Trimble RealWorks

GEOSPATIAL

November 2022

Version 12.3 Release Notes

Introduction

These release notes describe the features and enhancements that are new in version 12.3 of the Trimble® RealWorks® software. For further information, visit www.trimble.com/support/.

System Requirements

- Operating system: Microsoft® Windows® 8.1, 10 - 64 bit
- Processor: minimum 2.8 GHz (Quad-Core) or higher, (additional cores with Hyper-Threading support strongly recommended)
- RAM: minimum 16GB (32GB and higher recommended)
- Graphics card: OpenGL 3.3 compatible with minimum 1GB VRAM (3GB or higher and OpenGL4.4 recommended)
- NVidia graphics cards based on the Ampere architecture (RTX Axxx series) are currently not supported in commands 'Auto-Segment Steel Beams' and 'Auto-Segment Moving Objects'
- 3-button mouse

Other requirements

Solid State Drive (SSD) for maximum performance (pref. 500GB) - strongly recommended.

Upgrade Procedure

Install the software from this location **(Internet connection required during installation and license or subscription verifications):** Support and Downloads

http://geospatial.trimble.com

New Features and Enhancements

Data Management

Description	New or Enhanced	Feature Overview	Benefit/Comments
Direct link to *Revit*® for piping	New	Directly send the pipe objects created in the software to *Autodesk*® *Revit*® for an intuitive and productive combined workflow. All you need to do is to start Revit® from the software (go to 'Revit® > Open Revit®' in the Home or Model tab in Production), select the desired piperuns, and press 'Send to Revit®'. This creates new native Revit objects directly in the open session of Revit®. Compatible objects include straight segments, elbows, tees, and reducers. Autodesk Revit® needs to be installed, with a proper license, to be able to use this feature.	Productivity. Efficient workflow by simultaneous use of Trimble RealWorks and Autodesk® Revit®.
Trimble X7 area scan support	New	Version 3.1.1 of Trimble® Perspective® enables you to acquire area scans. Once the TDX project is imported in the Trimble RealWorks, the scans acquired from the same location are shown as belonging to the same station.	Capture the desired areas at high resolution in the field and process them in your favorite office software.
Add files to project by drag and drop	Enh	Drag and drop scan files into the view to add files to an existing project: the software now prompts a message to allow the files to be added to the active project.	Productivity.
TZF file path editing	Enh	Ability to change the file path for imported TZF files by pasting the path of another file.	Project file management on local drive.

Modeling

Description	New or Enhanced	Feature Overview	Benefit/Comments
Pipe flange and valve	New	You can now add pipe flanges and valves to pipe runs in the Create Pipe tool. Simply pick a location on the piperun and the software will compute a best-fit model of flange or valve at this location.	Added pipe modeling capability. Create complete pipe models in a few clicks.
Eccentric pipe reducer	New	You can now model piperuns that change diameter and have an offsetted parallel axis with an eccentric pipe reducer. Pick the two straight segments to connect them or pick the point cloud after the reducer to insert the new geometry.	Added pipe modeling capability. Create complete pipe models in a few clicks.
Bent pipe modeling	New	Pipes deformed due to sagging can now be modeled starting from a straight element. The Convert to Bent Pipe command will automatically replace the straight element by a series of straight elements and elbows to better fit the point cloud.	Accuracy, data quality.
Create Pipe: fitting	Enh	Several improvements have been made in the fitting algorithms for connectors, such as tees, elbows and reducers. You can now also create non-perpendicular tees when using 'Fit without Constraints'.	Accuracy, data quality.
Create Pipe: improvements	Enh	Various features in Create Pipe have been improved for ease of use and greater success during model creation. These improvements include: - Load an unselected pipe geometry to start a new piperun - Additional shortcuts for many commands (shown in tooltips) - Error message when trying to create a closed pipe loop - Customizable manipulator size (Preferences>Tools>Manipulators)	Productivity, improved user experience and usability.

Modify Geometry and Move Mesh: user-defined displacement	New	A new toolbar was added in both Modify Geometry and Move Mesh to enable you to specify the distance by which meshes or geometries will be displaced.	Accuracy. Added precision to user workflow.

Registration

Description	New or Enhanced	Feature Overview	Benefit/Comments
Cloud-Based Registration: Station-based view	Enh	You can now use the station-based mode in the Cloud-Based Registration tool to pick common points more easily. Note that you can also use the magnifier tool (N key) to temporarily switch to examiner mode.	Usability, productivity.
Cloud-Based Registration: Customized colors	Enh	The default red and green colors used in the Cloud-Based Registration tool for the reference and the moving clouds are now customizable: set your favorite colors in Preferences>Tools>Cloud-Based Registration	Accessibility. Default colors can be changed to avoid Color-Vision Deficiency issues.
Cloud-Based Registration: Cloud Color	Enh	Default rendering option for Cloud-Based Registration is now set to Cloud Color.	Usability, improved user experience.
Georeferencing: Station leveling	Enh	Station leveling is now taken into account during point cloud georeferencing. This means that if the selection contains leveled stations, the georeferencing tool will compute a transformation maintaining the overall tilt.	Accuracy, data quality.

Inspection

Description	New or Enhanced	Feature Overview	Benefit/Comments
Wall Verticality Inspection: invert projection direction	Enh	The inspection in the Wall Inspection tool can now be reversed. Projection direction can be changed affecting the sign of the inspected values and the colors in the inspection map.	Data quality. Improved user experience

User Interface

Description	New or Enhanced	Feature Overview	Benefit/Comments
Group display	Enh	Directly turn on or off the display of a group within the WorkSpace window using the light bulb icon beside the group title.	Usability. Improved user experience.
Create group by selection	Enh	Select multiple elements within the WorkSpace window and add to a new group using 'Ctrl+G', selecting from the right-click menu, or from the Edit tab.	Usability. Improved user experience.

Forensics Edition

Description	New or Enhanced	Feature Overview	Benefit/Comments
Image Matching	Enh	Determine the position and orientation a given image has been acquired from.	Usability. Improved user experience.
Convert to Ortho-Image	Enh	Place an imported image, such as scene snapshots or CCTV stills, in 3D	Usability. Improved user experience.
Polyline Drawing	Enh	Draw polylines relevant to the reverse projection analysis	Productivity.

Resolved Issues

- **Ortho-Projection:** improved performance with projects containing many stations
- **3D Display**: flickering point cloud display with Intel® UHD and Intel® Iris® Xe graphics cards
- **Gridded Imports (FLS, E57, PTX):** smaller TZF files by using greater compression ratio
- **IFC Import**: fixed database corruption after import in some cases
- **TDX Import**: export Panorama Image as JPEG option is now persistent
- **TDX Import**: Station Images are no longer created for area scans
- **FLS Import**: metadata associated with FLS files are transferred to TZF files upon import
- **E57 Import:** e57 with a grid having non square pixels can now be imported
- **E57 Export**: added progress bar for unstructured dataset exports
- **E57 Export:** fixed leveling precision issue when exporting a station with multiple TZF files
- **LAS Export**: added progress bar for dataset exports
- **OBJ Export**: corrected naming convention for textured mesh exports
- **RMX Export:** increased rotation accuracy
- **RCP Export:** fixed performance issue introduced in version 12.2
- **Send to AutoCAD®**: now supporting version 2023
- **Subscription License**: fixed subscription license login status within the license manager
- **Limit Box Manipulators**: improved limit box manipulator selection with cursor
- **Registration Visual Check:** default view of Canonical views button is now Top View
- **Scan Explorer**: improved stability during point extraction
- **Auto-Classify Outdoors**: fixed issue in naming for Japanese language
- **Moving Mesh Visualization**: fixed visualization issue after the use of Move Mesh
- **Create Sampled Scans**: progress bar added for scan sampling
- **2D Easyline:** set project as modified when the Polyline is modified
- **Steelworks Tool**: enable profile redefinition after segmentation
- **Auto-Extract Cylinders**: resolved crash issue occurring in some cases
- **Create Pipe**: default pipe elbow radius matches modeled object
- **Convert Geometry to Pipe**: resolved project corruption issue

Legal Notices

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Release Notice

This is the November 2022 release of the Release Notes. It applies to version 12.3 of the Trimble® RealWorks® software.