



# MAKE MINING MORE PREDICTABLE, SUSTAINABLE AND AGILE

for better recovery rates and process efficiency

Visit our website  
for more information

## EMBRACE AUTOMATED AND ON-LINE SOLUTIONS TO UNLOCK THE NEXT-LEVEL PERFORMANCE

Significant savings in each step of the mining process are achieved by increased use of sensors from mine to beneficiation. Malvern Panalytical delivers innovative and unique mineral analysis solutions to increase the efficiency of your complete mining operation.

### Real-time analysis in the mine



- Secure valuable ore grades in the mine, by on-line monitoring of ore quality on the belt.
- Save millions in downstream processing with early ore sorting.

### Automation and real-time process control



- Boost your metal output during processing by accelerating data-driven decision making.
- Reduce consumption of costly reagents with automated processes.

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**On-line** monitoring (CNA/ NIR) - **Elemental** testing (XRF)

**Particle size** and **shape** characterization (PSD) - **Mineralogical** analysis (XRD/ NIR) - **Automated laboratories**

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**Malvern  
Panalytical**  
a spectris company

## FASTER COUNTERACTIONS ON CHANGING RAW MATERIALS WITH ON-LINE OR AT-LINE MONITORING

### MINIMIZE COSTS AND ENERGY FOR ORE SORTING AND BENEFICIATION

#### CNA cross-belt analyzer

- Provides the elemental composition of your entire conveyed ore in real-time.
- Delivers reliable results independent from your belt width, load, variation or particle size.
- Operates under completely safe conditions.



### INCREASE LIFETIME OF MILLS AND ENSURE OPTIMAL BENEFICIATION CONDITIONS

#### Insitec

- Fully automated real-time measurement of particle size distribution.
- Handles wet and dry material streams.
- Monitors milling efficiency.



### REAL-TIME ANALYSIS OF LIQUORS AND REAGENT DURING ORE PROCESSING

#### Epsilon Xflow

- Fast, simultaneous multi-element analysis.
- Highly repeatable results.
- Chemical resistance to a wide range of liquids.
- Tailored solutions for process liquors and mine wastewater.



### DETECT MINERALOGY AND PREDICT PROCESS RELEVANT PARAMETER

#### QualitySpec 7000

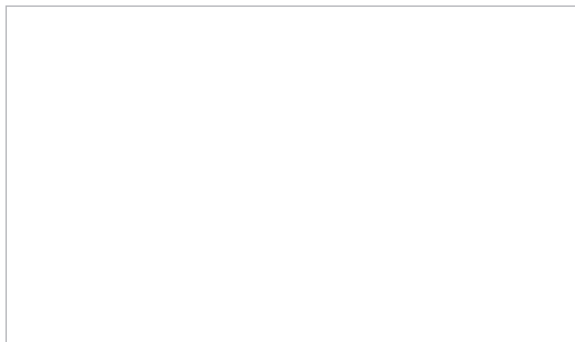
- Allows real-time continuous mineralogical monitoring of raw and processed ores on a belt or besides a blast whole.
- Operates under completely safe conditions.



### ENHANCE LABORATORY PERFORMANCE WITH AUTOMATED ANALYSIS

#### Automation

- Enables data fusion of multiple sensors.
- Guarantees safe sample taking, handling, transportation and preparation.
- Turn-key automated analytical solutions for laboratories, container or directly implemented in the process.



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