Deswik.Spatial

Design & Solids Modeling

Underground Metals

Comprehensive geospatial capabilities powered by CAD

Deswik®

Experience the Deswik advantage

We empower mining teams to work smarter and faster. Our integrated approach to mine planning incorporates design and scheduling features across our core platform to help our clients increase efficiency and optimize outcomes.

Deswik.Spatial

Design & Solids Modeling

Deswik.Planning

Gantt Chart Scheduling

Deswik.OPS

Operations Planning & Control

Deswik.GeoTools

Operational Geology

Deswik.MDM

Data Management & Governance

Deswik.ORB

Underground Mining & Value Chain Optimizer

The industry’s most comprehensive CAD solution

Industry-leading geospatial solution for precision and visualization

Deswik.Spatial is the all-in-one geospatial solution that empowers you to make informed and confident decisions to succeed in the rapidly changing mining industry. With its seamless data integration, world-class 3D modeling and geospatial analysis capabilities, Deswik.Spatial is the preferred CAD package to create detailed mine plans, improve site collaboration and productivity, and enable environmental stewardship.

From mapping, survey, and design through to environmental management, Deswik.Spatial unifies the tools mining professionals need across all sectors in one solution to achieve better results and maximize efficiency.

An intuitive and collaborative team experience

Flexible and intuitive, Deswik.Spatial simplifies, automates, and optimizes mine planning processes for multiple roles within your team.

With advanced tools available as standard functionality, mining professionals can work together seamlessly, gather insights and share data to make changes efficiently.

Who uses Deswik.Spatial?

- Long-Term Planning Engineers
- Short-Term Scheduling Engineers
- Strategic Planners
- Geologists
- Surveyors
- Mining Engineers
- Drill and Blast Engineers
- Geotechnical Engineers
- Ventilation Engineers
- Environmental Engineers

Complete your design and spatial tasks in one CAD package

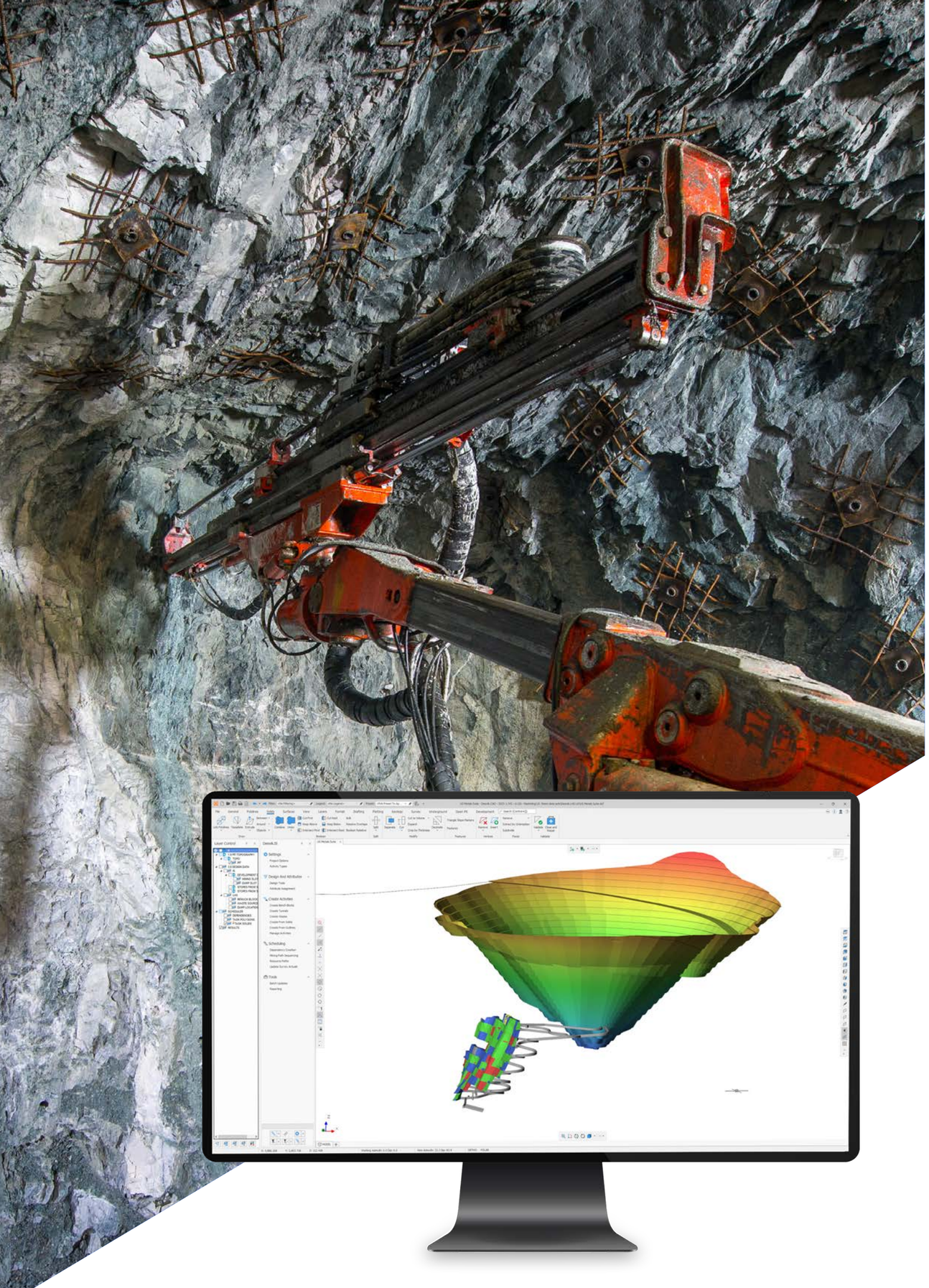
Standard functionality in Deswik.Spatial:

- Design & Solids Modeling
- Automated Design Capabilities
- Fast and Efficient Point Cloud Handling
- Environmental Design
- In-built Automated Stope Design

Expand Deswik.Spatial's functionality with other modules:

- Stope Shape Optimization
- Geological Mapping
- Cave Flow Modeling
- Drillhole Optimization
- Underground Drill & Blast

Discover Deswik.Spatial



Design & Solids Modeling

A powerful design platform with superior data handling

Fully-featured CAD engine

Handle large mining datasets with excellent graphics performance. Generate solids, slice and run Boolean commands. Automatic repair for invalid solids imported from other mining systems.

Open and customizable

Manipulate information using a powerful formula builder, instead of scripting. Integrate with most other mining and CAD packages.

Auditable and consistent processes

Add structure to the planning process and remove confusion for unfamiliar users with customizable, graphical workflows tied into the entire Deswik.CAD toolset.

Integrated data management

Advanced spreadsheet-style formulas for data calculations including 3D spatial lookup formulas and interrogation of solids for volume, area, and intersections. Interactive and rules-based filtering from attribute values.

Powerful reporting

Flexible data queries generated on demand including volumes, areas, attributes, properties, and data histograms. Familiar plotting functionality mirroring most other CAD systems.

Comprehensive mining design tools

Rules-based mine design engine for designs, allowing for scenario and alternative analysis. Solids and surface generation using a multitude of methods.

Survey

Fast and efficient point cloud handling

Direct hardware integration

Import and export data directly with Leica, Trimble, and RIEGL native formats. Import and export point cloud in *.las/laz formats.

Fast, repeatable plotting

Fully interactive plotting which can plot lines, solids, and point clouds. Use rules to rapidly generate emergency or mine plans.

Point cloud handling

Generate a solid from scans including multiple drives and cross-sections. Automatically generate a survey outline on the floor of the drive from the scan data.

Reconciliation tools

Reconcile stopes and development against design. Report by each blast to analyze compliance to design to make better mining decisions.

Auto Stope Design

Automatically create mineable stopes for narrow vertical mining methods

Practical results

Working from development layouts, slice against block models to generate section lines representing individual stopes.

Specialized functions

Constrain stopes to follow defined lenses in the orebody, accounting for close-spaced multiple lenses. Development cutting for incremental cost analysis to the extents of the ore body from a central access drive.

Integrated planning solution

Embedded in the powerful CAD graphics platform for effortless generation of stope outlines and solids. Seamless flow into Deswik's planning and scheduling solution for rapid analysis of scenario results.

Detailed design

Consider geological constraints and incorporate design parameters such as pillar restrictions, dilution factors and cut-off grades. Assign minimum footwall angles to automatically adjust design and dilution to match.

Variable scenarios

Supports multiple input data sources to generate variegated stope designs in different ore zones or geological models. Attributes are automatically assigned to be quickly used in the generation of a schedule.

Automated Design Capabilities

Easily generate design scenarios and analyze compliance to design

Auto development designer

Uses rules based processing to rapidly lay out development and panels for underground mining operations. Automates standard polyline manipulation tools as well as formula-based attribute assignment.

Backfill planning and reconciliation

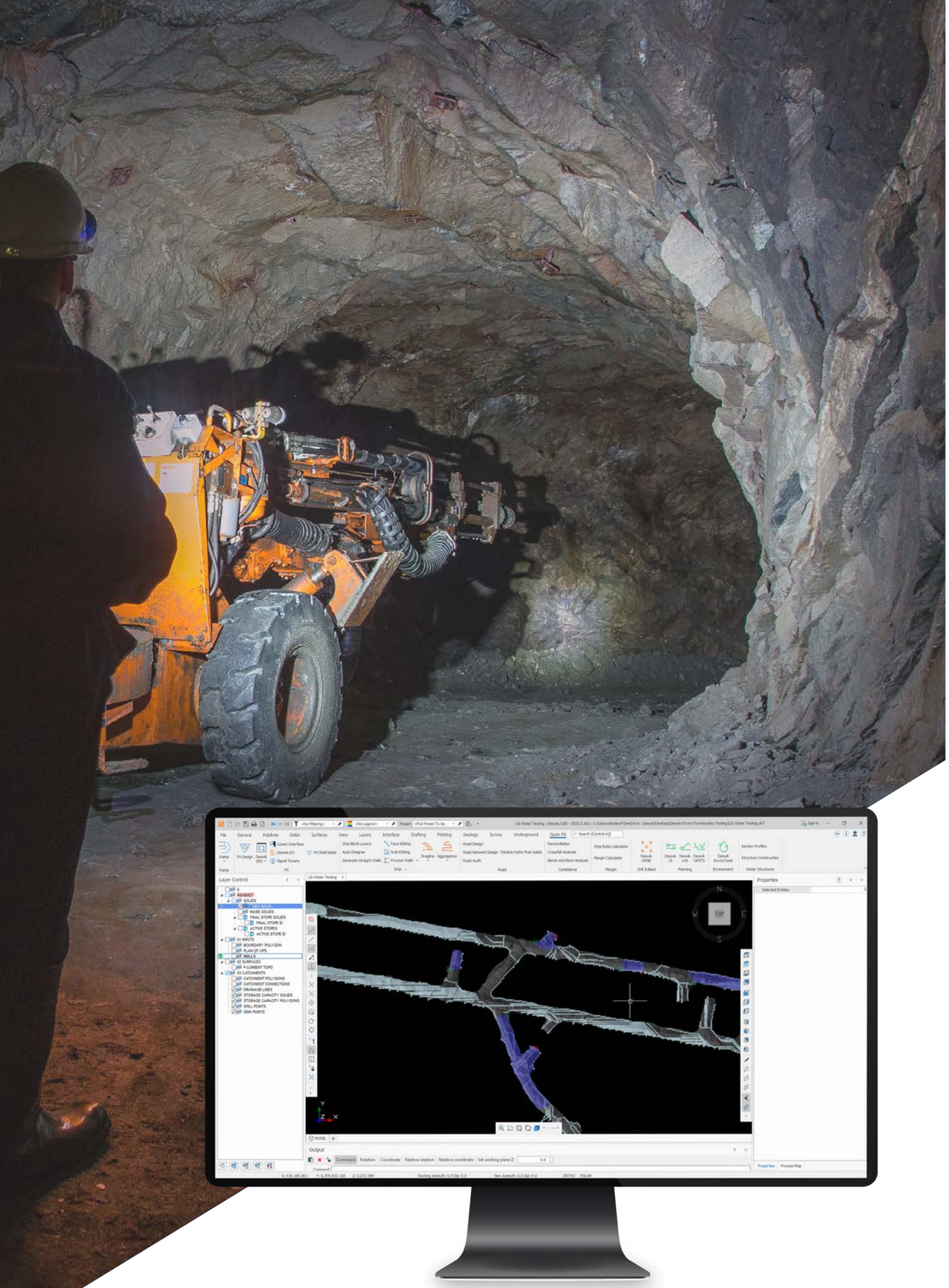
Generate staged backfill solids based on material characteristics and fill volumes from nominated fill points on a 3D stope void solid. Reconcile actual fill amounts against required fill and determine void locations.

Underground tabular design toolbox

Developed for repetitive designs in tabular style deposits. Generates development layouts relative to defined geological models.

As-built reconciliation

Detailed reconciliation between as-built and design solids from a 3D perspective for development or stopes. Report out dilution, overbreak and underbreak from hanging wall, footwall, sides, crowns, and toes.



Water Catchment Analysis

Rapid assessment water catchment analysis

Water catchment analysis

Rapid assessment water catchment analysis to understand where water is flowing or accumulating, and how the topography can be interactively altered to achieve the desired result through process maps. Use water catchment analysis to identify potential sump locations. This process can highlight potential water management issues before they occur.

Sediment basin sizing

Estimate of the volume of basins, dams, or ponds required for containment of runoff from extreme rainfall events and ongoing accumulation of mobilized sediment (erosion) as the landform evolves.

Sediment basin volumes are modeled by summing the volume required to store runoff from an extreme rainfall event and the volume of sediment predicted over time by a landform evolution model (net of removal through desilting events).

Water structure toolkit

Interactively add high-level design structures to topographies to check their location and downstream effects. These structures (drains and bunds) are built using default, modified, or custom-generated profile sections, which are then applied to an input centerline. Design surfaces and cut and fill solids can be automatically generated and merged into an input topography.

Water flow query

Identify the upstream sources and downstream flows from points and regions of interest or sensitivity in the catchment area. Use with the Sediment Basin Sizing Tool to model rain events.

Storage volume analysis

Automatically slice selected water storage solids vertically at specified increments, and then calculate the surface area, water volume, and cumulative volume at each elevation. Optionally export results to a spreadsheet and automatically graph the curves for analysis.

About Deswik

Leveraging decades of professional software development experience and a proven history of building technical mining applications, Deswik provides industry-leading tools to ensure that mine plans are robust, transparent and achievable.

Our software is developed to take advantage of the latest high performance technologies and cutting-edge computing algorithms, all accessed through a flexible, intuitive interface.

By avoiding the legacy issues faced by other older packages, coupled with our outstanding customer support, we provide complete solutions to meet the demands of modern mining. Deswik is committed to delivering comprehensive tools and quality support for all mining sectors.