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DATASHEET

Tomography Software 4

Ease of use with high-throughput in 3D applications

Tomography 4 provides a solution for fast and easy access to 3D information

Thermo Scientific™ Electron Tomography™ is a powerful technique to reconstruct 3D models from two-dimensional information. To collect the data, a series of projection images should be acquired over a range of angles in incremental steps. This two-dimensional data can now be reconstructed into a 3D model using a reconstruction algorithm. Streamlining data acquisition and 3D reconstruction in one flow significantly improves the throughput.

Easy access to 3D information

Tomography 4 software provides easy access to 3D information. Grid atlas acquisition provides an overview of the entire specimen for easy identification of the area of interest. The new graphical setup for Low Dose specimens enables fast and easy operation, also in batch mode. Easy navigation allows for a simple batch setup, defining all positions where tomography series will be taken automatically. Fully automatic data acquisition runs once all settings have been defined. One time calibration fits all: common calibrations between tomography and EPU. In STEM tomography the new low dose functionality enables STEM tomography on delicate materials. The simultaneous multiple detector read-out improves the quality of the result by providing complementary Bright Field/ Dark Field information.

"One-stop shop solution"

Provides easy workflow from 3D data to 3D information. The Thermo Scientific solution does not stop when the acquisition part is finished. Tomography 4 software fits in the concise "look and feel" throughout all Thermo Scientific software solutions and seamlessly connects to Inspect*3D*.

Key benefits

Easy graphical setup for Low Dose specimens not only for single acquisition, but also in batch mode to minimize damage

Fully automatic TEM and STEM acquisition of multiple signals for life science and materials science applications.

Easy navigation allows for a simple batch setup, defining all positions where tomography series will be taken automatically

Grid atlas acquisition provides an overview of the entire specimen for fast navigation

One time calibration fits all: Common calibrations between tomography and EPU enable easy time efficient operation

Easy workflow from 3D data to information with Inspect3D, EPU and tailored data mining with scripting
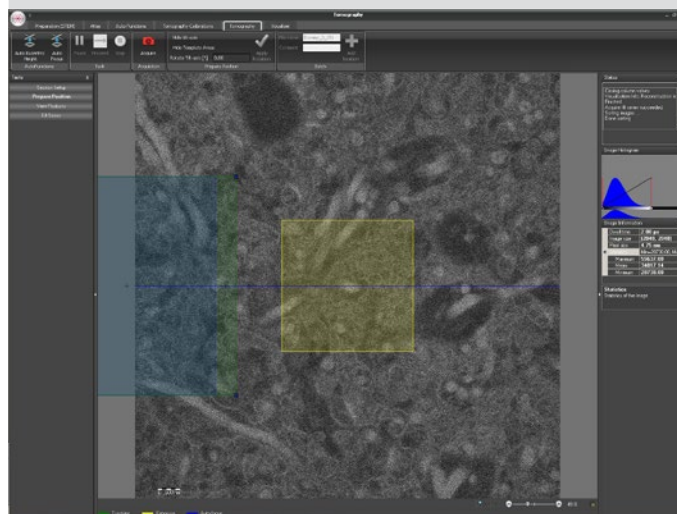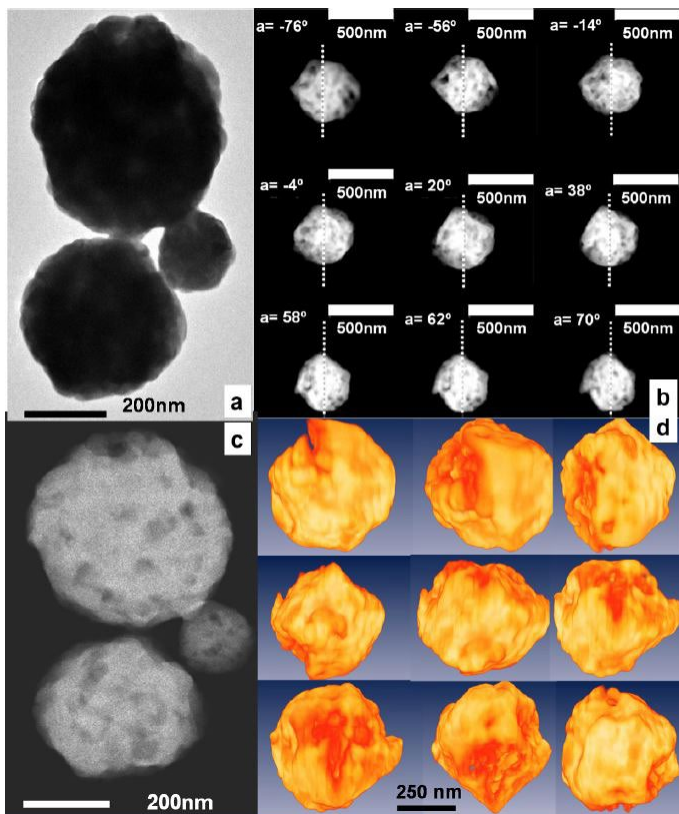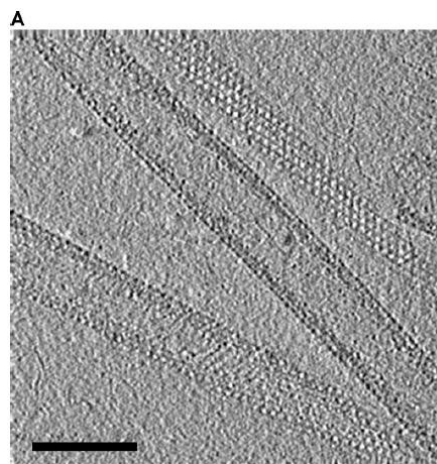

Figure 1. GUI of the tomography acquisition software.

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3D visualization on porous Gadoliniumoxide particles in STEM tomography taken from L.S. Gomez-Villalba et al. / Advanced Powder Technology VOL 24 ISSUE 5 p. 864-870 (2013)

Cryo-electron tomogram of M-PMV DPro CANC tubes. (A) A 8.1 Å thick slice through the xy plane of a representative tomogram showing three M-PMV DPro CANC tubes. A Gaussian filter was applied for visualization. The hexameric lattice arrangement of the proteins is clearly resolved. Scale bar 100 nm. (B) ''Lattice maps'' of tubes shown in (A). Journal of Structural Biology VOL 184 ISSUE 3 p.394-400 (2013)

Packages:

- New microscope:
  1050133 TEM Tomography Data Acquisition 4
  1050137 STEM Tomography Data Acquisition 4

- Field upgrades:
  1059420 TEM Tomography Data Acquisition 4
  1059422 STEM Tomography Data Acquisition 4

Available on the following tools:

- Entire Tecnai series (delivered after 2004)
- Tecnai Osiris/Arctica
- Talos
- Titan G1 80-200/60-300
- Titan G2 80-200/60-300/cubed
- Titan Krios
- Titan Themis 200/300

Tomography Approved Holders:

- Tomography Holder FP 5341/00, Tomography Holder (High Field-of-View) 9432 909 97191, Tecnai Arctica, or Titan Krios

System requirements for field upgrades:
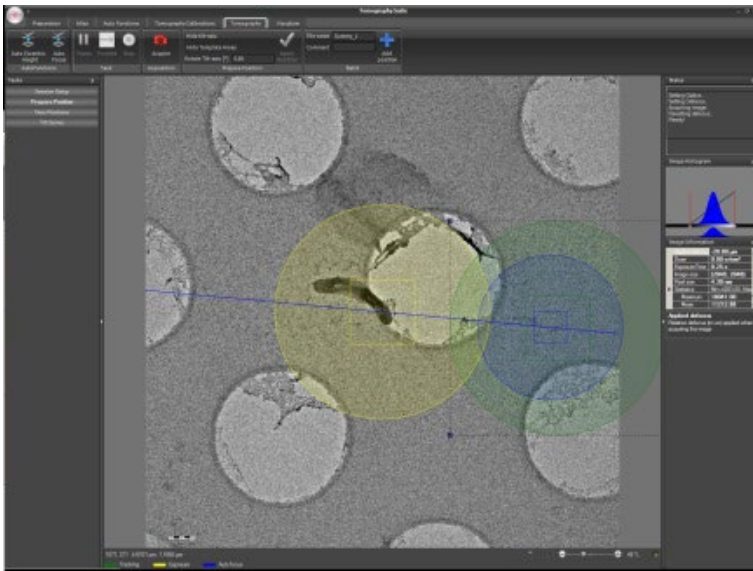
Software requirements :

- Minimum platform software version Tecnai 4.6.2, Talos 1.0.0, Titan 1.6.2 (Windows XP) or Titan 2.0.0 (Windows 7)

- Magnification Calibration FP 5458/50

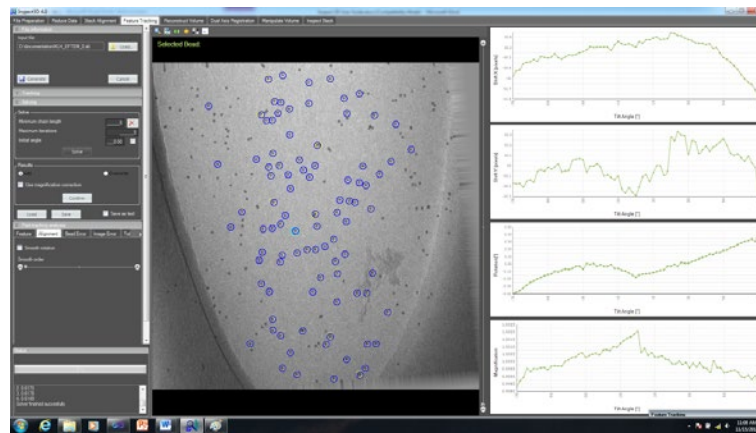### For STEM Tomography Data Acquisition 4 Upgrade:

- 1050133 (TEM Tomography Data Acquisition Software) or 1059420 (TEM Tomography Data Acquisition 4 Upgrade)

- STEM hardware, including an HAADF or On-axis Bright-Field/ Dark-Field Detector

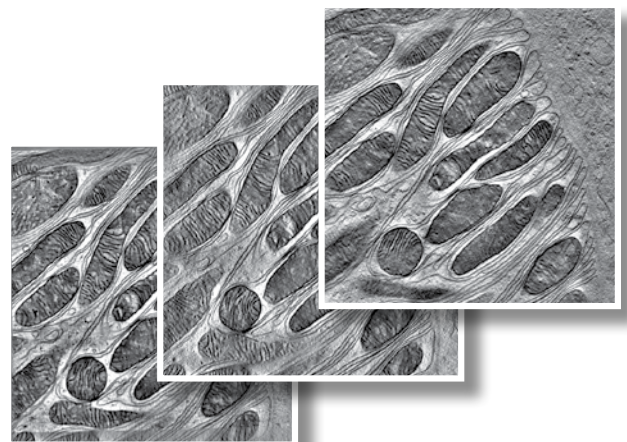- For Tecnai: PIA scan generator (National Instruments is not supported)

Note:

Under our Thermo Scientific brand we offer a complete tomography solution. The packages are: Inspect*3D* 4 for 3D volume reconstruction; Amira and Avizo for volume visualization.

Tomography 4

Inspect*3D* 4

Amira and Avizo

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Find out more at **thermofisher.com/EM-Sales**

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