



# MineScape

Powerful functionality for geologic modeling and mine design

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## The industry challenges

Rebounding from relatively low levels of capital investment and exploration spending, many mining companies are striving to achieve production targets to maximize returns. These companies are under pressure to increase output from existing mines and bring new projects on line. A key element in the drive for increased production and improved efficiency is mine planning and modeling. With its mine design, geologic modeling and geologic database capabilities, MineScape mine planning software can help you meet the challenge.

## The solution

Specifically developed to meet the mining industry's rigorous demands, MineScape is used at more than 200 of the world's most complex mining operations from nickel mining in Russia to coal mining in Indonesia. MineScape is a suite of integrated solutions designed for open cut and underground mining operations for coal and metalliferous deposits. It delivers extensive geologic modeling and mine design functionality, making it the leading mine planning solution globally.

Incorporating many features, MineScape offers exceptional ease-of-use through:

- Intuitive familiar working environment
- True simultaneous multi-user access to all 3D data and models
- Advanced 3D CAD support
- MineScape Explorer to browse projects and manipulate data
- Multi-user support in a network environment
- Complex stratigraphic modeling functionality including reverse faulting
- Integration of the geologic database with modeling and the 3D graphics environment
- An ability to replay dragline simulation
- Surface-following for block model interpolation
- Volume and reserves calculation

## Products

### Core MineScape

Mandatory for all MineScape products, Core MineScape comprises a fully-integrated mining-based 3D CAD system. Supporting custom programming and reporting, it provides a comprehensive mining-oriented function library including surface manipulation, gridding, transaction and spreadsheet management facilities. It also enables direct viewing of AutoCAD ESRI shape files and comprehensive plotting functionality.

### Block Model

Perform efficient and accurate 3D modeling of non-stratigraphic deposits using MineScape's in-built CAD system to view and manipulate the models. Generate 3D deposit models with interpretation of geologic data for definition of wireframe solids and export to third party optimization tools such as Whittle 4D.

### Geologic Database (GDB)

Store downhole survey, lithology and quality data, produce standard, summary and user-defined reports and graphically display the downhole data. GDB displays lithology, intervals, geophysics and correlation and contains specialized compositing and washability functions.

### Stratamodel

Perform complex stratigraphic modeling functions including reverse faulting. Interactively manipulate 3D models including rendered displays in any orientation.

### Dragline

Apply a variety of burden movement techniques including pre-strip, cast blasting and production dozing to simulate the execution of total pit burden removal strategies.

### Drill & Blast

Use the interactive 3D CAD environment to quickly lay out an optimum blast pattern, project holes to surfaces and export hole layout reports to GPS-equipped drill rigs. Drill & Blast is integrated to produce quick blast exclusion zones.

### Haulage Roads

Design haul roads interactively in 3D. Determine cut and fill requirements for mass balancing and optimization. Automatically generate reports for survey and construction personnel in graphical or text formats.

### Open Cut

Generate and test mine designs for short-term production operations and long-term feasibility studies. Use MineScape's 3D CAD tools to visualize and graphically interact with the design at any stage.

### Survey

Generate survey instructions automatically from mine plans. Input survey results from the field, recorder or field book directly into the MineScape database. Generate production reports and plans and use the database information for further short-term planning, reclamation and reconciliation.

# Our team of industry specialists work hand in hand with our customers, from initial implementation through to ongoing support, ensuring maximum return on investment.

## Schedule

Optimize the mining method and sequence by providing forecasts of material movement and machine activities for long- and short-term operations.

## Underground Planning

Quickly produce and test short and long-term mine designs. Visualize and manipulate a design at any stage using MineScape's interactive 3D CAD tools. Incorporate the latest available information, i.e., recent drilling and survey data, into the design.

## Geostatistics

Provides a set of statistical estimating tools designed for coal mining. Wizards guide the user through the geostatistical study process to perform classical statistics, experimental and theoretical variograms and kriging validation.

## Software Developer's Kit

Enables customers to create their own MineScape plugins containing menus, toolbars and forms to access customized functions created using MineScape Programming Language.

## Ring Design

An interactive 3D CAD environment to create underground ring design, drill and blasting. It is purpose-built to meet the needs of underground metals mining and allows the design of various methods of underground mining. Styles supported include block caving, long-hole and cut and fill stope mining methods. Design parameters are specified through templates resulting in accurate, repeatable designs.

## Pit Optimization

Provides the mining engineer with a simple, easy-to-use solution to delineate an ultimate economic pit shell. Pit Optimization utilizes the power of MineScape CAD while directly accessing MineScape block models to simplify the pit optimization process.

## Plot Designer

Provides an easy-to-use and functionally rich interface designed to create professional output of graphical designs without leaving the MineScape mine planning system. 3D PDF output is supported to enhance the visualization and communication of information and designs using standard Adobe Reader software.

## The benefits

MineScape allows you to achieve optimal efficiency in your mine planning operations, lowering costs, maximizing mining operations and saving valuable time. Designed to automate mine planning and geologic analysis, it streamlines your engineering processes, improves your productivity and increases your profit potential.

MineScape is the mine planning component of ABB's Intelligent Mining Solution (IMS), the most comprehensive and effective IT solution for the mining industry. IMS seamlessly integrates information flows between all mining activities and lowers mining costs through smarter use of technology and information management systems.

## About the Enterprise Software product group within ABB

ABB provides industry leading software and deep domain expertise to help the world's most asset intensive industries such as energy, utilities and mining solve their biggest challenges, from plant level, to regional network scale, to global fleet-wide operations.

Our enterprise software portfolio offers an unparalleled range of solutions for asset performance management, operations and workforce management, network control and energy portfolio management to help customers reach new levels of efficiency, reliability, safety and sustainability. We are constantly researching and incorporating the latest technology innovations in areas such as mobility, analytics and cloud computing.

We provide unmatched capabilities to integrate information technologies (IT) and operational technologies (OT) to provide complete solutions to our customers' business problems.

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