

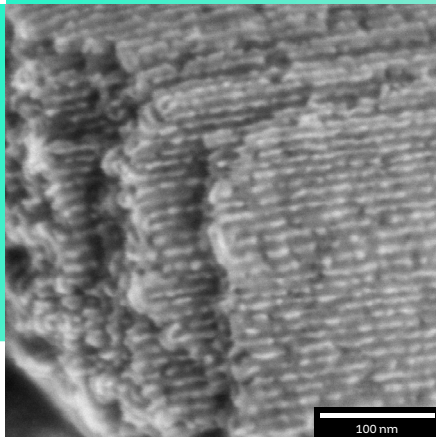
Tescan MIRA XR

for Materials Science

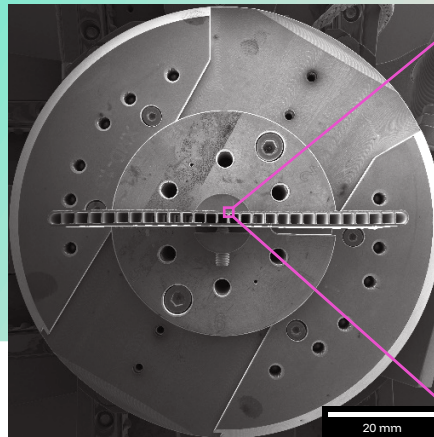
Ultra-High-Resolution SEM-EDS Solution, optimized for rapid and precise materials analysis in academic and quality control environments.

The Tescan MIRA XR is a high-throughput, ultra-high-resolution SEM-EDS system, specifically designed to deliver rapid, precise materials analysis in multi-user environments such as academic research and quality control labs. Featuring a streamlined detection system and easy to use Essence™ Software, MIRA XR guarantees effortless operation with robust analytical power, enabling users to conduct high-quality compositional and morphological analysis with ease. With Tescan's Wide

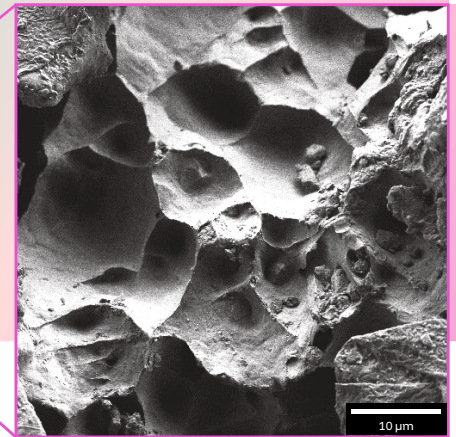
Field Optics™, users can navigate large sample areas quickly, simplifying the identification and analysis of regions of interest. In-Flight automated controls ensure seamless and fast transitions between imaging and optimal analytical conditions. This versatile platform guarantees accurate, consistent results across a wide variety of materials, making it the ideal solution for labs focused on efficiency and high-resolution performance.



 **Fig. 1:** UHR SE image of mesoporous silica.



 **Fig. 2, 3:** WideField™ image of an Al profile for full-sample overview and navigation, alongside a fractured surface image showcasing ductile fracture in detail.



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Key Benefits and Enabling Technology

Boost productivity and research throughput by up to 40% with rapid time-to-data, powered by the ultra-high-resolution FEG and In-Flight™ automated controls, which adjust beam conditions seamlessly to enhance imaging speed and accuracy.

Complete EDS analysis up to twice as fast with the fully integrated Dual Essence EDS, providing rapid, high-quality compositional mapping that maintains your workflow momentum without interruption.

Easily analyze challenging samples, such as beam-sensitive, outgassing, oily, or degrading specimens, with Tescan's MultiVac mode. This mode utilizes water vapor to improve signal efficiency and reduce skirting, resulting in high-quality images that would otherwise require extensive sample preparation.

Identify failure points quickly and precisely with Tescan's Wide Field Mode, which accelerates large-area observation and speeds up navigation by up to 35%, enabling broad-area analysis directly in the SEM window for faster, more targeted conclusions.

Ensure sample safety and prevent hardware collisions using Tescan's unique 3D collision model, which replicates sample and detector geometries within the chamber, allowing confident manipulation and repositioning.

Effortlessly switch between analytical and imaging settings in less than 10 seconds with Tescan's In-Flight™ beam tracing and unique electron optics design, providing seamless transitions for finely tuned analysis that saves time on re-alignments.

Reveal intricate nanoscale details in topography or material contrast with the in column Axial detector, optimized for clear, high-resolution imaging that makes even the smallest features visible.

Quickly toggle between high and low vacuum with Tescan's Auto LowVac Aperture, a feature that enables smooth transitions for varied sample needs without delay.

Easily automate workflows and customize experiments on Tescan's open platform with VisualCoder's block-based programming, compatible with Python, allowing you to design advanced experiments without coding expertise.

Achieve consistent, reproducible results across scientific projects with the user-friendly Essence™ software interface, designed to simplify operation and automatically optimize imaging conditions, enabling higher success rates in multi-user labs.

