WORKFLOW-DRIVEN MANAGEMENT OF MINING DATA

Connecting the planning value chain

Tightly integrating with the Deswik.CAD and Deswik.Sched applications, Deswik.MDM provides a spatial database, standalone viewer, report generator and process workflow management tool for the entire technical services department. A single solution for data security and management, Deswik.MDM also supports versioning by increment or date with rollback capability.

Built on a standard Microsoft platform including SQL Server Database, the system lets you organize and categorize typical mining data and documents from all departments. Data is tagged using attributes and edited through user-definable, auditable workflows. User-configurable reports can be generated from the captured data and a standalone CAD and schedule visualizer enables communication across a site.
A Fresh Perspective

**New problems demand new solutions**

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.

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**Benefits**

**Delivering more value through effective mine planning**

**Efficiency**

- Centralize and manage the data critical to operating a mine’s technical services department.
- Improve planning efficiency with insight, reporting and control of team workflow and productivity.
- Provide fast access to large datasets across poor network connections through managed replication.
- Link documents to graphical data to allow access to detailed information through interaction with the 3D model.
- Draw data from disparate, ‘siloed’ site databases into a single planning environment for fast access and analysis.
- Deswik.MDM streamlines approvals, removes overlap and rework between departments.

**Safety**

- Reduces the risk of incidents caused from using copies of obsolete or incorrect data, eg. surveys or designs kept on local machines.
- Introduce better risk controls for safety-critical data and reduce reliance on weak administrative controls.

**Governance**

- Implement repeatable workflows that deliver a consistent outcome from each planning process.
- Enforce digital review and approval steps in workflows.
- Compare transparent, auditable, and measurable data against baselines.

**Communication**

- Share information using the stand-alone desktop dashboard and Deswik.MDM SiteView.
- Generate user configurable reports to track and measure a site’s data and key performance indicators.
- Integrate with other site systems so as to share critical data.
Mining Data Management

One version of the truth held in central data storage

• Management of mining data and associated documents using multiple data stores and workflows.
  - Mining data: e.g.: block models, grid models, polylines, surfaces, solids, schedule tasks and reports, text, production data, etc.
  - Associated data: e.g.: PDF, XLS etc. Can be linked directly to the spatial graphics, or uploaded as references to a planning workflow. Referenced documents can be opened in the preview windows by clicking on graphics.
• Data is split into configurable, logical categories to provide ease of access and visibility to the organization.
• Attributes (metadata) are stored against all data to provide meaning and context.
• Enforces site planning processes using workflow control and electronic approvals.
• Simplifies the number of site systems and through integration provides access to data stored in external databases.
• Provides reports & analytics on all mining data and workflow progress.
• Audit trail of all changes, backup and versioning.
• Can provide fast access to data across slow networks through managed replication and a distributed architecture.

Process Management

Actively manage complex processes and technical workloads to improve productivity

• Workflows can be built into Deswik.MDM to manage planning processes. Workflows provide formalized, repeatable processes that ensure data validity and auditability.
  - e.g. Manage the creation and approval of execution plans by multiple departments.
• Superintendents and managers can view outstanding workflow items across departments and re-allocate tasks to balance workloads.
• Transition draft designs or schedules visible to groups of users, through to approved versions published and visible to the entire organization.
• Capture and store associated documents or metadata during the process of completing a workflow.
• Reduce system maintenance through centralized data and template configuration.
• Minimize training of new staff as workflows are easily repeatable and can simplify complex processes.

Safety and Governance

Risk management and quality control

• Implement risk controls to manage safety-critical data and workflows.
• Simplify, streamline and automate planning and approvals:
  - Streamlines and records approvals
  - Data not visible until approved and published
  - All plans must pass through business planning tollgates
  - Electronic workflow control implements approved business processes.
Access and Control

Sharing relevant data with those who need it

- Integrated with planning environment: directly import or reference data into Deswik.CAD from an in-built Deswik.MDM window.
- Accessible across site:
  - Stand-alone dashboard provides overview of spatial data, schedules, and associated documents to anyone on site.
  - Only approved plans are visible in the database, while plans under construction are not.
- Access just the required data using attribute or spatial filters.
- Group permissions maintain data integrity:
  - Permissions govern users rights to access the data and workflows
  - Uses Active Directory logins.
- Check-in / check-out:
  - Extract portions of data for editing and then merge back into the entire dataset.
  - Data is locked for editing purposes by other users during checkout to ensure a single version of the truth is maintained.
  - The latest published versions of the data are still available for read-only, reference purposes.
  - Validation occurs on committing changes.
  - When data is checked-in, email notifications can be sent to groups of users.
- Data Security:
  - Users are assigned rights to only allow read or write access to specific categories of data.
  - Users can be grouped to allow multiple people to work on common tasks as available.
- Approval authority can be delegated between users to support variable availability and dynamic role changes.
- The Deswik.MDM SiteView module provides a site configurable way of displaying digital level or bench plans containing the latest approved data to end users (available separately).

Reporting and Analytics

Turn data into knowledge

- All data stored in Deswik.MDM can be made visible for reporting.
- Custom reports can be configured within Deswik.MDM
  - Standard reports can be designed and viewed through a simple user interface
  - Push data into Excel templates for local reporting purposes
  - Quickly build ad-hoc reports.
- Present report data to third-party data warehouses for dashboard reporting.
- Draw data into planning systems as required for reconciliation or analysis.
- Manage your team’s productivity:
  - Deswik.MDM reports detail of all workflow actions including time taken for completion per task
  - Monitor task progress and allocate work to available team members.
Our industry leading software solutions include

**Deswik.CAD** - Design & Solids Modeling  A powerful design platform with superior data handling. The next generation of planning tools for mining.

**Deswik.Sched** - Gantt Chart Scheduling  A powerful Gantt chart scheduler specifically designed to handle the challenges of mine planning.

**Deswik.IS** - Interactive Scheduler  Bridging the planning gap between designing and scheduling.

**Deswik.LHS** - Landform & Haulage  Understand material movement like never before with scenario-based modeling and analysis.

**Deswik.Blend** - Material Flow Modeling  Optimize your product value with material flow modeling for both coal and metals.

**Deswik.Agg** - Coal Seam Aggregation  Simplifying complex aggregation processes to create fit for purpose Run-of-Mine reserves.

**Deswik.SO** - Stope Optimizer  Underground stope shape optimization using the industry leading SSO v2.0.

**Deswik.ASD** - Auto Stope Designer  Automatically create mineable stopes for narrow-vein vertical mining methods.

**Deswik.OPDB** - Open Pit Drill & Blast  Fast, efficient drill and blast design for surface mining methods.

**Deswik.UGDB** - Underground Drill & Blast  Fast, efficient drill and blast design for underground mining methods.

**Deswik.SOT** - Schedule Optimization Tool  Realize more value from your resource with an NPV optimized schedule.

**Deswik.MDM** - Mining Data Management  A spatial database and process workflow management tool.

**Deswik.MDM SiteView** - Mining Data Viewer  View data stored in Deswik.MDM in a simple, configurable, CAD based user interface.

**Deswik.FM** - File Manager  Proactively manage data versioning with an integrated document management system.

**Deswik Advanced Modules**  Advanced functionality tailored to the specialized demands of the specific mining sectors.