

NuNano Installs and Automates TESCAN FESEM for High-Precision Quality Control

NuNano creates the first high-throughput SEM imaging software protocol for 100-percent inspection of its AFM probes.

Bristol, U.K., April 16, 2021—NuNano Ltd. and TESCAN ORSAY HOLDING a.s. announce the successful installation of a TESCAN Field Emission Scanning Electron Microscope (FESEM) at NuNano's Bristol facility, where it will be used for 100-percent automated quality control on atomic force microscope (AFM) probes with some of the tightest dimensional tolerances available today.

NuNano, a developer of high-end AFM probes and cantilever-based sensor devices, has customized the TESCAN FESEM software for this highly automated imaging requirement. Quality control at the nanoscale can be a very demanding and often impossible task. Such rigorous use of an FESEM is certainly uneconomical if reliant on manual operation.

"In collaboration with the [University of Bristol's Department of Computer Science](#), we have created software algorithms that allow us to automate FESEM imaging and acquire high-resolution images of the tip apex for every probe on a wafer—that's 400 probes per wafer—to achieve 100-percent tip inspection," said Dr. James Vicary, managing director, NuNano. "We can identify a tip and capture an image of the apex in as little as 30 seconds, which would be impossible to do manually. This level of automation and throughput also minimizes the chance of contamination of the tip."

AFM is an important method for topography imaging and measuring material properties such as friction, electrical and magnetic forces, capacitance, and more. This high level of quality control enables NuNano to confidently provide its customers with AFM tips that offer extremely accurate imaging and the most reliable measurement data.

"NuNano is an innovative start-up within an eco-centre of research in Bristol and we are pleased they selected the TESCAN MIRA FESEM for use in their laboratory," said Ray Codd, general manager of TESCAN-UK Ltd. "Their collaboration with the University of Bristol's machine learning team has enabled a level of automated FESEM imaging that is truly unique and quite impressive."

NuNano will also use the TESCAN MIRA FESEM for R&D. The intuitive and user friendly operating system with unrivalled reliability and uptime allow new users to get results very quickly so additional imaging capacity on the system will be made available to other members of [Unit DX](#), an ecosystem of start-

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ups backed by the University of Bristol and Research England located within Bristol's Science Innovation Centre.

For more information about NuNano, visit: www.nunano.com.

For more information about the TESCAN MIRA FESEM, click [here](#).

About NuNano

NuNano is a UK-based company specialising in the design and manufacture of probes for AFM and cantilever-based sensor devices. Building on over 30 years of experience in AFM, proprietary microfabrication processes enable NuNano to manufacture AFM probes with the tightest dimensional tolerances in the market at present. Furthermore, NuNano is passionate about providing AFM users with the best possible customer service, from the first time they visit the website to storing the probes after a successful day on the microscope. For more information, please contact info@nunano.com.

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.

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