

## **Computational Underground Short-Term Mine Planning: The Importance of Real-Time Data**

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### **ABSTRACT:**

*Short-term mine plans are the key operational basis for ore production targets ranging from shift to weekly or monthly targets. Short-term plans cover detailed operational sub-processes such as development, extraction and backfill schedules as well as materials handling and blending processes. The aim is to make long-term goals feasible by providing a constant plant feed that complies with quality constraints. Short-term mine planning highly depends on the accuracy of the resource model as well as the current production status and equipment fleet. Most of these parameters are characterized by uncertainties due to a lack of information and equipment reliability. At the same time, concentrate production and quality must be kept within acceptable ranges to ensure productivity and economic viability of the operation.*

*Within the EU-funded Real-Time Mining project, the reduction of uncertainty in mine planning is carried by using real-time data. Ore and rock characteristics of active faces and equipment data are iteratively integrated in a simulation-based optimization tool. Therefore, predicted processing plant efficiencies can be met by delivering constant ore grades. Hence, a constant concentrate quality is ensured and long-term targets can be fulfilled. Consequently, a more reliable exploitation plan of the mineral reserve is facilitated.*