



Release Notes

GEOSPATIAL
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TRIMBLE MX USERS

Trimble MX v22.7

This document contains the latest information, updates and troubleshooting tips about:

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- Trimble MX Content Manager
- Trimble MX Asset Modeler
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Introduction

These Release Notes describe the features and enhancements that are new in version 22.7 of Trimble MX software. The update covers following products:

Trimble MX Content Manager

Trimble MX Asset Modeler Standard (includes Client/Server setup)

Trimble MX Asset Modeler Pro

Trimble MX Publisher

<http://surveypartners.trimble.com/>

<https://geospatial.trimble.com>

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Trimble MX Desktop Core¹

New Features and Enhancements

- Generic Range of Interest for All Extensions.
The methods to define the range of interest for every extension has been unified. The same actions are available for a reference path, area or seed points.
- Open Image for Forward Intersection
The checkbox 'Open for Forward Intersection' will open the best 2 images to use for a forward intersection measurement.
- Edit Objects in Attribute Table
Attributes can be directly changed in the attribute table after enabling the edit button. Multiple attributes can be changed at the same time after selecting them.
- Improved 'Link with Map' behavior
 - The 'Link with Map' checkbox in the Attribute Table will not be disabled at hitting 'Select all records' or 'Invert Selection'.
 - The link is applied on all map components and mapping tabs.
 - This checkbox can be enabled from the Object Inspector. This will sync the selected objects from the object inspector with the attribute table.
 - Enabling the checkbox in the attribute table will sync the selected objects from the attribute table to the object inspector.
- Limit Measurement to Point Cloud Selection
The 3D Hover parameter 'Limit to point cloud selection' will only use the points from the available point cloud selection on the semi-automated measurements. If there is no selection, the complete point cloud will be used
- Limit Attribute Decimals in Object Inspector
The decimals in the object inspector can be configured in the Selection preferences 'Limit decimals to'.
- New Attribute Formulas
 - ME Field of View
 - the field of view of the image used for measurement
- New Keyboard Shortcuts
Change Field of View to Specific Values
The mnemonics 'ext_panorama.image_fov_25.mnemonic', 'ext_panorama.image_fov_50.mnemonic', 'ext_panorama.image_fov_75.mnemonic' and 'ext_panorama.image_fov_100.mnemonic' can be used to directly switch to that field of view in a panorama image.
- Change Field of View via Zooming

¹ TMX Desktop Core include common functionality for all TMX desktop products, like TMX Asset Modeler Basic, Standard (standalone) and Pro additions as well as TMX Content Manager

The mnemonics 'ext_panorama.image_fov_zoom_in.mnemonic' and 'ext_panorama.image_fov_zoom_out.mnemonic' can be used to zoom in and out with steps of 10 degrees.

- New Batch File tools (bin_tools)
 - Create Raster from Txt - This batch file can create a raster omi file from a txt/csv/ascii file that can be used as a vertical coordinate system
 - Reset Point Cloud CRS - Reset the point cloud CRS header to a new CRS or an empty field to clear the CRS.
- Catalog Preferences Are Saved
The catalog preferences are saved in the user data. The parameters will be remembered at opening another version.
- Upload Point Cloud without CRS Header
An opc file without header CRS can be uploaded to ContextShare/Cloud.
- Import & Geocode 3D Boxes
Text file (txt or csv) with opposite corners of boxes can be imported via Import & Geocode by selecting 'Import as 3D Boxes' as spatial type.
- Point Cloud Classification
 - The different class datasets are displayed in the dataset list and can be enabled/disabled.
 - The classes are listed in the dataset properties of the point cloud (underneath classes).
- Save & Use Default Point Cloud Legend for Mapping Tabs
The point cloud legend file for the mapping tabs is saved in the user data folder per mapping extension. At opening a new point cloud in the mapping, the saved olg file is used on that point cloud. The legend file can be reset via the button in the point cloud legend editor.
- Lowest Point Cloud Selection View Depth Slider is Applied
There are 2 locations where the view depth of the current point cloud selection can be changed (mapping tab and point cloud selection tool). The lowest values of both is applied on all places.
- Ignore LAS Spatial Bounds by Default
At optimize/convert point cloud, the checkbox to ignore the las spatial bounds is enabled by default.
- Point Cloud Source Format CSV
CSV files can be converted/optimized via the designated tool.
- Free Rotation in Isometric View
Rotation in an isometric view has been enabled.
- ECW SDK 5.4 to 5.5

Usability

- Target CRS Retained after Selecting New Target Location
The target CRS is no longer updated to the source CRS after changing the target location.
- Attribute Table Improvements

Multiple layouts and functionalities have been moved/hidden to present a more uniform attribute table.

Layout

- All sidebars (measurements, annotations, tools and extensions) have an increased width to make parameters, input fields, checkboxes.. more visible.
- The outer left line of every table is now displayed.

Bug fixes

- The point cloud clipping tool returned incorrect results and didn't work correctly on a group of runs.
- Importing photo position file and skipping lines via Skipx didn't work correctly after 1000 records.

Trimble MX Content Manager

TMX Content Manager includes all TMX Desktop Core improvements.

New Features and Enhancements

- Use of Link.ini in Process Data
The process data procedures couldn't be used in combination with a link.ini file in the imagery folder.

Bug fixes

- The asset preferences have been removed from the Content Manager installation.
- The Trajectory extension selected the complete segment after canceling the select on map action. To select a complete segment, double-click on the segment.

Trimble MX Asset Modeler

The TMX Asset Modeler includes all Core improvements.

New Features and Enhancements

- New Extension 'Point Cloud Annotations to Objects'
Opc and ops files can be converted to boxes, seed points and/or voxels.
- Poles Analysis and Traffic Signs Analysis Extensions
The pole and traffic sign detection from the automated feature extraction extension has been split up into their own extension. The intensity template 2D detector is still available in the automated feature extraction extension and will be separated in the next release.
- Pole and Traffic Sign Semi-automated Measurements
- Exclude Poles Higher than Max Height
The pole detection didn't check if the pole didn't exceed the maximum height parameter. This has been implemented.
- Get Point Cloud Selection from Pole Attachment Measurement
The pole attachment detector has the parameter 'Get point cloud selection' to display the selection after running the pole attachment measurements (cfr. pole detector, tree detector..)
- Area Range of Interest for Trees Analysis
The trees analysis extension can be run in an area (new), along a path and on seed points.
- Preset Configuration Attribute 'Feature Detected'
The vector preset configuration for poles, pole attachment, traffic signs and trees includes the FD_FeatureDetected attribute that will indicate if the saved object was detected by the corresponding detector. Zero is not detected, one is detected.
- Auto-Generate Asset Inventory Snapshots
 - New Procedure 'Create Snapshots'
Underneath Asset Inventory, there's a new procedure to process data 'Create snapshots'. After selecting a theme, object height & width attribute, mapping resource and camera, snapshot can be autogenerated. Multiple parameters are available underneath the Assets preferences. For example, number of snapshots, min distance to the focused object, position of the focused object...
 - Add or Replace Snapshots
- Asset Inventory Improvements
 - Switch Between Add Inventory Item Simplified and Verify Inventory Item
Switching from Verify Inventory Item to Add Inventory Item Simplified can be done via the 'Add item' button. Switching from Add Inventory Item Simplified to Verify Inventory Item can be done via the 'Verify items' button.
 - Select Last Verified Object in Verify Inventory Items
At opening the Verify inventory items procedure, the last verified object is selected.

- The 'To Review' status during Verify Inventory Items will write away 'Review' instead of an empty value.
- Single-click on a theme object in the asset inventory tab will select the item. Double-click action is still supported.
- Keystrokes to Create Snapshot
The mnemonic 'inventory_suite.create_snapshot' can be used to create snapshot in asset inventory.
- Limit Semi-Automated Measurement to Point Cloud Selection
The 3D Hover preference 'Limit to point cloud selection' will only use the current selection of points for the semi-automated measurements. If no selection is available, the entire point cloud is used.
- Profiles & Cross Sections
 - Configure Profile Points Spacing
The distance between points on the profile can be configured via the 'Point interval' parameter.
 - Display 3D Bounding Box
The opened cross section is displayed on Map 3D as a 3D bounding box instead of a 2D area. The used points from the point cloud can be better verified this way.
 - Updated Attribute Datatypes
The string attributes in the result dataset are changed to datatype Float8.
 - Skip Empty Sections
Cross sections that don't have point cloud points are now skipped in the automated profile generation.
 - Simplified Profile Slopes Result Dataset
This vector file includes the lines drawn from the center to the outer line(s) for every profile and the slope value of that line.
 - Outline Points Result Dataset
 - Detect Break Points
- Include/Exclude Classes for Contour Lines
The contour lines extension now has two parameters to include or exclude point cloud classes.
- Results of Clearance Checker Added to Dataset List
- Include Blur & Erase at Optimize Imagery
Mapping resource images can be optimized with blur and erase regions included (cfr. Content Manager).
- Print Left/Center/Right Rail
The rail detector has output parameters to print the left and/or center and/or right rail.
- Profile & Cross Sections Removed from Basic and Standard
The updated, more automated profile & cross sections extension is only available in Feature Extraction Pro.

Bug Fixes

- The clearance checker didn't return the lowest hit but the last hit for clearance lines (patched to 22.4 on June 13)
- The link_photos table in asset inventory in Feature Extraction C/S expected an incorrect data type which resulted in not saving the snapshots (patched to 22.4 on June 13)
- The pole detection results were not added to the dataset list.

Trimble MX Publisher Viewer

New Features and Enhancements

- Apply Legend to All Resources
Every legend panel (footprint, vector and point cloud) has a button to copy the legend to other resources of the same type.
- Color Point Cloud Above and Below Threshold Z
The visibility of the point cloud can be set above and below the threshold Z value.
- Picture-in-picture Mode of Video Player
The video player can be minimized in the 3DM Viewer via the picture-in-picture mode. The location and size can be adjusted.
- Synchronize View Triggered with Shortkeys
When navigating through image views or in the 3D view with shortkeys, synchronize views was not triggered.
- Synchronize View at Open Image
When opening an image via the reference view or in an image view, synchronize views was not triggered.
- Integrated Video Player
 - Picture-In-Picture Mode
The video can be displayed in a special view mode. The size and position of the video player can be changed.
 - Download Video
The video can be downloaded via context menu in the video player.
- Altitude Value in GeoJSON Measurement File
The altitude value of measurements is now also saved in the downloaded GeoJSON file.
- Measurements Sidebar
 - Different layout changes have been done to make the different steps (New/Results/Export) more clear and generic.
 - The last used measurements have been removed.

- Create Annotations Sidebar
 - New options to save annotation bookmarks:
 - (1) Focus only: the viewer will focus to the selected annotation
 - (2) View direction & focus: the viewer will focus to the selected annotation and use the view direction where it was created to define the opened image or 3d view
 - (3) Viewer layout: the viewer will open the views and positions the way it was saved at creating the annotation without focus to the annotation object.
 - Different layout changes have been done to make the different steps (New/Navigate/Edit/Settings/Export) more clear and generic.
- View Annotations Sidebar
 - Navigation arrows have been added to navigate through all the annotations.
 - The annotations search field is no longer case sensitive.
- Snapshot Sidebar
 - The active view is used to create a snapshot.
 - Downloading snapshot via the publication URL and defining the view number is still supported.
 - Displayed metadata on imagery are included in snapshots.
- Hidden Sidebars on Mobile Devices

Sidebars that cannot be used on mobile devices are hidden in mobile mode: measure, inspector, create annotations, snapshot, slice view and fly. Also the 'Add view' buttons have been hidden.
- Increased Maximum View Depth on Aerial Planar Image View

The maximum value for the view depth overlay on aerial planar image views has changed from 1000 meters to 3500 meters.
- Increase Photo Search Distance for Aerial/Oblique View

The maximum value for the photo search distance for aerial and oblique image views has changed from 1600 meters to 10 000 meters.
- Improved Photo Positions and Trajectory Loading

Photo position and trajectory simplified files larger than 1 MB are rendered as large-scale datasets, only loading what is required. This critical file size is increased to 5 MB.
- Use View Direction Setting at Keystroke Navigation

When navigating through spherical imagery with keystroke, the setting 'Open image from spherical view' was not followed.
- Updated Image Timestamp

The hours and minutes (hh:mm) have been added to the image time stamp.
- NAP Vertical CRS support

The custom grid correction for NAP height has been updated to support in desktop and viewer.

Layout

- The floor navigation buttons follow dark and light viewer mode.
- The viewer highlight color is used as the active view color.

- The halo on the view metadata overlay has been re-added.
- Multiple lign-out issues have been resolved (footprint legend, point cloud legend, image view settings, publication name location...)

Bug fixes

- The navigation 'Pan (only)' didn't work in aerial image views
- There was an incomplete rendering of 3dtiles resources that use 32-bit element indices in parts of the model.
- The last saved measurement disappeared after switching to different sidebars or measurements.
- Annotations displayed incorrect label and description in at searching on annotations in the View Annotations sidebar.
- New dynamic CRS were created at every MapObjects render (patched to 22.4)
- The video player used with mobile mapping resources with planar images, opened an aerial planar view. Now it opens the mobile planar view correctly.
- Opening 2 image views with different resources no longer triggers a synchronization issue that caused visual shaking of images.
- The GPS week time displayed incorrect values with a 3-day offset.

TMX Publisher Console

New Features and Enhancements

- Download Every List Page
Every list page (resources, resource groups, publications..) can be downloaded as a csv file.
- Resource Column 'File Path'
The column 'File Path' has been added to the resource list page.
- Publication Column 'Last Usage'
The timestamp of the last session of a publication is displayed underneath the Last Usage. Admin sessions are not taken into account.
- Display Maximum Concurrent Publication Usage
The publication usage page has a new diagram 'Concurrent Usage' where the maximum concurrent users are displayed per day, week or month.
- New Columns for Publication Sessions Table
The columns 'concurrent_session_publisher' and 'concurrent_session_publication' has been added to the publication sessions page and database table.
- View List of Publications Accessible for Users

The user context menu has a new item 'Publications' where the publications are listed that are specifically shared with that user. The publication pages can be added via double-click on the record or via the context menu.

- User Reset Password

Users can reset their password via the publication login page.

- Force User Reset Password

The admin can force the user to reset their password at their first login. This checkbox can be enabled on the user Specs & Tags page.

- Password Policy

Rules to enable password policy can be configured on the Publisher system page: minimum length, lowercase/uppercase character, digit and/or special character.

- Select Multiple Without CTRL

The checkbox next to every record in every list page can be used to directly select multiple records. There's no need to hit CTRL anymore.

Layout

- The highlight color of the 'Next' and 'Previous' buttons didn't follow the Publisher colors.
- The current sessions of publications have been moved to the right of the console.

Bug Fixes

- The last page of every list page (console + viewer) was the same as the first page.
- The import multiple resources via txt file didn't follow the correct behavior to update existing resources.

Upgrade procedure

You are entitled to update your TMX software provided that you are under a valid maintenance contract. If you are out of maintenance and would like to update your Trimble MX software please contact your local Trimble sales representatives for maintenance renewal.

Software download

The installers of the different modules are available on the Trimble Download Center of the [Trimble MX landing page](#). In case you use the download center the first time please apply for a login.

Support

Please contact for support questions imaging_support@trimble.com or call:

- EMEA&ROW +49-7351-474-0237
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For sales related questions please contact your local Trimble sales representative.

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