

MINESIM

The challenge of modern mining operation



Modern mining presents critical challenges in safety, costs, and operational efficiency. Inexperienced operators and the complexity of operations mean that any mistake can have a direct impact on people and the profitability of the mine.

High-risk environments. High-cost decisions.
Zero margin for error.



Inexperienced operators in critical environments

Local workforce with limited experience operating advanced machinery in remote sites.



Multi million dollar equipment and risk

Costly machinery prone to wear, breakdowns, and expensive repairs.



Safety-critical operations

One mistake can lead to serious accidents, injuries, or fatalities.



Operational efficiency impact profitability

Small inefficiencies lead to significant cost increases.

Full mission mining training simulation

MINESIM enables mining companies to train more efficient operators and reduce risks across all mining machines involved in daily operations. The simulator combines a safe, controlled training environment with realistic hardware, allowing operators to work with real machine controls and ensuring direct skill transfer to real-world operations.



Designed for professional mining training



- ✓ **Safe**, risk-free training environment
- ✓ **Realistic**, immersive scenarios for all types of equipment
- ✓ **Real machine controls** and hardware for authentic operator experience
- ✓ **Detailed** performance analytics for continuous improvement

MINESIM

One simulator
Two deployment strategies

Same simulation platform.
Same training capabilities.



Container deployment

A fully equipped MINESIM simulator integrated inside a transportable container, designed to deliver training across multiple locations or remote mine sites.

- **Mobile training** between sites
- Ideal for large or geographically distributed operations
- No permanent installation required



Fixed deployment

A permanent MINESIM installation within a dedicated training facility, providing a stable and centralized environment for continuous operator training.

- **Centralized training** center
- Permanent installation
- Ideal for long-term training programs

Instructor Station

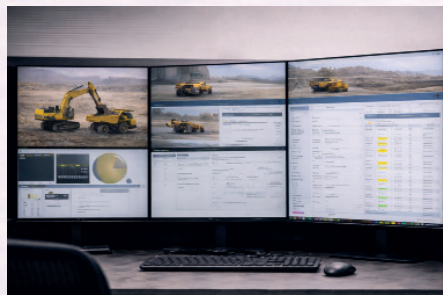
Total control of training and performance

The Instructor Station provides full control over training sessions, enabling instructors to design, supervise, and evaluate exercises efficiently while adapting training to real operational needs and extracting objective performance data.



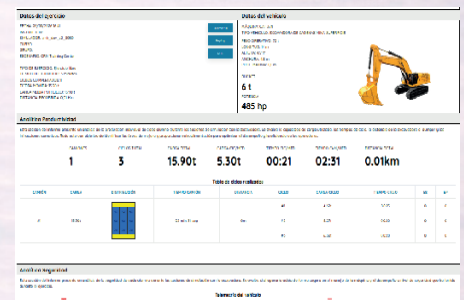
Personalized training

Exercises can be customized according to operational objectives, trainee skill level, and training context, ensuring realistic and effective learning aligned with real mining operations.



Real-time supervision

Training sessions are monitored live, allowing instructors to track trainee actions and machine behavior in real time without interfering with the exercise.



Analytics & reporting

Each training session is converted into objective performance data, automatically analyzed and presented through clear reports to support evaluation and continuous improvement.



Real mine

Digital twin

Digital Twin

Train operators in an exact digital replica of their own mine

The Digital Twin option allows mining companies to train operators in a precise digital replica of their own mining site, instead of using generic environments. This brings training one step closer to real operations.



100% site-specific training



Higher realism



Improved safety & efficiency



Faster Onboarding

Mining Truck

Training in material transport and unloading



Realistic dumper simulation to train material transport and unloading operations in safe conditions, with a direct impact on safety, fuel consumption, and vehicle wear.

What is trained

- ✓ Loading, transport, and material unloading
- ✓ Speed and slope control
- ✓ Operational maneuvers in a realistic environment

What is optimized

- ✓ Operator safety
- ✓ Fuel consumption
- ✓ Vehicle wear and maintenance



Motor Grader

Training in grading and surface leveling



Realistic training for precision grading and profiling operations in mining environments, improving productivity, safety, and operational efficiency.

What is trained

- ✓ Precision grading and surface profiling
- ✓ Blade control and slope management
- ✓ Maneuvering in mining environments

What is optimized

- ✓ Grading quality and operational accuracy
- ✓ Operator safety
- ✓ Reduction of rework, fuel consumption, and machine wear



Bulldozer

Training in earthmoving and material pushing



Realistic training for earthmoving and material pushing operations in mining environments, improving productivity, safety, and operational efficiency.

What is trained

- ✓ Earthmoving and material pushing operations
- ✓ Blade control and terrain shaping
- ✓ Maneuvering in mining environments

What is optimized

- ✓ Operator safety
- ✓ Fuel consumption and machine wear
- ✓ Productivity and cycle time efficiency



Underground Loader



Training in underground loading and hauling operations



Specialized training for loading, transport, and material handling operations in underground mining environments, focused on improving safety, efficiency, and operational performance.

What is trained

- ✓ Loading and hauling operations in underground environments
- ✓ Bucket control and material handling
- ✓ Maneuvering in confined and low-visibility areas

What is optimized

- ✓ Operator safety in underground operations
- ✓ Productivity and cycle time efficiency
- ✓ Fuel consumption and machine wear



Excavator

Training in excavation and material loading operations



Realistic training for excavation and material handling operations in mining environments, improving productivity, safety, and operational efficiency.

What is trained

- ✓ Excavation and material loading operations
- ✓ Boom, arm, and bucket control
- ✓ Maneuvering in mining environments

What is optimized

- ✓ Productivity and cycle time efficiency
- ✓ Operator safety
- ✓ Fuel consumption and machine wear



Wheel Loader



Training in loading and material handling operations



Efficient training for loading, transport, and material handling operations in mining environments, focused on improving productivity, safety, and operational performance.

What is trained

- ✓ Loading and material handling operations
- ✓ Bucket control and cycle optimization
- ✓ Maneuvering in mining environments

What is optimized

- ✓ Operator safety
- ✓ Fuel consumption and machine wear
- ✓ Productivity and cycle time efficiency



Strategic investment in mining performance



Real mine challenges

High fuel costs. Risky behaviors. Costly mistakes.



Train without risk

Operators learn and make decision without affecting real operations.



Measure what matters

Objective data to evaluate to improved performance.



Real operational impact

Lower cost. Safer operations. Higher productivity.



Simumak

A Technology Partner for Mining

Technology and support for safer, more efficient
and more profitable mining operations.



+5000 simulators
installed

Presence in over
15 countries

SIMUMAK is a technology partner for mining operations worldwide. We support operators with realistic and measurable training solutions designed to improve safety, efficiency and operational performance.

With a global service network, **we work closely with each customer to adapt training** to real operational needs and support them throughout the entire project lifecycle.

Adapted to each operation



We adapt the system to the real needs of each mining operation.

Customized training



Exercises and scenarios aligned with each project's objectives.

Long-term partnership



Continuous support and system evolution over time.