SIMULATIONS OF OPEN-PIT AND UNDERGROUND MINES

What Is MineTwin?

MineTwin® is a configurable simulation-based decision support tool for underground and open-pit mines. MineTwin uses Amalgama® platform and libraries to provide fast and adequate simulation models of underground and open-pit mines.

MineTwin considers most constraints and interdependencies of real-world mines, including:

- Development and production mining
- Dynamic evaluation of stopes reachability
- Flexible rules of shift-to-shift scheduling
- Drilling, blasting and bolting
- Loading and bogging, vehicle priorities and bypass positions
- Road surface quality and slopes
- Transloading and using intermediate ore buffers
- Queuing in front of ore passes
- Scheduling rail operations and rail transportation
- Crushing and hoisting the ore
- Dependencies between processes in the same stope and between stopes
- Delays caused by de-watering, ventilation setup and other supporting activities

Who is MineTwin For?

MineTwin helps mining companies with open-pit and underground mines at all phases of mines' life cycles in the following circumstances:

Company plans to implement new technological solutions. Operational and financial impact of the implementation is hard to estimate.

Mining plan is often not fulfilled due to sub-optimal planning and inefficient allocation of equipment. Bottlenecks are not properly predicted.

Company needs to accurately estimate the reachable performance of a future mine or an existing mine after expansion.

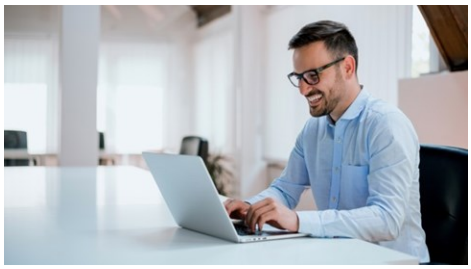
High costs of buying and operating the mining equipment. Low transparency in justification of requests for new equipment units.

MOSIMTEC is your local MineTwin Representative

For more information about MineTwin software, training, or consulting call us at 1-855-677-3342 or visit our web-site at https://mosimtec.com.

A free evaluation version of MineTwin is available at https://mosimtec.com/minetwin-mining-simulation-software/

MineTwin Can Be Used by Various Stakeholders on Different Phases of Mines' Life Cycles



Strategic Planning Department

CTO / Mine Management

Investment Committee

Greenfield / Brownfield

Company plans to start operation of a new open-pit or underground mine.

Operation

Company needs to constantly validate the feasibility of mining plans and identify potential bottlenecks before they impact the operations.

Expansion and Upgrade

Company plans an expansion of an existing mine, equipment fleet upgrade, or implementation of new mining technologies.

How MineTwin Works?

MineTwin uses a simulation model – a detailed replication of a real mine's operation inside a computer.

MineTwin is the only tool on the market that combines discrete-event simulation with linear programming and combinatorial optimization to build realistic digital twins of mines, including scheduling logic.

Checks the feasibility of mining plans and evaluates the impact of improvement initiatives by using a dynamic model of mining operations. Able to capture non-linear factors like queuing, dynamic ore pass stocks, coordination standby delays, etc.

Allows mine planners to verify and adjust plans and schedules based on foreseen bottlenecks (lack of mining fronts to work in, insufficient blasting frequency, ore and waste flows imbalance, insufficient backfill rate).

Provides the means for comparison of several potential future states of an existing or future mine. Estimates the operational and financial KPIs of every option.

Provides the scenario analysis functionality for determining equipment fleet configuration and size.

MINE TWIN