

## Sulphate removal technologies

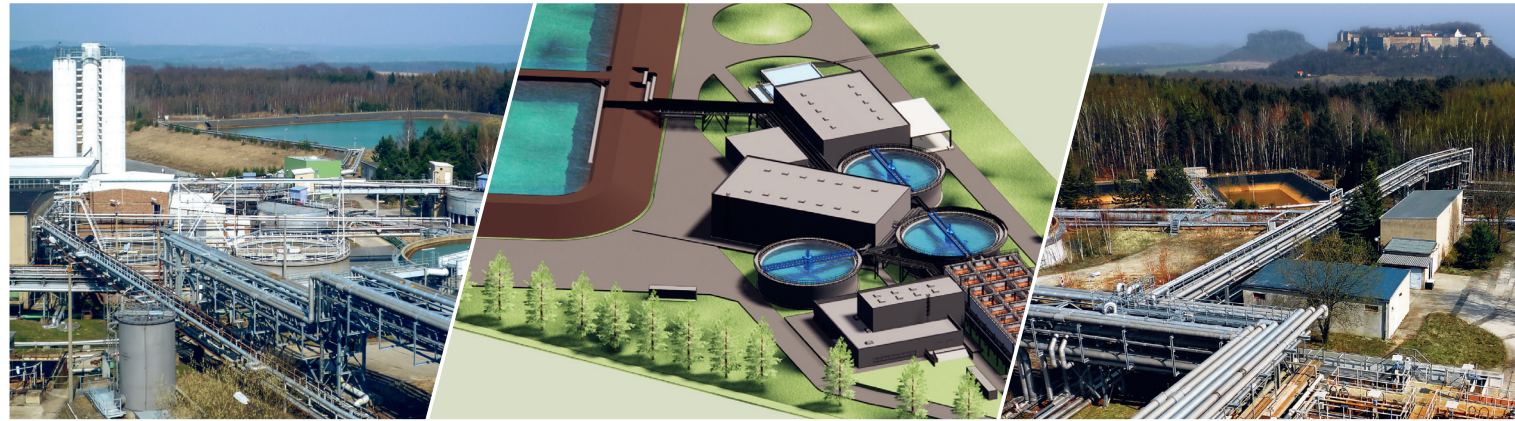
High efficiency sulphate removal (HeSR) or Ettringite crystallization are selected by UIT with years of experience to design sulphate removal processes. The HeSR-process combines membrane technologies with precipitation to reach lower outflow concentrations. Ettringite crystallization uses the low solubility for the calcium aluminium sulphate mineral to minimize the outflow concentration.

## High density sludge process

UIT developed an advanced HDS technology (multi-stage neutralization with partial sludge recycling, radium removal, patented) to reliably clean the contaminated mine water under varying feed conditions and produce a chemically and geotechnically stable solid waste for safe disposal.

## Mercury / vanadium removal

For many years, we have been providing expertise in mine water and industrial wastewater treatment, separation of heavy metals, metal extraction and acid / salt separation. UIT holds ownership of its developed simulation software aquaC based on PHREEQC® used for system and process simulations to optimize chemical processes. Through experience and careful process design, UIT can tackle complex water matrices containing e.g. multiple forms of mercury or vanadium.



TECHNOLOGY PRO ENVIRONMENT

## Your partner for mine water treatment

Umwelt- und Ingenieurtechnik GmbH Dresden (UIT), part of the General Atomics Europe Group, provides engineering, consulting and process solutions with over 30 years of experience and a reputation for expertise and competence.

We specialize in the development and construction of various plants like industrial and mine water treatment plants, pilot plants and biogas test plants. We develop our solutions individually according to your requirements and specifications.



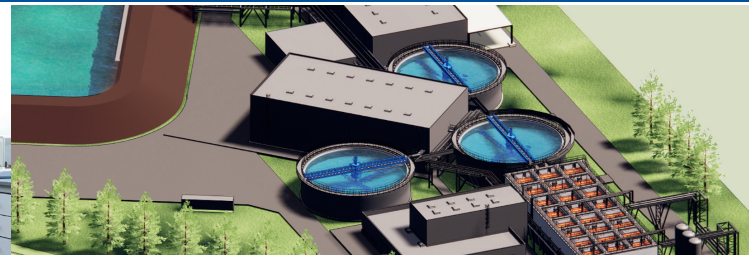
# MINE WATER TREATMENT

- Feasibility Studies
- Process Development
- Plant & Process Optimization
- Plant Engineering
- Plant Construction

## Umwelt- und Ingenieurtechnik GmbH Dresden

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## Feasibility studies

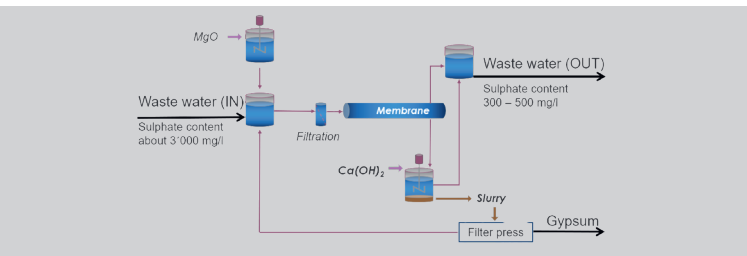
In our state-of-the-art technical center, we develop forward-looking process technologies and customized solutions for your specific requirements. Our expertise covers (hydro-) metallurgical process investigations from laboratory to pilot scale. Using advanced chemical process modeling, we ensure reliable scalability and efficient process design.

## Plant and process optimization

We evaluate and improve existing plants and processes through in-depth analysis and modeling. Using operational data, we identify key parameters, propose optimized or alternative technologies and validate improvements through laboratory or pilot testing - enhancing efficiency, reliability and sustainability.

## Plant construction

As wastewater treatment specialists, we handle full project management - from planning to completion. This includes construction, integration of components such as valves, pumps and instrumentation and comprehensive testing. Once prefabricated, the plant is delivered, assembled on-site by our team and commissioned for operation.



## Process development

We develop innovative processes tailored to future-oriented industrial needs. Our expertise spans various industries, focusing on physico-chemical plants, mine water treatment, raw material processing for the extraction of technology metals and NORM separation. From concept to pilot scale, we use advanced process modeling to ensure scalable, robust solutions.

## Plant engineering

Our qualified engineers and designers plan and build process systems for water treatment in mining, chemical, energy, recycling and metal industries. With many years of experience in EPC / EPCM expertise, we develop cost-effective and sustainable solutions tailored to different water qualities and process fluids - from concept to implementation.

We plan and construct plants for industrial and mine water treatment. With our expertise in technologies for processing mine water as well as our experience in plant development and construction, we are your partner for mine water treatment. UIT has already successfully completed many projects in this industry.



Overview of our services