DATAMINE

STUDIO UG

# Release Notes

## Studio UG 4.2 Beta

© Copyright 2026 Datamine Software

All Rights Reserved Confidential and Proprietary

Published: 11 June 2026

**Legal Disclaimer**

The product described in this documentation may be connected to, and/or communicate information and data via, a network interface, which should be connected to a secure network. It is your sole responsibility to ensure a secure connection to the network and to establish and maintain appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of antivirus programs, etc.) to protect the product, the network, your systems, and the interface against any kind of security breach, unauthorised access, interference, intrusion, leakage, damage, or corruption or theft of data. We are not liable for damages or losses related to any such security breach, unauthorised access, interference, intrusion, leakage, damage, or corruption or theft of data.

# Contents

# Overview

**Studio UG** meets all your underground design and data management needs.

Datamine's industry-leading systems form an unparalleled, integrated toolset for underground mine planning.

Studio UG is one of several products in the Studio product family, which includes:

- **Studio EM** for exploration data analysis and modeling.
- **Studio Geo** is for geological and structural modeling.
- **Studio Mapper** for geological face mapping and reporting.
- **Studio Maxipit** for blended pit optimization (coming soon!)
- **Studio NPVS+** for strategic open pit optimization, design and enhanced scheduling.
- **Studio OP** for open pit design and operational scheduling.
- **Studio RM** for mine geology, reserve modeling and resource estimation.
- **Studio Survey** for open pit and underground mine surveying and reporting.
- **Studio UG** for underground mine design and scheduling.

# Further Information

This document includes cumulative releases notes for [[[Undefined variable General.VersionNumber]]]. As such, release notes are listed for all minor updates of the current major version, in reverse chronological order.

Release notes for other versions of Studio UG are available via the Datamine Customer Support website. For more details, see https://www.dataminesoftware.com/support/.

For the complete Studio UG documentation, see https://docs.dataminesoftware.com/StudioUG.

# Studio UG 4.2 Release Notes

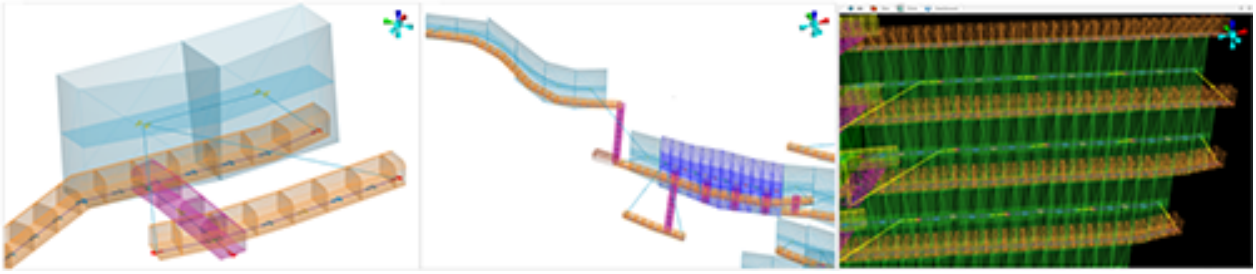
> **Note**: Your product supports long field names by default and some functions may now generate field names greater than 8 characters which may be concatenated by very old versions of software when saved.

## DTS Compatibility

**Studio UG 4.2** requires **Datamine Task Scheduler 4.2** to export and synchronize schedule data. The latest version of DTS is available from the Datamine Support Website and the Datamine Customer Portal.

> **Note**: This version of Studio UG cannot connect to the legacy Enhanced Production Scheduler (EPS) product or earlier DTS versions than the one stated above.

## Haulage Network - Phase 2!



The second phase of our game-changing algorithm arrives in this update.

Network Rules now automatically:

- Identify stopes and drives below it.
- Where stopes are placed in the network.
- Sequence adjacent stopes, regardless of ramifications.

With all the knowledge above, Studio UG will now automatically create all dependencies for:

- All drives.
- All stopes and drives below it.
- All stopes in the same level.

We've also added a **Show Arrows** option to the Roadway **tab**.

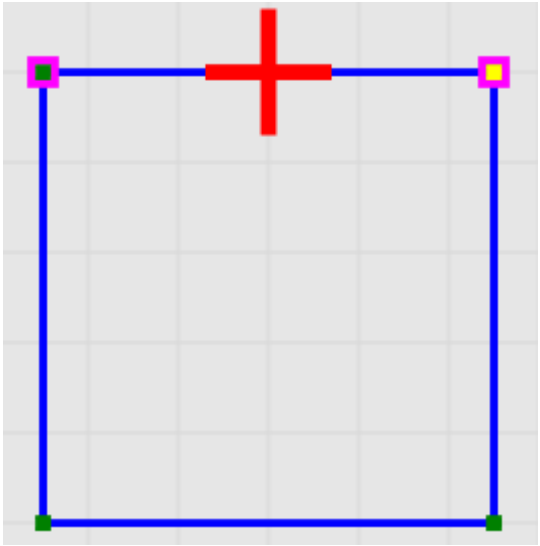
# Advanced Derived Activity Definitions

When preparing design data, it is not valid to have two points at exactly the same 3D position in space. It is therefore necessary to specify the translation of the newly created, derived activity points using Point Translation parameters.

By default, derived activity points are offset from the parent activity by determining an **Axis** and an **Offset** distance. However, for certain mining methods, such as horizontal ones (like room & pillar), it may be important for derived activity points to follow the mining direction. You can now do this by activating **Advanced** mode on the **Derived Activities** screen, whereupon the **Point Translation** options in the top table change from simple axis and offset columns to **Method**, **Azimuth**, **Dip** and **Offset**, permitting more granular control over how derived points are created.

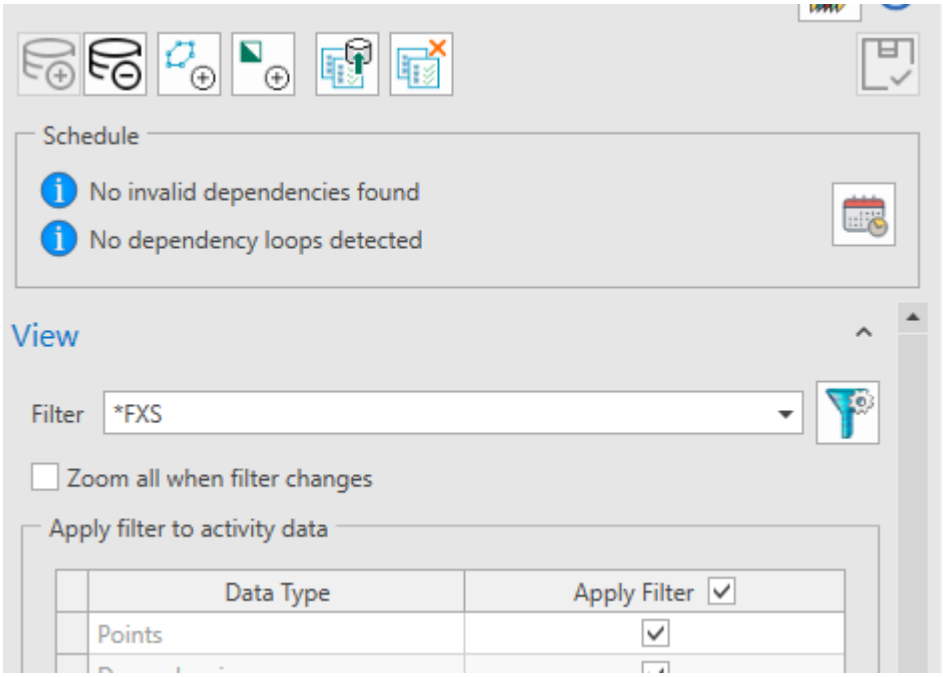
# Profile-Wall Alignment

You can now align walls in the same plane as the FXS location on a cross-sectional profile shape, providing more flexibility in how FXS solids are generated in relation to the defined profile.



To edit wall locations, just double click one of the profile vertices to transfer the nearest wall point to that location.

# Dependencies Screen Refresh




You asked us to change the way the **Dependencies** screen is arranged, so we did just that.

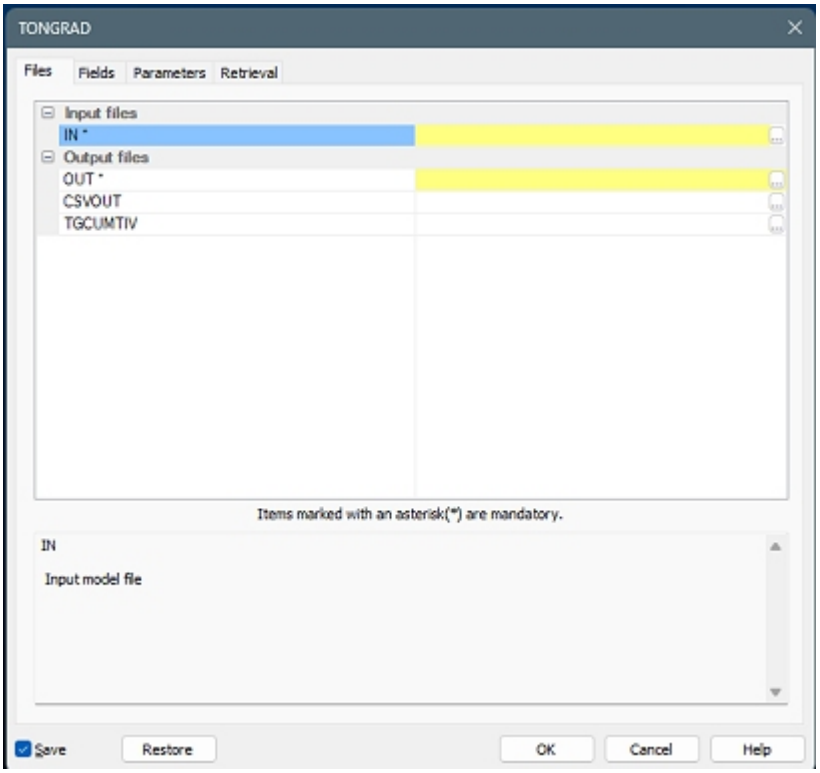
- The **Save Dependencies** button now appears at the top of the screen.
- A new **Schedule** group contains summary information about dependency loops and invalid dependencies (if they exist).
- **Template** buttons now appear at the top of the panel as part of the initial toolbar group.
- **Rules-based dependencies** tools have been moved up the screen, above manual dependency editing and dependency repair sections.

# Planning Workflow Improvements

- Generated dependency string data now includes **FROM_NAME** and **TO_NAME** attributes to more easily identify predecessor and successor activities.
- Validation now includes a **pre-processing check for FXS design strings** where the resulting processed outline shape includes crossovers, reporting this as an 'Extrusion Crossover'.
- We have added new dependency panel toggles so you can **show rule information labels** on dependency strings in the 3D window.

- You can now choose the shape vertices used to create boundaries when configuring Design Definitions.
- **Synchronizing dependencies** between Studio UG and DTS is now much faster.

# Process Improvements




Our Optimization team have been hard at work making changes to how our file-based processes operate, and this has improved the speed of our processes. There are no changes to how the processes are accessed or used interactively, and macros require no changes to take advantages of our engine tune-up. If you use processes in your current workflows, you will certainly notice the difference.

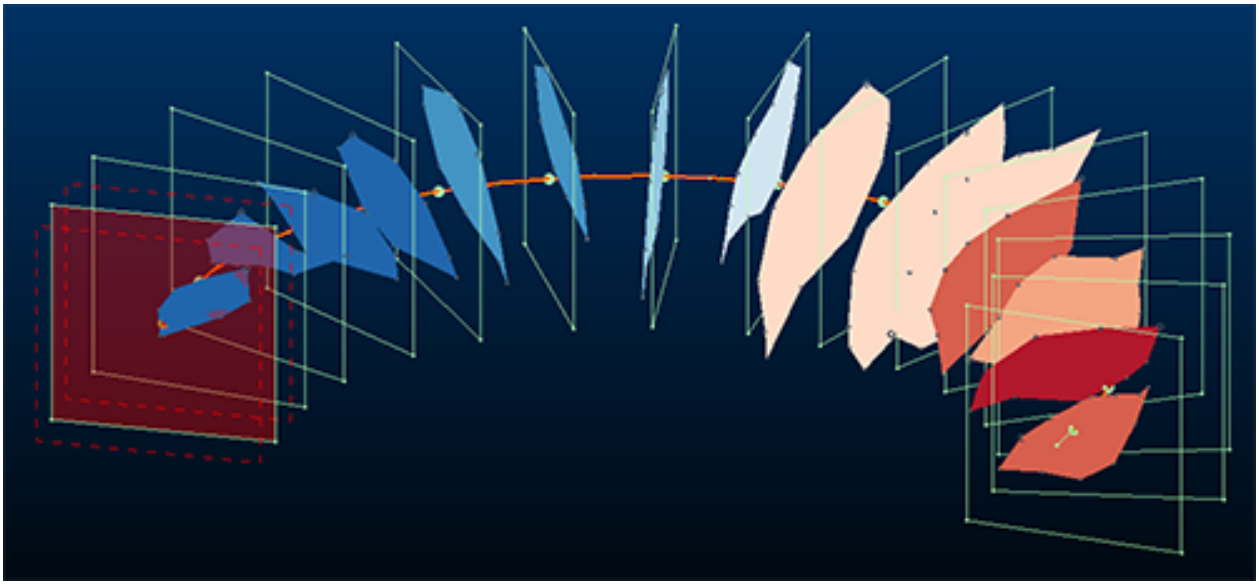
The team will continue to optimize and refactor key functional areas of the Studio range, so expect to see further performance improvements arrive in 2026.

In this update, you will see performance improvements with the following processes:

- **ADDMOD** is faster.
- **COPY** is faster.

- **COMBMOD** is faster and has can now better handle workflows that create new prototypes from multiple rotated block models that share the same rotation but have different origins or offsets. ADDMOD and SLIMOD also benefit because they now use the refactored COMBMOD internally.
- **COMBTRI** is faster.
- **COKRIG** is a lot quicker all round.
- **DILUTMOD** has been refactored for faster performance and now supports alphanumeric ROCK fields, and exclusion of selected cells from dilution.
- **SLIMOD** has been refactored to improve performance.
- **REBLOCK** is quicker and handles prototype sizing and custom field names more reliably. Density calculations, alpha-field handling, and related output-field behaviour are now more consistent, including when using non-default density, fill-volume, and void-volume field names.

## Create Multiple Sections



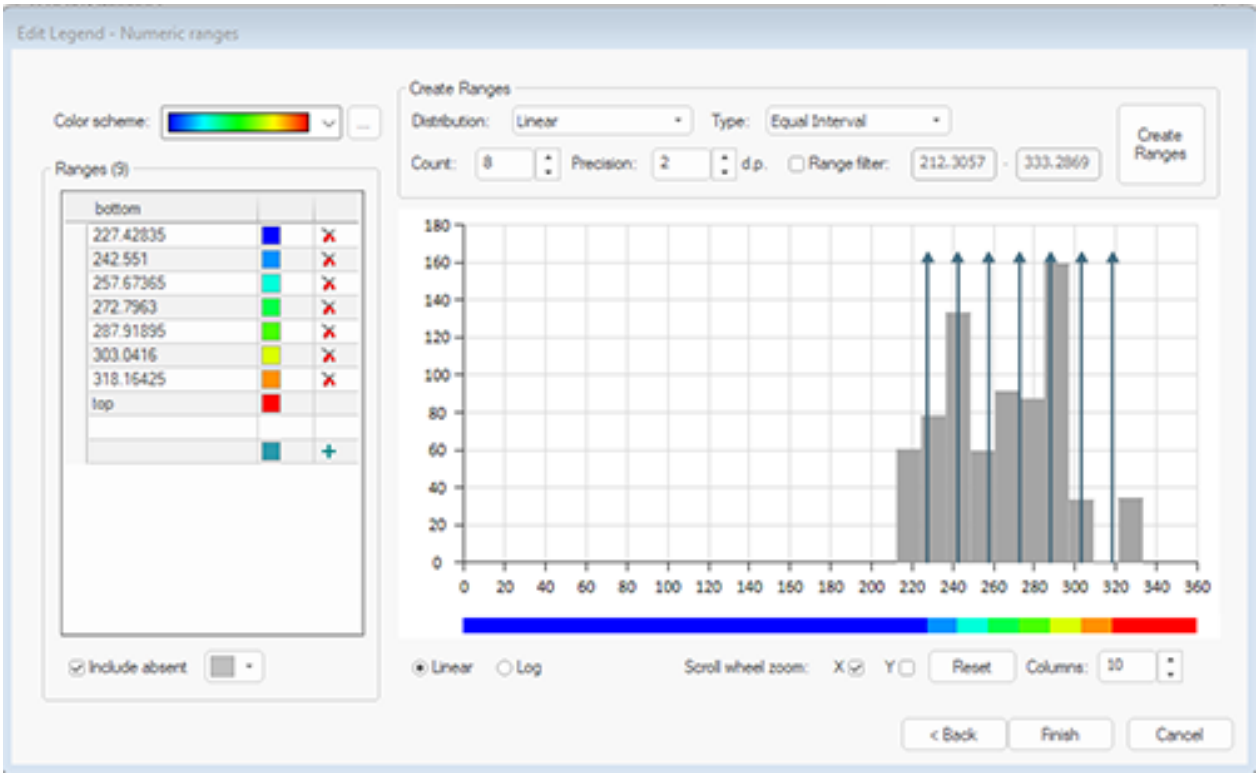
The new **Create Multiple Sections** feature significantly streamlines the process of generating and managing sets of parallel or string-based sections for geological analysis and planning. Previously, 3D window users had to manually create each section or edit section definition files outside the 3D environment, which was time-consuming and prone to error—especially when dealing with off-azimuth sections that required manual coordinate calculations. With this enhancement, you can now quickly define multiple sections in parallel, along a string, or per string, directly within the 3D window, using intuitive controls for orientation, spacing, and reference points.

Choose fixed or relative section orientations, and automatic or manual reference points, and dynamic adjustment of section spacing and dimensions based on the loaded data. Sections can be saved as definition files for reuse and further analysis, ensuring seamless integration with existing workflows. By automating complex tasks and providing a user-friendly interface, this tool addresses a common gap in geological modelling workflows, empowering you to generate comprehensive section sets with minimal effort and maximum accuracy.

Access the new functionality using the **3D View** ribbon (**Sections >> Multiple Sections**) or run the command `create-multiple-sections` (quick keys "cms").

Access the new function by running the command `create-multiple-sections` (quick keys "cms").

# Edit Legend Wizard

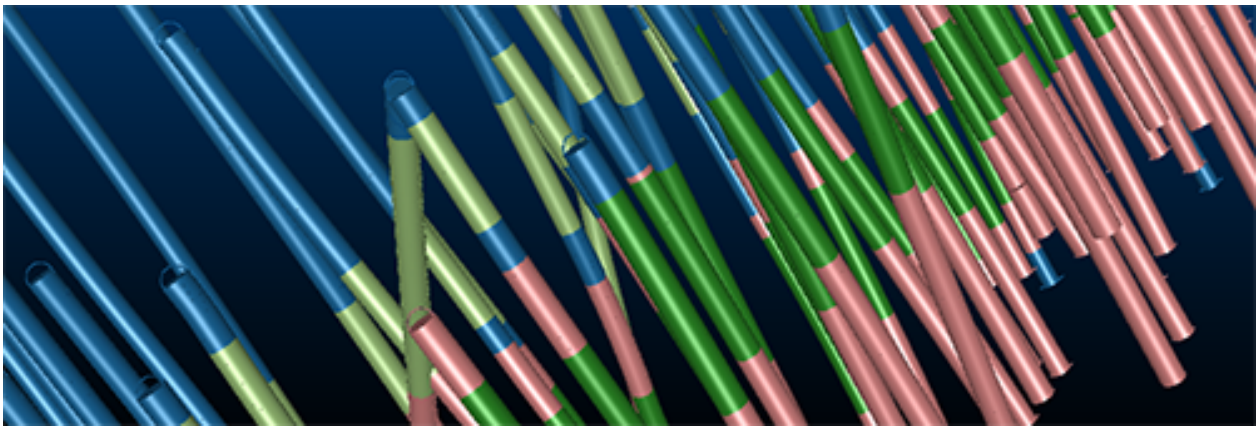



In 2025, we introduced a new wizard to take the hassle out of creating a new legend of any type (unique values, range, filter). This was particularly helpful when generating legends from loaded data object values, but also made light work of setting up and managing unique value and filter intervals.

Now, we've extended this facility to existing legends, meaning you can edit legends in a similar way to creating them, using the popular range generation and gap-filling tools already available.

To access this facility, pick a legend and click **Edit Legend** in the **Legends Manager**.

# 3D Window Speedups



As part of an ongoing campaign, our Optimization team have been working hard to improve the performance of 3D window visualization. This update sees significant improvements to the display of drillholes rendered as cylinders, even with a high number of drillholes displays.

# MSO 5.1

MSO 5.1 is packed with new features, including:

- **Prism Framework Support**

  Mineable Shape Optimizer's **Prism** framework optimization method reappears with this update.

  The Prism method optimally combines the stope volumes within each framework "region" with no overlapping of either regular or various irregular stope volumes (it selects an optimum non-overlapping combination of rectangular stope volumes). The goal of this optimisation is to select the set of non-overlapping stope shapes that maximises value for the material to be extracted by the selected stope shapes. All possible combinations of shapes and positions are considered in the optimisation.

  To support this :

  - You can now select the **Framework** panel's *Prism* layout option, then define either the stope shape dimensions for each of the U, V and W axes, or a list of stope shape dimensions for more detailed outcomes.

    - The **Shapes** panel now displays controls for managing prism framework optimizations, including sub-levels, waste pillars, troughs and crown annealing.

      The **Dilution** panel lets you set maximum waste and crown dilution settings.

- **Test Screen**

  *Testing* is about where seed stopes come from before optimisation and annealing happens. The new **Test** screen provides support for tests relating to existing stope reuse (*Use Output Test Stopes*) and nomination of test locations or shapes (*Use Testing Shapes*).

- **Conditional Simulation**

  Conditional Simulation allows MSO to evaluate how changes in key parameters and grade uncertainty affect stope outcomes. This helps assess robustness, risk, and sensitivity before designs are finalised. Formerly served by the Sensitivities screen, the new **Conditional Simulation** screen lets you experiment with parameter sensitivity using a range of options.

- **Room and Pillar Stope Splitting**

  Room and Pillar stope splitting options are now available on the Post Processing screen. MSO applies this concept during post-processing by subdividing slice-generated stopes into a regular pattern of rooms separated by pillars.

  > **Note**: This option is available only for the Horizontal Slice framework, where stopes are naturally defined in vertical stacks and can be systematically segmented.

- **Level ID Assignment:**

  We have added Level ID mapping for the standard slice framework (Gradient Strings level type or using Ore Development strings), allowing levels to be labelled from a selected data object field with a configurable default when values are missing.

- **Online Help**

  MSO can now access both local and online help, according to your application's current help setting.

# Commands & Processes

This update sees the introduction of some new wireframe data commands to make viewing and saving wireframe data easier, and other improvements:

- `assign-attributes-by-selection-order` – You can now automatically apply a suffix or prefix to alphanumeric attribute values generated by selection order.
- `COMPMAX` has been created. Similar to `COMPSE`, this is a new process for optimised drillhole compositing to find maximum ore/waste composite intervals using configurable cutoff, ore/waste length, and optional zone constraints.
- `dtm-create` – We added a new "Make diagonals consistent" option to Create DTM so triangulation is consistent and volumes match expectations where point data is the same across multiple data objects.
- We have updated `generate-outlines` so that you can now decide the scope of outlining and object output (same object, new object, different object) using a simple-to-use pop up screen.
- `grid-dtms` – You can now calculate and output True Dip data when creating the minimum or maximum elevations of points belonging to multiple (and potentially overlapping) wireframe surfaces.
- `extend-string-to-wireframe-intersect` - A new command that extends the final segment of a string using its current azimuth and dip to terminate on a wireframe surface.
- `filter-wireframe-off` – Hide selected wireframe data without removing it from memory. If no wireframe data is selected when the command is run, you are asked to select a wireframe face. In this way, faces can be successively removed. This command can also be found on the **Format** ribbon.
- `hide-non-selected-wireframes` – Hide unselected wireframe data, leaving only selected wireframe data visible. Useful for focusing on a subset of wireframe data in a dense set. This command can also be found on the **Format** ribbon.
- `import-maps-to-files` – We have improved the import-maps-to-files command for local databases to support more map types, add georeferenced-data filtering and automatic loading of imported results into the 3D window with default templates.
- `insert-string-wfm-points` - A new command that adds one or more vertices to string data at its intersection point(s) with a target wireframe.
- `write-selected-wireframes` – Save currently highlighted (selected) wireframe data to an external Datamine file. Data can be selected by any method, including the selection of independent triangles. This command can also be found on the **Data** ribbon.

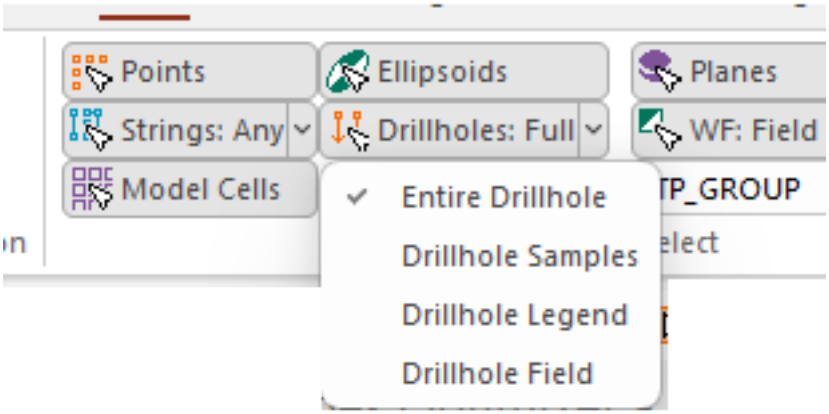
# RocScience Dips Export Driver

A new **RocScience Dips** export driver has been added to the Data Source Drivers set to allow you to export string data in the Dips format, describing dip, dip direction and midpoint coordinate.

# Manage Multiple Overlays

You can now select and perform functions such as unloading and deleting on multiple overlays at once, via the **Project Data** control bar (this facility will not be back-ported to the legacy **Sheets** bar). You can also control the visibility of multiple overlays simultaneously (even for overlays in different 3D folders).

# Selection Settings Simplified




You wanted more intuitive data selection, so we've rationalized and simplified the **Home** ribbon's presentation of these options to make things a lot clearer. Now, a toggle shows, for each data type, whether that data type is selectable or not and we've tackled the more complex case of wireframe data selection by giving access to the various options (by field, by group, by filter and so on) in the same area.

# Ribbon Standardization

We have made the **Edit**, **Report**, **Model**, **Digitize** and **Format** ribbons consistent across products, with common functions laid out in an identical manner. Product-specific additions still exist, and these are also presented consistently if they appear in multiple products. Wireframing functions are also standardized within the

existing ribbons for Studio EM and geology products (**Explicit**, **Wireframe**)planning products, where they have been renamed to **Wireframe Design** and **Wireframe Tools**.

Help files have been updated to reflect these changes.

# Documentation & eLearning

- **Multiple Cases** The ongoing **Studio Documentation Refresh** project continues unabated with hundreds more topics reviewed, reformatted and (in some cases) rewritten. We're still on track to complete this project in 2026.

# All Improvements

## Commands & Processes

- **UG-5122** Fixed a regression in Interactive Ramp so Move Ramp Points works correctly in Interactive Mode, allowing ramp curve and start/end points to be adjusted without requiring MPO.
- **UG-5103** Fixed an issue where renaming loaded dependency layers could leave duplicate layer objects visible until reload.
- **UG-5099** Added additional DTS interaction logging to capture operation type and schedule name, improving diagnostics for import, export, update, and animation workflows.
- **UG-5063** We have improved dependency labels so that manual dependencies are now more obviously so.
- **UG-5030** Button styling throughout the planning workflow is now consistent.
- **UG-5044** The **Interactive Ramp Tool** is now available on the **Digitize** ribbon.
- **UG-5007** The **Derived Design Definition Options** screen is now wider.
- **UG-4991** Minor cosmetic changes have been made to enforce consistent button corner rounding on compatible UI themes.
- **UG-4924** We have added new dependency panel toggles so you can show rule information labels on dependency strings in the 3D window.
- **UG-4919** You can now show or hide directional arrows on loaded haulage network design string data.
- **UG-4807** Synchronizing dependencies between Studio UG and DTS is now much faster.
- **UG-4692** The **Evaluation Method f**or system properties has, in some cases, been revised to reflect how they are treated in processing.
- **UG-4692** Roadways network dependencies now link CXS and WFM stopes to all matching FXS strings below each stope using a selected attribute field for level matching.
- **UG-4652** The Dependencies screen layout has been changed to make it more user friendly.
- **UG-4652** The **Deplete Block Model** tool is now available on the Model ribbon under **Mining >> Deplete**.
- **UG-4182** A new **Dependencies** screen filter - *Invalid Dependencies* - lets you quickly view and rectify troublesome dependency strings.

- **UG-3581** Validation now includes a pre-processing check for FXS design strings where the resulting processed outline shape includes crossovers, reporting this as an 'Extrusion Crossover'.
- **UG-3459** Default values for outline design validation settings have been altered to more practical amounts.
- **UG-2849** A new **Advanced** point translation mode is available for **Derived Activities**, allow derived points to follow the direction of mining precisely.
- **UG-2301** When generating an FXS shape, you can now specify the wall intersection points in addition to the FXS point.
- **UG-981** Generated dependency string data now includes **FROM_NAME** and **TO_NAME** attributes to more easily identify predecessor and successor activities.
- **CORE-10528** We have simplified unloading multiple objects from the Project Data Bar by showing a single confirmation prompt instead of repeated pop-ups.
- **CORE-10479** The rendering of drillhole traces has been optimized, providing performance improvements during visualization.
- **CORE-10413** Updated Block Model command icons to align with Project Data Bar visuals, including consistent purple block model styling and revised Combine/Extract object icons.
- **CORE-10389** Updated the Independent View option label to 'Automatically synchronize overlays' to reflect current overlay inheritance behavior in multi-window workflows.
- **CORE-10367** **COMBTRI** performance has been improved, and now provides ZONE keyfield support.
- **CORE-10359** Improved the DmToDmxConverter fix option to handle trailing spaces and unordered strings in DMX files during comparison.
- **CORE-10303** **DILUTMOD** has been refactored for faster performance and now supports alphanumeric ROCK fields, and exclusion of selected cells from dilution.
- **CORE-10270** The unsupported Mining Power Pack utility has been retired and removed from Studio products, replaced by newer charting functions and enhanced Excel output from processes.
- **CORE-10257** Improved **Edit Attributes** performance for wireframes to prevent long delays when applying attribute changes in affected Studio workflows.
- **CORE-10244** **GRIDDC** and **STATCOM** now support @EXCEL=2 to generate Excel output with a workbook name based on the selected output file name.

- **CORE-10233** Removed in-app screen recording and custom VR object sound functionality to eliminate dependency on deprecated DirectShow components.
- **CORE-10233** We have removed the redundant “Save to Project” choice in popups so new 3D objects always save to disk, with project storage handled via Data Object Manager or project archiving if required.
- **CORE-10216** The minimum volume cleanup tolerance in cut and fill functions has been reduced from 0.05 to 0.001.
- **CORE-10177** Drillhole selection methods are now available on the Home ribbon.
- **CORE-10169** Manual pit design commands are now available on the Digitize ribbon.
- **CORE-10138** We have speeded up the loading of Datamine files and updating the Project Data control bar.
- **CORE-10176** Additional documentation has been added for **EXTRA** relating to potential field name ambiguity.
- **CORE-10166** We have removed the deprecated graphics window popup from **SWATHPLT** so that it no longer appears or shows related messages.
- **CORE-10103** Refactored **ADDMOD** to improve performance by incorporating recent processing optimizations.
- **CORE-10101** The **MAKEDTM** process has a new parameter (@DIAGONAL) to emulate the "Make Diagonals Consistent" switch of the interactive dtm-create screen.
- **CORE-10087** **REBLOCK** has been refactored to improve performance and now handles prototype sizing and custom field names more reliably. Density calculations, alpha-field handling, and related output-field behaviour are now more consistent, including when using non-default density, fill-volume, and void-volume field names.
- **CORE-10086** Improved **DmFile performance for DMX files** by optimising default row handling and cache usage to significantly speed up file operations.
- **CORE-10080** Your product now warns you where your graphics capabilities don't match a minimum OpenGL standard required to operate correctly.
- **CORE-10073** The performance of reading and writing Datamine files has been improved, offering general speedups in many functional areas.
- **CORE-10071** The **COPY** process is now much quicker.

- **CORE-10048**We have updated `generate-outlines` so that you can now decide the scope of outlining and object output (same object, new object, different object) using a simple-to-use pop up screen.
- **CORE-10043** The **Add to Project** screen now appears more quickly where the local PC has multiple networked drives available.
- **CORE-10035** We have improved the import-maps-to-files command for local databases to support more map types, add georeferenced-data filtering and automatic loading of imported results into the 3D window with default templates.
- **CORE-10034** The "Make Diagonals Consistent" DTM feature is now accessible from a script.
- **CORE-10206** You now have separate **Import >> Datamine** and **Import >> External** buttons on the Data ribbon so you can clearly choose whether to add Datamine project files or import and convert external files. Icons for all import and load functions have also been updated.
- **CORE-10021** You can now avoid potential field name and function name ambiguity in the same transform using square brackets to explicitly declare field names.
- **CORE-10009** **COMBMOD** is now significantly faster, including workflows that create new prototypes from multiple rotated block models that share the same rotation but have different origins or offsets. ADDMOD and SLIMOD also benefit because they now use the refactored COMBMOD internally.
- **CORE-10004** Added a new “Make diagonals consistent” option to **Create DTM** so triangulation is consistent and volumes match where point data is the same across multiple data objects.
- **CORE-9986** Default font lookups have been optimized, providing performance enhancements.
- **CORE-9922** Data type filtering commands on the Report ribbon are now supported by undo/redo.
- **CORE-9917** When translating 3D data (translate-point, translate-string and so on) by script, a `RepeatCount` final parameter now accesses the "Repeat" functionality of the interactive command.
- **CORE-9903** Cancelling the Import Data screen no longer shows an additional "Unable to create..." message before returning you to the application.
- **CORE-9902** Clarified SELWF SELECT behavior for DTM (1/2) versus wireframe surface (5/6), including open-surface any-hit logic and closed-surface parity-based selection expectations.

- **CORE-9902** Start Page online/offline controls have been reorganized to make their usage clearer.
- **CORE-9895** You can now create a new drillhole attribute using the **Assign Lithology** task.
- **CORE-9895** New wireframe filtering commands have been added to the **Format** ribbon. A new selected wireframe saving command has been added to the **Data** ribbon.
- **CORE-9847** The **Project Data** bar now shows the active section in bold, for clarity.
- **CORE-9846** The **Project Data** bar now highlights unsaved object data changes in italics.
- **CORE-9839** A new context-sensitive **Logs** ribbon reimplements log sheet functions.
- **CORE-9835** **COMBTRI** can now receive up to 62 input files.
- **CORE-9771** A new command - `switch-drillhole-selection` - lets you pick drillhole data either as entire holes, **FROM**-**TO** intervals, the current display legend or any nominated unique attribute value.
- **CORE-9752** Reloading a script now runs a check for unsafe syntax and displays a warning if it is found.
- **CORE-9751** The **DTS** ribbon no longer appears if DTS is not installed.
- **CORE-9739** The **ROTORDER** process now appears on the **Data** ribbon (**Transform** group).
- **CORE-9664** The folder browser displayed by the New Project Wizard has been updated.
- **CORE-9603** `insert-offsets` is now available on the **Digitize** ribbon (Outlines menu).
- **CORE-9597** An issue causing a texture to not georeference correctly has been resolved.
- **CORE-9559** You can now select multiple folders in the Project Data bar, allowing expanding and collapsing of multiple items.
- **CORE-9558** We have aligned the Project Data bar and 3D view trees so that points, planes, ellipsoids, strings, drillholes, wireframes, block models and sections now use the same icons.
- **CORE-9556** The **Project Data** bar now includes a useful toolbar of file-related functions.
- **CORE-9457** Creating an alphanumeric legend on a large block model is now quicker.

- CORE-9429 The **Save Data/Set Auto Reload** screen now has another option to allow file save prompts and browsers to be hidden during saving, saving with a default file name if a file association doesn't already exist.
- CORE-9425 The **Independent View** screen now has a check box to select whether new 3D object overlays should be automatically added, this defaults to unchecked.
- CORE-9424 Added the **COMPMAX** process for optimised drillhole compositing to find maximum ore/waste composite intervals using configurable cutoff, ore/waste length, and optional zone constraints.
- CORE-9381 **Report** ribbon items that are common to all Studio products now appear in the same arrangement throughout the product range. Product-specific items remain.
- CORE-9380The **Model** ribbon is now presented consistently across the Studio product range.
- CORE-9379The **Explicit** and Wireframe ribbons are now consistent in Studio EM and geology productsWireframing functions have been split into two ribbons; Wireframe Design and Wireframe Tools - this change is consistent throughout all Studio planning products.
- CORE-9377 **Home** ribbon functions common to all Studio products now appear in the same arrangement throughout the product range. Product-specific items remain.
- CORE-9355 Long field name support is now provided and expected in all Studio products.
- CORE-9096 **BOOLEAN** process now supports optional KEY_W1 and KEY_W2 fields to run operations per key value and preserve grouped output.
- CORE-9095 **Wireframe Difference** now supports key field filtering on both input wireframes and output control for single-object or grouped multiple-object results.
- CORE-9093 **Wireframe Extract Separate** now supports key field selection on both input wireframes and output options for a single object or multiple new objects.
- CORE-9092 **Wireframe Intersection** now supports key field filtering on both input wireframes and output control for single-object or grouped multiple-object results.
- CORE-9091 **Wireframe Union** now supports key field selection on both input wireframes and output options for a single object or multiple new objects.

- **CORE-9090** **Strings from Intersections** now supports key field filtering on both input wireframes and output control for single-object or grouped multiple-object results, including value-combination grouping when both key fields are set.
- **CORE-9056** Project file browsers have been updated in line with modern Studio product file types.
- **CORE-8970** Data selection toggles and options have been simplified on the Home ribbon.
- **CORE-8886** **DILUTMOD** now accepts alphanumeric ROCK field values when identifying dilution boundaries.
- **CORE-8821** We have improved handling of large LIDAR files so high-point-count datasets can now be imported and viewed reliably.
- **CORE-8603** A new command - `insert-string-wfm-points` - adds one or more vertices to string data at its intersection point(s) with a target wireframe.
- **CORE-8602** A new command - `extend-string-to-wireframe-intersect` - extends the final segment of a string using its current azimuth and dip to terminate on a wireframe surface.
- **CORE-8569** Enhanced error reporting has been added to the `fillet-single-string-point` command.
- **CORE-8547** Icons on the Add New File screen have been updated.
- **CORE-8520** The **Digitize** ribbon has been standardized across all Studio products, although product-specific options still exist.
- **CORE-8491** The **Drillhole Planner** now automatically saves your settings (including dip convention) on closing and reinstates them when reopening. A Reset button has also been added.
- **CORE-8432** Feedback information when using extend-segment-virtual-intersect has been improved.
- **CORE-8432** The **grid-dtms** command can now output True Dip values in addition to thickness analysis.
- **CORE-8050** The object name for convert-wf-hull and wireframe-section screens is now editable by default.
- **CORE-7975** You can now edit existing legends using the **Format Legend** wizard, as well as creating them.
- **CORE-7930** **DILUTMOD** can now exclude selected cells from dilution by using the EXCLUDE field together with the EXCLDVAL parameter.
- **CORE-7272** The **Edge Editor** is now available in this product. Use it to dynamically adjust string edges. Find it on the **Digitize** ribbon.

- **CORE-7176** You can now choose your gradient convention when running the `connection-on-grade` command.
- **CORE-7175** You can now change the default gradient convention when using the `string-at-gradient-on-wf` command.
- **CORE-7173** We have updated the **create-ramp-string** command default values as you requested.
- **CORE-6862** Improved rendering performance for large drillhole datasets displayed as cylinders, reducing UI lag during interaction and display updates.
- **CORE-6308** You can now **edit the existing image registration** of a loaded pictures object using a new menu option on the Sheets or Project Data control bar.
- **CORE-4893** **DILUTMOD** now runs much faster when applying dilution to block models.
- **CORE-4838** We have added an option for **SWATHPLT** (@EXCEL=2) to name Excel output workbooks after the SWATH output file so multiple swath plot sheets can be generated without overwriting each other.
- **CORE-3656** Updated missing and outdated icons across context menus, toolbars, and panels (Load, Data Selection, Project Data, Data Object Manager, etc.).
- **CORE-3204** The new **Create Multiple Sections** tool lets you create sections throughout your data using a range of options.
- **CORE-1953** Hide selected wireframe data (`filter-wireframe-off`), hide unselected wireframe data (`hide-non-selected-wireframes`) and write selected wireframe data to a file (`write-selected-wireframes`) using new commands.
- **OP-3893** Design Direction controls on the Preparation screen no longer appear if there are no FXS design data.

# Utilities & Supporting Services

- **CORE-9967** The DM to DMX file converter is now supported by a desktop shortcut.
- **CORE-9760** "MineScape Block Model" no longer appears in the Data ribbon's "External" menu as it is now fully integrated with the Data Source Drivers collection.
- **CORE-8754** A new **RocScience Dips** export driver has been added to the Data Source Drivers set to allow you to export string data in the Dips format, describing dip, dip direction and midpoint coordinate.

# Documentation

- **CORE-10516** A technical note (TN00453) has been created to explain **EXTRA**'s solution for resolving field and function name ambiguity. This is available on the Customer Portal, or you can get a copy from your local Datamine agent.

# Scripting & Automation

- **CORE-7319** We have added new IEw3DObject methods FindPairwiseIntersections and FindPairwiseIntersectionsEx to find intersecting wireframes with common volume, including a maximum overlap volume option.

# Mineable Shape Optimizer (5.1)

- **Multiple Cases** The MSO ribbon system has been completely overhauled to support the new screen layouts and engine.
- **MSO-1691** The message indicating an MSO scenario is too old to read has been improved. MSO can only read scenarios from the latest v4 release (currently 4.6) or later.
- **MSO-1684** We have renamed the “Start from Stope” option to “Start from Quad” in Test >> Use Stope Testing >> Stope Testing Type >> Output Test Stopes to match the underlying engine behaviour.
- **MSO-1681** We have updated the Max Segment Angle Change validation in Complex Stope Shape >> Definition Settings >> Section Controls so it now accepts values between 0° and 180° (exclusive), matching the behaviour of the previous MSO version.
- **MSO-1687** MSO can now access both local and online help, according to your application's current help setting.
- **MSO-1678** Read-only calculated values now use enabled text editor styling, improving readability while still preventing user edits.
- **MSO-1674** We have updated the Run panel so scenarios still run when opened on machines with fewer threads than the project’s default concurrent threads setting.
- **MSO-1662** The active MSO scenario is now more recognizable by a highlight and icon assignment.

- **MSO-1661** We have added Level ID mapping for the standard slice framework (Gradient Strings level type or using Ore Development strings), allowing levels to be labelled from a selected data object field with a configurable default when values are missing.
- **MSO-1660** Nested Cutoff Values are now automatically sorted before processing.
- **MSO-1659** We have added OK and Cancel buttons to the Polygon Points screen in the Advanced Framework's stope face polygon workflow.
- **MSO-1656** We have fixed an issue where viewing output objects in the Review panel temporarily removed them from the Project Data bar.
- **MSO-1645** We have added validation in the Block Model and Report panels for alphanumeric reporting fields to prevent invalid accumulation and category settings.
- **MSO-1641** When "Only output Tube Wireframes for this Scenario" is checked on the Files screen, other file output options are now disabled as expected.
- **MSO-1633** More context-sensitive validation to Stope Merging controls.
- **MSO-1628** You can now name a stope using up to 80 characters.
- **MSO-1618** In Horizontal Slice orientations (XY/YX), angle control labels now display as Strike Dip Angles and Transverse Dip Angles instead of Strike Angles and Dip Angles to match the selected orientation context.
- **MSO-1609** We have added a header check box to the Run screen to make it easier to queue all available runs (or remove them from the queue).
- **MSO-1571** We have updated all MSO user interface references from “Color” to “Colour” to follow our English spelling convention.
- **MSO-1456** **Room and Pillar stope splitting** options are now available on the Post Processing screen.
- **MSO-1431** The **Files**and **Report** screens are now configurable when using Prism Frameworks.
- **MSO-1429** The **Post Processing** screen now explains that its controls are not relevant to the Prism optimization method.
- **MSO-1428** The **Dilution** panel lets you set maximum waste and crown dilution settings when working with the prism framework.
- **MSO-1427** The **Advanced** screen now explains that its controls are not relevant to the Prism optimization method.
- **MSO-1426** The **Shapes** panel now displays controls for managing prism framework optimizations, including sub-levels, waste pillars, troughs and crown annealing.

- **MSO-1425** Mineable Shape Optimizer 5.0's **Prism** framework type appears with this update, with supporting help files.
- **MSO-1408, MSO-1432** A new **Test** screen has been added to MSO to reimplement stope testing functions (slice and prism frameworks).
- **MSO-1405** **Conditional Simulation** (formerly Sensitivities) settings are now available in the latest MSO.

# Documentation & eLearning

- **Multiple Cases** The ongoing **Studio Documentation Refresh** project continues unabated with hundreds more topics reviewed, reformatted and (in some cases) rewritten. We're still on track to complete this project in 2026.

# Automation

- **UG-XXX** TBC

# Defect Fixes

- **UG-5102** Fixed a processing crash in WFM design grouping when system attributes with missing or non-design values are included in the grouping selection.
- **UG-5092** We have fixed an issue where running Analyze Roadways incorrectly enabled the Save button when no attribute changes were made.
- **UG-5073** Dependency synchronization now works correctly even when a task filter is applied to the schedule.
- **UG-5066** We have fixed an issue where System Fields could incorrectly be selected as an Attribute Export Type. System Fields are no longer available for attribute export, preventing configurations that would not work at runtime.
- **UG-5038** An unexpected "lp_solve_parameters.ini" file no longer appears in the Project Data control bar.
- **UG-4983** New manual dependencies are now sequenced correctly. Previously a data unload/reload was required.
- **UG-4976** An issue affecting bulk changing of derived activity definitions has been resolved.
- **UG-4975** An issue causing system shutdown when creating wireframe boundaries fails has been resolved.
- **UG-4960** System filters are now reloaded correctly, ensuring unnecessary evaluation steps aren't triggered.
- **UG-4940** We have updated the Preparation screen so that any manually applied filters are now consistently cleared when switching between Apply Definitions and Roadways, ensuring all data becomes visible as expected.
- **UG-4882** We have fixed an issue in CXS where updating attributes on retained activities could incorrectly apply values across all activities sharing the same design ID.
- **UG-4824, UG-4883, UG-4884** Legend and material category mismatches are now either resolved automatically or highlighted (and export is blocked) during export to DTS.
- **UG-4692** An issue causing a coordinate mismatch between UG and EPS/DTS activities has been resolved.
- **UG-4658** The Project Data bar now lists files that you add to subfolders of the project directory as expected.
- **UG-3602** The S5DPARRW field is now treated as a temporary column and is no longer saved to the design file, preventing direction arrows from appearing unexpectedly outside the Design tab.

- **MSO-1699** Stope Merging validation now refreshes correctly when Merge Direction is changed, so invalid settings are consistently flagged and cleared at the right time.
- **MSO-1696** MSO now accepts negative Variable Section coordinates for non-rotated frameworks. Validation behaviour for rotated frameworks is unchanged.
- **MSO-1695** Fixed an issue where scenario names containing a period could prevent output objects from being enabled in the Review panel.
- **MSO-1692** We have fixed an issue where the V identifier Fixed Number could become stale and incorrectly flagged as invalid after switching its source.
- **MSO-1688** You can now close the Zone Mixing Values dialog with OK or Cancel so you can either apply or discard your mixing changes before saving the block model.
- **MSO-1686** Stope Splitting now validates ranges using “Min ≤ Interval ≤ Max” so equal values are allowed.
- **MSO-1685** We have fixed an issue where the MinedOut BlockModel STOPENUM values did not match the wireframe output from a scenario.
- **MSO-1682** We have fixed an issue where unrotated MSO frameworks with local offsets caused runs to fail by now automatically adding any specified offsets to the exported origin so existing scenarios run successfully.
- **MSO-1671** We have added validation so the Level ID field now clearly errors when a string file contains only system fields, preventing confusing empty field selections.
- **MSO-1654** We have restored validation on manual framework rotation angles so values must stay between -360° and 360°.
- **MSO-1653** We have fixed Complex Stope Shape so U Identifier dropdown fields now correctly come from the block model when using a block model source.
- **MSO-1652** We have added validation to warn you when imported scenarios use an invalid Level ID field selection in Complex Stope Shape.
- **MSO-1651** Complex Stope Shape scenarios using Gradient Strings now set the control string file correctly so the scenario no longer fails unexpectedly during processing.
- **MSO-1649** We have made editing Stope Maximum Side Length Ratios immediately enable the Apply/Revert buttons without needing to change focus first.

- **MSO-1647** We have fixed the Orientation panel so 3D vizualisations of block model/manual extents are automatically unloaded when their display options are turned off.
- **MSO-1630** We have fixed a Stope Splitting issue where toggling Force Internal/External Walls caused other controls to shift position, so the layout now remains aligned and stable.
- **MSO-1629** The scenario name now appears at the top of the MSO console immediately after creation or editing.
- **MSO-1612** We have restored the Expression Builder on the Block Models and Files screens.
- **MSO-1607** Tooltips now appear on the new MSO ribbon as expected.
- **MSO-1572** A minor label error has been corrected on the Output Verification Wireframes section of the Files screen.
- **CORE-10533** Opening a Studio project archive with only loaded data contents no longer triggers automatic file conversion outside the archive contents.
- **CORE-10480** Fixed Project Data Bar section formatting so active sections are shown in bold as expected, including when section definitions have child entries and saved/unsaved state changes.
- **CORE-10432** Fixed a regression where wireframe intersections in section view could jump between the section centre and back while panning with Filled Solid enabled.
- **CORE-10402** The Legend Preview window now redraws itself when the legend is changed in any way.
- **CORE-10400** Fixed the Edge Editor Help button so it now opens the correct help topic instead of an invalid page path.
- **CORE-10399** Fixed an issue where textured wireframes could lose their texture display after reopening a project; textures now render correctly on project reload.
- **CORE-10352** Fixed a crash when importing certain Deswik wireframe files via drag-and-drop or Data >> External >> Wireframe >> Deswik.
- **CORE-10315** Logsheets now retain their chosen template when you print, preview, or switch holes using data from a FusionX database.
- **CORE-10298** An issue preventing the import of a very large Surpac block model has been resolved.
- **CORE-10285** Updated Report >> Statistics Processes ribbon icons in Planning products to use the latest icon set, including restoring the missing Summary Statistics menu icon.

- **CORE-10255** REBLOCK no longer expands the prototype model by an extra cell in X, Y, or Z when using the super process.
- **CORE-10239** We have corrected several typos in the TRIVAL parameter descriptions to improve clarity.
- **CORE-10235** The INTEXT process help page now has the correct browser tab and search results text.
- **CORE-10217** We have corrected a long-standing typo and spacing issue in the message shown when you open a Studio product with a profile from an earlier version.
- **CORE-10215** You now see more consistent block model slices when viewing oblique sections, with missing stripes in intersection mode fixed.
- **CORE-10198** We have fixed an issue where saved DTM wireframes could display as strings with unexpected XP/YP/ZP attribute columns.
- **CORE-10183** An issue that could causing instability when loading certain points and points-like data files has been resolved.
- **CORE-10180** A rare issue that could result in field names becoming truncated has been resolved.
- **CORE-10174** Fixed a crash when scripting creates a new single-precision .dm file from a schema containing column names longer than 8 characters.
- **CORE-10172** In the TRIVAL process the message reporting the number of output records is no longer repeated multiple times.
- **CORE-10164** When STATS is run with @PRINT=0 the message: "WEIGHTING FIELD: ...." is no longer output multiple times
- **CORE-10151** SWATHPLT no longer uses substitution variable names as file names if output files SWATH1 and/or SWATH2 are not defined.
- **CORE-10126** TONGRAD now warns if you use the same field for multiple outputs in dmx and continues using only the first occurrence.
- **CORE-10076** Create Model Prototype now previews rotated block models in the correct location.
- **CORE-10057** An issue causing a driver load error message, when converting Leapfrog data via the Data Converter, has been resolved.
- **CORE-10053** An issue preventing the display of context-sensitive help of some Data Source Driver screens has been resolved.
- **CORE-10038** Loaded block model prototypes are now listed as expected in the Project Data bar's 3D folder.
- **CORE-10020** The Project Wizard's help button now displays the expected help content.

- **CORE-10019** An issue causing HOLES3D to fail where a field name also matched an EXTRA function name, has been resolved.
- **CORE-10011** The quick key for `doughnut-storage-switch` has been changed to "ddss" to avoid ambiguity with the delete-string-segment command.
- **CORE-9985** The GetTag method on the DmFile table object now returns the expected tag value using Javascript.
- **CORE-9984** We have fixed an issue in the Project Data bar where the first item in a top-to-bottom Shift-select could become unselected if it was scrolled out of view while selecting multiple items.
- **CORE-9978** Fixed an issue where starting New Project while another project is open could show an unnecessary script error after cancelling or declining the prompt.
- **CORE-9873** Swipe selection can now be used when selecting samples using the Assign Lithology tool's Paint mode.
- **CORE-9863** An issue causing unexpected rendering of block model cuboid edges with clipping applied.
- **CORE-9825** SWATHPLT is now faster when @ANGLE1,2 and 3 = 0 (unrotated swaths).
- **CORE-9799** We have updated DMX model loading so that dragging and dropping a DMX file that is already loaded now creates a new overlay instead of showing an error, while other load methods keep the existing warning.
- **CORE-9697** An issue causing WIREPE to create strings at incorrect intervals has been resolved.
- **CORE-9680** The @CHECKROT parameter is now working as expected in SELPER.
- **CORE-9657** We have updated the MineScape Model Importer so it can no longer be opened multiple times at once, preventing the system instability caused by closing one of the duplicate dialogs.
- **CORE-9634**An issue causing SELPER to print unexpected output file alphanumeric values has been resolved.
- **CORE-9576** If section auto-alignment is enabled, this is now applied as expected when swapping sections via the Sheets control bar.
- **CORE-9557** We have updated the Project Data bar so grids and sections are no longer underlined.
- **CORE-9535** Ellipsoid selection buttons (Home ribbon) are now only enabled if ellipsoid data is loaded.

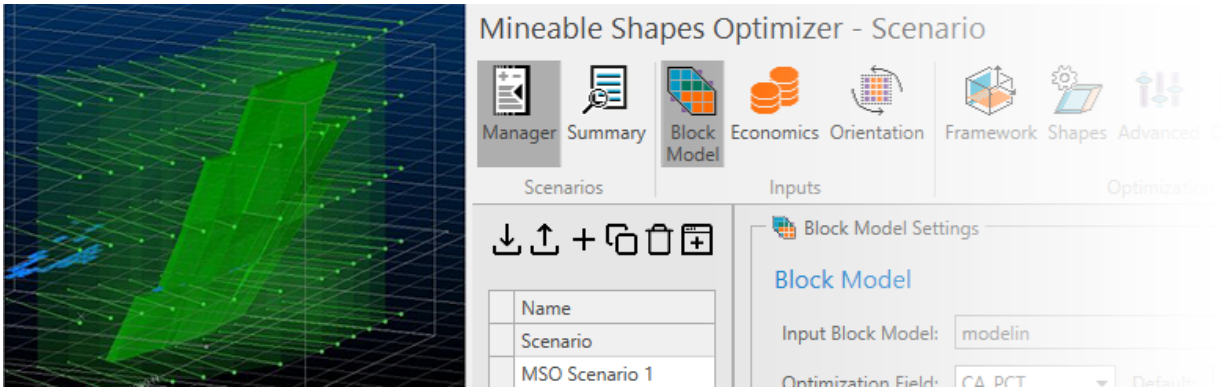
- **CORE-9302** Solid Hull key field processing now correctly applies grouping per key value, so hull generation respects selected key fields (for example, LEVELID) instead of producing a single whole-solid hull.
- **CORE-9271** You can now successfully use the Studio RM Fusion Driver to import and reload FusionXl database tables.
- **CORE-9183** SWATHROT now runs as expected in Studio RM.
- **CORE-9064** An issue causing some parts of a rotated model to be ignored when using SWATHPLT has been resolved.
- **CORE-8492** The Find Command screen now lists 'tra' as the quick key for string and point translation commands.
- **CORE-8819** You can now redo `extend-segment-virtual-intersect` operations as expected.
- **CORE-8494** An intermittent issue that could cause your application to stop processing commands such as unload-all, has been resolved.
- **CORE-7416** We fixed a crash/freeze in the Image Registration (georeferencing) tool that occurred when using high-resolution (4K) monitors.
- **CORE-7057** Fixed an issue where Calculate Wireframe Volume did not report separate volumes and spatial statistics for each key field value, ensuring results are now correctly split by the selected key field.
- **CORE-3801** REBLOCK can now preserve regular subcells along zone boundaries when reblocking to larger parent cells, helping retain geological domain precision across boundary changes.
- **CORE-3559** We have fixed the Table Editor's Variogram-Model definition so the data definition for GRADE and GRADE2 fields are now alpha (A24), not numeric.

# Studio UG 4.1 Release Notes

## DTS Compatibility

**Studio UG 4.1** requires **Datamine Task Scheduler 4.1** or later to export and synchronize schedule data. The latest version of DTS is available from the Datamine Support Website and the Datamine Customer Portal.

## MSO 5.0




**Mineable Shape Optimizer** (MSO) has been completely overhauled in this update to provide a more streamlined and intuitive wizard that guides you through the process of scenario and model set up, economics, framework orientation and configuration, shape control and reporting.

MSO continues to generate optimal stope shapes that match operational and geological constraints, and with version 5, setting up scenarios for parameter sensitivity analysis has never been easier. To that end, this update provides enhanced visibility throughout the stope optimization process without removing any of the granular controls that make MSO so powerful, making stope optimization more accessible to a wider audience.

This first version of the new MSO supports 2 Framework types:

- Slice
- Boundary

> **Note**: The Prism framework option is not available in MSO 5.0 but will be added soon.

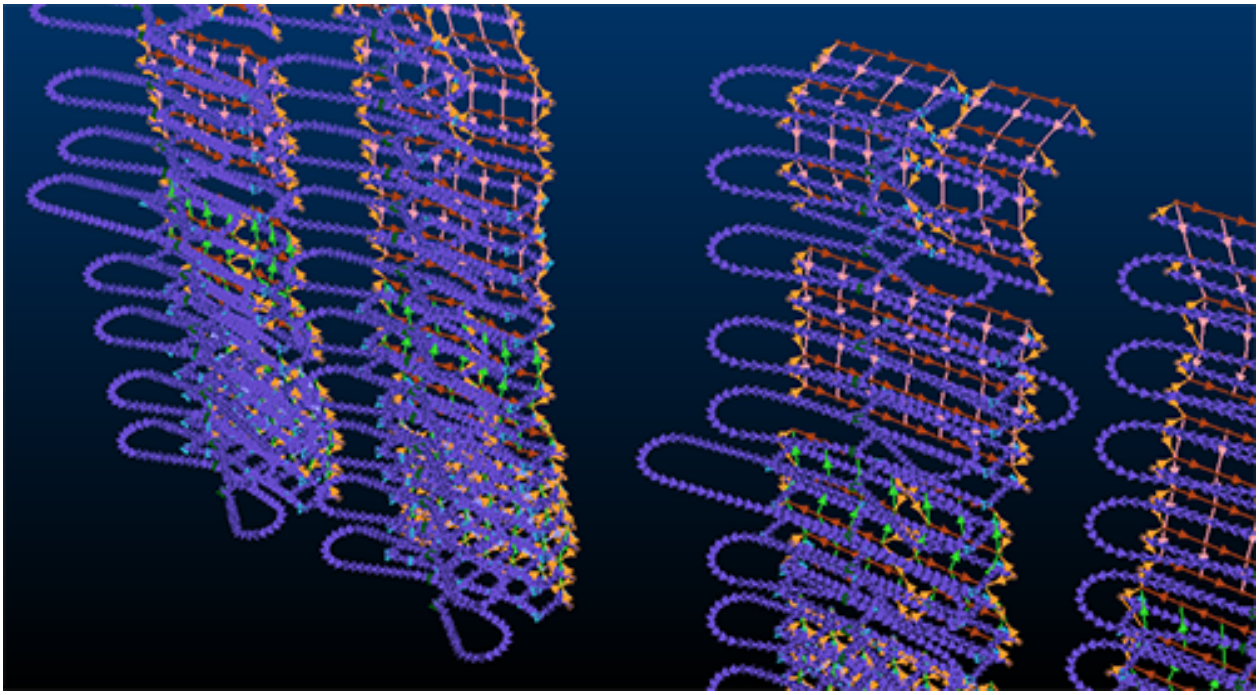
During the initial implementation phase - both “legacy” and “new” MSO are available via the **Report** ribbon.

For more information on MSO 5.0, including licensing, consult your online documentation and release notes at https://docs.dataminesoftware.com/.

MSO is supported by an entirely new help file featuring screen overviews and learning activities. Press F1 on any MSO screen.

# Haulage Network Scheduling

Traditionally, formulating dependencies that match haulage activities was achieved by creating manual or automated dependencies. A flexible system but time consuming for complex arrangements. Now, a new powerful 'Network' dependency rule facility lets Studio UG deduce the relevant dependencies from the presence, shape and configuration of design centre lines, saving time when preparing data for processing.



To support this, FXS design string direction validation options have been added to ensure the resulting strings describe a practical basis for scheduling activities, such as accurately representing the network formed between decline, level drive, ore drive and cross cut design definitions.

Where necessary, string interactions are formed automatically to reinforce the progression of activities, such as when an ore drive has multiple cross-cuts coming out of it, or when a stockpile comes out of a decline or any other drive. Road connections are formed based on your own connection tolerances.

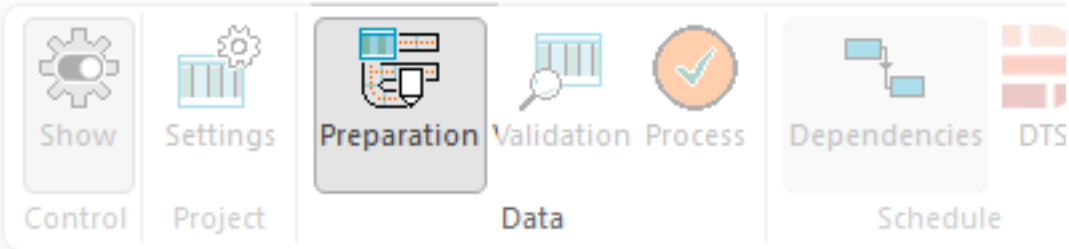
As with other dependency configurations, network rules can be assigned per layer. Simple in its presentation (a new dependency rule and validation options) but powerful in how it automates the adjustment of design string data and defines dependencies automatically, providing significant time savings and consistent and repeatable results.

# Dependency Animation

Dependency data is now displayed during animation playback. As each segment of activity data displays, if a dependency is associated with its start time, the associated dependency information displays as well, unless hidden by **Sheets** or **Project Data** bar settings.

# Preparation Panel

The **Design** and **Definitions** panels are merged in this update, making design preparation tasks, including attribution and definition connection functions, accessible from the same area. This also means that you can edit attributes and apply design definitions without having to load and unload design data as in previous versions.

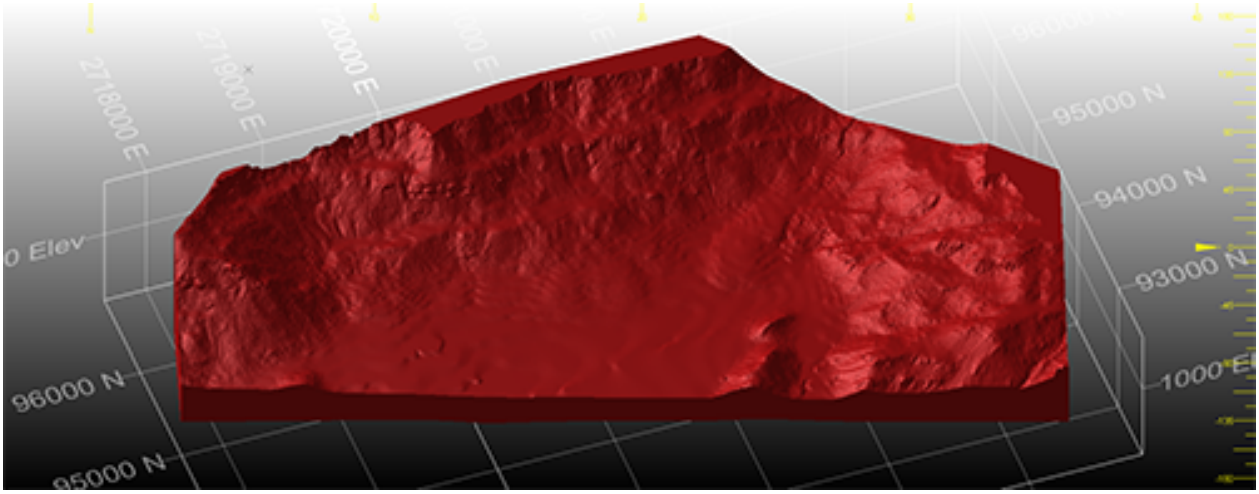



# Outline Validation

Validation settings include new options for CXS design strings.

You can now check for excessive azimuth or dip changes around an outline and report design strings that violate these constraints during processing. This is provided courtesy of **Maximum Azimuth Change** and **Maximum Dip Change** settings in **Validation Options**.

# Leapfrog Data Import




You can now import Leapfrog mesh (.msh) and Leapfrog Project Model (.lfm) files using a new Data Source Driver. Data is imported as wireframes.

If importing a Leapfrog Project Model file, you can choose to import all associated mesh data or a subset, and can choose the attribute to use to store the original mesh name, making downstream data management much easier.

The new formats are also supported by Studio's drag-and-drop facility, meaning you can drag one or more files into the 3D view and default load settings are used to create the relevant objects in memory and display them.

# Multiple File Loads

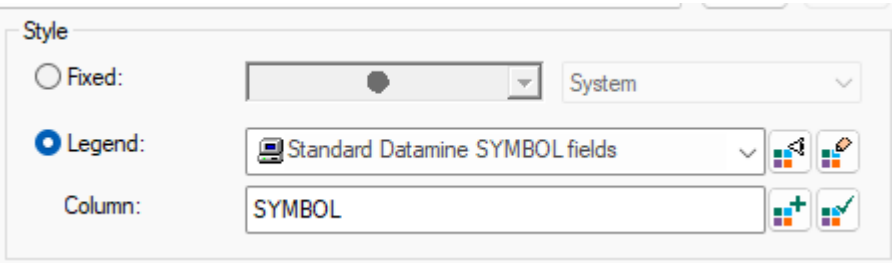
You can now import or load multiple files in one operation using new multi-file options. Just pick the files you want to load using a simple browser, and Studio does the rest. You still get to specify load and importation settings, including those specific to a particular driver, but now you can complete the process in a fraction of the time.

To access this function, click **Add to Project** or **External** on the **Data** ribbon and pick your files.

Either import multiple files to the project or load them directly into memory. These files can be of the same type and format or different ones, meaning you can pick a batch of files of various formats (CAD, BMF, DMX and more) and either add them to the project or load and display them after importation and conversion. This makes light work of importing files from other projects and applications.

To use the previous driver selection method, use a menu option to pick a data type or select the new "by driver" option for project import.

# Legend Tools Update




3D properties and similar screens now use a clearer and expanded toolset for legend management.

You can still display and edit legends as before, but now there is a dedicated button to create a new legend and (reinstating previous, reportedly popular behaviour) a new button appears to either select the current default legend for the selected column or set the current legend as the default for the current column (with no further prompts or popups).

We've also added the ability to add any colour chip to the unique legend item table in the New Legend Wizard

# Geosoft® Driver

Geosoft Voxel Models files represent useful geophysical files, also known as *UBC voxel models*. These files contain geophysical inversion data. An import comprises 2 or more files - one file to define the geometry, and 1 or more files containing data values associated with the cells.

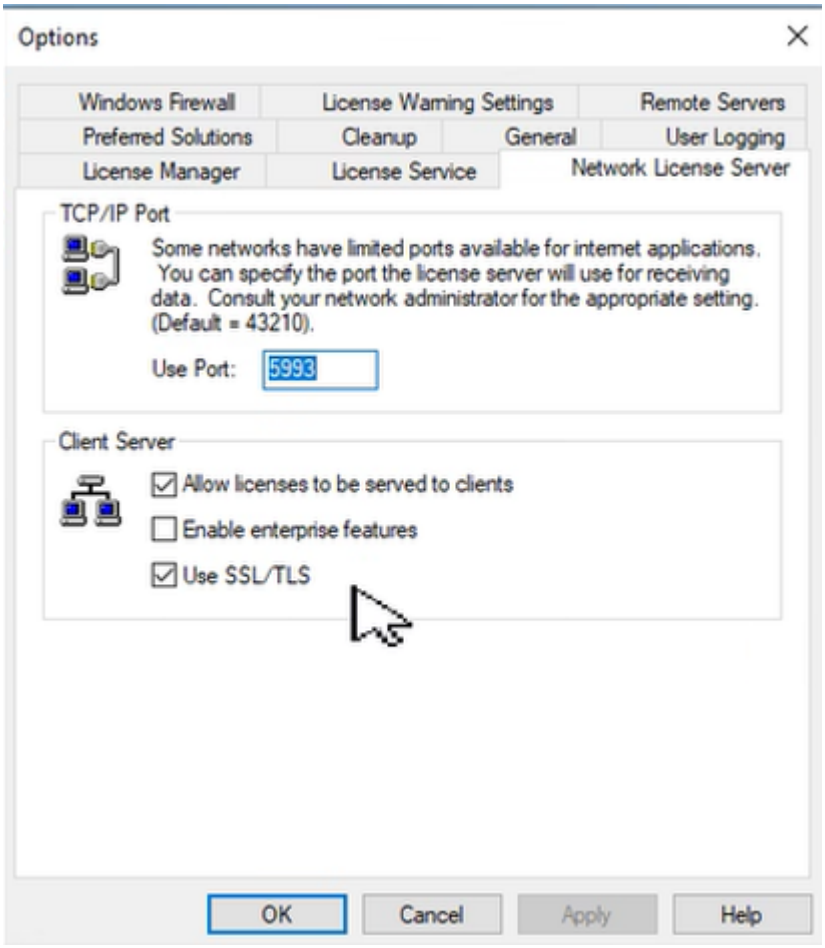
To support this new file type a new *Geosoft* option is available on the **Data Import** screen.

# License Services Security

At Datamine, we take the security and integrity of your data seriously.

License Services 7.0 is installed with your product update, and it provides additional security protection for client-server traffic.

You can now configure a license server to transmit and expect encrypted traffic. Utilizing the latest Transport Layer Security (TLS) protocol from Microsoft®, this level of data encryption helps prevent the interception and misuse of port traffic by malicious actors.




Server configuration can be completed in seconds (see above) and - providing connecting clients are running License Services 7.0 or above - client configuration is automatic; clients detect the current server mode and adjust their settings accordingly.

Legacy data mode is still supported; no server changes are necessary unless you want to change your data transmission protocol. Legacy License Services clients can connect to an upgraded (non-encrypted) server and vice versa.

You can find out more about these changes by searching for "License Services TLS Support" on the Datamine Support website, or by contacting your local Datamine office.

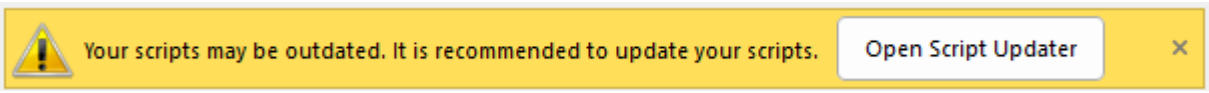
# Safer Scripting

To maintain the highest level of local data security, we've rigorized our scripting interface in Studio products to provide a way to securely instantiate approved ActiveX objects through automation scripts. This provides a safer and more marshalled automation environment.

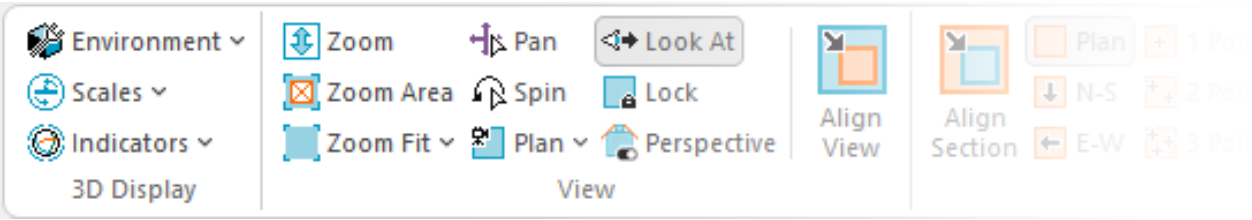
In brief, we've introduced a new Studio application method (CreateObject) that can be used in place of the deprecated `new ActiveXObject("Prog.ID");` instruction. A call to something like `window.external.System.CreateObject ("Prog.ID");` allows approved ActiveX objects to be instantiated to support your scripts. Most importantly, the ones that provide the highest risk are blocked.

The **Datamine Studio Script Updater**, accessible via your **Home** ribbon, can update your scripts either individually or as a batch, automatically making them safer to use.

If you load a script that looks like it could benefit from additional protection, a banner appears atop your display area. This also provides access to the conversion utility:




# Ribbon Standardization




Following your requests to adopt a more consistent ribbon layout between Studio products for core (shared) commands, we've made a few changes for this update. This means your familiarity with one Studio is now useful if using another product in the Studio range. Where possible, we have standardized command grouping and positions for the **Data**, **Format** and **3D View** ribbons. We've maintained specific layouts where a particular operating domain demands it, such as grade estimation, resource modelling, pit design and field mapping functions, so these aren't changing.

We will continue to standardize our ribbons, where appropriate, in future releases.

# Other Command & Process Updates

- `COPYMOD` now supports retrieval criteria.
- A new command `digitise-doughnut` lets you create data representing fully enclosed internal structures.

- `smooth-gradient` can now be used to fully smooth (start to end) preselected strings.
- `REBLOCK` now supports retrieval criteria
- `INTEXT` can now process data using either a data definition (INDD) file or a SETTINGS file, or neither.
- `WIREFILL` now supports retrieval criteria.

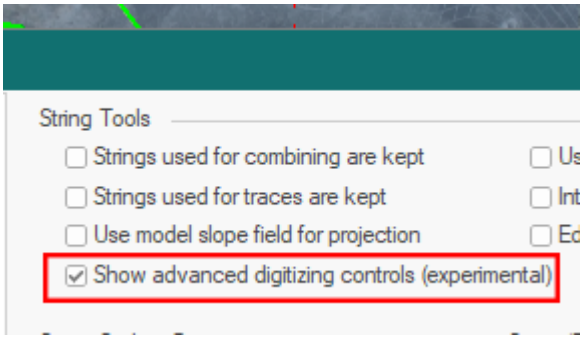
# Early Access Features

## Advanced Digitizing Controls

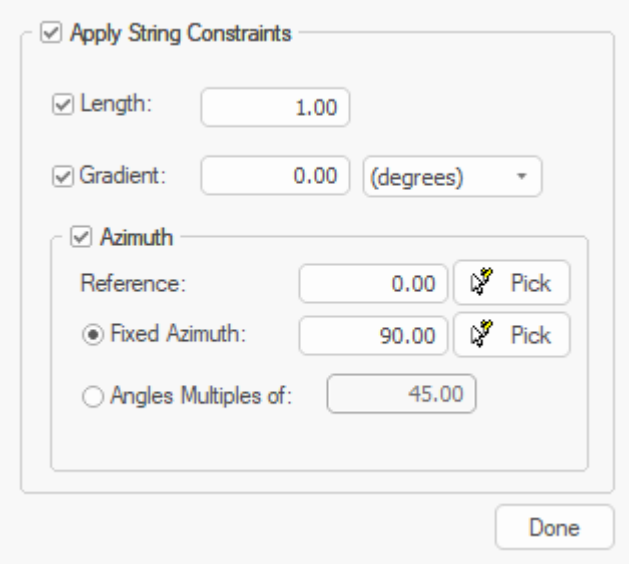
As part of a wider campaign to improve and extend our digitizing tools, we've introduced a new way of creating new string data in this update, and we'd love to know what you think before we finalize things.

`new-string`, arguably the most commonly used design command in any Studio product, has been extended over the years and also supported by a range of other design functions to enhance more 'managed' digitizing often required in the mine planning domain, where design drafting with precise string properties can be critical to an effective design and schedule. The `extend-string` command has been similarly enhanced.

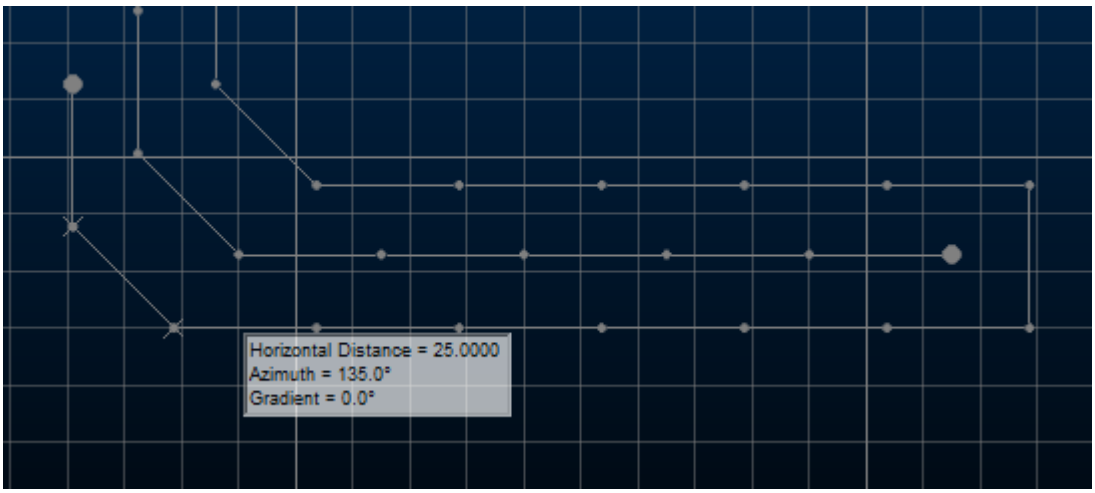
`new-string` and `extend-string` can run in an enhanced mode in this update. By default, both commands behave as before, but there's a new project setting that allows advanced settings to be applied during digitizing to constrain the orientation of the next string segment you create. Located on the **Points and Strings** screen, check **Show advanced digitizing controls** to activate enhanced mode for **new-string** and **extend-string**:




The next use of either command displays a popup allowing you to constrain the length, azimuth and gradient of the next string edge. For constrained angle changes, you can also ensure azimuth changes are made in fixed amounts from the previous string segment:




This can help to ensure operational and design constraints are honoured during digitizing, saving time later by editing and adjusting design data. Help files for both commands have been updated to explain how to use the new controls. You can also press F1 when the new popup displays during digitizing.




Please let us know what you think of this early-access feature. We value your feedback!

# All Improvements

## Commands & Processes

- **UG-4943** Studio UG now populates the “Originator” field in DTS whenever creating or updating a schedule for all tasks it creates/updates.
- **UG-4941** When new tasks are added to DTS by UG they will now have X, Y, and Z values populated.
- **UG-4880** Message boxes in Studio UG now support visual themes.
- **UG-4850** An issue causing system instability when rerunning a validation has been resolved.
- **UG-4763** In this version, the **Design** and **Definitions** screens have been merged into a new "**Preparation**" screen to streamline attribution and design definition configuration.
- **UG-4557** The positioning of CXS activities has been improved.
- **UG-3701** This update features the introduction of a new **Haulage Network facility**. Consult your help file for more details.
- **UG-2072** A new 'Network Based Rules' dependency category has been created to support haulage scheduling in Studio UG.
- **UG-1531** Dependencies are now displayed during animation playback.
- **UG-463** Validation settings include new maximum azimuth and dip change options for CXS design strings.
- **MSO-1559** MSO 5.0 is supported by an entirely new help file featuring screen overviews and learning activities. Press F1 on any MSO screen.
- **MSO-1551** The Project Data bar has been updated to support MSO 5 workflow changes.
- **CORE-9827** .dmx.tmp files are now ignored by the **Project Files** and **Project Data** control bars.
- **CORE-9775** As part of the project to standardize Studio ribbons, icon updates have been made.
- **CORE-9732** Read-only DM files are now converted to read-only DMX files during project or utility-initiated conversion.
- **CORE-9711** Documentation for `EXTRA`'s RAND and RANDBETWEEN numeric functions has been improved.
- **CORE-9649** Block model fields in the Text Importer are now ordered more sensibly.

- **CORE-9604** The default field of view angle for new projects is now 45 degrees (set-view-fov command).
- **CORE-9586** To increase system security, we have blocked the display of online content in the Customization window.
- **CORE-9583** In Files, Fields and Parameters screens running in Dark mode, text in dropdowns is now more readable.
- **CORE-9579** `COMPDH` now supports up to 5 ZONE fields to composite within, and five optional fields DOM1 to DOM5 can now be specified to record dominant categorical values (by length) within each composited sample.
- **CORE-9578** The Script Recorder now generates syntax that aligns with Datamine's safer scripting policy.
- **CORE-9574**The legacy script converter utility has been removed from product distributions.
- **CORE-9561** Rationalization of baggage files for help systems means Studio installation file sizes are now smaller.
- **CORE-9551** The **Datamine Studio Script Updater** has been provided to automatically convert your scripts to more protected versions.
- **CORE-9550** The Studio scripting environment now offers a safer scripting syntax, minimizing the potential impact of malicious thread actors.
- **CORE-9546** New calculated (virtual) fields are now available to calculate the dip angle (**_PDIP**) and direction (**_PDIPDIR**) of the best fit plane through a data object.
- **CORE-9542** A more secure mechanism for data object automation has been implemented. Consult your online help for more details.
- **CORE-9540** You can delete selected 3D overlays of the Project Data using the <DELETE> key.
- **CORE-9539** The **CalculateEdgeMetrics**() method now calculates values for the final edge of a closed perimeter.
- **CORE-9528** The Plots window **Section** and **View** ribbons now have new icons.
- **CORE-9526** It is now quicker to read and process DMX files containing alphanumeric columns.
- **CORE-9522** `WIREFILL` now supports retrieval criteria.
- **CORE-9521** `COPYMOD` now supports retrieval criteria.
- **CORE-9519** `REBLOCK` now supports retrieval criteria.
- **CORE-9490** The Text Importer can now be automated using any Studio product.

- **CORE-9482** The `switch-drillhole-points-traces` command is now available on the Format ribbon (Display Mode group).
- **CORE-9474** The **Text Importer** and `INTEXT` documentation has been extended and corrected.
- **CORE-9473** `INTEXT` can now process data using either a data definition (INDD) file or a SETTINGS file, or neither.
- **CORE-9449** The **CENTRE** file for the `ELLIPSE` process is no longer dependent on search, variogram or zone parameter file inputs.
- **CORE-9409** An issue causing an unsorted block model to become locked after a previous attempt to load it has been resolved.
- **CORE-9398** In `COMPDH` it has always been the case that if the **LENGTH** field in the input sample file is not equal to **FROM** - **TO** the **LENGTH** field is set to **TO** - **FROM**. This behaviour remains, but a maximum of 10 messages are issued in a process run.
- **CORE-9383** The **3D View** ribbon layout is now consistent between Studio products.
- **CORE-9382** The **Format** ribbon layout is now consistent between Studio products.
- **CORE-9378** The **Data** ribbon layout is now consistent between Studio products.
- **CORE-9359** Your product now includes a new control bar: **Project Data**. This combines the power of previous bars to categorize and display files, loaded objects and plot data.
- **CORE-9391** When using the Text Importer, you can now import alphanumeric trace and absent values into a destination field that is numeric.
- **CORE-9340** Unload all overlays of a specific data type using a new **Sheets** and **Project Data** control bar menu option.
- **CORE-9301** Legend controls within various screens have been reverted to more popular legacy behaviour (with improvements) and restyled.
- **CORE-9277** Quick Filter drop down lists now inherit the current look and feel theme.
- **CORE-9252** Project data bar icons for the Plots and 3D folders have been updated.
- **CORE-9233** By request, flat-rendered wireframes are now less shiny.
- **CORE-9229** **Text Importer** scenario files (.dminsv) now appear in the Project Data control bar.

- **CORE-9228** If opening a Text Importer scenario, file detection has been improved and you can now browse for missing files.
- **CORE-9103** The **Project Data**, **Loaded Data** and **Holes** control bars now inherit visual themes.
- **CORE-9097** An issue that could make data picking difficult where data was precisely coincident with the section plane has been resolved.
- **CORE-9082** **Drillhole Importer** now recognizes "Hole_ID" as a BHID mapping type.
- **CORE-9014** All commands relating to the obsoleted **Visualizer** window have been removed from the application.
- **CORE-8999** Tooltips have been added to the **Group Lithology** and **Assign Lithology** tasks.
- **CORE-8980** When adding a new unique value legend item in the New Legend Wizard, you can now add any other colour to the current pallete.
- **CORE-8839** Documentation on snapping to a grid has been improved.
- **CORE-8805** File case names are now preserved in the default overlay when dragging and dropping files into the 3D window.
- **CORE-8763** 3D properties and similar screens now use a clearer and expanded toolset for legend management. See you help file for more details.
- **CORE-8699** An issue causing the `insert-by-segment-length` to fail when working with large data has been resolved.
- **CORE-8673** Issues causing unpredictable selection behaviour (or presentation of selected data) in the Plots window have been resolved.
- **CORE-8654** Selecting the outer boundary of a plot sheet now enables the **Manage** ribbon (not the **Home** ribbon as previously).
- **CORE-8625** **Drillhole importer** now recognizes more field names when automatically mapping to system fields.
- **CORE-8519** Studio Data, Report and 3D View ribbons have been made standard in all Studio products other than Studio Mapper.
- **CORE-8510** The **Project Data** control bar now displays files external to the project folder with the same vertical line indicator as the Project Files control bar.
- **CORE-8196** `MODSPLIT` can now output either **MODELOUT**, **FULLMOD** or both. Previously, both outputs were always generated.
- **CORE-8143** It is now quicker to close a project without saving it.

- **CORE-7746** A new command `digitise-doughnut` lets you create complex string data in relation to an external perimeter and one or more closed internal strings.
- **CORE-7506** The **Drillhole Planner** now inherits the current visual theme.
- **CORE-7272** The **Edge Editor** is now available in this product. Use it to dynamically adjust string edges.
- **CORE-6637** This update features early access to a preview of our advanced string digitizing controls. Constrain the azimuth, length and gradient of new string segments as you draw. Enable this beta functionality using the **Project Settings** screen.
- **CORE-5878** The Project Data bar now permits multiple item selection.
- **CORE-5550** `smooth-gradient` can now be used to fully smooth (start to end) preselected strings.
- **CORE-1878** You can now import or load multiple files in one operation using new multi-file options.
- **GEO-718** The layout of the **Drillhole Importer** screens has been improved.

# Utilities & Supporting Services

- **CORE-9629** This update includes an upgrade to the mesh wireframing engine (2.0.2.54).
- **CORE-9577** Your product installs a major update to License Services (7.0). This introduces encrypted traffic options for enhanced data traffic security.
- **CORE-9536** The Start Page environment has been made more secure.
- **CORE-9481** Data Source Drivers now export virtual data columns.
- **CORE-9362** If using the DmFile SDK, reading and writing records is now twice as fast as before.
- **CORE-8826** You can now import MineScape prism models where data overlaps in Z.
- **CORE-8524** An encrypted traffic option is now available to License Services server administrators. Requires a compatible client installation (7.0 or higher).
- **CORE-8524** We have added a new driver! Import UBC voxel model data using the new **Geosoft** driver option.
- **CORE-8160** The MineScape Block Model Importer has been added to the Data Import screen as a new driver: "MineScape strata model".
- **CORE-6521** You can now import and load Leapfrog mesh and project model file data using a new Data Source Driver.

- **MSO-1558** Documentation for MSO version 5.0 has been completed for this version.
- **MSO-1581** Evaluation method descriptions on the **Report** screen have been updated for consistency and clarity.

# Defect Fixes

- **UG-4889** MSO and Stope Recon ribbon buttons are now only available if a project is open.
- **UG-4875** An issue that could cause boundaries to be malformed, if FXS designs are segmented by number, has been resolved.
- **UG-4862** Capitalization in the Flag Loaded Designs filter list is now consistent.
- **UG-4846** An issue causing the system to shutdown, if a design file becomes unavailable whilst the **Design** panel is open, has been resolved.
- **UG-4832** An issue causing an "Index out of range" error when transferring data from Studio UG to EPS has been resolved.
- **UG-4826** An issue opening projects with saved histogram or stereonet chart plot items has been resolved.
- **UG-4793** Changing a matching attribute removes previously matched designs correctly. Restoring the value now reprocesses them.
- **UG-4784** Model evaluation no longer locks all models in the project, instead locking only the one targeted by the current evaluation.
- **UG-4778** An issue that could cause system instability when validating a block model has been resolved.
- **UG-4769** An unexpected validation failure error when converting model depletion rules has been resolved.
- **UG-4699** You can no longer create a property definition that is weighted by another already-weighted definition.
- **UG-4512** Attribute values on retained activities are now updated correctly for CXS and WFM design data.
- **CORE-9921** EXTRA's FLDFAIL parameter's default value of 1 has been reinstated (previously 0) to match earlier application versions.
- **CORE-9919** An issue causing system failure, if v1 or v2 commands were used in conjunction with plane alignment options, has been resolved.
- **CORE-9875** An issue preventing the initial display of colour chips on the Assign Lithology screen has been resolved.
- **CORE-9868** A data-specific issue causing Deswik import to fail has been resolved.
- **CORE-9855** An issue causing issues when snapping and zooming in conjunction with vertical 3D scene exaggeration has been resolved.

- **CORE-9826** An issue preventing the successful import of Deswik wireframe data has been resolved.
- **CORE-9761** Picking of data symbols rendered in 2D in screen space can now be selected as normal.
- **CORE-9745** An issue causing `REBLOCK` to delete the input block model, if additive fields are used, has been resolved.
- **CORE-9717** The Project Data Bar's "Create from Loaded Data" menu option now works as expected.
- **CORE-9716** Grids and Sections folders can no longer be removed from the Project Data bar.
- **CORE-9714** An issue causing the incorrect rendering of 3D drillhole cylinders has been resolved.
- **CORE-9710** Modeless dialogs are now reset as expected when a default profile is reinstated.
- **CORE-9700** When translating strings, points or wireframes, decimal values now persist correctly between dialog sessions.
- **CORE-9673** 3D overlay group projections in Plots now react immediately to Project Data or Sheets control bar changes.
- **CORE-9670** The `UNFOLD` wizard now has context-sensitive help.
- **CORE-9653** When importing DXF/DWG points data, the 'Include Hatches' option is no longer displayed.
- **CORE-9642** 3D window axis and scale indicators now hide and show immediately following window configuration changes.
- **CORE-9631** The `INTEXT` process no longer stalls indefinitely if settings are unexpected.
- **CORE-9622** An issue causing `SELWF` to run more slowly than expected has been resolved.
- **CORE-9618** An issue causing move-points to pick an incorrect target has been resolved.
- **CORE-9615** An issue preventing the import of a Vulcan block model has been resolved.
- **CORE-9613** An issue causing incorrect display of Information Mode output, if the 3D view was orthogonal to the active section, has been resolved.
- **CORE-9595** The Command Toolbar contents are now more easily visible in Dark mode.
- **CORE-9582** The Move String command is now available again on the ribbon.
- **CORE-9562** Crash reports are now registering successfully in Freshdesk.

- **CORE-9537** DMX files input to transform-coordinates now generates output files usable by Datamine Supervisor.
- **CORE-9518** You no longer see an empty message box when trying to save an object to an open DMX file.
- **CORE-9517** The Text Importer is now storing the Delimeter correctly if not a comma.
- **CORE-9509** The Text Importer now reads fixed width values correctly.
- **CORE-9503** "Ignore Clipping" instructions at the overlay level are now applied immediately.
- **CORE-9499** An issue preventing string editing in plan view with >1 exaggeration in Z has been resolved.
- **CORE-9419** The Point Cloud Reconstruction wizard now automatically generates a scenario on entering a new scenario name.
- **CORE-9403** An issue causing the incomplete display of model cells in intersection at some section orientations has been resolved.
- **CORE-9370** An issue causing unexpected data rounding in `TRIFIL` has been resolved.
- **CORE-9357** `WIREFILL` now correctly interprets default plane information, and a @PLANE parameter is added to allow behaviour override.
- **CORE-9353** An issue causing `SELWF` to fail when processing retrieval criteria has been resolved.
- **CORE-9348** The select-perimeter command no longer behaves inconsistently when called from a script.
- **CORE-9264** An issue causing incorrect IJK values to be generated via the Text Importer has been resolved.
- **CORE-9236** An issue causing the incorrect alignment of a georeferenced image has been resolved.
- **CORE-9231** An issue preventing the successful reinstatement of a UI profile has been resolved.
- **CORE-9100** When transforming coordinates, and converting EPSG 5533 to WGS 84 and exporting to Earth, Lat/Long columns are no longer inverted.
- **CORE-9012** When transforming geographic coordinates, you can now generate output files on a non-primary drive.
- **CORE-8952** The zoom command now accurately centers the screen if the scene is exaggerated.

- **CORE-8794** An issue causing clipped block model data to be rendered invisible, when the clipping section deviates from the major axes, has been resolved.
- **CORE-8696** An issue causing smooth-gradient (smg) to fail with a large string data file has been resolved.
- **CORE-8632** Importing Deswik wireframe data now imports all available attributes. Previously some were not imported.
- **CORE-8582** An issue causing unexpected view navigation in scenes with vertical (Z) exaggeration has been resolved.
- **CORE-8259** 3D window section clipping is now reapplied correctly when the section corridor width is changed.
- **CORE-8052** An issue causing **SAMPOUT** to be created incorrectly when writing alphanumeric fields has been resolved.
- **CORE-7929** 3D plot overlay labels now react to clipping settings as expected.
- **CORE-6800** Studio now supports the concept of a temporary session-only data attribute.
- **CORE-5413** **REBLOCK** no longer fails if there is a space in the file in the project folder.
- **CORE-5270** Unable to cancel (ESC Key) Set Section about a single point
- **CORE-5137** Adding a trailing space to a new project name no longer causes Studio to create 2 project folders.

# Studio UG 4.0.1 Release Notes

This is a hot fix patch for the previous 4.0 version and includes important fixes and improvements.

## Improvements

- **CORE-9460** Saving block model data to the project is now much quicker.

## Defect Fixes

- **CORE-9575** An issue causing TRIFIL to corrupt input data if forcibly closed early has been resolved.
- **CORE-9541** An issue causing SLIMOD to fail with .dmx inputs has been resolved.
- **CORE-9507** An issue causing INPDDF to incorrectly generate a Datamine wireframe from Leapfrog ASCII data input, has been resolved.
- **CORE-9501** Files created by the DMtoDMX conversion utility can now be loaded into Datamine Supervisor.
- **CORE-9444** An issue causing clip-strings-to-wireframe to fail on some data has been resolved.
- **CORE-9357** WIREFILL now correctly interprets default plane information, and a @PLANE parameter is added to allow behaviour override.
- **CORE-8052** An issue causing SAMPOUT to be created incorrectly when writing alphanumeric fields has been resolved.

# Studio UG 4.0 Release Notes

## Scheduler Compatibility

**Studio UG 4.0** is released alongside (and requires) **Datamine Task Scheduler 4.0** to export and synchronize schedule data.

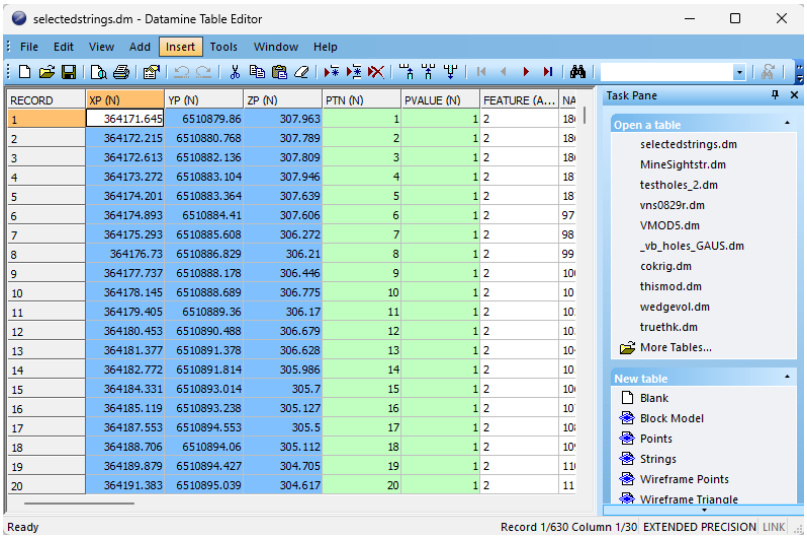
**DTS** is Datamine's platform for future scheduling functionality, replacing its predecessor, EPS. **DTS** represents the start of our ongoing campaign to provide best-in-field scheduling solution for mine planners.

**DTS** is available from the Datamine Support Website and the Datamine Customer Portal.

> **Note**: This version of your product cannot connect to the legacy Enhanced Production Scheduler (EPS) product.

## Key Improvements

### New Datamine File Format




The Datamine file format used natively by Studio products originated from Datamine's "Native File System" over thirty years ago. It has been maintained and supported by Datamine products since then. The mining industry has seen a significant increase in data volume and complexity during this time, which has started to strain the capabilities of the Datamine format.

Our response to this challenge is a new file format that is more suitable for the current and future data requirements of the mining industry. This format has a new file extension; .dmx.

Files are smaller and now supports up to 2048 columns. Your application generates .dmx files by default (this can be changed on the **System Options** screen. Both legacy (.dm) and new .dmx format files can be read. Other improvements will follow, as our new format is highly extensible and provides many opportunities to make data handling easier and smarter in the future.

The new format integrates smoothly with modern Studio products and your existing workflows and customization scripts, and the Table Editor can be used to view both legacy and new formats. For bulk file conversion, there's even a useful DM to DMX file conversion utility in the **Data Converter** installation folder should you wish to batch convert input files.

You can recognize .dm and .dmx files in the **Project Files** control bar:

| | | |
|---|---|---|
|  | .dmx file | A file in the proprietary .dmx Datamine binary file format. |
|  | .dm file | A file in the legacy .dm Datamine binary file format. |

# Datamine Task Scheduler

Studio UG integrates with **Datamine Task Scheduler** (DTS). In addition to the new name, **DTS** also features fixes made in response to feedback from the final version of EPS. Users of EPS will already be familiar with **DTS**. Whilst this version is mainly focused on rebranding, there are also useful improvements and fixes over the previous version of EPS.

Continuing on from its predecessor, **DTS** starts at version "4.0" (the last EPS version was 3.1). This also lines up with its partner products, Studio UG 4.0 and Studio OP 4.0.

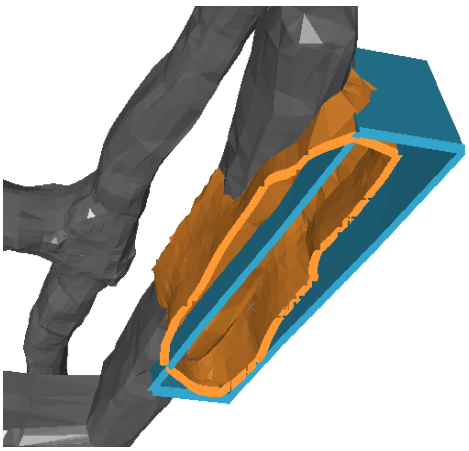
**DTS** is supported by an updated version of the previous Datamine data viewer, now called **DTS InTouch**.

To make things easier during the transitional phase, the **EPS** panel features EPS project **upgrade** functions to automatically convert the .ews. schedule or .ewst schedule template file to the new DTS format, and continue synchronizing data.

> **Note**: **DTS** operates with a new license, available from your local Datamine office.

> **Note**: You cannot connect this or later versions of OP to the legacy EPS application, now discontinued.

# Stope Reconciliation Automatic Areas



The **Stope Reconciliation** module can now discretize results per footwall, hangwall, sidewalls, backs and floor using a new *Automatic* **Area Wireframe Method**.

You can detect structures (areas) using a range of options (world axes, explicit azimuth and inclination or object attribute values). This can be useful for more detailed analysis between the blasted shape and the optimized shape from **Mineable Shape Optimizer** (MSO).

# Dependency Prefilter

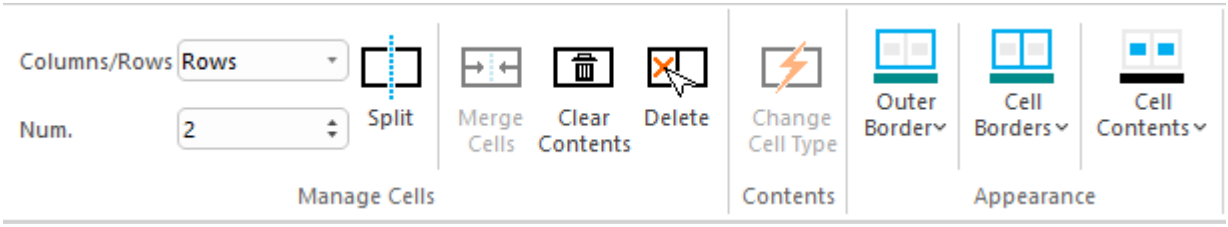
You can now control attribute-based and spatial dependencies by setting filters for both **FROM** and **TO** contexts, in addition to a new, general PreFilter. The initial filter can be used to refine the activities that will be used in processing the dependency rules. Data that passes a prefilter can then be further refined with the existing predecessor and successor filters if required. Any filter (prefilter, FROM or TO) can be set to *<no filter>* (the default setting).

# Variable Autolayout Translations

You asked us to provide a way of applying variable translation distances for strings during autolayouts, so we extended the **Translate** autolayout rule settings screen to let you pick variable spacing, and set any number of successive translation distances for the output design definition.

We've done something similar with the **Create Multiple Lines** rule as well: Define successive string separation distances to create a custom repetition pattern.

# Plots Overhaul



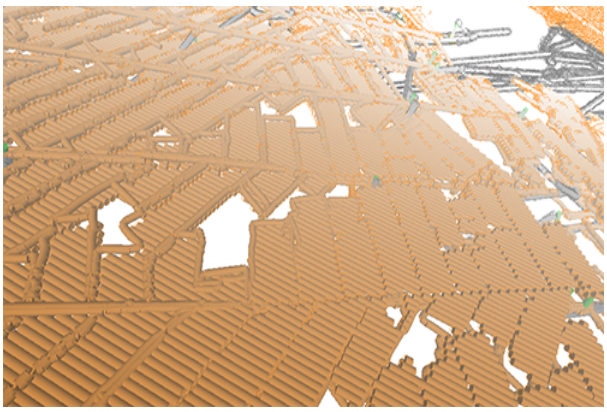

We've made major changes to the way plots are constructed with this update.

Plots are formed from a collection of plot items, ranging from 3D projections and associated sections, to clip art, text boxes and so on. You asked us to improve the usability of these tools so we've taken a step back and changed our approach to reporting. In a good way.

Plot items are now supported by their own ribbons, displayed whenever a particular plot item is selected, be that a projection, a north arrow, title box or whatever. With your help, we analysed the most commonly-used features and settings and have created a dedicated ribbon of tools for each plot item type. For example, managing the tabular contents of title box cells is now much easier thanks to handy cell managers.

The **Plots (Manage)** and **Plots (View)** ribbons have also been combined.

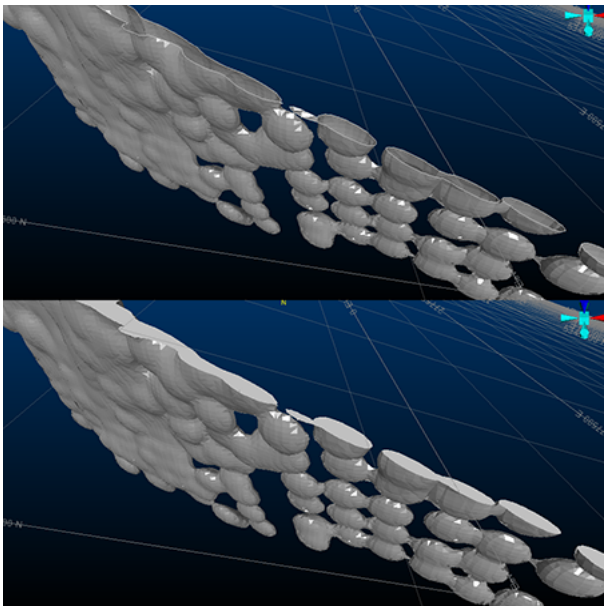
# 3D Window Improvements



The display of large data so that it has a lower impact on system and application performance. This includes new, smart settings to control how and when 3D scene data is rendered, making sure the system only has to draw what it needs to. To support these changes, new 3D options have been introduced to control **Environment Settings** (automated scene clipping) and a **Render on Demand** setting (on by default), added to the 3D system settings screen.

# Filled Wireframe Intersections (Preview)

We've added a new wireframe formatting option to the Wireframe 3D Properties screen: **Fill intersection**.

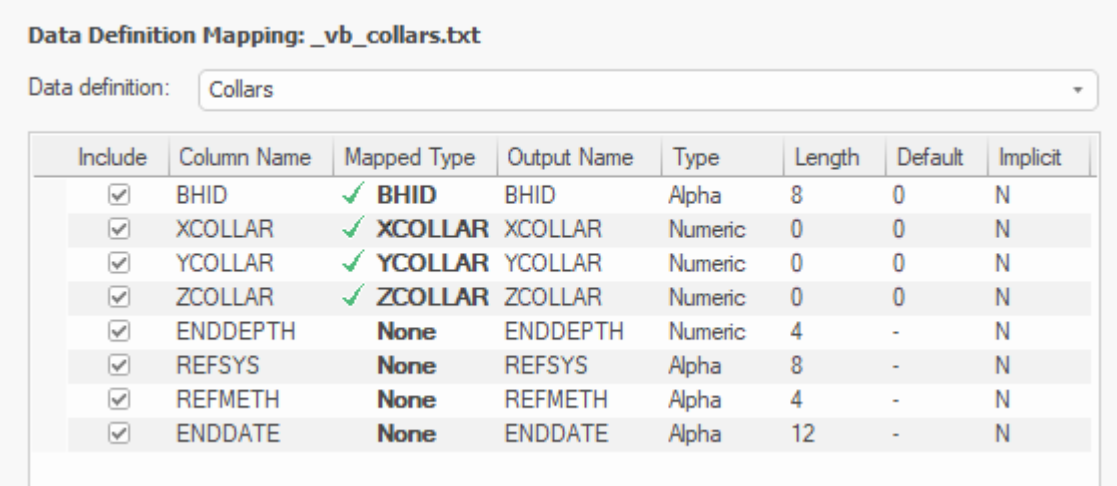


*Wireframe data shown with standard clipping and filled intersection mode*

Now, you can display clipped wireframes with solid intersections, emulating a 'filled' volume. This can be really useful when visualizing volumes in cross section.

> **Note**: This feature is still in development, but we thought we'd let you have a look at progress so far. There are some limitations, such as viewing intersections of multiple coincident intersection planes of different colours, but it should give you an idea of what we're aiming for.

# Text Importer




Import one or multiple text files using a new **Text Importer** screen.

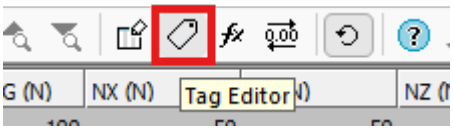
Select as many files as you need to import and configure all importation options on a single screen, including automated and interactive field mapping for your selected data type and preview your file before you import.

Once you're happy with your settings (which can be set for each individual file if required), store your configuration information in a handy scenario file which can be used to consistently import data in the future and to share with others in your organization.

# Datamine File Tags

With the introduction of the new DMX file format in this version (see above), a new facility arrives for all users; table tagging.

We intend to make use of this new feature in the future, but you can also add your own data tags and values to any .dmx file using the Table Editor, which includes a new **Tag Editor** function on its toolbar:




Add as many tags and associated values as you like. This could be useful, say, to embed the status of a model or other design files, or to provide some implicit spatial context to data (mine, area, level, for example) without requiring additional data attributes.

# New Processes

- **COMBTRI** allows up to 20 wireframe files to be combined in a single operation.
- **INTEXT** – You asked for a file-based process to convert text files to Datamine files, so we created **INTEXT**. Either using the data definition specified in the incoming file, or by choosing the definition of another file, import text data using a range of options.

# All Improvements

## Commands & Processes

- **Multiple Cases** Your product can now read and write the new Datamine binary format (.dmx) and will automatically convert non-default files in the project folder when a project is opened.
- **Multiple Cases** Your product has been updated to connect to DTS and DTS InTouch. This version cannot connect to EPS.
- **Multiple Cases** Several improvements and fixes have been made to improve 3D window visualization.
- **Multiple Cases** A new scenario-based **Text Importer** lets you import (single or batch) text files as a specified data type.
- **UG-4803** You can upgrade your legacy EPS schedule (.ews) and schedule template (.ewst) files using new conversion options on the DTS panel.
- **UG-4691** You can now specify variable translation distances for the Translate autolayout rule.
- **UG-4474** The Create Multiple Lines autolayout rule has been extended to allow you to specify custom distances between strings.
- **UG-4460** You can now control attribute-based and spatial dependencies by setting filters for both **FROM** and **TO** contexts, in addition to an initial activity **PreFilter**.
- **UG-4310** The name of the original planning model is now added to output block model and processed data tables.
- **UG-4307** Stope reconciliation can now discretize results per footwall/hangwall/sidewalls/backs/floor using a new Automatic Area Wireframe Method.
- **CORE-9284** If you create a project using a folder that contains files in a non-native format, they are automatically converted.
- **CORE-9265** By popular request, the "red" quick key combination now launches reduce-points (not simplify-string) as in previous versions. Menu options have also been reinstated.
- **CORE-9240** Plot item locations now remain static when adjust the Relative positioning option for locatable plot items.
- **CORE-9239** You can now interactively pick the target position of a locatable plot item using a new Anchor ribbon button.

- **CORE-9234** DMX data saved from a Studio application now embeds the creating product and version as metadata (tags).
- **CORE-9112** Studio project startups now include a check for local project files in a non-default format, and converting them to the default format.
- **CORE-9021** Your product's Mesh wireframing library has been updated to version 2.0.1.53.
- **CORE-9006** You can now use the "uc" quick key combination to apply clipping in Plots sheets.
- **CORE-8938** A warning is now displayed when running HOLES3D when the BHID value in the Collar and Survey files doesn't match.
- **CORE-8929** Loaded data objects that have metadata tags display those tags in the Properties control bar.
- **CORE-8918** Supporting plugins for PTCLD2WF and the Point Reconstruction Wizard have been updated.
- **CORE-8906** Large Data Mode has been relabeled "Keep data in front of the camera" to make it clearer what it does.
- **CORE-8895** In the Project files control bar, when using the context menu on a macro file that contains more than 9 macros, Studio doesn't crash and works as expected.
- **CORE-8876** You can now choose to manually or automatically adjust 3D window clipping planes using the Environment Settings screen.
- **CORE-8860** The "red" quick key combination now runs the **simplify-string** command, not the legacy reduce-points command. Ribbon access has also been updated.
- **CORE-8702** **query-angle** now outputs angle information in degrees, minutes and seconds.
- **CORE-8697** **intersect-drillholes-wireframes** now outputs the intersection angle between drillhole and wireframe.
- **Cases: CORE-8490, CORE-8452, CORE-8357** Front & back 3D window clipping distances now computed automatically based on object's bounding box.
- **CORE-8465** Context-sensitive **Section** and **View** ribbons now support projection editing and creation in the Plots window.
- **CORE-8460**The **Plots (Manage)** and **Plots (View)** ribbons have been combined.
- **CORE-8424** Quick filtering wireframes and block models is now much quicker.

- **CORE-8310** By default, data is now rendered in the 3D view only when required. This makes application usage with large data much quicker with more responsive controls.
- **CORE-8216**An Anchor ribbon has been introduced to support locatable plot items.
- **CORE-8206** Reloading and refreshing large data objects is now quicker.
- **CORE-8093** Improvements have been made to the way strings and points are rendered in the 3D window, to improve performance.
- **CORE-8047** Changes to the Plots ribbons will now be automatically shared with all Studio products, making forward development quicker and easier.
- **CORE-8012** A new context-sensitive Text Cell ribbon has been created to modify the contents of text cells in title boxes.
- **CORE-7966** You can now overwrite an existing legend instead of having to specify an unused/unique legend name.
- **CORE-7946** Legend box plot item formatting can now be performed using a new Legend Box context-sensitive ribbon.
- **CORE-7732** A new **Text Importer** screen lets you import multiple ASCII text files with per-file configurations and share your importation settings as a scenario.
- **CORE-7694** Symbol plot item formatting can now be performed using a new Symbol context-sensitive ribbon.
- **CORE-7693** Text Box formatting can now be performed using a new Text Box context-sensitive ribbon.
- **CORE-7692** Title box formatting can now be performed using a new Title Box context-sensitive ribbon.
- **CORE-7691** Scale bar formatting can now be performed using a new Scale Bar context-sensitive ribbon.
- **CORE-7690** North arrow formatting can now be performed using a new North Arrow context-sensitive ribbon.
- **CORE-7279** **extend-segment-virtual-intersect** can now be used on closed strings.
- **CORE-7161** The Create Model Prototype screen now has additional support for both new and copied rotated model prototypes.
- **CORE-7051** **COMPDH** now lets you save residual composites to a new &RESIDUAL output file option.
- **CORE-6906** When creating a ramp string, if the *Distance* set is less than the minimum segment length, a partial segment is added.

- CORE-2410 A new process - **INTEXT** - converts text files to Datamine files using an existing data definition and other parameters.
- CORE-231We've added a new wireframe visualization option; **Fill intersection**.
- CORE-68 A new command - **clip-strings-to-wireframe** - lets you trim string data in relation to a wireframe surface or volume.

> Note: **ESTIMA** and **ANISOANG** processes are no longer available in this product.

# User Experience

- UG-4742 The planning ribbon now references DTS, not EPS.
- UG-4720 Visual formatting of Stope Reconciliation and planning task screens has been made consistent.
- UG-4713 Mineable Reserves Optimizer has been removed from the Report ribbon.
- UG-4713 The **Project Settings** side bar now retains its visibility status between project sessions.
- CORE-9108 The Quick Filters screen now inherits the selected look and feel option.
- CORE-9086 The INTEXT text import process has been added to the Data ribbon
- CORE-9085 Combine Wireframes (COMBTRI process) has been added to the Wireframe ribbon.
- CORE-9084 Clip String to Wireframe has been added to the Digitize ribbon.
- CORE-8973 The Project Files control bar now differentiates .dm and .dmx formats by distinct icons.
- CORE-8937 The Project Files and Project Data control bars now display up to 30 macros in a .mac file.
- CORE-8935 A new splash screen has been implemented.
- CORE-8851 The Table Editor now supports visual themes.
- CORE-8765 The **Georeference Objects** screen now inherits current look and feel settings.
- CORE-8742 Images and colour scheme have been updated for the New Project Wizard.

- **CORE-8601** The Project Data bar now displays the first level of available folders by default.
- **CORE-5599** Managed task windows, such as implicit modelling and lithology assignment tasks, now persist their docked UI status between project sessions.

# Utilities & Supporting Services

- **CORE-8915** ALS Coreviewer options have been removed from this product. Datamine no longer resells ALS Coreviewer.
- **Case: CORE-8759** End User License Agreement references have been replaced with Terms and Conditions.
- **CORE-8747** You can now associate meta data with .dmx files using the Table Editor. This facility is not available for legacy .dm files.
- **CORE-8585** You can now import up to 256 fields via the Surpac driver, and you are alerted if this limit is exceeded.
- **CORE-8564** The obsolete command erase-wireframe-surface has been removed from the ribbon system.
- **CORE-8488** Icons for the visualization window tabs and control bars have been updated.
- **CORE-8439** A standalone utility has been created to convert .dm to .dmx files.
- **CORE-8329** A new method more accurately calculates the volume of Prismatic models, as imported by the MineScape Importer utility (minescape-to-blockmodel command).
- **CORE-6986** .xyz files can now be imported when importing Text files to the project.

# Documentation & eLearning

- **CORE-9348** EXTRA help files, including the examples topic, have been updated for clarity and consistent terminology.

# Scripting & Automation

- **Multiple** Scripted access to Datamine files has been extended to manage both legacy and new DMX file processes.

# Additional Defect Fixes

- **UG-4782** When loading and unloading dependencies manually (outside of the task), task buttons now update as expected.
- **UG-4780** WFM designs that fail to process are now captured as expected when the <Failed Designs> filter is applied. CXS new designs are now captured correctly by the <New Designs> filter.
- **UG-4741** Help menu tooltip capitalization has been standardized.
- **UG-4722** The Edit Filters apply button no longer remains enabled after a new system filter is added.
- **UG-4716** To ensure compatibility with DTS, you can no longer specify a unit for a Production Field leading with or comprising only of numeric characters.
- **UG-4695** The Stope Reconciliation settings help file has been updated.
- **UG-4689** Dominant field data is now exported correctly to .
- **UG-4681** When exporting to a new schedule, the default number format now sets a limited number of decimal places as expected.
- **UG-4677** An issue preventing the generation of CXS designs in some situations has been resolved.
- **UG-4663** The Evaluation Legend selection now persists as expected when changes are made on the Evaluation Settings screen.
- **UG-4649** An issue preventing activities from being removed after deleting all designs, has been resolved.
- **UG-4648** Unexpected behaviour, after renaming a block model density field back to the default DENSITY, has been resolved.
- **UG-4636** Project settings for Attributes, Properties, and Dependency Layers are now validated before attempting an export to DTS.
- **UG-4561** The parent MSO folder of the Project Data control bar no longer displays an unnecessary item count.
- **UG-4514** The UG project file no longer appears in the All Files folder of the Project Files control bar.
- **UG-4375** In the Project Data bar, the Stope Reconciliation folder no longer displays an unnecessary Results subfolder.
- **UG-4345** An issue causing unexpected zero grades for some activities in pivot tables has been resolved.
- **CORE-9000** Enabling and disabling values in Assign and Group Lithology tasks now shows and hides drillhole intervals as expected.

- **CORE-8947** 1-letter macro file names now appear in the Project Files control bar as expected.
- **CORE-8947** SELWF now produces expected results when there are spaces in the field name values of ZONE.
- **CORE-8867** An issue preventing the successful installation of License Services on some Windows Server platforms has been resolved.
- **CORE-8848** The double-sided 3D wireframe rendering setting is now correctly saved to the project.
- **CORE-8811** An issue caused by swapping Snap Mode settings has been resolved.
- **CORE-8801** An intermittent issue affecting file lookups when running macros has been resolved.
- **CORE-8784** Wireframes generated by SWATHPLT now include consistently oriented triangles.
- **CORE-8783** Making a plot item locatable no longer unexpectedly changes that plot item's position.
- **CORE-8757** An issue causing **PPQQPLOT** to fail with a large input file has been resolved.
- **CORE-8754** An issue causing system shutdown after reordering georeferencing table values (**georeference-objects**), has been resolved.
- **CORE-8675** An issue causing **converge-segments** to display unexpected results after undoing the operation has been resolved.
- **CORE-8670** The BOOLEAN process no longer fails when the two inputs (in the same run) have a column with the same name but a different data type.
- **CORE-8610** 3D object bounding boxes, used for 3D view configuration are now set correctly for all string object entities.
- **CORE-8583** An issue causing an orthographic 3D view corruption where the front clipping plane distance is very large, has been resolved.
- **CORE-8530** An issue causing system instability, when clipping in the Plots window using a quick key, has been resolved.
- **CORE-8523** An issue attempting to print screen contents when Info Mode is active has been resolved.
- **CORE-8479** In Plots, setting a primary clipping width to a value larger than the extent of the section no longer causes the midpoint to be moved outside of the section extents.
- **CORE-8475** An issue causing unexpected behaviour when snapping at high zoom levels has been resolved.

- **CORE-8087** An issue that could cause a progressive memory leak when reloading a data object has been resolved.
- **CORE-7713** An issue preventing the automatic generation of legends by data type has been resolved.
- **CORE-7645** **HOLES3D** now considers dip and bearing information from both a survey and collars file, prioritizing the survey file information. **DIPMETH** is applied to all data, regardless of source.
- **CORE-6591** A repetitive warning message in Table Editor relating to undo operation performance can now be disabled as expected.
- **CORE-6002** An issue preventing the update of associated screens after renaming 3D overlays has been resolved.
- **CORE-3477** You can now generate a 2 point vertical plane by selecting 2 vertically-aligned points.

DATAMINE

STUDIO UG

Datamine enables efficient and sustainable mining through the application of world-leading technology and services.

# Read the Docs

docs.dataminesoftware.com

# Get in Touch

www.dataminesoftware.com/contact

www.dataminesoftware.com/support