



## Release Notes

Please upgrade to the 2024.1.1 point release of Workbench to benefit from faster SCI inversions, corrected channel colours, a more robust section view, and a fix for the license not being released immediately after the program closes.

The latest release of Workbench streamlines the workflow for processing and interpreting electromagnetic (EM) data. This version offers a more intuitive visualisation experience with features like undockable sounding plots, an x-axis hideoption for synced charts, and uniform colour scales for model comparison. It simplifies EM data management with new importers and enhanced data export capabilities, accelerates model loading, and provides easier inversion setup for cloud users. Additionally, it introduces tools for optimising inversions and targeting a priori data, along with a new wiki page for user support.

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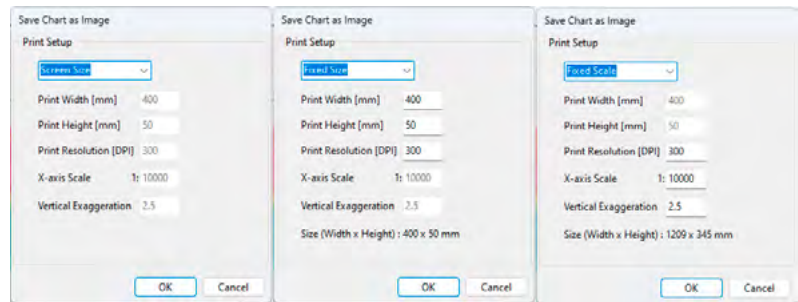
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# New and improved features in Workbench 2024.1

## Views

Improve efficiency and control with a better data visualisation experience.

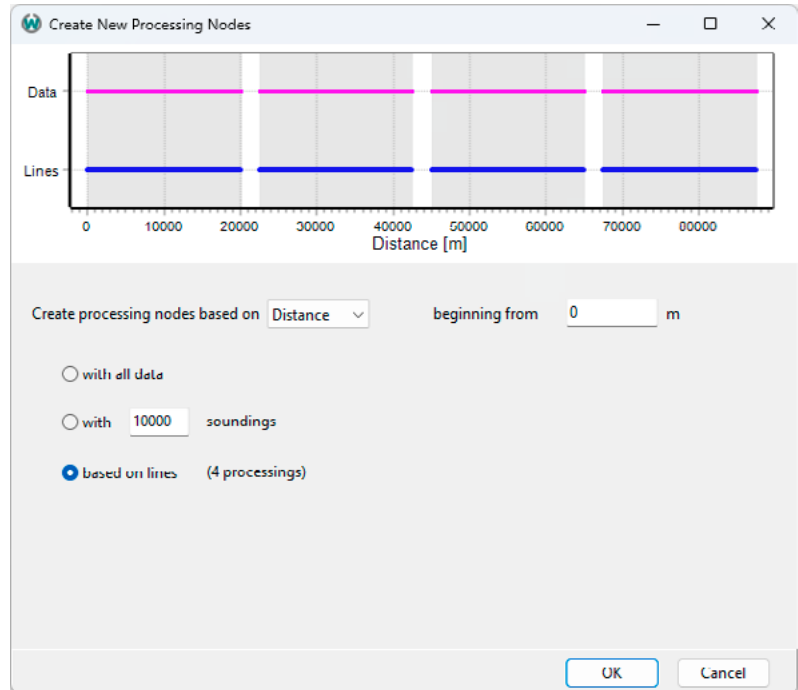
- **Undock mode for sounding plots:** You can move the sounding plots outside the main window and arrange them on different screens or positions. This gives you more space and flexibility for manual processing.
- **Hide the x-axis feature:** You can hide the x-axis on all the synced charts except the bottom one. This saves space and avoids redundancy when the charts have the same x-axis.
- **Color scale tool:** You can sync the colour scales of different model plots by selecting a colour scale and pressing the sync button. This makes it easier to compare models with the same unit.
- **Print to scale feature:** You can export the model plots to a bitmap file with a specified scale. This allows you to print the plots with accurate dimensions.
- **Relative residual plot:** A new plot shows the misfit between the data and the model for each time gate. This helps you to identify areas where the data does not fit the model well and reprocess them.
- **Unit change option:** You can change the unit on the sounding plots to different units depending on your preference.
- **Save display settings as new default for different view types:** Override the default display settings for different view types in Workbench.



## New Processing tool

Create new criteria-based processing nodes

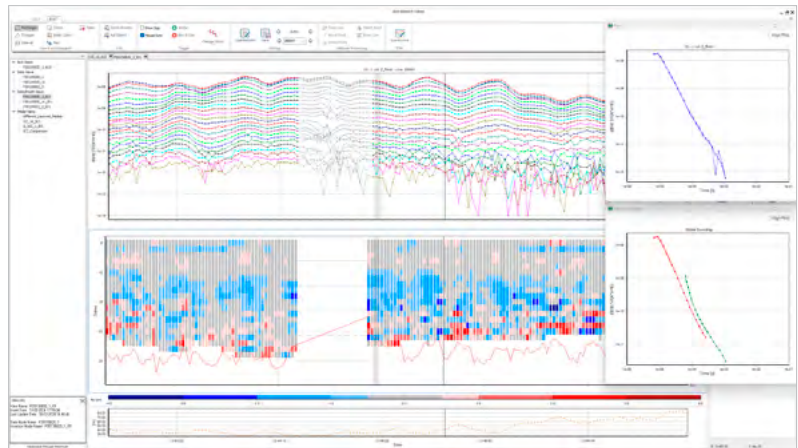
- Subdivide your data into smaller subsets for easier processing by creating new processing nodes based on different criteria, such as time, distance, number of measurements, or line numbers.
- The Node Info box shows if a Digital Elevation Model (DEM) is applied to a data node and its specific coordinate system number (EPSG).



## Importing and exporting data

Avoid confusion and errors when importing and exporting EM survey data.

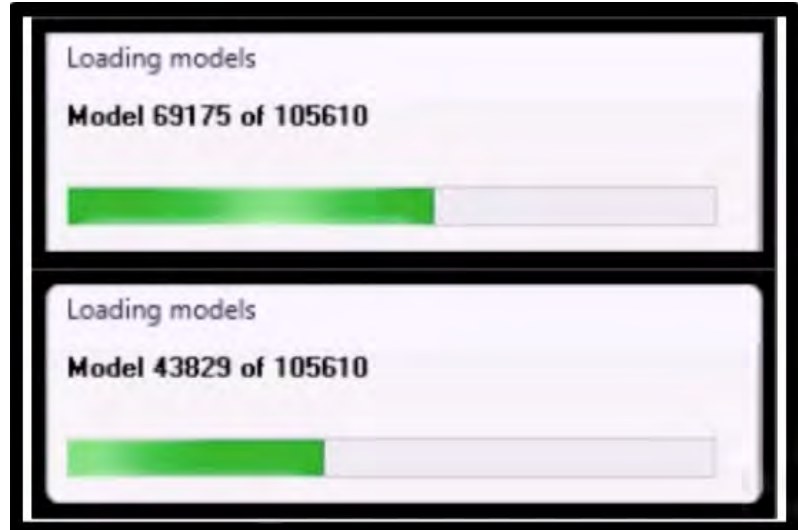
- New airborne system importers include SkyTEM, HeliTEM, SPECTRUM, XTEM, and XCITE.
- New ground-based system importers, including the tTEM2 stb format.
- Combine data from different SkyTEM formats (XYZ and skb) in the same SCI inversion and efficiently work with data from different SkyTEM surveys or systems.
- Improved Tempest data export file now includes additional details such as the receiver's tilt and the horizontal and vertical separation information.



## Performance improvements

Accelerate new inversion setups and access cloud settings with ease.

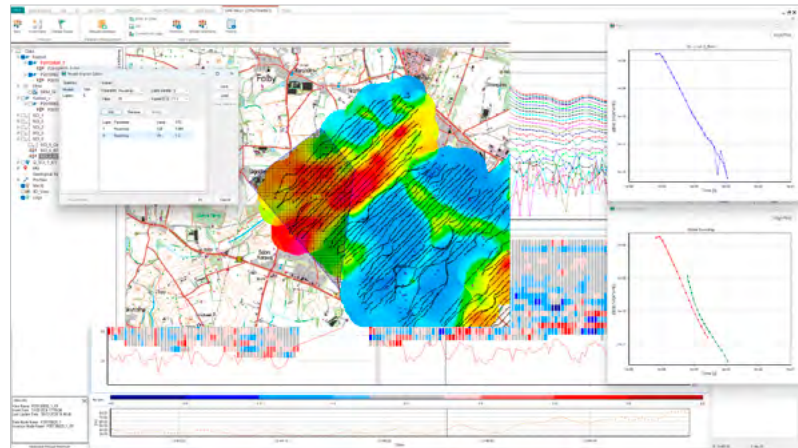
- Load models faster from the database when creating new inversions with improved model loading performance.
- If Workbench Cloud inversion is enabled, users can now see this setting in the inversion setup interface.



## A Priori information

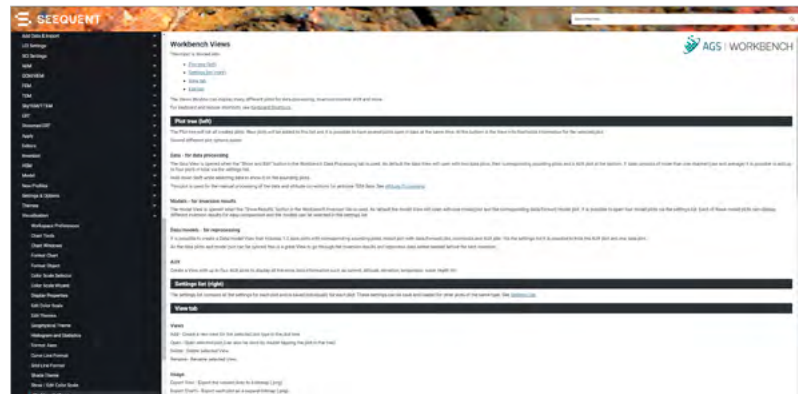
Optimise inversions and target a priori data with the new tools.

- Improve the accuracy and reliability of inversion results by incorporating Geosoft Grids as a priori information.
- Use the new polygon selection tool to apply a priori information within specific areas.



## AGS products have a new wiki page for help, guides and tutorials

- Press F1 within Workbench to get help on the active window
- File -> help will open the Wiki main page
- <https://help.seequent.com/>



# AGS Workbench Release History

## ■ **DATE 29.08.2024, VERSION 2024.1.1 WS89**

### Corrected bugs

- For SCI inversions using a large number of datasets, loading of inversion result was slow.
- Views - show inversion result (TEM data): Models using more than one sounding of the same channel number would not display correct channel colours in the model sounding plot.
- Sections: Adding models with varying number of layers would give an error when model bars were terminated with DOI.
- GCM using first layer depth apriori: When applying a sounding distance when processing, the first layer options would be hidden when setting up the inversion.
- Error when trying to write inversion.
- Release the license immediately after the program closes.

## ■ **DATE 25.06.2024, VERSION 2024.1 WS89**

### New Features

- Significantly improved performance for loading models from database.
- New TEM importer including support for new datatypes HeliTEM, SPECTREM, XCITE, XTEM and tTEM stb.
- TEM import: Create new processings based on time or distance. Additional possibilities to create processings based on lines or on number of soundings.
- SkyTEM SCI: Allow mixing of formats SkyTEM skb and SkyTEM xyz.
- Views: Possibility to undock sounding plots (data and model) from the Views form.
- Views: Possibility to hide all but one axis, when axes are synchronized.
- Views: Possibility to synchronize colorscales on Model views.
- Views: New option to display data fit for all individual gates for each sounding along a model section.
- Views: Export charts in different sizes and scales to control how a chart is exported for use in reports and PDFs.
  - Control how to export charts to a bitmap image.
  - Choose to print charts as displayed or define a fixed scale with a DPI.
  - Bitmap width and height are calculated for display.
- Views: For TEM data, default hiding of gates which have been discarded on import (.gex file).
- Views: Possibility to save settings as default that will be automatically applied to new Views of this type.
- Views: Change units on sounding plot.
- Views: Chart right click option to see inversion statistics.
- For TEM and FDEM data processing nodes it is now visible in the node info box if a DEM has been applied.
- Show EPSG for nodes in node info box.

- Sections: Possibility to add external 3D grids.
- Export models to Leapfrog Borehole format: Export also IP parameters, DOI information, and residual.
- TEM inversion: Increased accuracy for wave form in .tem files.
- Tempest data export: Receiver tilt and horizontal/vertical separations added to exported file.
- tTEM skb import: Sign change option is reintroduced.
- When using cloud for inversions, display a label on the inversion form.
- SCI apriori from grid: Possibility to use Geosoft grid format.
- SCI apriori from GIS: Possibility to use shape file/polygon for selection.
- Improved UI for polygon selection for SCI inversion.
- GCM/HEM: Use default line number 1 if no line number exists in data.
- After inversion, save file with info about timings and residual for all iterations in LCI folder in workspace.
- F1 help moved to new Wiki site.

## Corrected bugs

- TEM data import from Geosoft gdb: Make sure data is sorted on timestamp, if date and time are imported.
- tTEM import: In some cases, too much GPS data would be discarded on import.
- TEM processing: Loading a settings file would result in settings appearing twice on the processing form.
- Find Nearest from GIS didn't work properly for TEM data processed in distance.
- Sections: Blinding with DOI was not done correctly if DOI was more shallow than last layer boundary.
- Sections: Several bugfixes for working with geosurfaces with multiple sections, or when deleting points.
- Create image from grid: Manually entering coordinates for area selection in combination with interpolate could cause the image to be misplaced on GIS.
- LCI using sections: When connecting sections, never allow apriori STD to be more free than defined when settings up inversion.
- General Model Import: Do not allow EPSGs which are not in projected meter.
- Several minor bugfixes in Tempest inversion setup.
- GCM/HEM import: Do not allow uniform standard deviation to be 0.
- Gridding: Bugfixes and performance improvements.
- GCM: Processing option 'Remove negatives' was not applied to in-phase data.
- GCM/HEM SCI did not work across datasets.
- GCM/HEM: Inversion is not allowed for soundings where only in-phase data is in use.
- 3D viewer: Color of 1D models and boreholes shown as lines now fades when changing the "Transparency" setting.
- Edit Display on renamed point theme nodes didn't work.
- Lithological log import: Better error message if layer description contains illegal characters.
- Import of ERT data from ABEM Terrameter would fail if the project database contained empty tasks.
- Views: When changing units on line plots, the unit label wasn't updated.
- Views: Line plot was not shown correctly for layers deeper than 1000 m.

- Views: Interpolated models were not shown correctly for very shallow models.
- Views: Nodes were not ordered alphabetically.
- Older theme nodes couldn't be renamed.
- For renamed Model Selection nodes, loaded/unloaded status wasn't showed correctly in the node tree.
- Enable multi-delete option for SPIA TEM nodes.
- Loupe TEM: Bugfixes for data import.
- Add topography is now working for Model Selections across several databases.
- Update System Setup: View geometry would display wrong filters if gaussian filters were used.
- Improved cloud setup for larger inversions.
- Import models from Gerda (Danish users only): Downloaded model would in some case show an error when opened in Workbench.
- Inversion of SPIATEM data from Gerda (Danish users only): Some older data contains corrupted standard deviations on data. In that case, use a standard deviation of 5%.