



Aeris

Minerals edition



Outperforming expectations... surprisingly intuitive

The Minerals editions of AERIS is PANalytical's X-ray diffractometer for everyone in the mining industry. Ease of use and maximum benefit are the key aspects. Experience for yourself how the operation of the Minerals edition of AERIS is just a breeze with its intuitive user interface on the built-in touch screen where all results you need are directly displayed.

At the same time, the Minerals edition of AERIS is designed for low cost of ownership. With its low power consumption, virtually unlimited lifetime of the tube and limited infrastructural requirements it guarantees low running costs.

PANalytical's engineers with their continuous drive to innovate have been able to outperform typical benchtop X-ray diffractometer performance. AERIS incorporates many technologies that were introduced on our high-end systems and have proven their benefits. The data quality and speed of analysis delivered by AERIS have previously only been seen on full-power systems.

Additionally, AERIS is the first benchtop X-ray diffraction (XRD) system that is fully automatable and can easily be incorporated in industrial production control.

Excellent X-ray diffraction for everyone indeed!



"It's like making a cup of coffee...except it's even easier"

Watch our video on www.XRDisEASY.com

Efficient processing of ores and minerals

Configured for mining applications

XRD can provide accurate mineral monitoring and input for hydrometallurgical models to obtain the most economic processing conditions.

Exploration	Greenfield	Brownfield
Determination of all existing minerals for resource estimation	Mineralogy defines the most suitable process for an ore type.	Investigate poor metallurgical performance
Tracking of ore deposits and alteration zones	Knowledge of mineralogy helps to achieve optimal recoveries.	Enhance efficiency of the beneficiation process
Modeling of shapes and types of ore bodies	Mineralogy information ensures the required product quality.	Increase recovery of ore minerals

Where can mining companies benefit from X-ray diffraction ?

High-end technology

X-ray diffraction (XRD) is the most efficient method for directly obtaining information about the mineralogy of ores, concentrates and industrial residues.

Manufacture with confidence

XRD can be your partner in process control and optimization at every stage of the production process, from raw material to the final product.

Fast

Rapid analysis minimizes feedback loops and allows early intervention for process optimization.

Safety

XRD is a safe, non-destructive analysis tool.



Process monitoring in mining made easy by Aeris

Aeris can be used by everyone and everywhere. With its small footprint the instrument can be placed wherever you want it to work for you. Put it for example in a container laboratory directly in the mine or processing plant and get fast analyses of your material on-site. Sample preparation is easy and safe and does not require additional chemicals.

Aeris' low cost of ownership delivers maximum return on investment: it has very limited infrastructural requirements with its small footprint and it has no need for compressed air or cooling water. Aeris has a much lower power consumption compared to floorstanding X-ray diffraction systems and its X-ray tube has a virtually unlimited lifetime.



Seamless integration in automation

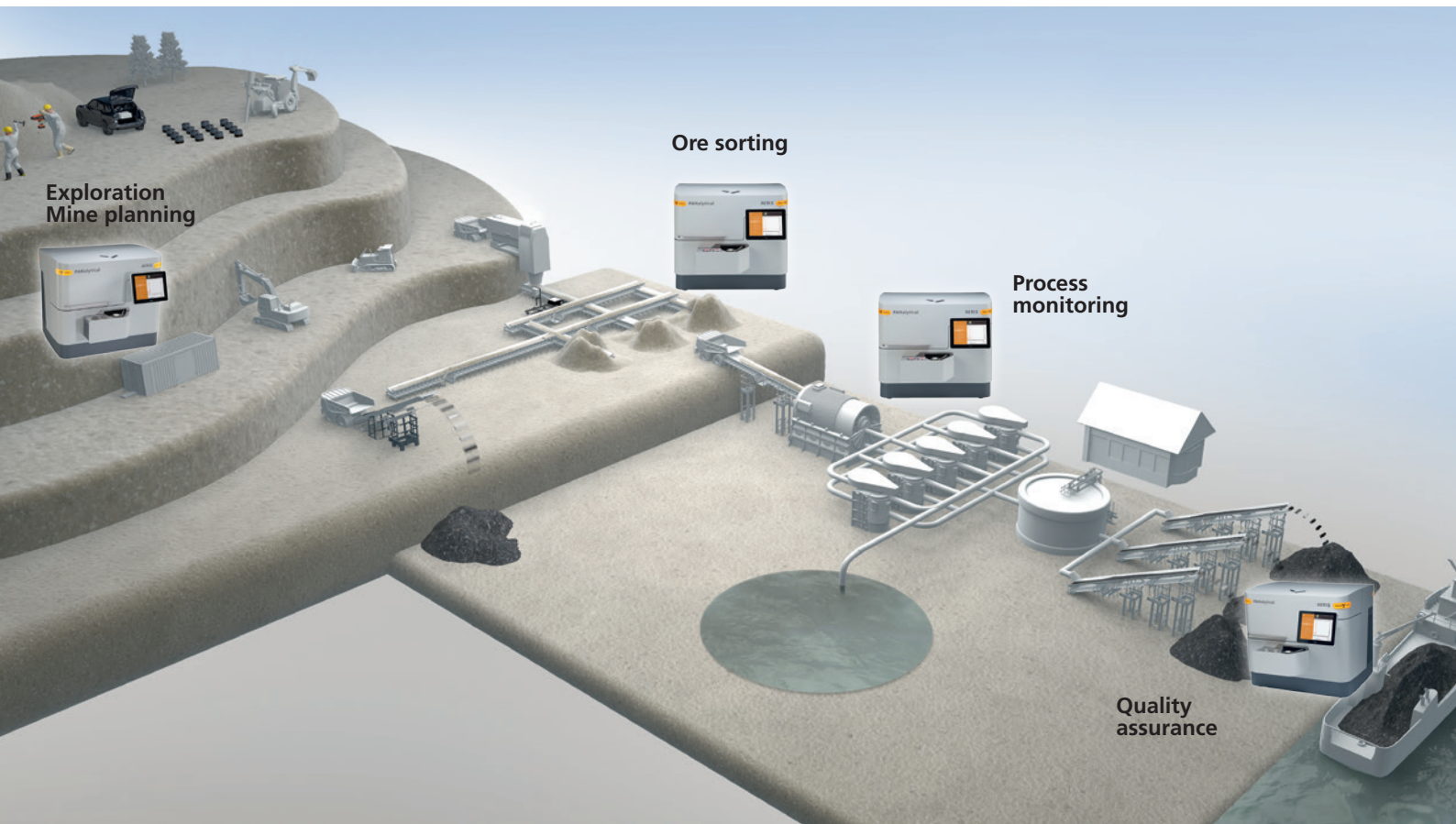
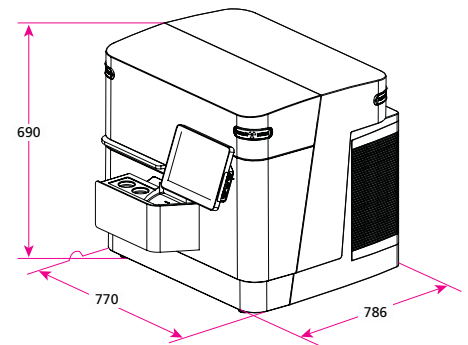


The only fully automatable benchtop diffractometer for high sample throughput

Aeris can be connected with belt or a robot for fast and automated sample processing.

The power of combining technologies

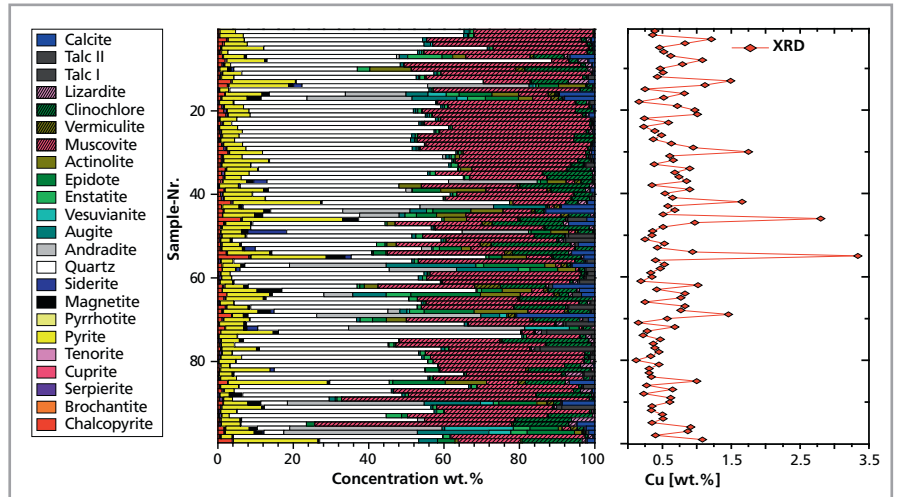
The twin solution, Aeris and Zetium, provides full material characterization by adding elemental composition information from Zetium to the phase composition by Aeris.



Versatile analysis of ores

Analysis of copper ores with complex mineralogical composition

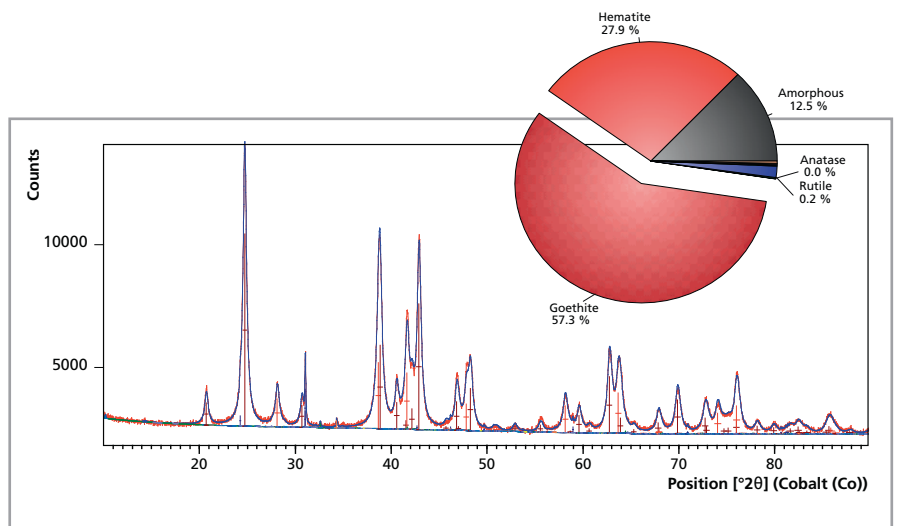
Aeris needs only 10 minutes to deliver an accurate analysis of a complex ore sample containing more than 20 different mineral phases.



Mineralogy of 100 copper ore samples (left), total copper content calculated from the mineralogy

Crystalline and amorphous content in iron ores

Aeris in combination with PANalytical's software module HighScore is also capable to quantify the amorphous content of rocks and ores besides their mineral composition.

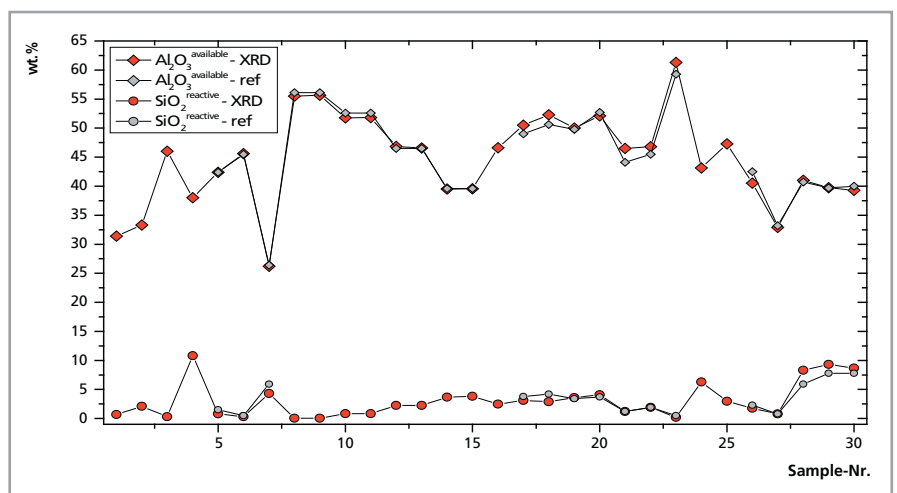


Quantitative analysis of minerals and amorphous content in iron ore

Direct monitoring of process parameters in bauxite

Aeris is the only benchtop diffractometer that allows the direct monitoring of process parameters such as the available alumina or reactive silica in bauxites.

PLSR (partial least squares regression) as part of the HighScore software module makes Aeris a unique tool for process monitoring.



Comparison of XRD/PLSR results and wet chemistry for the available alumina and reactive silica content in bauxite

Strong and robust

Fast and reliable feedback into the process is paramount for producing good-quality ore concentrates and metals efficiently. Uptime of the analytical equipment is therefore key. From the ground up, Aeris has been designed for maximum uptime. This is additionally backed by PANalytical's global network of customer support and application specialists.

Aeris is the first benchtop XRD providing seamless integration in any industry standard automation system with a belt or a robot. Also Aeris complies with the most stringent safety standards.



Rugged design

The only benchtop XRD with external sample loading for ultimate dust protection of the heart of the instrument

Minimum of infrastructural requirements

No cooling water, no chiller, no compressed air - the only thing you need is a single-phase power socket

Industry-ready

Compatible with all common industry standards; from LIMS interfacing protocols to various industry-standard sample holders

6-position sample changer

Easy-to-use and automatable sample changer that is compatible with industry standard sample holders

Fully automatable

Aeris can be connected to a belt or a robot. Data transfer is provided with industry standard LIMS protocols

Easy operation

Intuitive operation via on-board high-resolution (1024 x 768) 10.4" LCD touch screen

Speed and sensitivity pack

Even faster analysis and improved detection of minor phases

Safety guaranteed

Aeris complies with the most stringent safety requirements. No chemicals are needed for sample preparation



An easy touch

Accurate and reliable results in just a few steps



Place sample and enter sample information



Select measurement program and hit start



High-end service to suit your needs

To assure that your instrument remains in top condition and performs on the highest level, PANalytical offers a wide range of services. Our Expertise and support services assure an optimal functioning of your instrument.

Expertise

We take care of your analytical challenges

Industry's largest pool of specialists to create analytical solutions that are crucial for your processes and add value to your business and activities.

- On-site training
- Training courses
- Performance optimization and validation
- Analysis services and customized reference materials
- Multi-laboratory standardization

Support

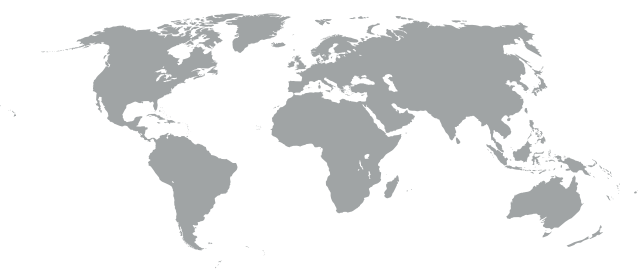
Support for a life time

Worldwide network of experienced engineers to ensure rapid response and maximum uptime.

- Phone and remote support
- Preventive maintenance and check-ups
- Flexible Care Agreements
- Performance certificates
- Hardware and software upgrades
- Local presence
- Local stock of spare parts



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