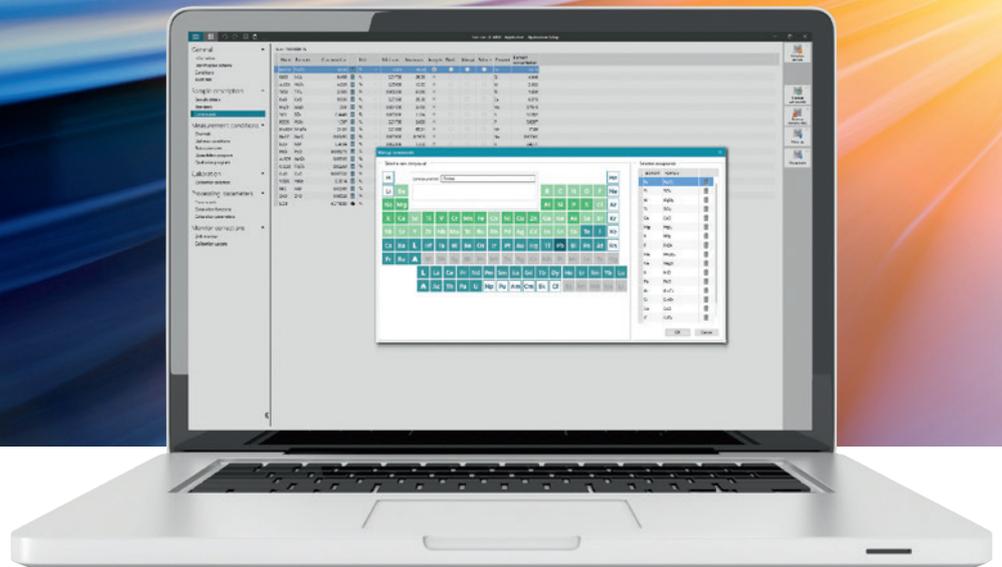




**Malvern  
Panalytical**  
a spectris company

# SUPERQ 6

High-performance X-ray analysis software



# HIGH-PERFORMANCE X-RAY ANALYSIS SOFTWARE

## Measuring up to your analytical needs



Representing the wealth of Malvern Panalytical's experience in analytical XRF, SuperQ 6 takes advanced X-ray analysis to a new level. Designed to meet the needs of all industry sectors, its modular format enables application-specific adaptation for efficient, high-performance analysis.

# ACCURATE ANALYSIS MADE EASY

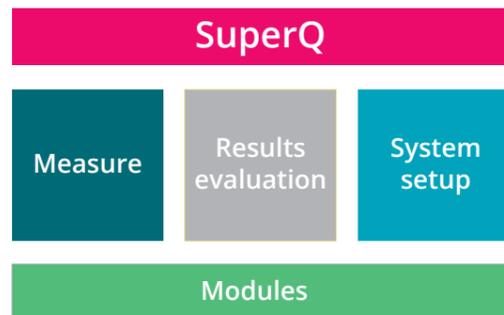
## Powerful, flexible, accessible

SuperQ 6 makes accurate quantitative and qualitative analysis even easier. This latest version of Malvern Panalytical's proven software is available for the Zetium range of sequential XRF spectrometers.

The package is both efficient and user-friendly. All aspects of analytical control are easily accessible and straightforward. Measurement setup, calibration and analysis protocols are all supported by a comprehensive, built-in help function and robust default settings.



## A structural approach



### SuperQ 6 advantages:

- Easy to use and to learn: for both daily operators and system owners.
- Tailored package: fits individual analysis needs.
- Modular structure: add only the required functionality for your industry.

## Measurement and sample changer control

Combining ease of use with flexibility Advanced XRF analysis is straightforward with SuperQ 6. The intuitive user interface allows inexperienced users to create and execute sophisticated measurement protocols.

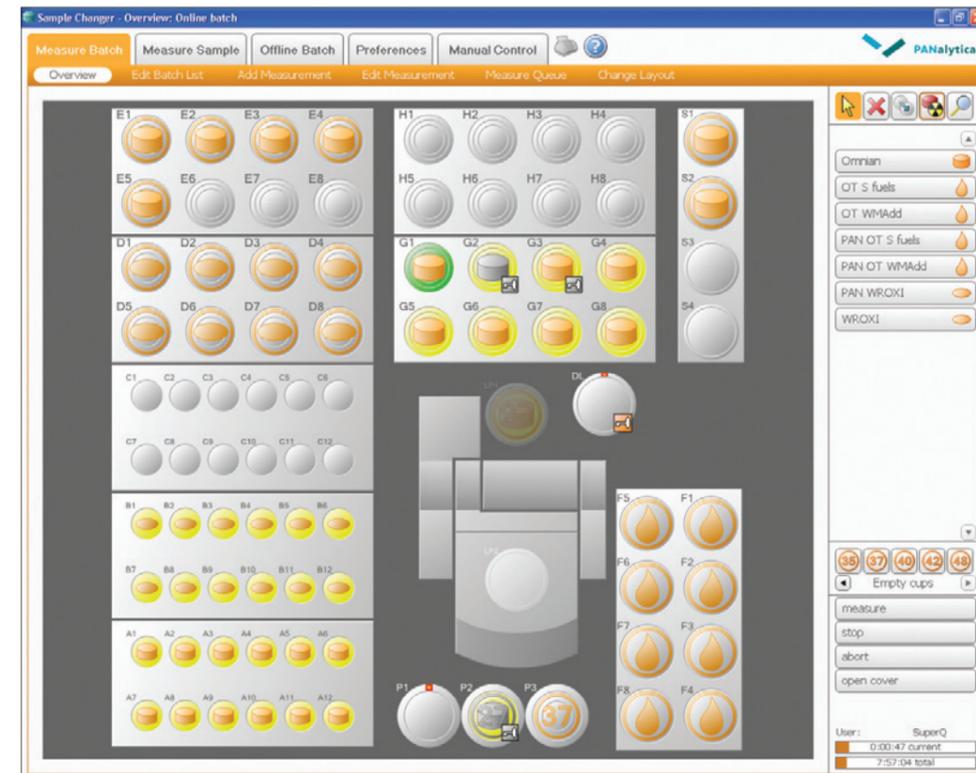
For Zetium systems, SuperQ 6 features a sample changer interface designed according to a user-centered design process. This interface provides all necessary functions for preparing and measuring batches of samples and includes reporting of intermediate results.

Creating measurement batches is as simple as assigning a measurement program to a sample. While measuring, new samples can be added to the batch or new batches can be created and placed in a queue.

For urgent measurements, QuickStart can be triggered while a batch measurement is in progress, simply by placing the urgent specimen in the priority position. This will allow immediate measurement of the sample. Quickstart can also be used in combination with APS (Automatic Program Selection) making routine analysis as simple as placing a sample on the spectrometer.



Conditional measurements can fully automate application maintenance tasks. Measurement of check samples can be scheduled and automatically followed by monitor correction when limits are exceeded.



# ACCURATE ANALYSIS MADE EASY

## Results evaluation

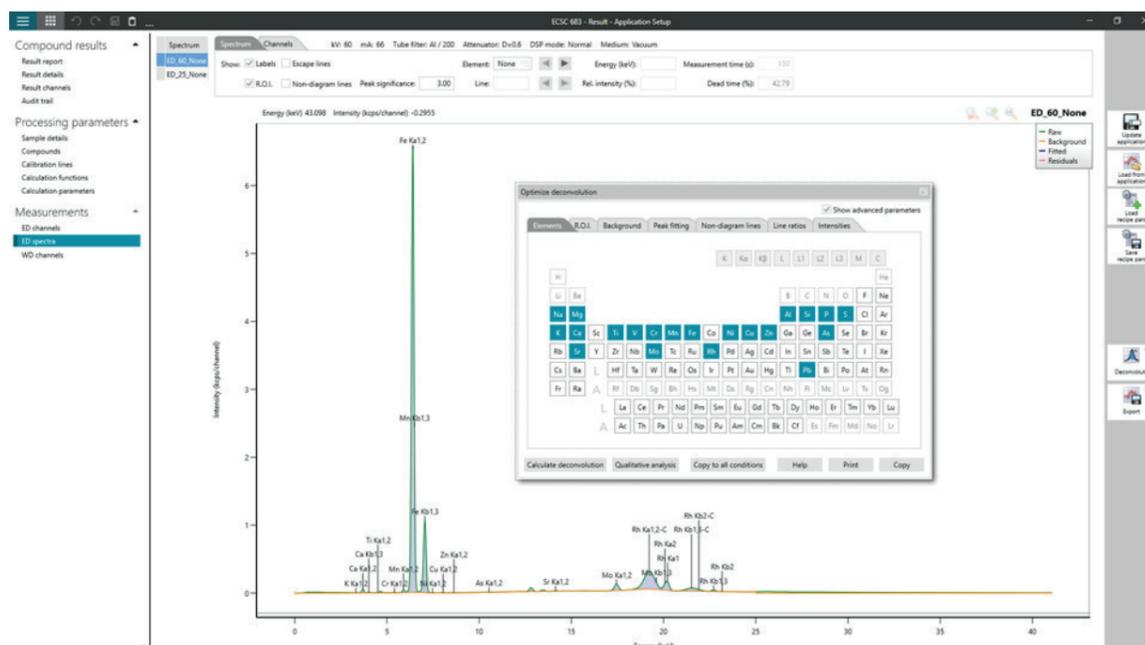
### Transparent results and reporting

SuperQ 6 enables users to look closely at all data, compare results, view statistics and reprocess results when necessary.

During quantitative analysis, provisional concentrations are displayed real time. Final results are automatically reported on measurement completion in the results

evaluation section of SuperQ. For the evaluation of qualitative results (scans), the spectra evaluation module is used.

Application-specific databases store data, enabling easy access using a variety of date/time, sample ID and measurement-type filters. Data can be transmitted to LIMS, printed directly or transferred to files, spreadsheets and word processing programs.



### Fit for purpose - dedicated industry modules

It is easy to tailor a system to specific application needs with ready to use industry modules, such as the metals, petrochemicals, minerals, cement and polymers modules. These include pre-defined application setups and industry-specific reference materials.



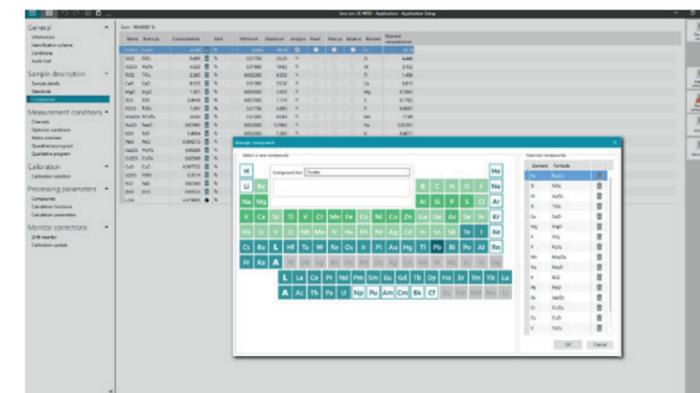
## System setup

### Intuitive yet flexible application setup

Application setup and analytical program assembly is easy. While experienced analysts have complete freedom to define their own measurement conditions, other users benefit from the software's built-in intelligence.

Application setup is carried out via a simple and logical succession of tabs - from measurement conditions to reporting scheme.

Analytical program assembly is also straightforward. Elements or element ranges are simply selected from a periodic table display. Default measurement channel and scan conditions are generated automatically. Depending on application requirements, these can provide either maximum sensitivity or resolution for each analyte. Assistance is also available for determining appropriate measurement times based on either detection limits or precision.

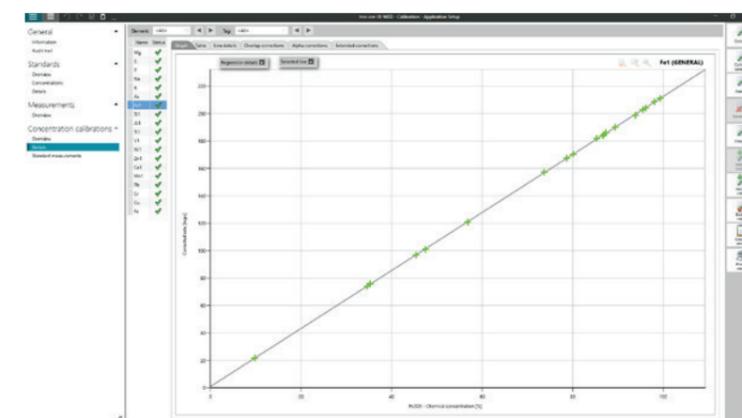


### Simplified calibration

SuperQ 6 uses details introduced during the application setup to simplify and streamline calibration procedures.

Calibrations can be derived using a number of matrix correction and line-overlap correction algorithms, regression models and error weighting. Standard matrix models include theoretical and empirical influence coefficients (α's), a full FP model and Compton ratio correction.

Details can be viewed or exported in either graphic or table formats. Lower limits of detection are reported for both standards and unknown samples.



### Fit for purpose - data security

SuperQ 6 includes full GLP (Good Laboratory Practice) capabilities. Access to programs and stored data can be controlled using individual user identities and privilege levels. Dated and timed messages indicating errors and non-routine actions are recorded together with the user ID, for future reference by the laboratory supervisor.

### Fit for purpose - support

Malvern Panalytical has always prioritized the highest possible levels of customer service, so our global customer support network is always on hand to assist and give advice.

# DEDICATED MODULES FOR YOUR INDUSTRY

## Meeting the demands of industry

The growing demand for more accurate, application-specific results requires flexible, cost-effective XRF analytical solutions. SuperQ 6 has been designed in a modular format to enable specific industry requirements to be met.

**Omnian** offers standardless quantitative analysis for a wide variety of unknown samples. Using scans and optional peak measurements, high precision measurements are achieved for solids, liquids, pressed powder, fused beads and loose powders.

Omnian advantages include:

- Advanced peak search & match and line-overlap algorithms.
- Fundamental Parameter algorithms that deal with:
  - Finite thickness characteristics.
  - Fluorescence Volume Geometry (FVG).
- Unmeasured 'Dark-Matrix' compounds.
- Adaptive Sample Characterization (ASC).

**Pro-Trace** is a cost-effective solution offering accurate quantification close to the detection limit for traces in sample types ranging from biomass to rocks and ores.

Incorporating high quality setup standards, along with options such as a smart element selector, wizard assistance, robust defaults, and expert assistance, Pro-Trace also features a series of unique algorithms for:

- Iterated spectral overlap correction.
- Mass attenuation coefficients with absorption jump edge correction.

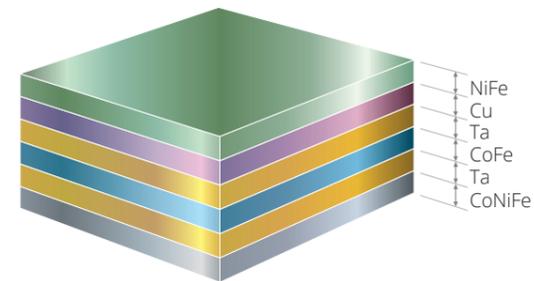


**Oil-Trace** is a complete solution for the petrochemical industry. Oil-Trace corrects both 'Dark-Matrix' composition and density mismatches between samples and standards. Its main advantages are a dramatic reduction in the number of calibrations and operational cost savings.

Oil-Trace can be applied to:

- Fuels and bio-fuel mixtures: B20, E5, E85.
- Screening for S, Ni, V and other restricted elements in oil
- Wear metals in new and used lubricating and hydraulic oils.
- Chlorine in compressor oils.
- Metals in catalysts.
- Catalyst poisoning.

**Stratos** uses fundamental parameters to determine the thickness and composition of coatings and surface or sub-surface layers on samples such as metals and semiconductor wafers. Crucially, calibration can be carried out using conventional bulk reference materials or multi-layer samples that differ from the unknown samples.



**Type Standardization** is commonly used in the metals industry. Accurate results for many different alloy grades are achieved using just a few general-purpose calibrations. Production samples are mapped onto these calibrations using factors derived from in-type alloy standards.

**Enhanced Data Security** helps laboratories meet the requirements for FDA 21 CFR part 11 and includes secure user login, electronic signatures, electronic record audit trailing and data integrity protection application privilege levels.



**Automation** and XRF system integration is made easy with a combination of SuperQ's Universal Automation Interface (UAI) module and Supervisor control software. This setup can manage relatively simple XRF/XRD (twin) interface projects right through to more complex custom-designed automated laboratory setups incorporating a host computer that controls sample transport, sample preparation and other components.

**Statistical Process Control (SPC)** performs statistical evaluation of data trends for management and control of production processes or monitoring of long-term spectrometer performance in accordance with the principles of Good Laboratory Practice (GLP).





## WHY CHOOSE MALVERN PANALYTICAL?

We are global leaders in materials characterization, creating superior, customer-focused solutions and services which supply tangible economic impact through chemical, physical and structural analysis.

Our aim is to help you develop better quality products and get them to market faster. Our solutions support excellence in research, and help maximize productivity and process efficiency.

Malvern Analytical is part of Spectris, the productivity-enhancing instrumentation and controls company.

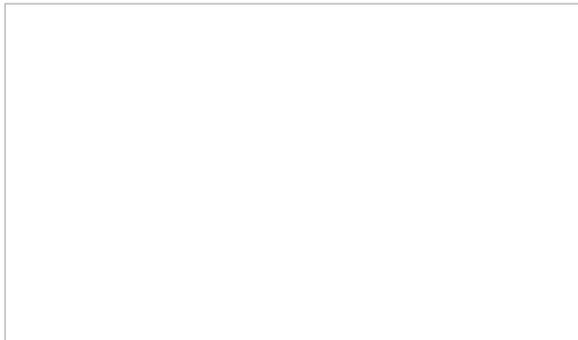
[www.spectris.com](http://www.spectris.com)

## SERVICE & SUPPORT

Malvern Analytical provides the global training, service and support you need to continuously drive your analytical processes at the highest level. We help you increase the return on your investment with us, and ensure that as your laboratory and analytical needs grow, we are there to support you.

Our worldwide team of specialists adds value to your business processes by ensuring applications expertise, rapid response and maximum instrument uptime.

- Local and remote support
- Full and flexible range of support agreements
- Compliance and validation support
- Onsite or classroom-based training courses
- e-Learning training courses and web seminars
- Sample and application consultancy



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