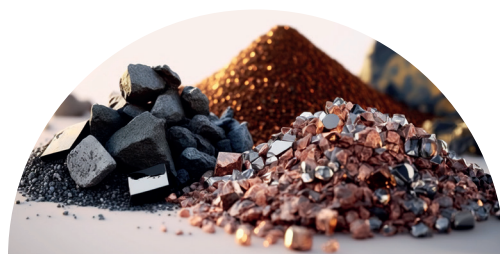


MINING AND GEOLOGY

APPLICATION SOLUTIONS FOR CHARACTERIZATION,
PROCESS OPTIMIZATION AND RECOVERY OF MINERALS



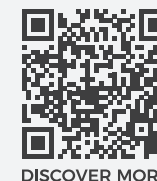
EXPLORATION & PRECIOUS METAL RECOVERY



SAMPLE PREPARATION & PROCESS OPTIMIZATION



QUALITY CONTROL & ENVIRONMENTAL MONITORING



DISCOVER MORE

FROM EXPLORATION TO ENVIROMENTAL MONITORING IN GEOLOGY AND MINING



MATERIALOGRAPHY & HARDNESS TESTING

- | **Materialography Solutions** empowering geology and mining laboratories
- | **Polished Mounts** for mineral and ore analysis
- | **Vacuum Impregnation** of Porous Geological Samples
- | Preparation of **Petrographic Thin Sections**: increase throughput due to automatised grinding process
- | **Microhardness Testing** of minerals and rocks

- | **Vacuum Impregnation** of porous geological samples
- | Preparation of **Petrographic Thin Sections**
- | **Microhardness Testing** of minerals and rocks



EXPLORATION AND CHARACTERIZATION



ELEMENTAL ANALYSIS

- | Elemental characterization and **moisture content** of coal
- | **Ultimate analysis** standard methods on coal
- | **Sulfur Determination** for mineral grade evaluation
- | **Proximate Analysis** for fuel and ore characterization

- | **High-Throughput Elemental Analysis** in ores and geological materials with minimum effort of sample preparation

- | **Proximate Analysis**: Moisture, ash, and volatiles
- | **Sulfur Determination** for acid drainage potential
- | **Total Organic Carbon** in soil/sediment



SAMPLE PREPARATION

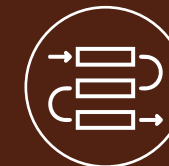


HEAT TREATMENT

- | **Cupellation** for Precious Metals
- | **Smelting** for Precious Metals

- | **Ash Fusibility** testing
- | **Iron Ore Reducibility** test
- | Pilot plant furnaces for coal and coke testing
- | Calcination process, testing

- | **Ash Fusibility** testing of coal
- | **Loss on Ignition (LOI)** and ash content determination
- | **Swelling Number Index** testing of coal
- | **Volatile Matter Analysis** in coal and coke



PROCESS OPTIMIZATION



PARTICLE CHARACTERIZATION

- | **Grain Size Analysis** of sediments and soils with laser diffraction
- | **Gas Storage Capacity** of coal and shale (Methane/CO₂ Adsorption Isotherms)
- | **Wollastonite Morphology** analysis

- | Monitoring particle size in mineral processing
- | Optimizing mining processes with **Laser Diffraction and Image Analysis**
- | **Nitrogen Physisorption** for surface area and microporosity analysis of geological materials
- | **Mercury Porosimetry** for rock porosity and pore size distribution

- | **Grain Size Analysis** of sediments and soils with laser diffraction
- | **Gas Storage Capacity** of coal and shale (methane/co₂ adsorption isotherms)



PRECIOUS METAL RECOVERY



MILLING & SIEVING

- | Homogenization for optimized mineral analytics
- | **Precious Metal Recovery** from E-Waste
- | Activation of clays via Mechanochemistry

- | **Milling systems** for reliable sample preparation and accurate results
- | Sample Homogenization for **Fire Assay**
- | Grindability testing in mining: **bond work index** determination

- | **Sieve Analysis** for Particle Size distribution of aggregates and soils
- | **Separation** of Stones from Soil Samples

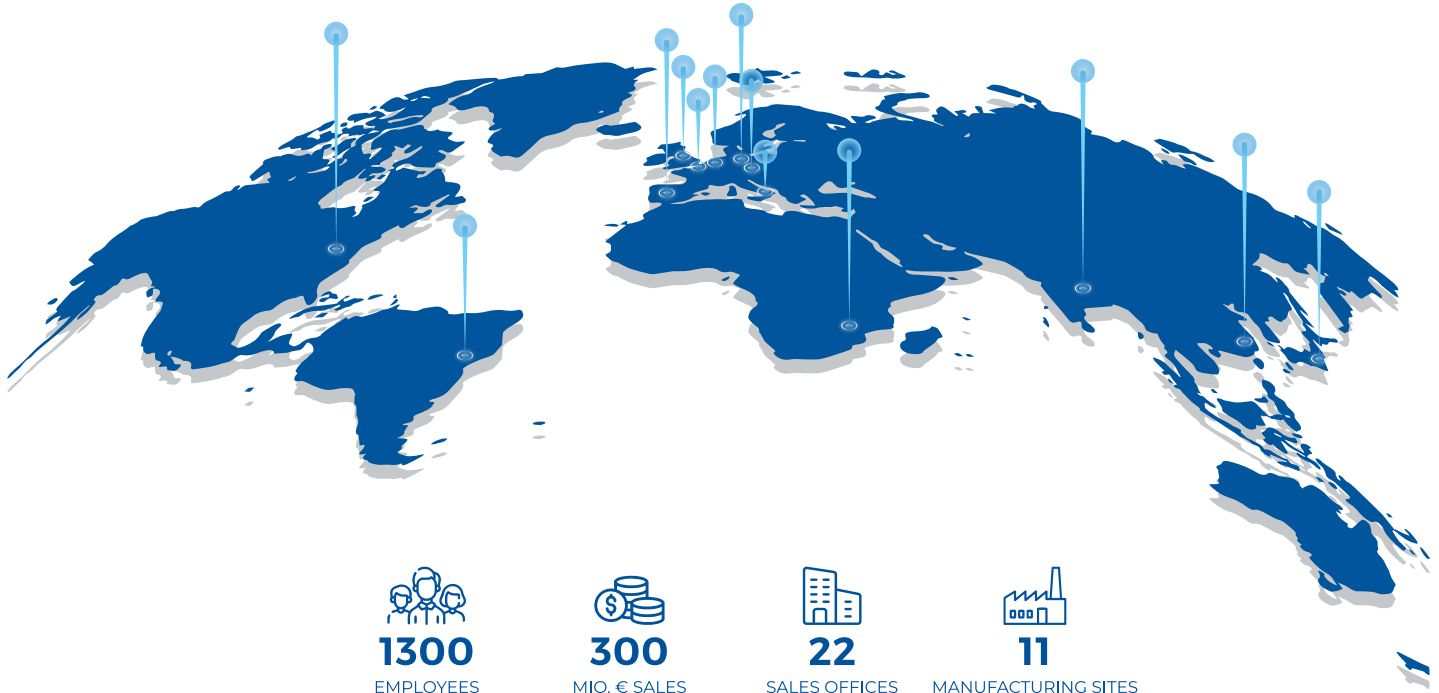


QUALITY CONTROL



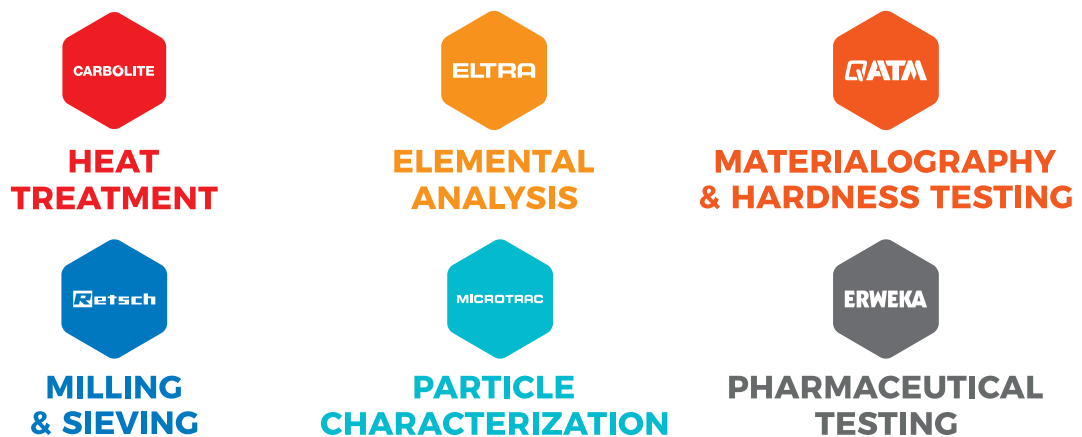
ENVIRONMENTAL MONITORING

ENABLING PROGRESS



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