



## Selected Mine Access Projects

- **Russia - Gremyachinsk Mine:**  
Sinking of three freeze shafts for exploration of a potash deposit in a highly water-bearing rock mass; Hydrogeological analysis and groundwater inflow calculations, Eurochem.
- **Germany - Mine Prosper Haniel:**  
Roadway cross-section of 170 m<sup>2</sup> at a depth of 1,200 m (shaft bottom); Geotechnical and numerical analysis of surrounding rock mass: interbedded strata of weak rock and coal seams; Supervision during construction.
- **Russia - Mine in Kaliningrad:**  
Design and construction supervision for 1,200 m deep freeze shafts for a new potash mine, K-Potash.
- **UK - Sirius Minerals:**  
Inspection and supervision of the hoisting system, including blair hoists, for two 1,500 m deep potash shafts.
- **Germany - potash mine Neuhof-Ellers:**  
Planning and consulting for the technical and electrical equipment of the two new hoists; Zielitz Mine: Largest shaft hoisting machine in Europe, 8-rope system and 2 x 4,000 kW, K+S Kali GmbH.

## DMT GROUP

Excellence and innovation in everything we do – this is our claim as an independent, global engineering and consulting company in the construction, mining, plant and mechanical engineering sectors. DMT is the “Engineering & Natural Resources” division of the TÜV NORD GROUP.

Sustainable value creation for our clients is always the goal – knowledge, digitalization and internationalization are our success factors. To this end, we count on our 1,100 employees, 14 subsidiaries, 30 locations and 280 years of experience.

In infrastructure, civil engineering and mining, we are general planners and specialists. We implement system and individual solutions in every discipline and bundle competencies for consulting, engineering, tendering, implementation, monitoring, operation and refurbishment, ensuring planning and investment safety for our customers.

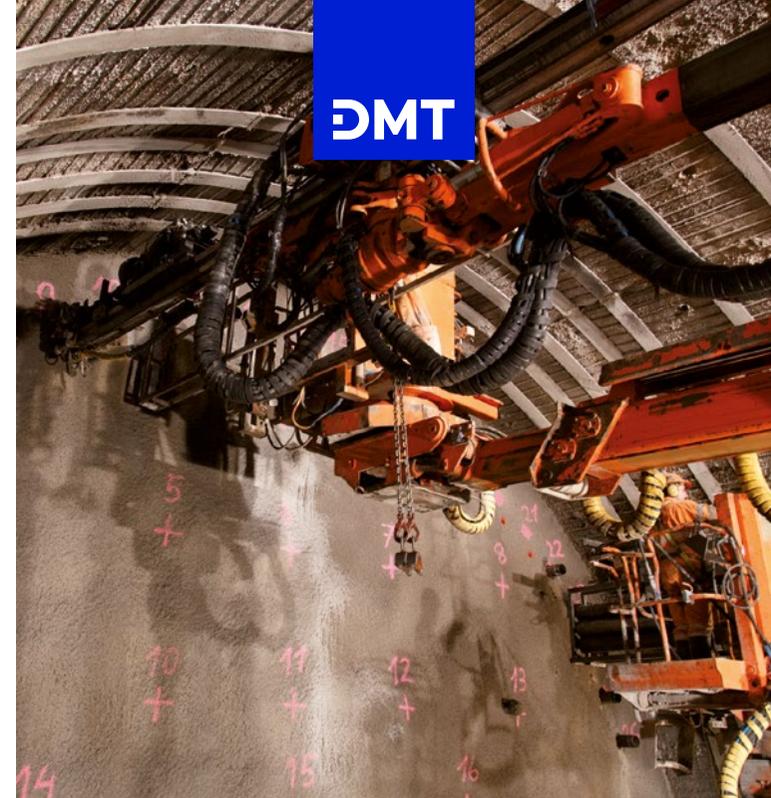
**We call this engineering performance.**

## DMT

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**DMT**

# Underground Mine Access Design

Potash. Coal. Metals.

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Engineering  
Performance

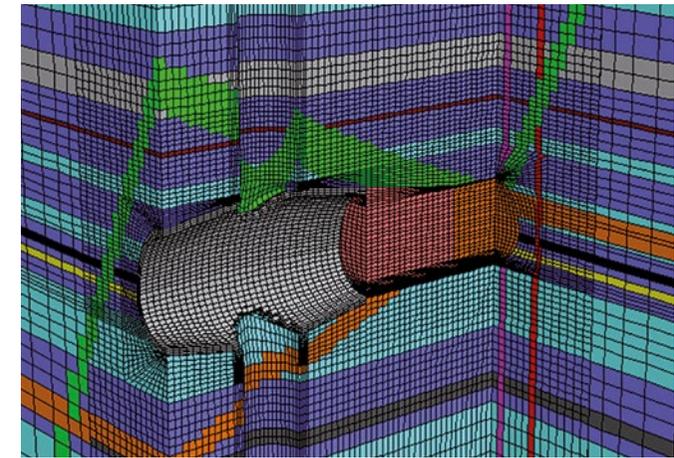
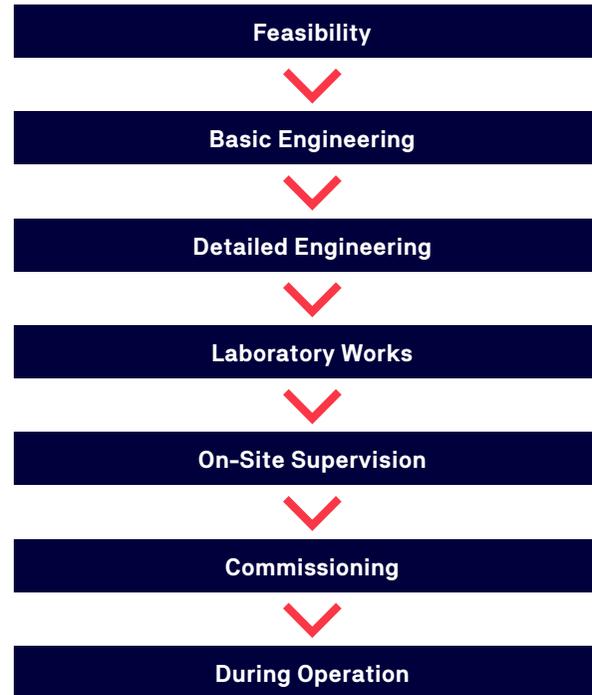
TÜVNORDGROUP



## Your Benefits

- One-stop Shop design, project management and on-site supervision
- Health, safety and environmental design compliance is the foundation of our business
- Take advantage of our experience and own experts in mine access design
- Tailored solutions, delivering turn-key or selected packages
- A highly client-oriented team, focused on safety, quality and budget
- Expertise in greenfield and brownfield underground mine access projects
- Advanced three-dimensional numerical simulations including coupled THM-modelling where required
- In-house exploration, survey and real-time monitoring services
- SAFEGUARDing your data, designs and documents
- More than 200 shaft hoisting systems inspected

## Supporting you throughout your Project



## Our Mine Access Design Services

### Ground investigation

- Design of a tailored investigation program
- Execution of in-situ and laboratory works
- Factual and interpretative reporting

### Design of Mine Access Infrastructure

- Shaft and decline sinking systems
- Temporary roads, buildings and excavations
- Supply facilities: power, water, construction material

### Permanent Shaft and Decline Lining and Groundwater Control

- Advanced 3D numerical modelling for excavation, ground support and lining design
- Freeze plant design and ground freezing
- Freeze and grout shaft design
- Design and monitoring of underground openings

### Design of Mine Access Infrastructure

- Design and review of shaft steelworks and equipment: headframe, ropes, hoists and conveyances