

Innovation Instruments Engineering

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Nanotechnology is undergoing a period of explosive growth. *nanotization* smoothes our interactions with environment, makes our medicine more effective, and our leisure more creative and exciting. NT-MDT has over a decade and a half of experience in nanotechnology, yet we still find wonder in this amazing and value-filled world.

Our mission is to enable researchers, engineers, and developers to conduct nanoscale research by creating ever more perfect nanotechnology instrumentation. Along the way, we maintain a global perspective, always taking into consideration the needs of student in the classroom, the researcher at the cutting edge in the laboratory, and the practicalities of industrial R&D.

We strive for next-generation in SPM technology, whether it be in pure modularity that allows a university or industrial lab to start with a cost-effective core product and build up to a powerful, multi-user research center that bridges the world of imaging with the world of chemical analysis. We believe passionately in rapid innovation while still delivering superb customer service.

Whether you are engaged in nano research on a daily basis or just contemplating it, coupling your specific scientific knowledge and expertise with our competence in instrumentation will produce the highest quality research results currently available.

NT-MDT companies group developed 4 different platforms:

- Nanoeducator: AFM for the education process in nanotechnology;
- Scanning probe microscopes for R&D and metrology in nanoscience and nanoindustry, which allows visualizing and performing quantitative measurements of mechanical, electrical and magnetic properties with more than 40 techniques in air, controlled atmosphere, liquids, high vacuum, etc.
- NanoLabs platform for high level scientific research: “Nanolabs” NTEGRA are analytical systems integrating different methods that allow receiving alongside with SPM data the information on molecular structure of the surface and volume in low and high temperatures, reconstructing 3D distribution of physical properties of object, carrying out Raman spectroscopy with SPM measurements, etc.
- NanoFab 100 for R&D and for creation of prototypes of nanodevices of NEMS and MEMS: NanoFab is the modular platform with a cluster arrangement that integrate methods of local processing (SPM, FIB, and FEB) and group technologies (MBE, CVD, magnetron depositions, laser ablations) of substrates as big as 100 mm. On the basis of such systems it is possible to model and manufacture small series of devices for nanoelectronics, with minimal size elements of less than 20 nm (up to 3-5 nm in SPM lithography mode). For the one inch or less wafers NT-MDT developed a more compact system – NANO FAB-25 with electron and X-ray spectroscopy, SEM, UV and Auger spectroscopy, high precision ion beam gun, FIB modules, SPM module, plasma stimulated CVD and etching systems.

We believe that have the most powerful line of the nanotechnology instruments to create and investigate nanomaterials and nanostructures with extremely high space and time resolution and I look forward to demonstrate our capabilities and expertise at the NGC/CSTC 2009 forum in Canada.

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