

Studio EM 4.1 Beta

Release Notes



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Overview



Studio EM supports all aspects of operations from exploration to mining. Featuring an extensive and powerful suite of tools, creation and critical review of your data has never been easier. If data governance, precision and reliability is important to you, Studio EM is an essential application.

Studio EM 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 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

Release notes for other versions of Studio EM are available via the Datamine Customer Support website. For more details, see

<https://www.dataminesoftware.com/support/>.

For the complete Studio EM documentation, see

<https://docs.dataminesoftware.com/StudioEM>.

Studio EM 4.1 Release Notes

Key Improvements

Project Data Bar

Your product has a new control bar: **Project Data**.

The **Project Data** bar provides quick and easy access to your project files. It will be developed more in future releases to gradually merge the separate functions of the Project Files, Sheets and Loaded Data control bars, resulting in a single source of local, categorized data and convenient file, object and overlay management for your product.

This control bar categorizes data and object in a more granular way than legacy control bars, identifying data types that are appropriate to a particular domain, such as rotated block models, prototype models, vein and contact wireframes and more.

Multiple File Loads

Note: This feature is not available in Beta versions but will be completed in time for the public release.

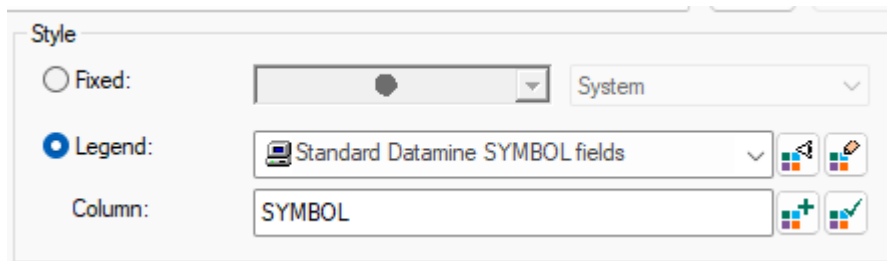
You can now import or load multiple files in one operation using new multi-file options. Just pick the files you want to load using a simple browser, and Studio does the rest. You still get to specify load and importation settings, including those specific to a particular driver, but now you can complete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

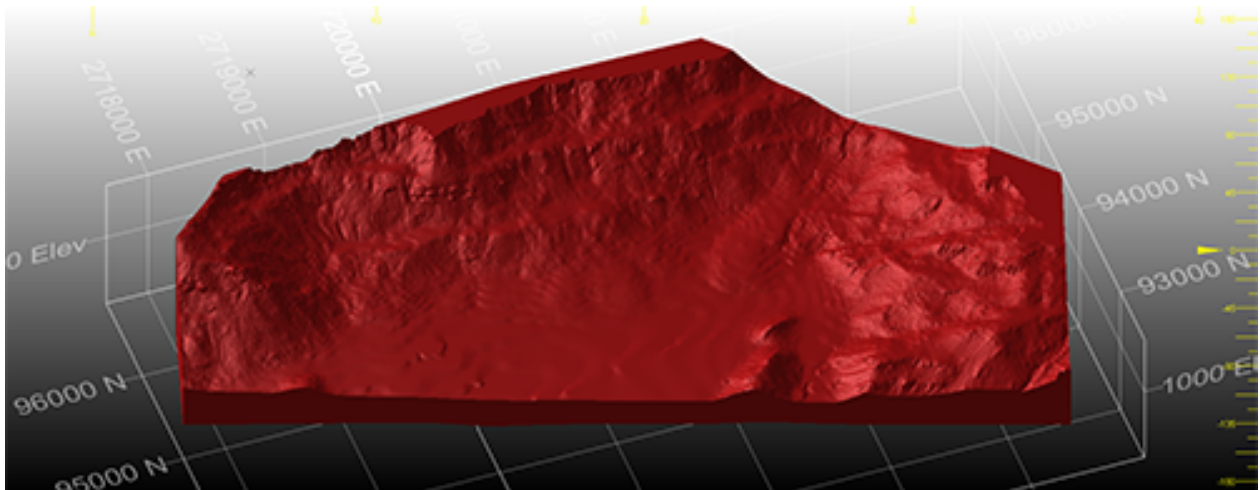


3D properties and similar screens now use a clearer and expanded toolset for legend management.

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

Leapfrog Data Import



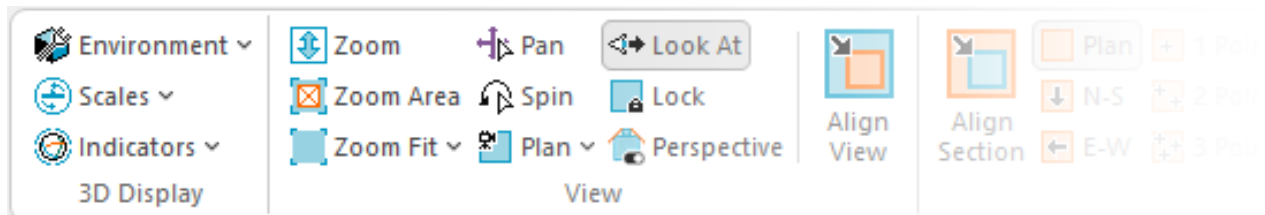
You can now import Leapfrog mesh (.msh) and Leapfrog Project Model (.lpm) files using a new Data Source Driver. Data is imported as wireframes.

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.

Ribbon Standardization

Note: This feature is not available in Beta versions but will be completed in time for the public release.



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.

Digitise Doughnuts!

A new design command (digitise-doughnut) lets you create closed string data with internal voids. You select the non-overlapping and fully concentric closed string data and a new closed shape is formed automatically. This is particularly useful where you need to, say, capture the shape of internal void structures in a particular rock zone, or in any situation where an enclosed internal structure needs to be represented.



The new command works really well in relation to polygonal map features and outlines. You can even create multiple layers of structure 'nesting' and input closed strings can be at any orientation, providing the internal structures are fully enclosed without overlaps or crossovers.

You can control how new data is created using a new switch (**doughnut-storage-switch**) to choose between modifying an existing perimeter or generating completely new string data.

Drillhole Importer

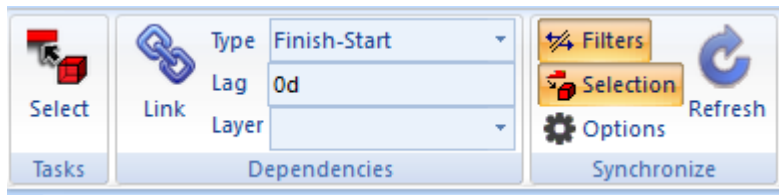
Drillhole Importer now recognizes even more field names when automatically mapping to system fields, saving time during the initial phase of importation.

COMPDH Field Improvements

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. DOM1 to DOM5 can be a combination of numeric or up to 32 character alpha fields.

DTS Integration

Studio EM can now synchronize with **Datamine Task Scheduler** to visualize operational schedules of any type. Featuring a new **DTS** ribbon and supporting **Sequence** and **Crosstab** control bars, it's simple to connect to an active DTS project and animate the sequence of mining activities of any campaign. We've also added the useful shortcuts to the Sheets context menus to Link to DTS and Change DTS ID Column.



Consult your online help for more details.

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.

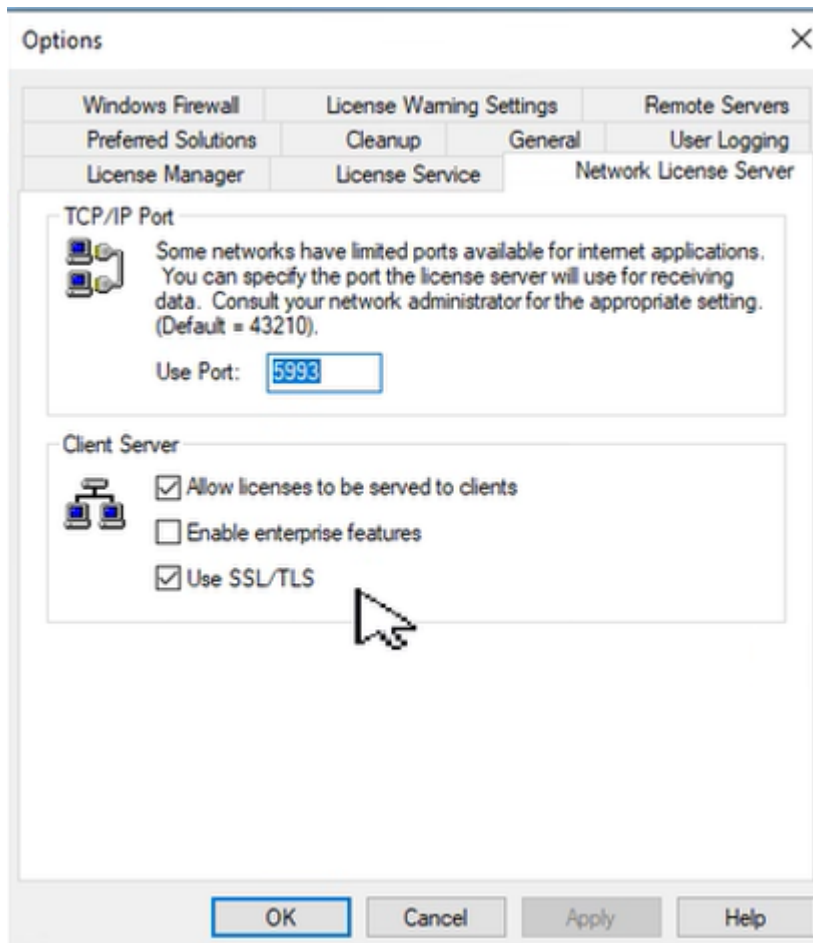
To support this new file type a new *Geosoft* option is available on the **Data Import** screen.

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.

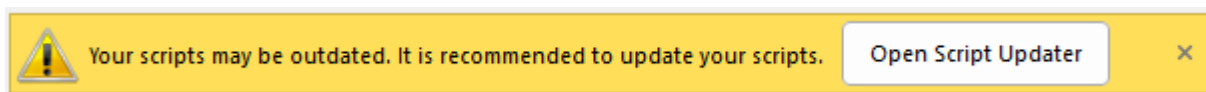
Safer Scripting

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:



Other Command & Process Updates

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

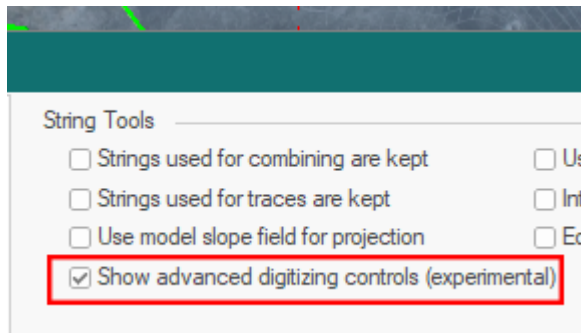
Early Access Features

Advanced Digitizing Controls

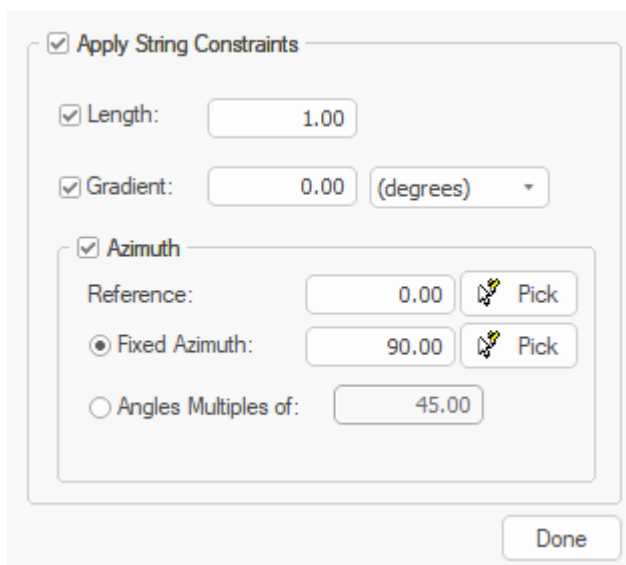
As part of a wider campaign to improve and extend our digitizing tools, we've introduced a new way of creating new string data in this update, and we'd love to know what you think before we finalize things.

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.

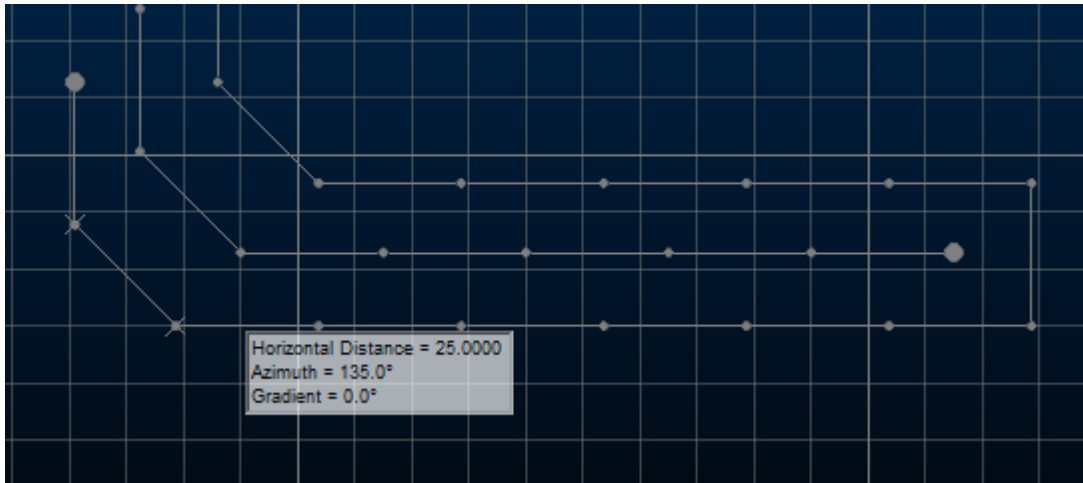
new-string and **extend-string** can run in an enhanced mode in this update. By default, both commands behave as before, but there's a new project setting that allows advanced settings to be applied during digitizing to constrain the orientation of the next string segment you create. Located on the **Points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

Functional Improvements

- **STEX-265** calculate-structural-orientations is now available on the Sample Analysis ribbon ('Orient Angles')
- **STEX-248** Studio EM now features a **Project Data Bar**. Consult your online Help for more details.
- **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 some of the 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 practices.
- **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 palette.
- **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-5878 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

- **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 Delimiter 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.

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

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