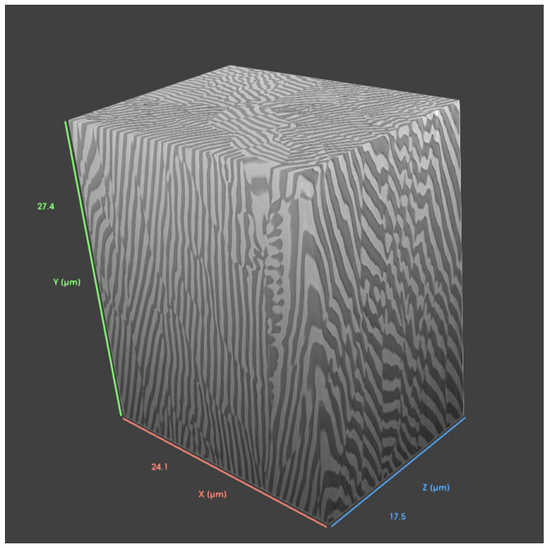
The software provides a high level of automation, helping users to work seamlessly with the tool even if they are not experts. This automation aligns SEM and FIB beams and streamlines TEM sample preparation. The system can also enable advanced control for experienced users, allowing them to utilize the SEM and FIB to suit their needs or to prepare advanced TEM samples with post-lift out rotation. When further investigation is required to complete the characterization, AMBER's 2 Ga FIB column precisely prepares samples for sub-surface imaging or other techniques, such as TEM, atom probe tomography, and mechanical testing. Additionally, the system now supports advanced prototyping applications, combining multiple techniques such as electron beam lithography, FEBID, and FIBID for comprehensive prototyping solutions. Beyond routine tasks, AMBER 2 can be equipped with options that extend its capabilities to advanced applications like Time-of-Flight SIMS, fabrication and prototyping, 3D tomography, and lift-out solutions for advanced TEM sample preparation from novel materials.



TEM image of Silicon sample prepared by Tescan AMBER 2



Ni rich Li powder imaged at 500 eV in Beam Deceleration Mode (BDM) with Axial SE

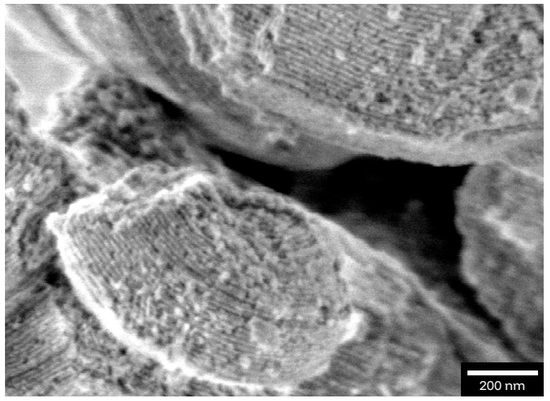


3D Visualization of AlCu eutectic structure

The Most Valued Features for Academic and Industrial Research Labs

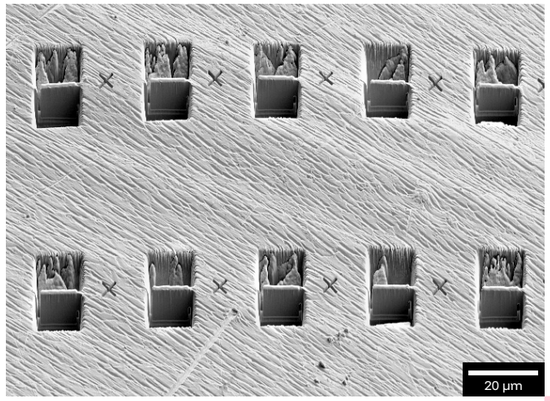
- Fully automated TEM sample preparation
- Field-free ultra-high-resolution (UHR) SEM with BrightBeam™ Optics for low keV imaging
- Orage™ 2 Ga FIB column with beam currents up to 100 nA
- Four detectors as standard: in-column SE and BSE; chamber-mounted SE (Everhart-Thornley) and retractable BSE
- Powerful Essence™ GUI with fully integrated software modules

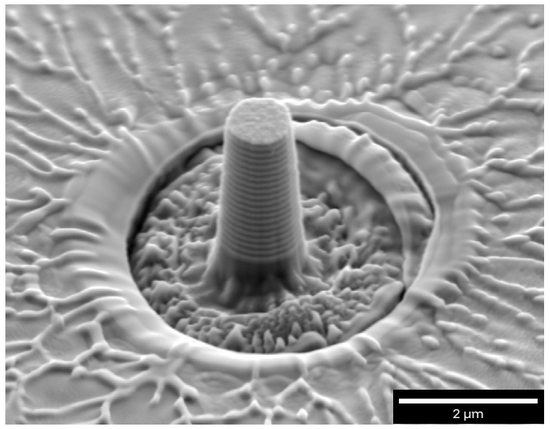
A Robust, Multiple Application Powerhouse



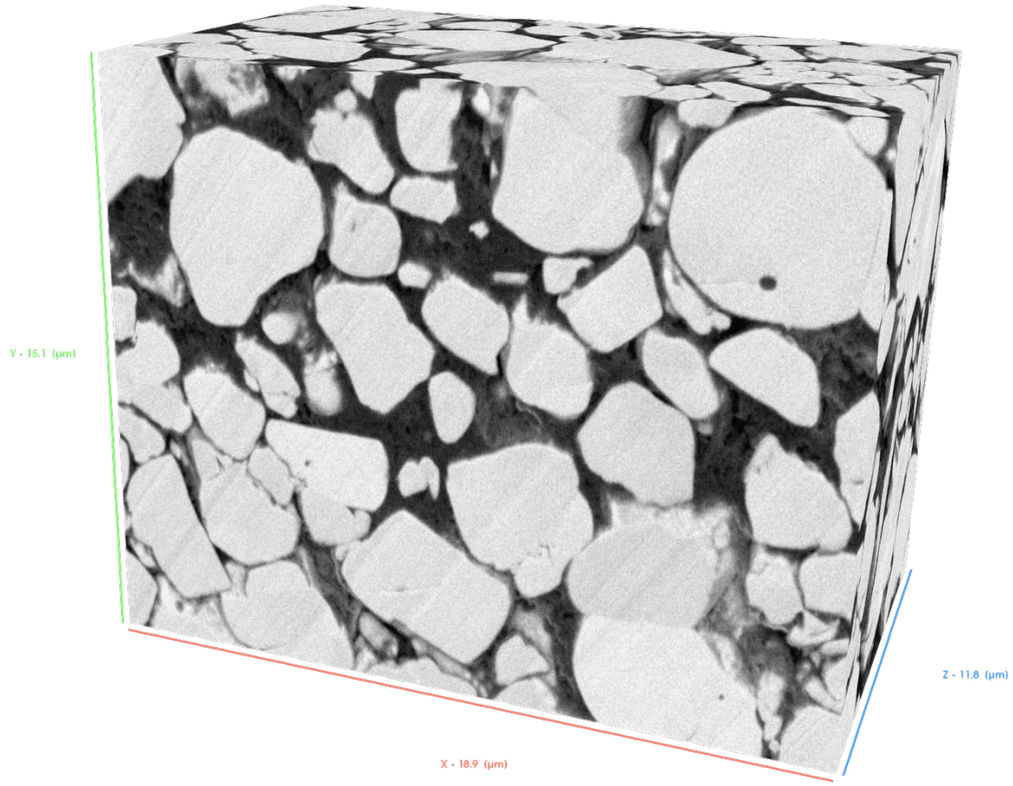
Ultra-high-resolution imaging and microanalyses mesoporous silica SBA-15

Routine and advanced TEM lamella preparation with automated TEM sample preparation.





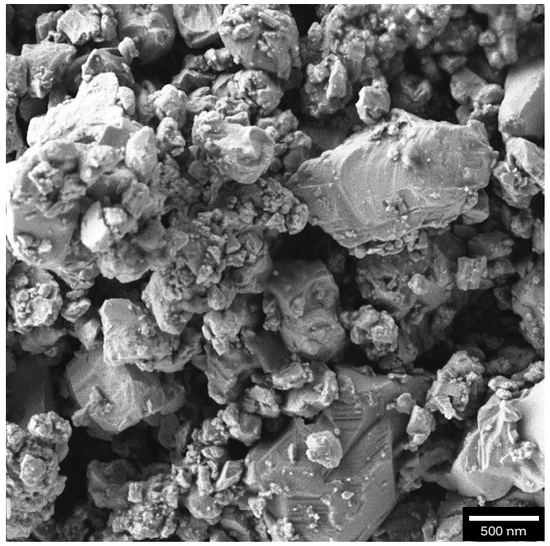
Fabricated pillar by FIB for mechanical test from Ti-Ni multiplayer material



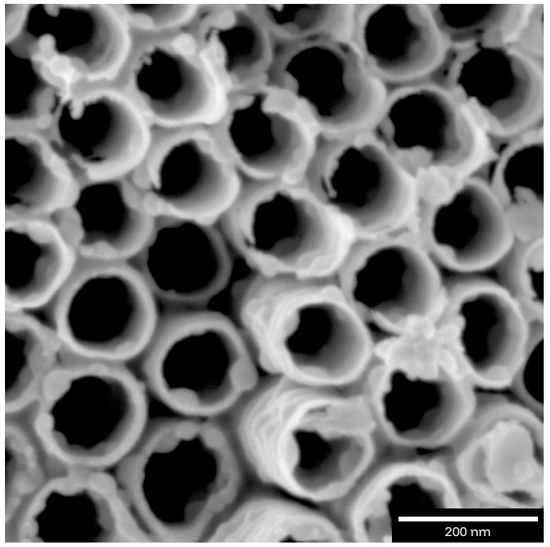
3D FIB-SEM tomography of Lithium Nickel Manganese Cobalt Oxide layer from battery cathode material

A Proven performer **in Materials Science**

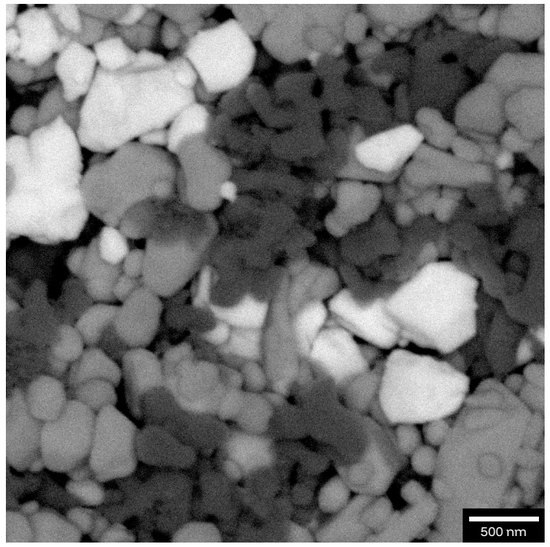
Low energy, ultra-high-resolution SEM imaging



High resolution image of magnetic tungsten carbide powder imaged at 2keV with chamber E-T SE detector to capture sample's topography more in detail.



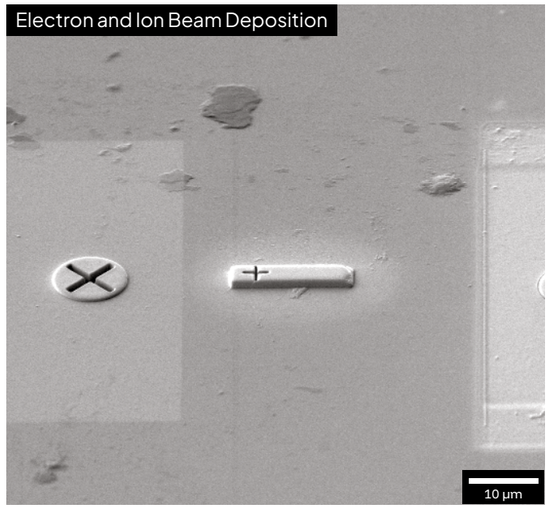
TiO_2 nanotubes imaged at 2 keV with Beam Deceleration technique to get an improved resolution to clearly analyze details of tube's walls.

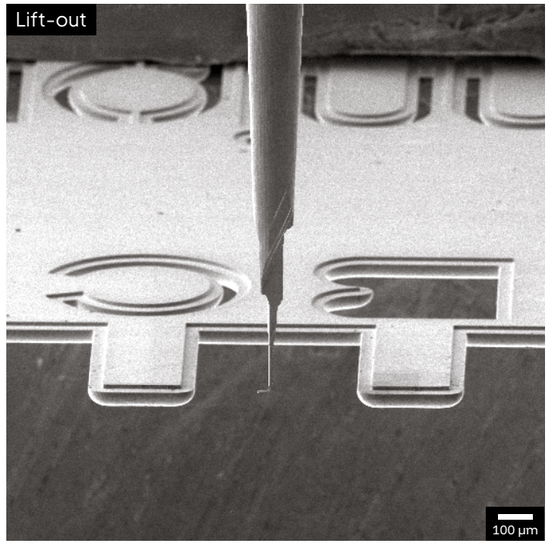


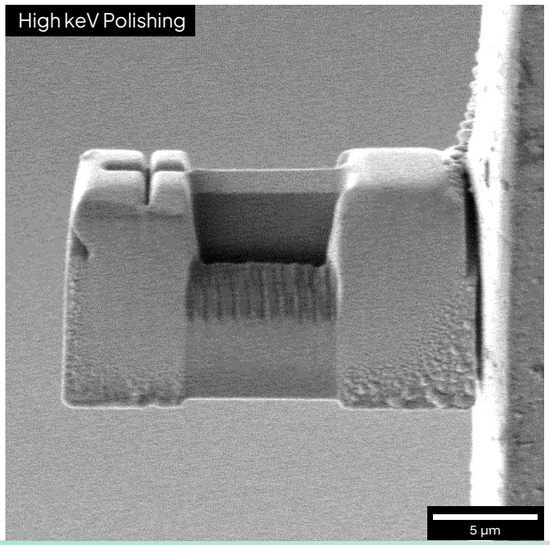
Carbon-supported palladium catalyst, image showing clear material contrast between Pd (Bright) and carbon (dark) nanoparticles. Captured at 5 keV with Axial BSE detector.

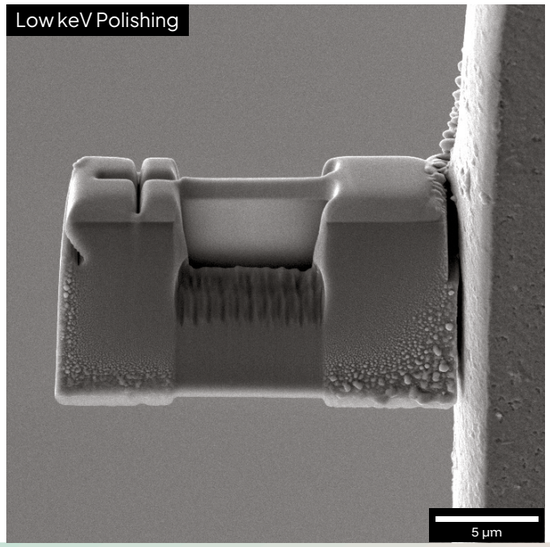
Fully automated TEM sample preparation

Automated preparation of TEM samples showing the full workflow from (left to right) electron and ion beam deposition, preparation of sample in trench, sample lift-out and its attachment to the TEM grid, Final thinning and final low keV polishing.





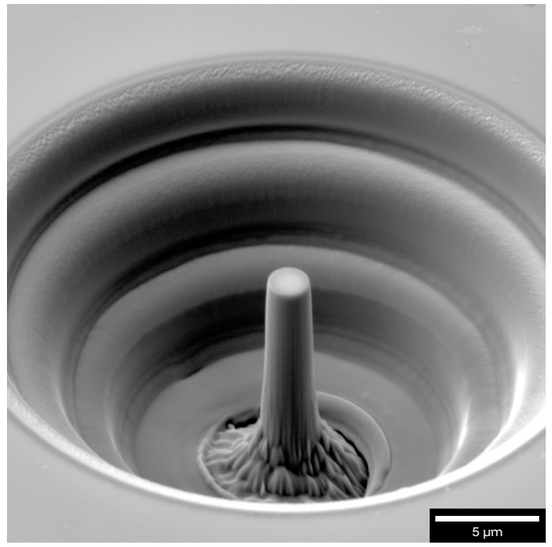


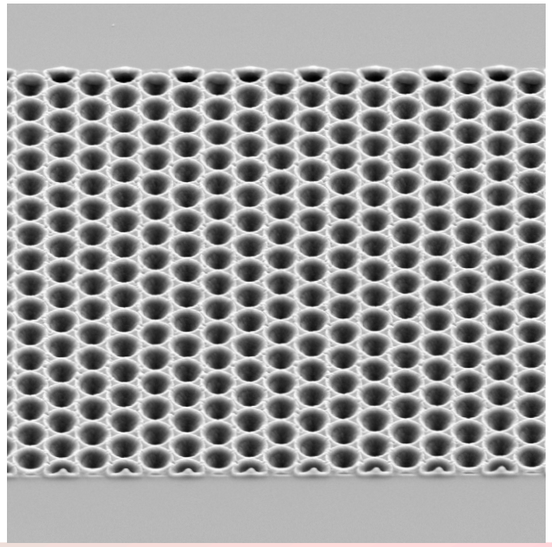


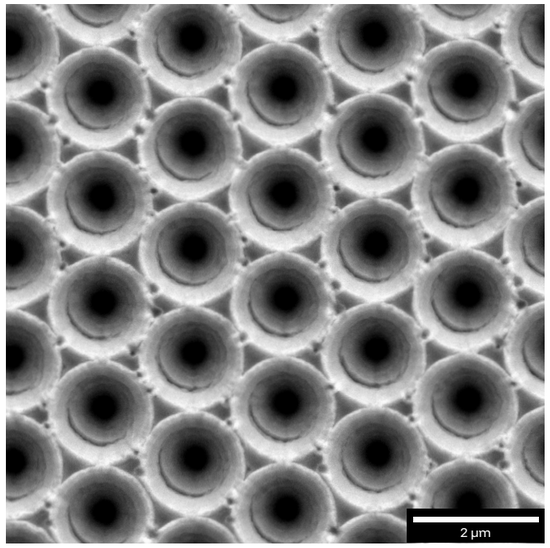
The highly versatile AMBER 2 brings value to any materials lab through its ability to address multiple applications and process a variety of sample types with little or no additional preparation.

Nanofabrication

Nanofabricated pillar for mechanical testing on molybdenum sample

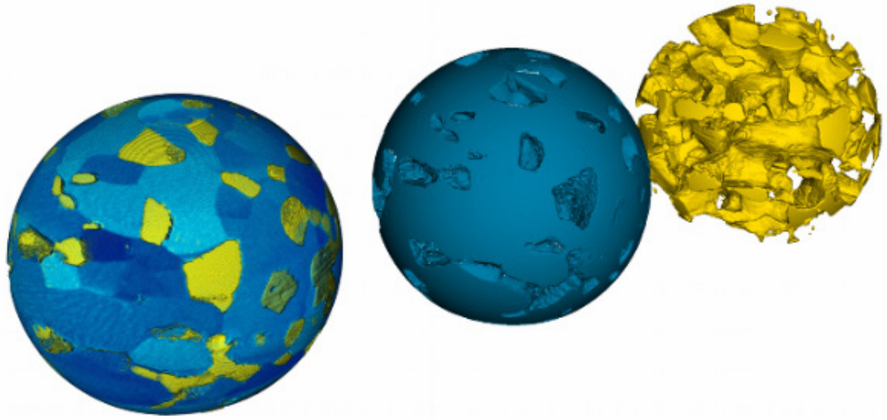




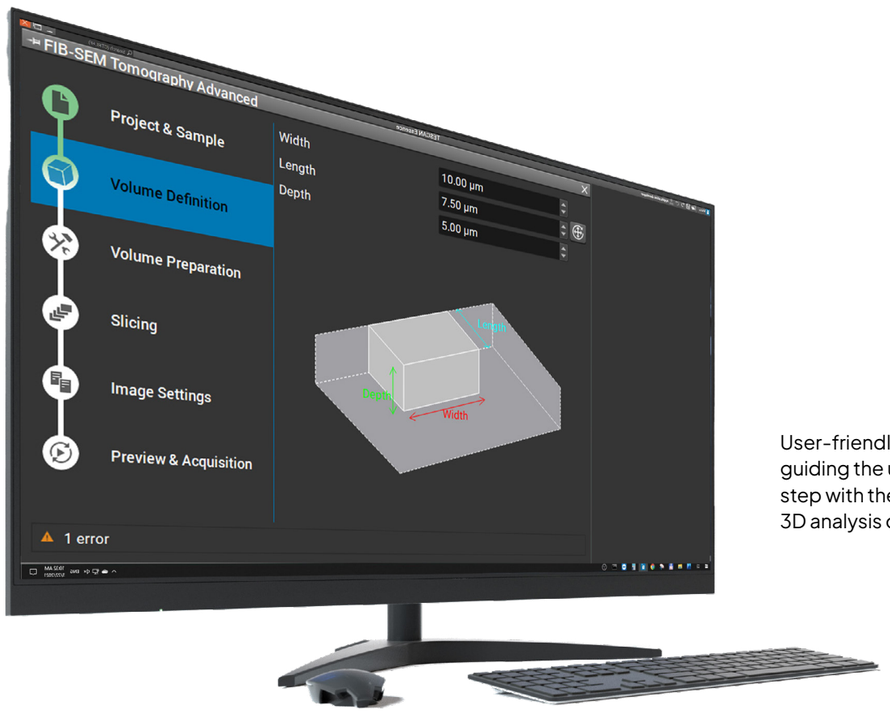


Hydrophobic structure used for imprinting, overview and detail images.

3D EDS/EBSD
FIB-SEM tomography



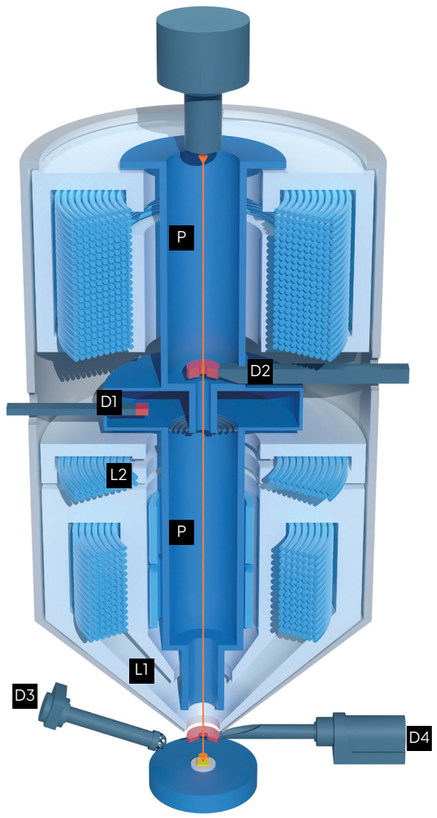
3D visualization of solder paste powder balls using FIB-SEM Tomography Essence™ software module. Two Phases of solder paste powder balls are segmented and visualize by visualization software and segmented based on different material contrast.



User-friendly software interface guiding the user through each step with the ability to automate 3D analysis or individual steps.

The Technology behind Tescan AMBER 2 FIB-SEM

Tescan AMBER 2 is designed to serve multiple applications efficiently and is built with technologies that support nanoscale resolution imaging, high-quality analysis and precise sample preparation across various sample types.



Beam Deceleration Technology (stage bias 5 keV)*
* Optional equipment

Field-free UHR SEM with BrightBeam™

AMBER's 2 field-free UHR SEM column improves low keV performance to achieve ultra-high-resolution images, even at beam landing energies as low as 50 eV. Tescan AMBER's 2 BrightBeam™ technology can be applied as needed to not only facilitate large field of view navigation, but also assure trouble-free, high-quality imaging on the widest range of samples, whether metallic, magnetic, non-conductive, charging or beam sensitive. BrightBeam™ also supports high currents required for EDS and EBSD analyses and EBSD analyses up to 400 nA.

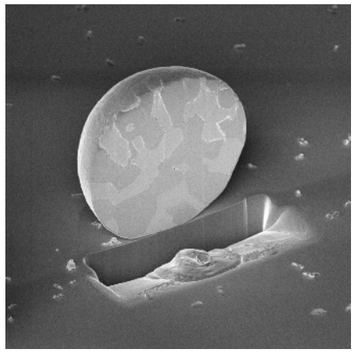
- L1 Compound magnetic electrostatic final lens
- L2 Intermediate lens
- P Potential tube
- D1 In-column SE Multidetector
- D2 In-column SE/BSE Axial detector
- D3 Everhart-Thornley SE detector
- D4 Retractable BSE detector

Signal Detection System

Tescan AMBER 2 includes four standard detectors: in-column SE and BSE detectors, and chamber-mounted SE (Everhart-Thornley) and retractable BSE detectors. Each detector can be used individually or in combination to capture clear, detailed images of your samples. In-column detectors are best suited for detailed high resolution SE imaging requirements due to their improved surface sensitivity. Tescan's in-column detectors can simultaneously acquire both SE and BSE signals, even during FIB-SEM operations, allowing for comprehensive data collection throughout the FIB process.

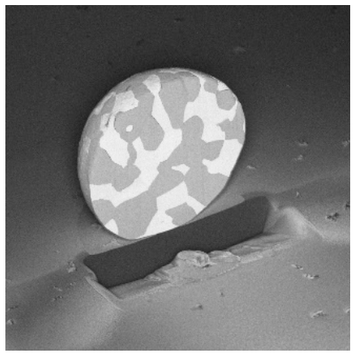
The chamber mounted detectors deliver higher contrast and more detailed topographic information and because of their design, can be used for the most standard FIB-SEM operations. The unique ability to combine topographic information with the high efficiency signal collection from the chamber BSE with the high surface-sensitivity information collected from the in-beam BSE and SE detectors allows Tescan AMBER to reveal information from different perspectives for a better understanding of the sample properties.
Further details about the material's composition can be revealed by continuous energy filtering, changing the contrast from SE to BSE, and even to a low loss BSE type of signal.

D1 In-column SE Multidetector

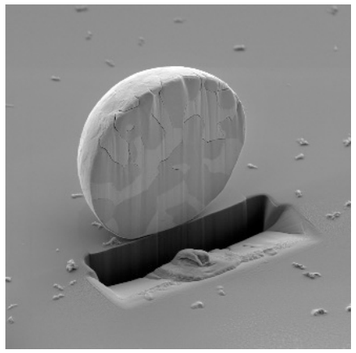


Comparison of image contrast levels provided by AMBER's 2 standard detectors, as shown on a solder paste powder ball. Detector signals acquired individually or in combination.

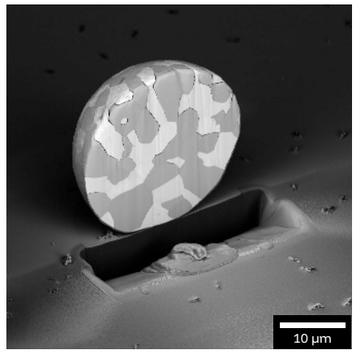
D2 In-column SE/BSE Axial detector



D3 Everhart-Thornley SE detector

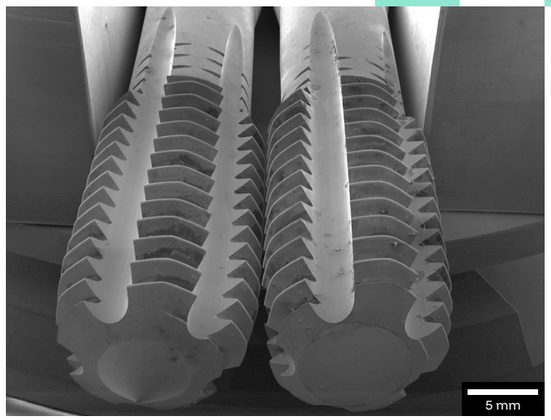


D4 Retractable BSE detector



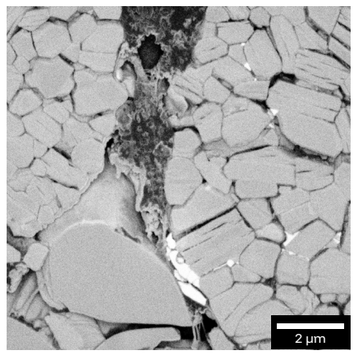
Wide Field Optics™

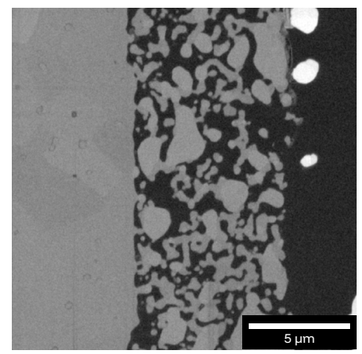
Wide Field Optics™ mode provides an intuitive navigation experience with the industry's widest undistorted field of view, displayed in the live SEM imaging window. The view of the samples is photorealistic, with unprecedented depth of focus, to allow fast and precise navigation to areas of interest on both planar and tilted samples. Tescan's Wide Field Optics™ mode is standard on all Tescan SEM and FIB-SEM instruments.



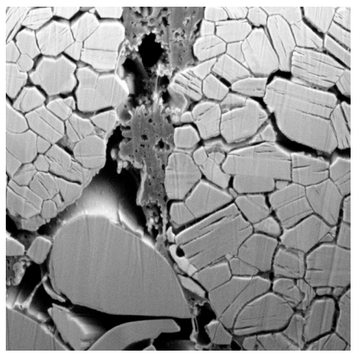
Overview image of cutting tools captured with the Wide Field Optics™ function for precise and easy navigation over large samples.

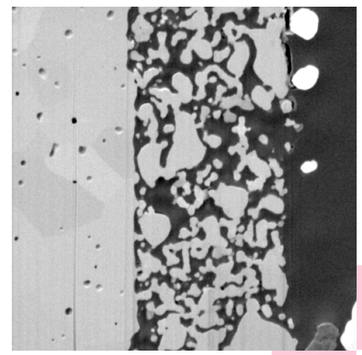
D2 In-column SE/BSE Axial detector





D4 Retractable BSE detector





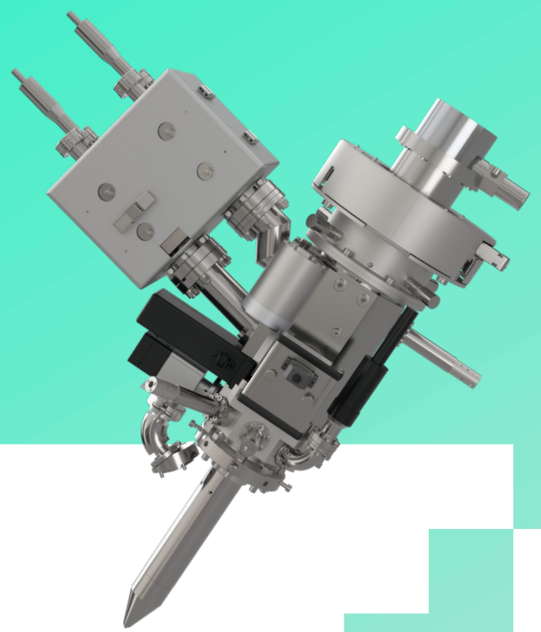
Comparison of BSE signals from In-column BSE and Chamber-mounted BSE detectors on two different sample types.

Upper left:
Li cathode with enhanced material contrast on small particles when the In-column BSE detector is used.

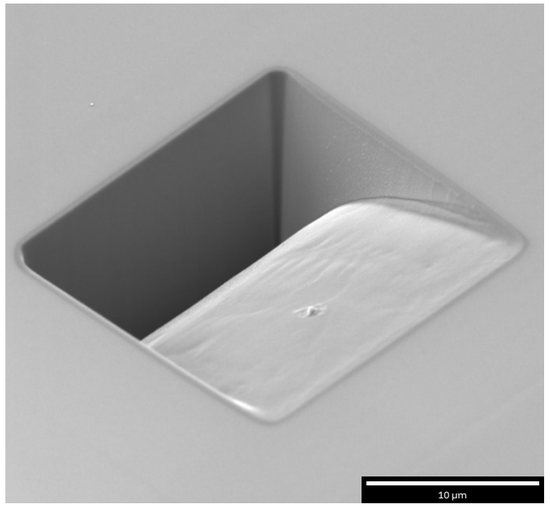
Lower right: The Chamber-mounted BSE shows improved contrast in the porous part of an SOFC sample.

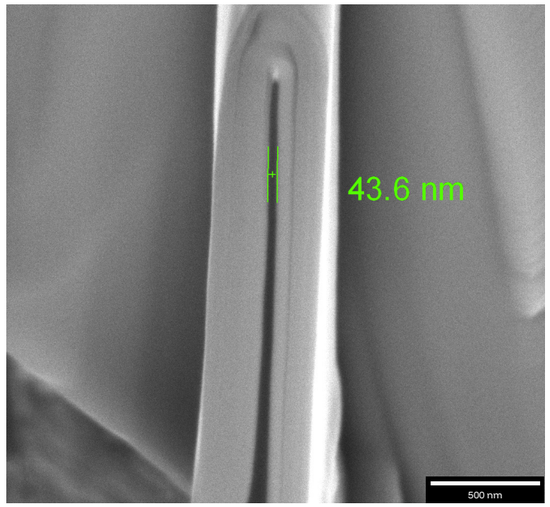
Orage™ 2 FIB Column

The new Orage™ 2 Ga⁺ FIB column introduces greater efficiency, precision, and control to every focused ion beam application. With improved low-keV resolution and higher beam current density up to 100 nA, it enables faster milling and polishing while minimizing sample damage, ensuring consistent results across materials and applications.
In TEM sample preparation, Orage™ 2 provides the precision required to create ultra-thin lamellae down to 30 nm with smooth surfaces and minimal amorphous damage. The refined beam profiles make the overall TEM preparation process up to twice as fast, improving throughput while maintaining superior sample quality.
For APT sample preparation and nanoprototyping, Orage™ 2 offers stable, high-current performance for fast trenching, accurate needle shaping, and fine micro- and nano-structure fabrication. Its integration with Tescan's automated workflows ensures reliability and reproducibility in every FIB-SEM session.
Orage™ 2 Ga⁺ FIB – engineered for precise, efficient, and dependable performance in advanced microscopy and prototyping.



(left) Excellent edge sharpness and uniformly smooth cut-face achieved during fabrication of a large cross-section on a silicon sample using high-current FIB (20 nA). (right) TEM sample prepared on silicon using Orage™ 2, demonstrating excellent thickness uniformity across the entire sample area. Precise thickness measurement (43.6 nm) and shape evaluation were performed in cross-lamella geometry.



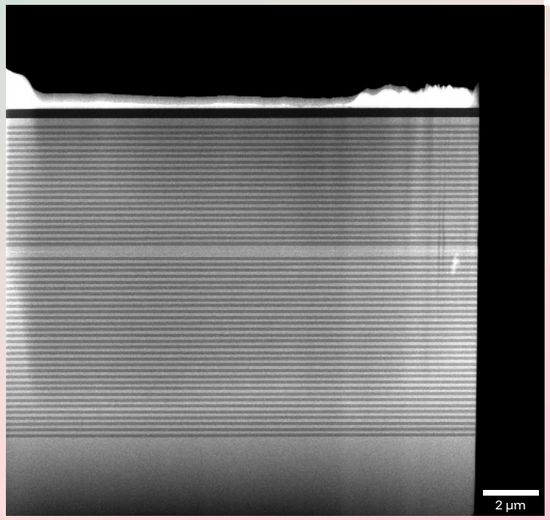


Go Beyond the Routine

Tescan AMBER 2 FIB-SEM is a highly customizable instrument that can be configured for all your specific tasks and needs.

The highest quality TEM specimen preparation with FIB-SEM integrated AURA™ Gentle Ion Beam

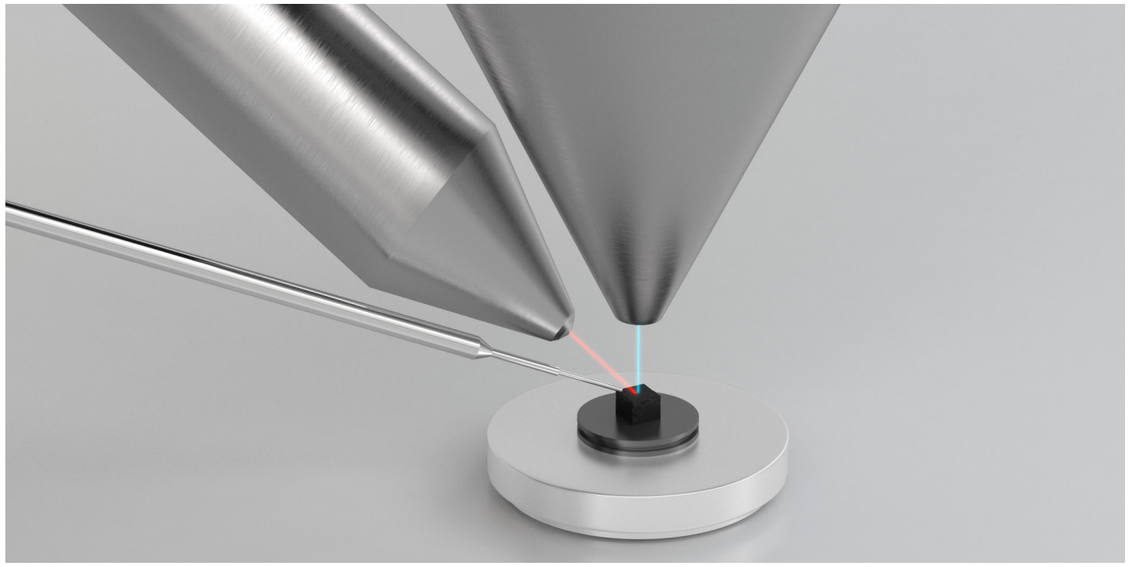
The AURA Gentle Ion Beam Solution offers users new methods for achieving superior TEM lamella quality through its advanced Ar Ion beam polishing technology By employing low acceleration voltage Argon ions, AURA significantly reduces the risk of lattice defects that can occur in the traditional FIB-SEM method with ion sources like Gallium or Xenon. This ensures that TEM specimens are of the highest possible quality and free from the damage layers that can compromise high-end (S)TEM applications. For researchers and technicians, AURA™ integration with Tescan's FIB-SEM platforms enhances workflow by providing a final polishing step that maintains the crystalline structure of the samples. Operating at energies as low as 200 eV or even below, the Argon ions interact gently with the sample, ensuring minimal disruption while effectively removing amorphous damage layers.



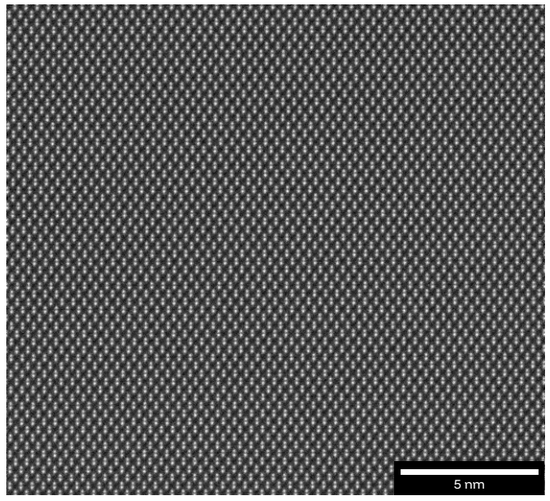
The Brightfield STEM image of GaAs TEM sample polished at 200 eV with integrated AURA™ Gentle Ion Beam integrated in Tescan AMBER 2 Ga FIB-SEM

The seamless integration of AURA™ into Tescan's FIB-SEM systems offers significant benefits for users. It simplifies the workflow by incorporating the gentle ion beam polishing step directly into the TEM lamella preparation process, eliminating the need for additional equipment or transfer steps. This saves time and reduces potential contamination and damage during sample handling. Users can achieve higher efficiency and improved specimen quality because of the direct quality control of TEM samples in FIB-SEM using STEM detector in FIB-SEM, making AURA an optimal tool for pristine TEM sample preparation.

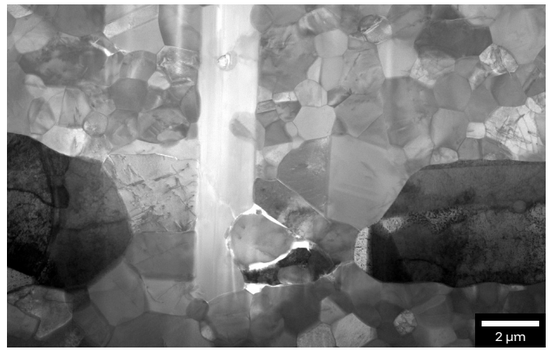
Advanced TEM Sample Preparation with Tescan's Unique Lift-out Solution



Rendering shows the unique, patented position of the nanomanipulator below the FIB. This position allows sample preparation of plan-view, inverted and other types of TEM samples with unique geometries.

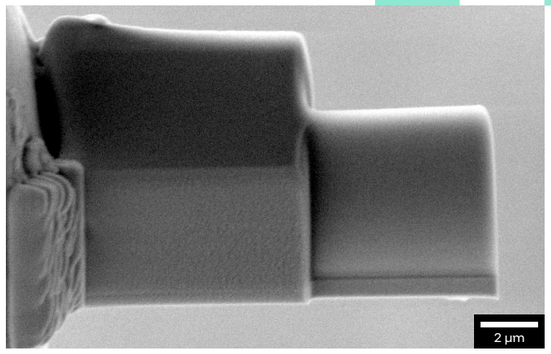


The high-resolution TEM image revealing an atomic structure of GaAs multilayer at high magnification same as the overview image displaying a larger field of view without remarks of Ga contamination from previous Ga FIB-SEM sample fabrication

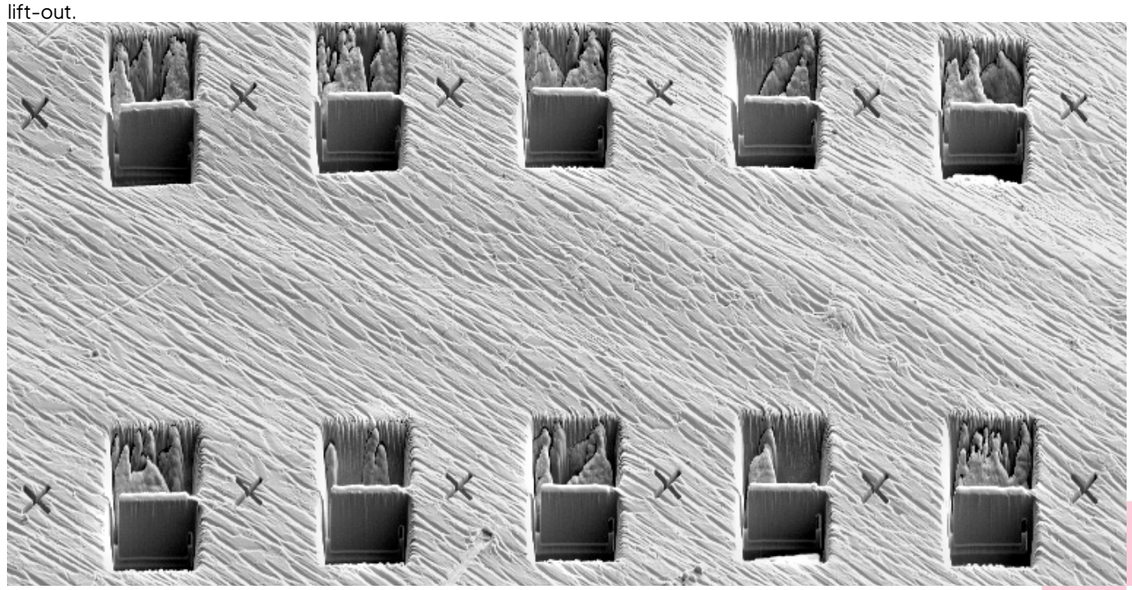


Defect located in a specific plane is analyzed using AMBER's 2 STEM detector. Using FIB-SEM to prepare as a planar TEM sample revealed more information about the defect than when standard TEM sample preparation is used.

Tescan AMBER 2 is configurable not only for routine TEM sample preparation, but also for more stringent sample preparation requirements. For standard top-down TEM sample preparation workflows, Tescan offers the optional TEM AutoPrep™ module and the integrated Tescan Nanomanipulator, which utilizes vector-in-window control for easy and intuitive manipulation. For more advanced workflows, a rotatable nanomanipulator is placed in a unique, patented position below the FIB to allow preparation of plan-view, inverted, and other types of TEM samples without breaking vacuum. And for the applications that require sample handling at cryogenic conditions, Tescan is compatible with several third-party manipulators, including a cooled version for cryo sample lift-out.



Inverted TEM sample prepared with the nanomanipulator rotated to the required position, streamlining the workflow for high quality, ultra-thin TEM sample preparation.

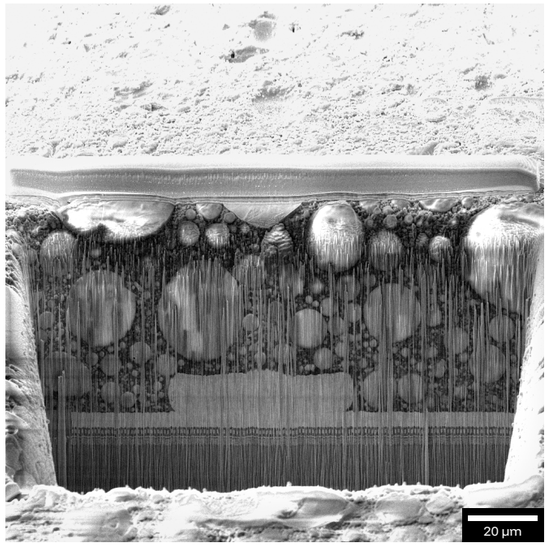


Array of TEM samples on a copper sample following automated preparation that included the undercut in the trench.

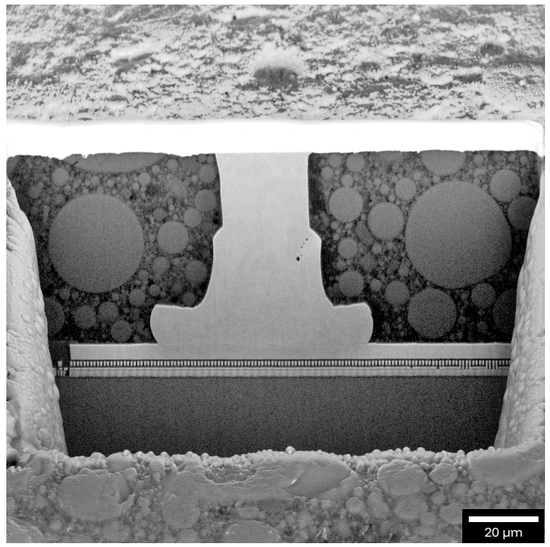
Artifact-free Sample Polishing with Tescan Rocking Stage

Eliminate curtaining artifacts and accelerate sample polishing with the optional Tescan Rocking Stage, a sub-stage that allows additional sample tilt. Tescan Rocking Stage facilitates sample polishing from different directions to remove curtaining effects, even at higher polishing currents. This additional tilt at specific and controllable geometries helps to remove the artifacts from the polished surfaces without the need to interrupt the polishing process.

Tescan Rocking Stage offers benefits for several applications. For 3D tomography, the unique sample orientations achievable with the Rocking Stage plus automation make artifact-free volume slicing faster and easier. With the Rocking Stage orienting the sample at the correct milling angles to improve surface quality, it is possible to perform milling at higher speeds.
The Rocking Stage also provides advantages for fabricating mechanical testing samples. The additional tilt allows precise visual control during the fabrication process, making it easier to prepare specific shapes or objects with stringent specifications. The technique of rocking polishing can also be applied during TEM sample preparation to eliminate artifacts on samples prone to excessive curtaining, especially when standard milling methods do not yield satisfactory results.



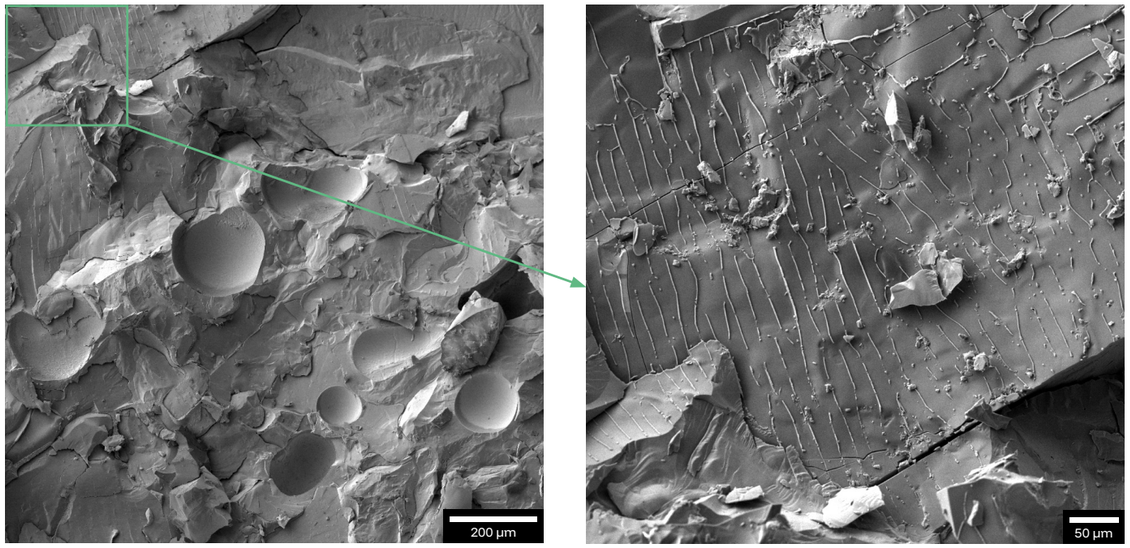
Surface of a large cross section following rough trench milling with the highest FIB current (100 nA) for faster material removal.



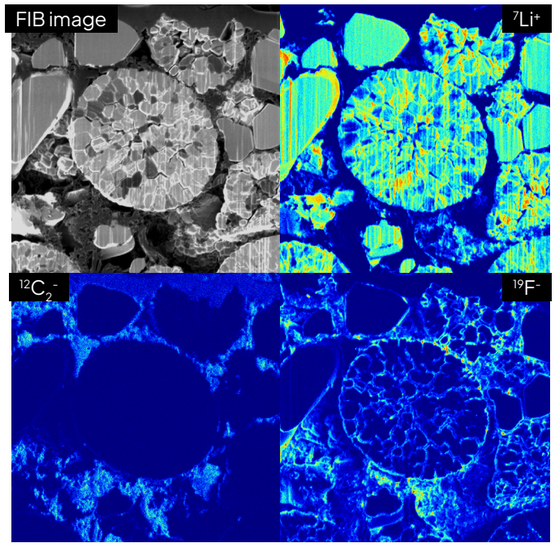
Surface of a large cross section polished by combining 20 nA FIB current and rocking polishing. Rocking polishing allows higher FIB currents to be used for final polishing which significantly speeds total analysis time.

Beam Sensitive and Cryo Sample Characterization

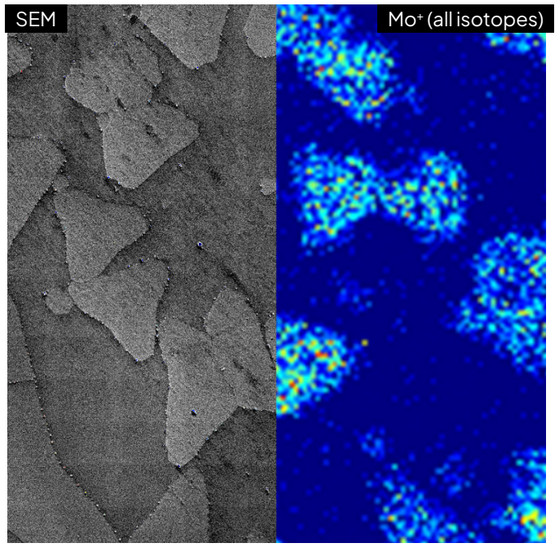
While Tescan AMBER's SEM column design and detection system is optimized for observing beam sensitive samples, there are still cases where low keV imaging alone is insufficient for imaging certain insulating or outgassing samples. Tescan AMBER can be configured with Tescan MultiVac to enable low vacuum and extended-variable pressure chamber environments operating in both N_2 and H_2O atmospheres. MultiVac also includes a Gaseous Secondary Electron Detector (GSD) which, when used in H_2O atmosphere, enables high resolution imaging at low keV and low beam currents for topographic characterization on beam sensitive samples. Use Tescan's own low energy BSE detector to acquire both detailed topographic (SE) and material contrast (BSE) information in low vacuum and at low landing energies.
Any charging that might occur during FIB operation can be mitigated by a flood gun option.
Beam sensitive, soft or liquid/semi-liquid samples materials can be preserved by characterizing them under cryogenic conditions. Adding a cryo stage enables very low keV imaging for such samples as well as allowing FIB cross sectioning, TEM lamella preparation or 3D tomography.



Frozen fracture surface of coloidal polymer, cryo-prepared at -95° C and sputter-coated with Pt



ToF-SIMS data showing the distribution of light elements as Li, C, and F from Li-battery sample.



High surface-sensitivity chemical mapping analysis of MoS_2 monolayer flakes on a substrate using ToF-SIMS integrated on FIB-SEM.

Light Element Analysis with ToF-SIMS

Enhance your capabilities with the optional, integrated Time-of-Flight Secondary Ion Mass Spectrometry (ToF-SIMS) for the analysis of light elements, including hydrogen, and trace concentration of elements. High-sensitivity ToF-SIMS analysis enables the study of the distribution of individual elements, their isotopes, clusters and molecule fragments. In contrast to EDX, ToF-SIMS is sensitive to lithium making it indispensable for Li-ion battery research. In combination with the Orage 2™ FIB column, ToF-SIMS provides both high spatial resolution mapping and high depth resolution depth profiling at the nanoscale. The advantage of adding ToF-SIMS to FIB-SEM are that the SEM handles high-resolution, non-destructive navigation over the sample surface, while the FIB can be used to prepare a sample from a localized area. Subsequent ToF-SIMS analyses can then be performed on the sub-surface structures.

Tescan Essence™ Graphical User Interface: The Heart of Tescan SEM and FIB-SEM Instruments

The full potential of a microscope's imaging and analytical capabilities can be lost if the user experience is cumbersome. Tescan Essence™ was built to bring all microscope functions into an intuitive graphical user interface, with all operations performed from a single live view window. Guided workflows assure consistency in the execution of routine imaging and analytical tasks. Advanced modules offer additional control over microscope parameters for more complex investigations.

Essence™ software for Ease of Use

In core facilities and multi-user labs, the experience levels of individual microscope users may vary from novice to expert. Tescan Essence™ offers an easy-to-learn, user-friendly interface, with built-in, application-oriented guided workflows to assure that all users can perform assigned tasks easily, regardless of their level of expertise.

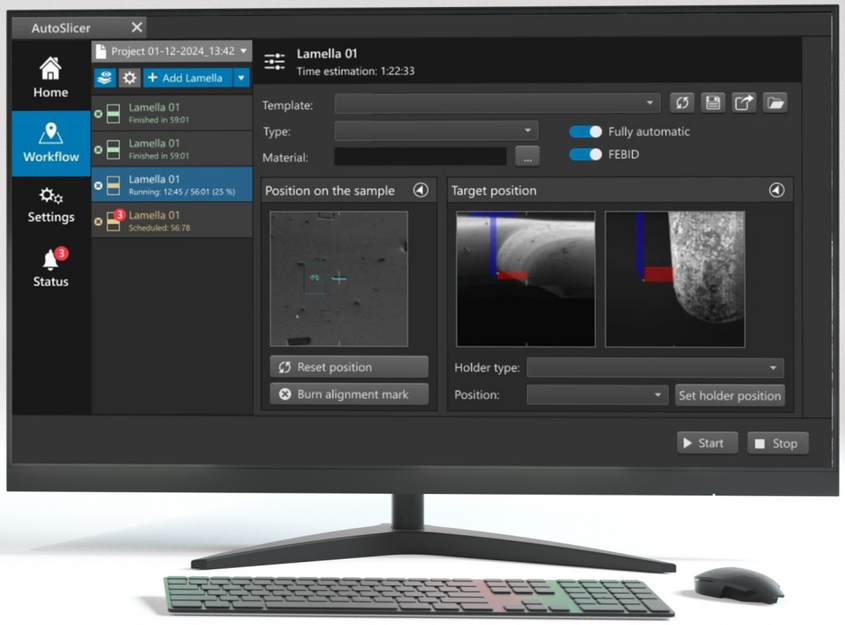
Example of Essence™ software layout for standard FIB-SEM operations. Layouts can be personalized to a users' preferences or to streamline workflow execution. This layout shows both SEM and FIB windows and the camera view to guide live movement in the chamber. The microscope can be controlled using the icons above the SEM and FIB windows, or from the panel on the right.

Essence's modular and customizable layout allows lab managers to tailor the user interface for both the task at hand and the user's familiarity with the technology. Tescan Essence™ also supports custom scripting, enabling the development of guided workflows that align with your routine imaging and analysis tasks.
When you start Essence™, you see that everything is accessible from a single live imaging window. The task-specific interface ensures that only the necessary settings for the current work are displayed. For example, if you are doing a SEM investigation, the user interface will contain only those controls relevant to SEM.

TEM AutoPrep™ Pro

Tescan's TEM AutoPrep Pro™ fully automates the TEM sample preparation workflow: navigating to regions of interest, depositing protective layers, trench milling, polishing, and finally undercutting to release the sample from the trench. This speeds up preparation time, ensures sample uniformity, and alleviates concerns about samples not meeting quality requirements for subsequent imaging and analysis.

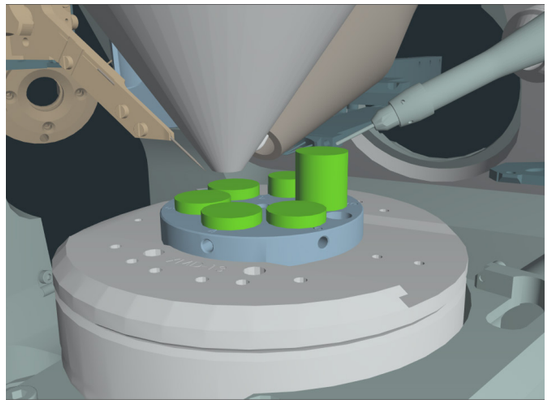
Following these steps, TEM AutoPrep™ Pro automates lift-out, attachment of the lamella to the TEM grid, and final FIB polishing. Supported by AI functions, the software enhances robustness and helps users in Materials Science easily adapt the recipe for different materials, minimizing the time needed for recipe optimization.



TEM AutoPrep™ Pro allows fully automated TEM sample preparation of multiple samples. The process of TEM sample preparation can be modified for a specific task and saved to the library for later use.

Essence™ 3D Collision model

Essence™ 3D Collision model is another standard Essence™ software suite designed to alleviate one of the most daunting aspects of using a SEM or FIB-SEM: the possibility of crashing the sample or stage into other chamber hardware like detectors, gas injectors or even the column itself. The Essence™ 3D Collision Model replicates the chamber interior and predicts stage and detector motion, creating a virtual model that helps users adjust hardware positions for collision-free operation. Users can preview the movements of the stage, sample tilting and the extension or retraction of detectors or other chamber hardware prior to imaging and analysis.



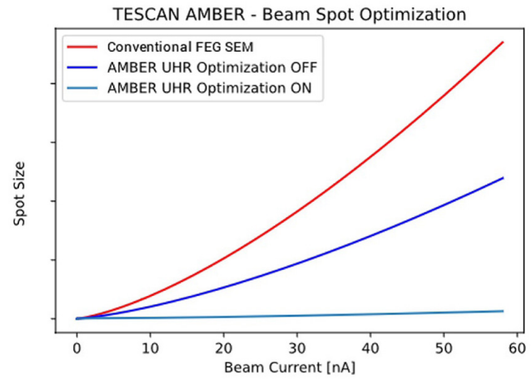
The 3D Collision model shows blocks representing the dimensions of samples on the stage, as well as showing other hardware components, to provide a virtual view inside the chamber for collision avoidance.

AutoSection™ Automate cross-sectioning, optimized for quality and efficiency

Tescan AutoSection™ is a software solution developed to streamline and automate FIB-SEM cross-sectioning tasks. It supports the preparation of multiple cross-sections across a range of materials, including those that are difficult to process, by integrating techniques such as rocking polishing and AI-based endpoint detection. Designed for both routine and more demanding workflows, it enables efficient use of system time and operator resources. The software is intended for research and industrial environments where reproducibility, throughput, and precision are essential.

In-Flight Beam Tracing™

In-Flight Beam Tracing™ uses multiple parameters to calculate the best possible settings for a selected landing energy and the optimal imaging or analytical working distance. The software uses an intuitive process that allows even novice users to select the ideal beam conditions for a given application. Tescan's SEM column design, in combination with In-Flight Beam Tracing™, allows setting the optimum beam current without limitations and without the necessity to change apertures. Optimal analytical conditions are easily selected by combining parameters such as landing voltage, current and working distance. In addition, this approach to beam control is beneficial when conditions from a previous measurement need to be restored.



In-Flight Beam Tracing™ and Intermediate lens (IML) enable aperture / spot size optimization for high beam currents

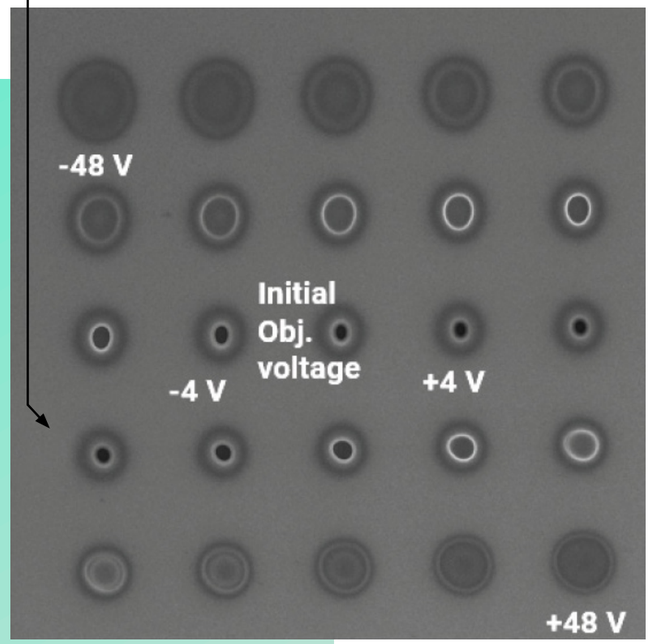
Essence™ for Experts

Tescan Essence™ is designed not only to simplify microscopy for new users but also to emplower advanced users with sophisticated software modules. These modules enable precise control over specific operational parameters to suit various applications. Below are some of the commonly selected advanced modules for Tescan AMBER 2 FIB-SEM.

Beam Set-up Control Wizards

With the spot size of the electron beam set and controlled by In Flight Beam Tracing™, the optimal beam parameters can be achieved easily to serve all applications. The specific design of Tescan's electron optics allows for changing the beam current continuously while the beam parameters are still automatically controlled by In Flight Beam Tracing™.
To achieve the optimal focused ion beam profile, users can utilize automated adjustments. This empowers them to achieve peak performance across a spectrum of standard applications. This automation ensures that the tool is consistently operating at its best, delivering reliable results with minimal effort.

For applications requiring precision beyond standard settings, our semi-automated procedures allow users to fine-tune FIB profiles with exacting precision. This capability is particularly valuable for applications where specific beam sizes are critical, such as precise patterning or preparing samples from challenging materials prone to milling artifacts.

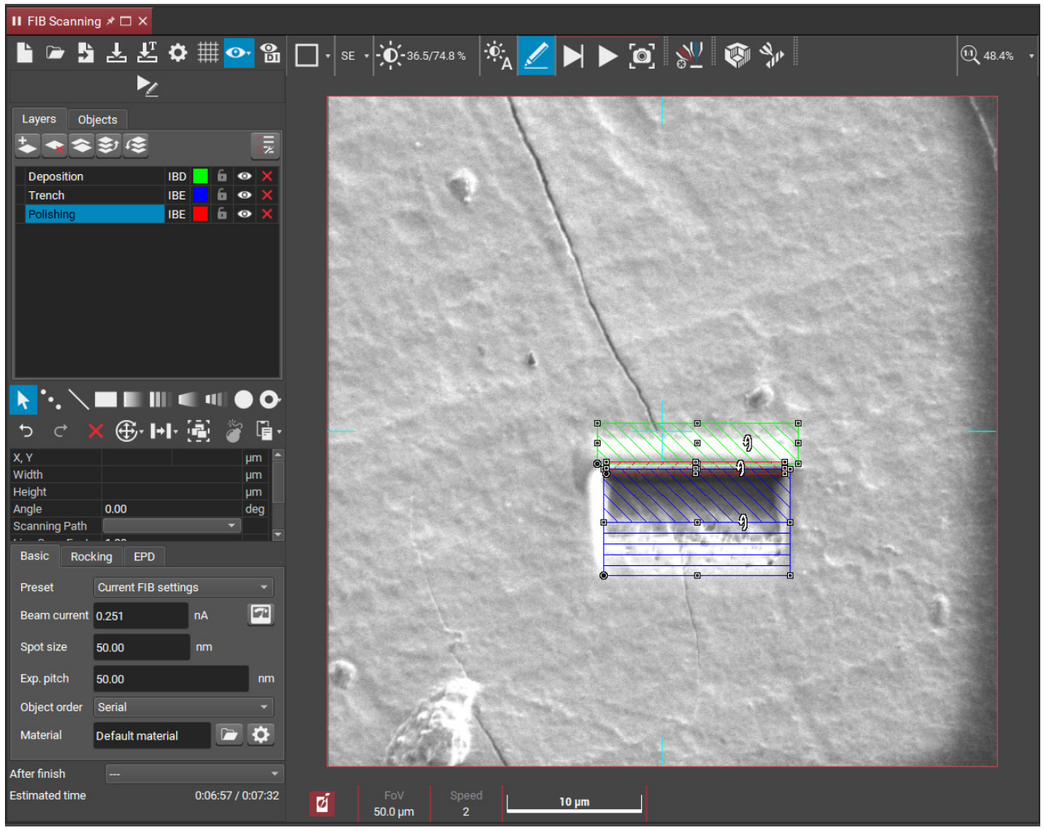


The FIB Spot Optimizer helps users adjust beam parameters to fit a particular application or task. (left) Matrix of FIB beam spots milled into silicon sample.

Essence™ DrawBeam

DrawBeam controls both the ion and electron beams for high precision nanopatterning. The software supports all the basic operations for standard FIB-SEM applications, such as cross-sectioning and sample preparation for TEM, and atom probe tomography or mechanical testing. It also manages advanced operations like patterning and creating advanced structures by combining FEBID, FIBID and FIB milling processes. Basic patterning controls for common applications are accessed directly from the live SEM scanning window. For more advanced patterning tasks, the DrawBeam Automate module extends the capabilities of the software to include batch processing or multi-site automation. All created patterns can be stored in separate layers, with defined process steps and beam conditions.

DrawBeam offers precise control over both beam positioning and interaction with the sample surface. This capability is crucial for defining milling strategies, as the direction of milling is crucial for producing homogeneous structures, particularly in nanoprototyping. This function can be beneficial for minimizing beam damage when milling beam sensitive samples. By using Draw-Beam to specify the number of beam passes, you can limit sample damage by exposing the scanned area for shorter durations.



Essence's DrawBeam module enables precise definition of beam position and defines objects for etching or deposition using both the electron and/or ion beams. Projects can be saved for future repetitive workflows.

Python Scripting

Tescan Essence supports Python scripting, which can take microscope automation to a new level. Experienced users can develop custom scripts to enable advanced functionality and control over microscope operations. Scripts are mainly used for non-standard procedures or applications, as well as in cases when the microscope is configured to a specific application, and it is advantageous for all users to follow the exact same procedures. Also, Python scripts can be used to control both the electron and ion beams to enable creation of complex 3D structures. And, when analyzing specific samples for which the orientation and size of structures of interest can be distorted in a standard configuration, Python scripting can be used to define parameters for 3D reconstructions in non-standard orientations.

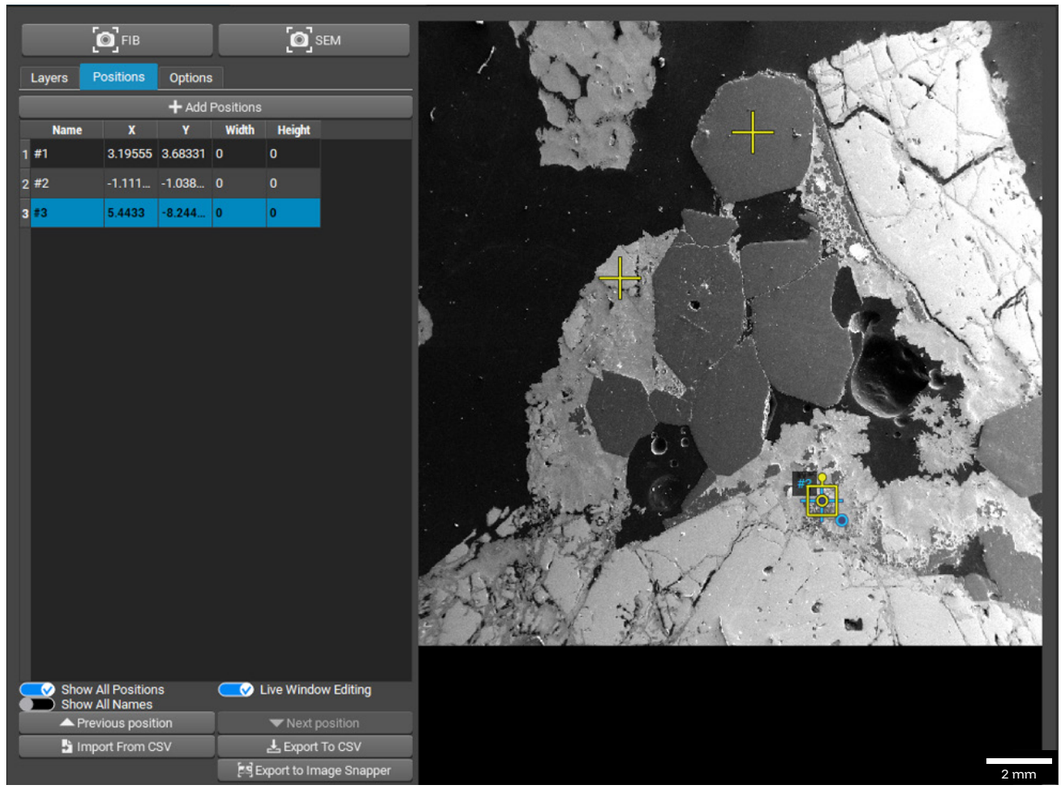
Presets

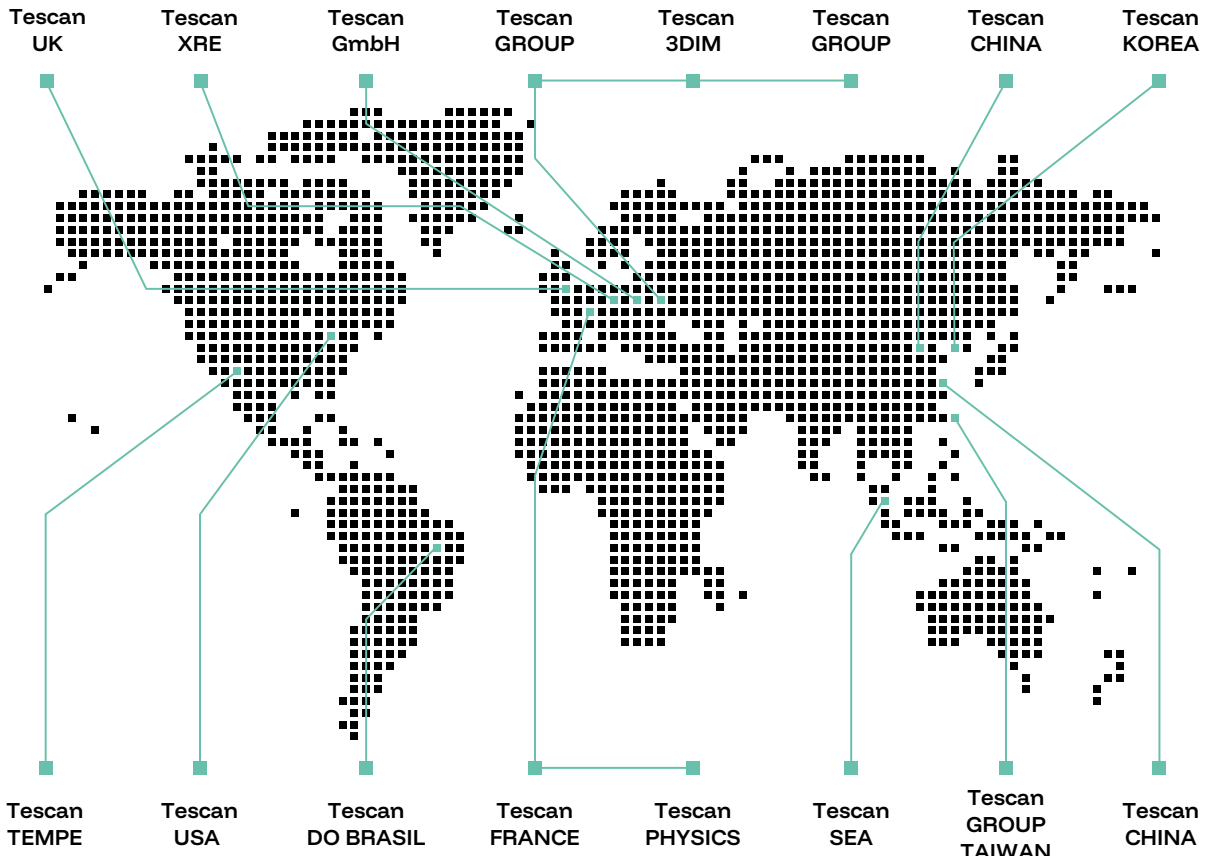
For routine or repetitive analyses, users can save the ideal SEM and FIB operating conditions as presets in Essence. Users can select which parameters will be stored based on the application. The stored presets streamline workflows to make system operation efficient and effective.
These custom presets are not limited only to saving the column's optics settings, but also can be used to record the stage position or other image acquisition parameters such as brightness and contrast. With presets, achieving the best image is only one click away. Additionally, the system is capable of extracting settings from images previously acquired by Tescan instruments and restoring the conditions from selected images as a reference.

Essence™ Positioner Module

The Positioner module facilitates sample navigation and correlative workflows by automatically overlaying and aligning images from multiple sources. Work from a macro-scale image acquired in Tescan's Wide Field Optics™ to obtain an overview of the entire sample. The image is automatically calibrated, then can be used for navigation at higher magnification to arrive at the exact region of interest. Or, for a specific target area that is more visible using light microscopy, use an image from an optical microscope to guide navigation to the area of interest. Optical microscope images can be used to protect beam sensitive samples from damage induced by the ion or electron beam during navigation. The Essence™ Positioner module also can accept data from other analytical techniques or images acquired at different magnifications, landing voltages, beam currents or with different detectors. These images can be combined using automatic calibration to facilitate navigation to areas of interest identified using other techniques.

Positioner module using overview SEM image captured in Wide Field mode as a reference for navigation over large samples to easily navigate to the areas of interest. As a reference image for navigation the image from other types of microscopes can be used as for example optical microscopy.





Tescan Family Around the World

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

TESCAN GROUP, a.s.
Libušina tř. 21, 623 00 Brno - Kohoutovice / Czech Republic
(phone) +420 530 353 411 / (email) sales@tescan.com / marketing@tescan.com