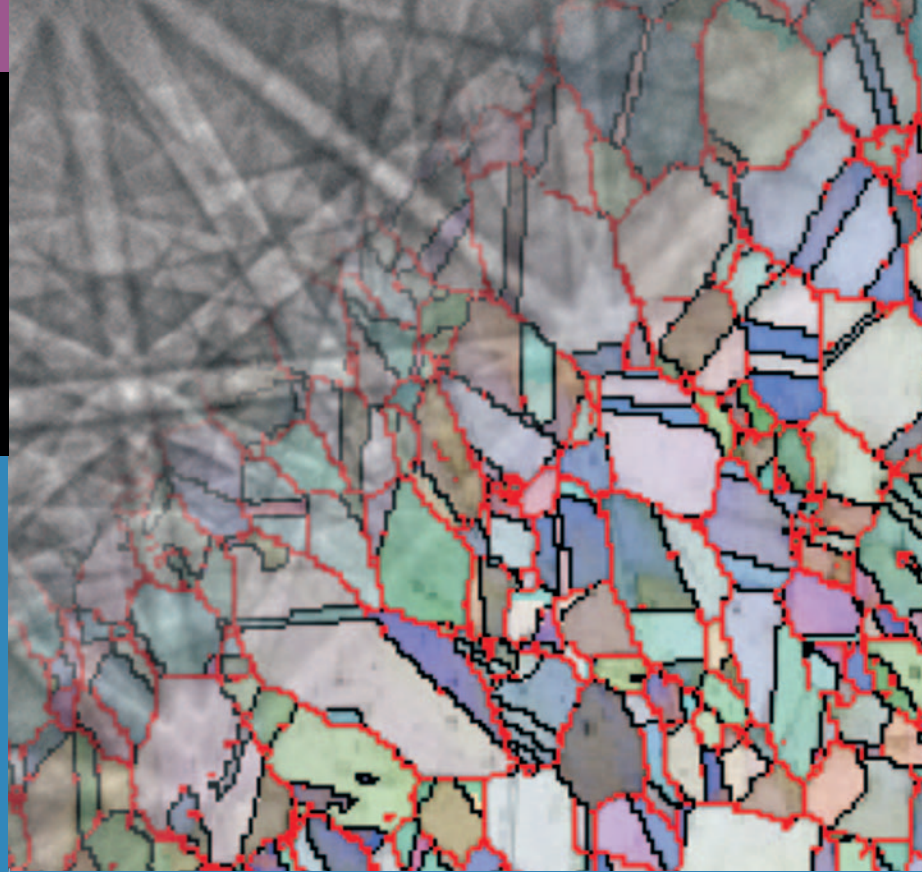


**Thermo Scientific  
QuasOr**



### ***Electron Backscatter Diffraction***



Crystal Orientation Mapping



Texture Analysis



Integrated Spectral Imaging



# No Compromise Electron Backscatter Diffraction (EBSD)

Thermo Scientific QuasOr EBSD, a fully integrated extension of the Thermo Scientific NORAN System 7 architecture.

## Electron Backscatter Diffraction

EBSD enables nanostructural analysis in the electron microscope by characterizing the crystalline structures which affect physical properties in a wide range of materials. EBSD is now a common tool in the Scanning Electron Microscope (SEM) laboratory, especially when integrated with other microanalytical techniques such as EDS and WDS.

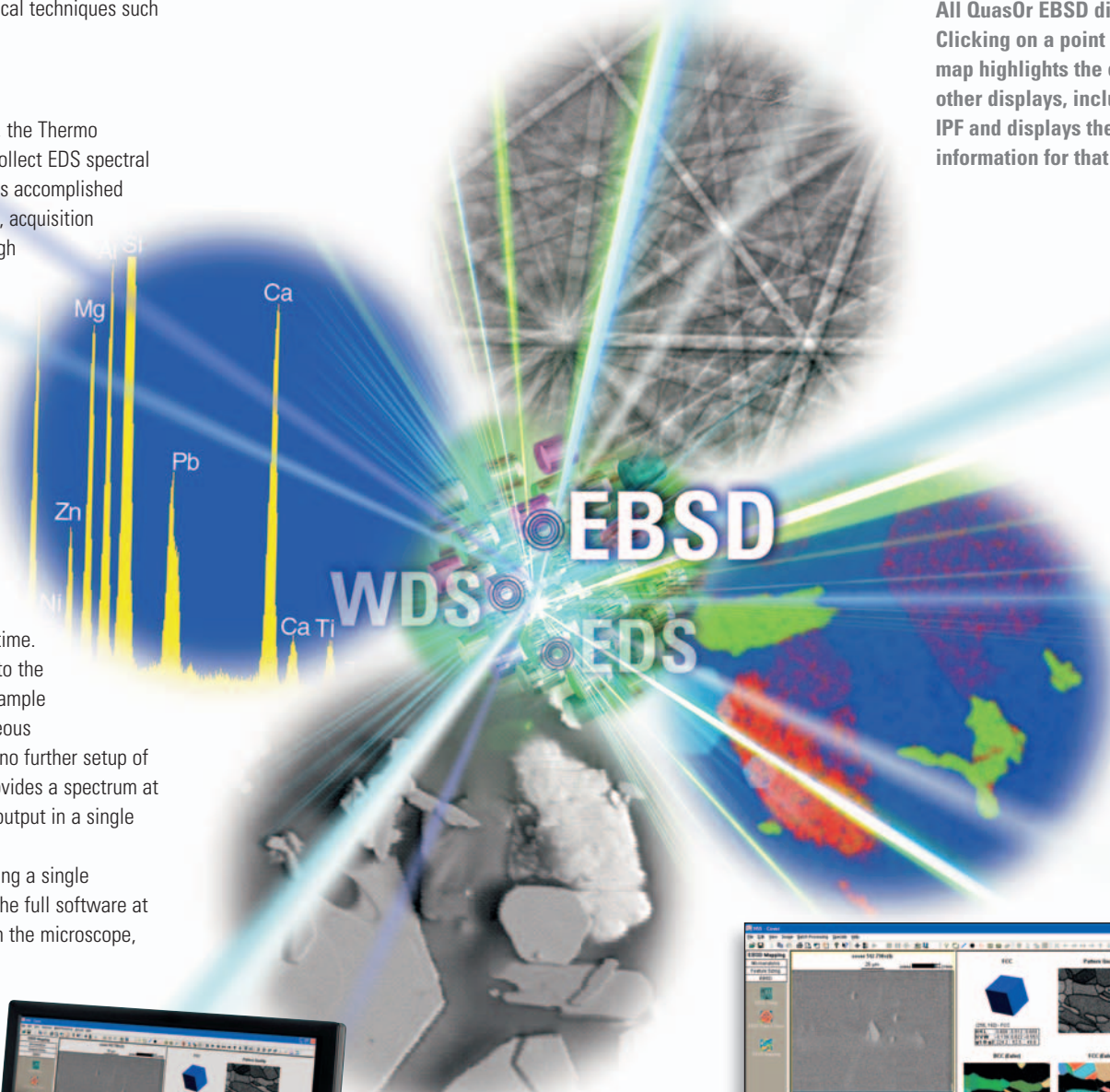
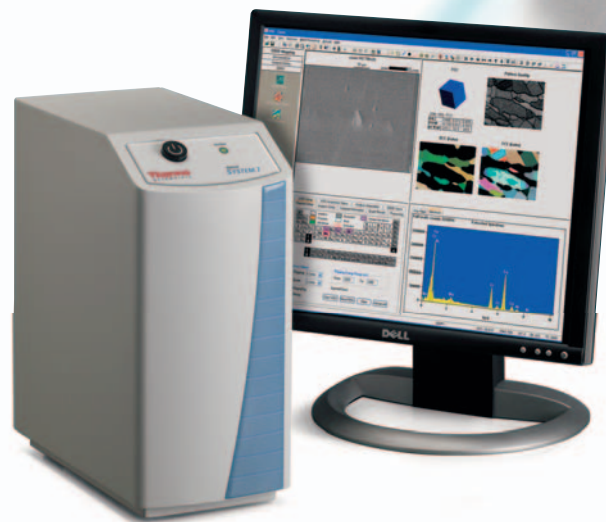
## Integration

As an integral part of the Thermo Scientific NORAN System 7, the Thermo Scientific QuasOr EBSD allows the analyst to simultaneously collect EDS spectral images and WDS X-ray data with ease. X-ray data collection is accomplished without compromising EBSD data acquisition speeds. The setup, acquisition and analysis of EBSD, EDS and WDS data are managed through a single interface, negating the need to switch between programs. All data (EBSD, EDS and WDS) are stored together with the analysis parameters for a project.

## Productivity

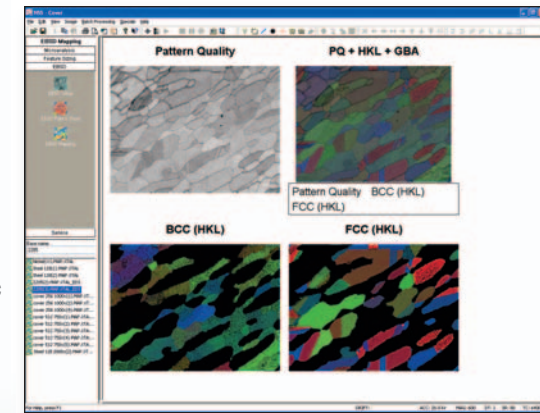
QuasOr EBSD improves laboratory productivity through the ease of learning and high data acquisition speeds. QuasOr EBSD builds upon the NORAN System 7 architecture to reduce the learning curve for new users by utilizing the same interface as the EDS and WDS system. Guided tabs for EBSD calibration and acquisition setup lead users quickly through the necessary steps, significantly reducing the setup time. The high speed camera acquires EBSD patterns synchronized to the NORAN System 7 spectral image, allowing interpretation of sample microstructure in the minimum amount of time. Full, simultaneous spectral imaging collection is as easy as a single mouse click, no further setup of elements or X-ray lines is necessary as the spectral image provides a spectrum at every point. As part of the NORAN System 7, all data can be output in a single click to Microsoft® Word or directly to the printer.

NORAN System 7 is accompanied by a site license allowing a single installation on the SEM and unlimited offline installations of the full software at the same site. This allows analysts to process data away from the microscope, thereby freeing valuable electron microscope resources.



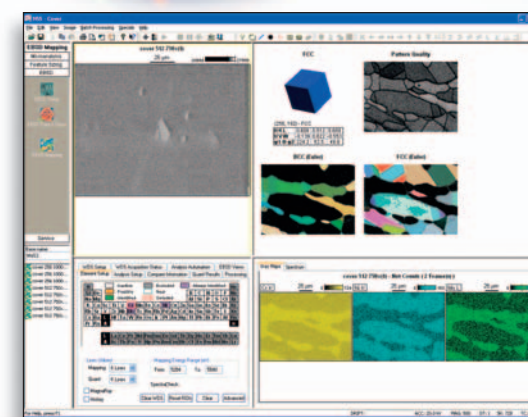
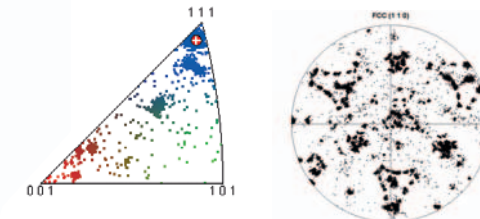
## CRYSTAL ORIENTATION MAPPING

QuasOr EBSD provides a wide choice of mapping display options. A selection of crystal orientation maps is available, as well as phase and grain boundary maps. Additionally, image and pattern quality maps give the user confidence in the data. Combining these different maps in overlaid displays helps the user clearly visualize sample microstructure. All QuasOr EBSD displays are interactive. Clicking on a point in the crystal orientation map highlights the corresponding point in all other displays, including the pole figure or IPF and displays the detailed crystallographic information for that point.



## TEXTURE ANALYSIS

QuasOr EBSD can display crystalline texture information as pole figures, inverse pole figures or as an Orientation Distribution Function. Both pole figures and inverse pole figures can be displayed as the data is collected allowing the user to make a rapid interpretation of sample texture. The ability to freely define the reference directions enables the user to analyze microstructure with confidence.



## INTEGRATED SPECTRAL IMAGING

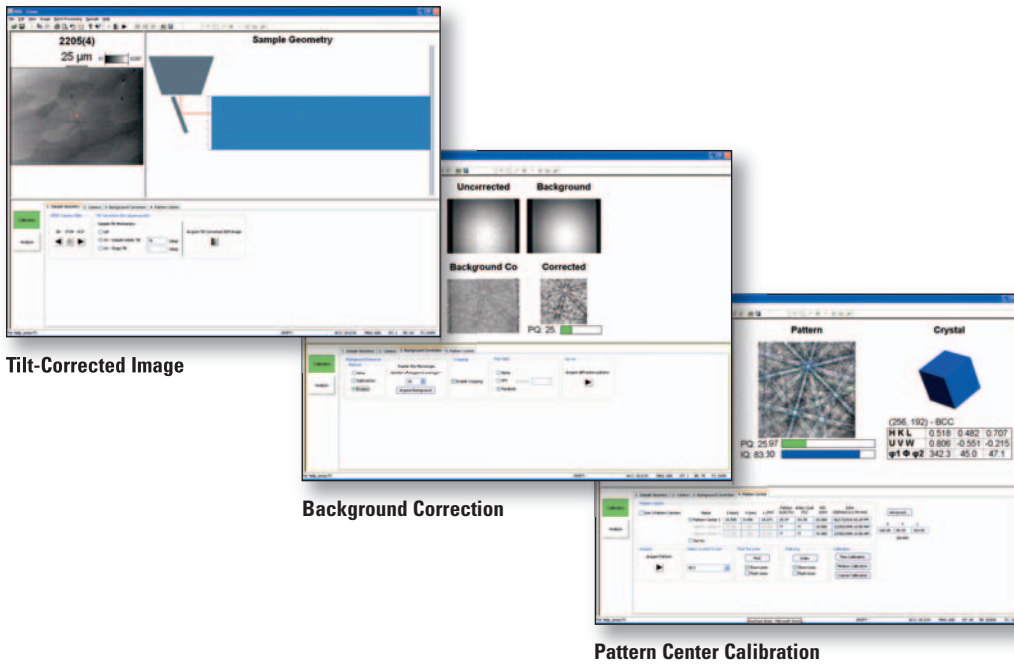
NORAN System 7 can collect a full EDS spectrum and WDS X-ray counts at each point of a crystal orientation map without compromising acquisition speed. This enables the analyst to collect a wealth of elemental and structural data in minimal acquisition times. The reanalysis of a crystal orientation map using any number of elements, the Thermo Scientific COMPASS software components or the Thermo Scientific XPhase maps, is routine.





## Guided Setup

Calibration and acquisition setup tabs guide the user through preparing QuasOr EBSD to collecting data. These simple, flowing tabs lead the operator through collecting a tilt-corrected image, background correction, pattern center calibration and crystal setup. QuasOr EBSD is designed to be straightforward to use even for the infrequent user. Setup parameters are stored with the project and can be used as a template for future analyses.



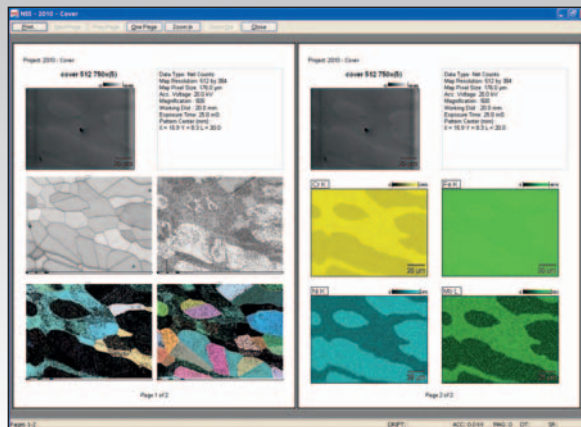
Tilt-Corrected Image

Background Correction

Pattern Center Calibration

## ONE-CLICK REPORTING

With a single mouse click, all displayed EBSD views (e.g. pole figures, inverse pole figures, crystal orientation maps) can be exported to Microsoft Word or sent directly to the printer.



In addition to these offices, Thermo Fisher Scientific maintains a network of representative organizations throughout the world.

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