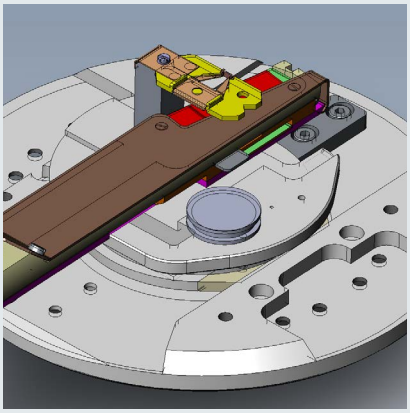
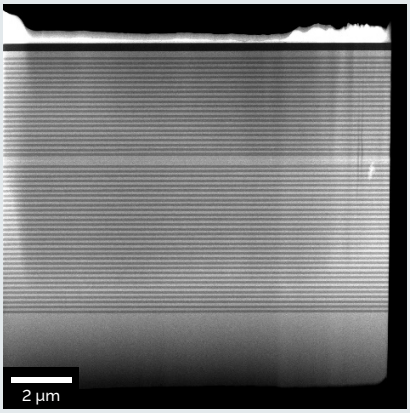
TESCAN Aura Gentle Ion Beam

Exceptional TEM specimen quality for clear atomic resolution and effortless investigations in (S)TEM, even for the most challenging materials

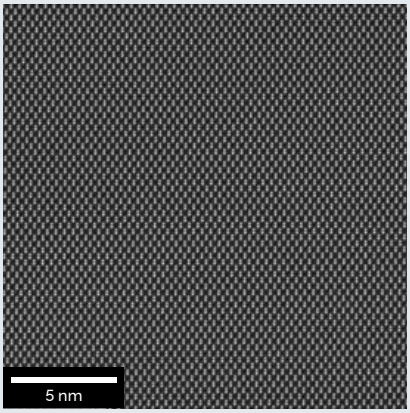
TESCAN's FIB-SEM simplifies (S)TEM sample preparation with its integrated Gentle Ion Beam, effectively tackling the challenges posed by demanding materials. This advanced system ensures optimal sample thickness and minimal damage for precise high-resolution (S)TEM imaging. Ultra-low energy Argon polishing delivered by the Gentle Ion Beam guarantees high-quality specimens with minimal structural damage. Paired with TEM AutoPrep Pro™, which automates FIB-SEM sample preparation, delivering reliable and repeatable results. TESCAN's Integrated Gentle Ion Beam empowers researchers to explore the atomic realm with clarity and precision, accelerating new materials development and providing the confidence needed for breakthrough advancements.



▲ The integration facilitates full and automated control of gentle polishing of FIB samples enabling SEM quality control of TEM sample directly in FIB-SEM without the need to manipulate the sample



▲ The Brightfield STEM image of GaAs TEM sample polished at 200 eV with TESCAN AMBER Ga FIB-SEM equipped with integrated Gentle Ion Beam



▲ 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

Key benefits:

- ✓ **Achieve the thinnest TEM specimens with negligible amorphization, ensuring unmatched clarity in your high-resolution (S)TEM investigations,** utilizing TESCAN's integrated Gentle Ion Beam system for ultra-fine Argon ion polishing at energies as low as 200 eV and below
- ✓ **Accelerate preparation of the thinnest specimens, and guarantee the final quality of TEM specimens for high-resolution (S)TEM investigations** by leveraging the seamless integration of the Gentle Ion Beam system within the FIB-SEM, equipped with STEM in SEM inspection capabilities
- ✓ **Maximize efficiency and protect your samples and data** by integrating the Gentle Ion Beam onto the FIB-SEM and monitor TEM sample quality with the RSTEM detector, enabling sub-nanometer observation without frequent sample transfers between microscopes. This streamlines your workflow and maintains the integrity of both your samples and data
- ✓ **Ensure the integrity, purity, and contamination-free surface of TEM specimens by leveraging the full integration of the Gentle Ion Beam with the high vacuum FIB-SEM,** which eliminates the need for sample manipulation across multiple instruments
- ✓ **Streamline your TEM specimen preparation process with the integrated Broad Ion Beam, ensuring quick and reliable creation of high-quality specimens.** The Essence™ TEM AutoPrep Pro's automation enhances efficiency, making high-quality specimen production effortless for all users
- ✓ **Avoid Ga+ contamination and phase changes in your TEM specimens and ensure the highest purity and clarity in your (S)TEM analyses** with TESCAN's Gentle Ion Beam system utilizing inert Argon ion polishing