

Mining Department

Innovations for mining and underground facilities

- + Comprehensive **expert support for underground mineral extraction**
- + **Adaptation of underground facilities for tourism and public access**
- + **Materials testing** carried out in an accredited laboratory.



Our Services

Our expertise covers a broad range of **issues related to the safe extraction of mineral deposits at great depths, under challenging geological and mining conditions**. This includes environments affected by dynamic rock mass pressure phenomena, such as seismic events and rockbursts. Our core competencies include the assessment of the stability of underground workings, in particular **selection of appropriate rock bolting systems, monitoring of their interaction with the rock mass** using innovative measurement solutions, and **occupational health and safety aspects of underground mining operations**.

Forecasting the impact of mining workings

Using **advanced 2D and 3D numerical modelling tools** (Phase2 v.8.0, FLAC3D v.6.0, MIDAS GTS NX), we provide **stability forecasting of underground mine workings** and, on this basis, the **selection of suitable ground support systems**, prediction of **the impact of ongoing or planned mining operations** on existing or proposed underground workings and surface infrastructure, and **technical support in selecting mining system parameters** under conditions of seismic and rockburst hazards in underground mines.

Expert, services

The Department also delivers **expert assessments, conceptual studies and design services related to: evaluation of the technical condition of underground structures, protection and adaptation of historic underground mine workings for tourism and public use**. These services include projects carried out for the **Wieliczka Salt Mine** and for local government authorities. We also undertake expert studies relating to natural underground voids, including the **Kletno Bear Cave**.

State Mining Authority (WUG) authorisations

Expert opinions are issued on the basis of authorisations held by a certified expert of the State Mining Authority (WUG) for mine operations, including: **Group XIII – rock bolting systems, Group XIX – rockburst hazards, Group XXI – testing of technical solutions** prior to the implementation of new mining systems for copper, zinc, and lead ores, or their variants [in accordance with the Regulation of the Minister of Economy of 28 June 2002].

A comprehensive range of tests is carried out in the modern, accredited **Materials Testing Laboratory**, covering the determination of **physical and mechanical properties of rocks, concrete, soils and backfill materials**.

Contact us

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