

# Trimble Access

Version 2022.10

October 2022

This release of the Trimble® Access™ software includes the following changes.

## Have you subscribed to the Trimble Access YouTube channel?

The Trimble Access team has been busy posting over 40 new videos highlighting useful software features to the new [Trimble Access channel on YouTube](#). Watch our recent videos on [Scheduled Data Sync](#) and [Using Web Feature Services](#) or, to dig deep on a specific software area, take a look at one of our playlists. So far we have playlists on using the **R12i with Trimble Access, Scanning and IFC files**, and more. There's also a playlist highlighting the latest changes in this version of Trimble Access.

We post new videos regularly, so make sure to click **Subscribe** on the [Trimble Access YouTube channel](#) page to get notified as soon as they land.

## New features

### Underground utility locator support

If you use an underground utility locator to locate buried assets, you can now connect Trimble Access to the utility locator and measure the location of underground assets such as cables and pipes. Trimble Access stores a pair of points: a ground point measurement and a vector from the ground point measurement to the utility using the depth received from the connected utility locator.

An FXL feature code library file and an RD8100.uld file for the Radio Detection RD8100 cable and pipe locator is provided in the **C:\ProgramData\Trimble\Trimble Data\System Files** folder when you install the Trimble Access software.

Use the Utility Location Definition (ULD) file with the FXL file to set up your job for measuring points using the utility locator.

Once you have created a job that uses the FXL file and defined the **Utility locator** settings in the survey style, you can connect to the utility locator and measure points using the codes configured with attributes to record the depth information from the utility locator.

You may be able to use the supplied RD8100.uld file as a template and modify it to use the Trimble Access software with a different model of utility locator, provided that the communications protocols are similar to the protocols supported by the RD8100.

For more information, see the topic **Utility locators** in the [Trimble Access Help](#).

### IFC and TrimBIM files are now supported on Android

You can now view and use IFC files and TrimBIM (.trb) files on the TSC5 controller, TDC600 handheld and the TDC650 handheld GNSS receiver running Trimble Access. IFC files and TrimBIM files are BIM models that provide a 3D model of a building or other built asset such as a bridge, road, or pipeline.

**NOTE** – IFC and TrimBIM files are not supported on the TCU5 controller.

If your project includes IFC files or TrimBIM files you can now use Trimble Access to:

- View some or all of the layers of the BIM model in the map.
- View data from BIM models overlaid on the video feed if the controller is connected to a Trimble SX10 or SX12 scanning total station.
- Select items in the BIM model from the map and then use them in other software functions, for example to calculate and store the closest distance from the measured point to the selected BIM surface.
- Use the **Compute center point** Cogo function to find the center point of a bolt or cylinder so you can then stake it out.
- Use the **Compute centerline** Cogo function to compute the centerline of any tube-like item in a BIM model, such as a pipe or cylinder.
- Compare the scan point cloud of an as-built surface with whole objects or individual faces in a BIM model using the **Surface inspection** Cogo function.
- Select vertices and stake them as points or select edges, curved edges, or grid lines and stake them as lines directly from the BIM model.

For more information on using IFC and TrimBIM files in Trimble Access, see the topic **BIM models** in the [Trimble Access Help](#).

## 48 hour license when unable to sign in

We know it happens – you picked up a different controller this morning and your subscription is locked to another controller. Now you have arrived at the job site and need to sign in but there is no Internet connectivity. The last thing you need is to drive down the road to the nearest hotspot and sign in. Instead, you can simply tap **Help, I can't sign in!** at the bottom right of the **Sign in** screen to activate a 48 hour license.

The 48 hour license enables you to keep working when:

- your subscription license is locked to another controller, or when you haven't locked your subscription to your current controller and you are now on-site without an Internet connection.
- your perpetual license has not yet been assigned to your controller and you need to get started on-site.

All installed Trimble Access apps will run with full functionality for 48 hours. To continue working beyond that period, you must sign in with your usual Trimble Access subscription or run Trimble Installation Manager and install a perpetual license within the 48 hour license period. You can check the number of remaining hours in the **About** screen.

## Export to LandXML

You can now export to a LandXML file. Export options include points, feature coded linework and database linework.

Attributes associated with the points and linework are also exported to the LandXML file.

Attributes recorded as **featureRef** attributes found in a **CgPoint** element can now be reviewed.

# Enhancements

## Media file naming

You can now configure a standard format for naming media files, so that you can more easily identify the media file that corresponds to a job or point. In the **Media files** screen, select the elements to include in the image file name. For images linked to points you can include the point name and code. For any image you can include the job name, date and time. You can also add the same custom text to an image file name. If required, the software automatically appends a number to the end of the custom text string to ensure a unique file name.

If you have selected the **Show with new media file** option in the **Media files** screen, you will be able to edit the media file name in the media file screen after capturing the image.

For more information, see the topic **Media files** in the [Trimble Access Help](#).

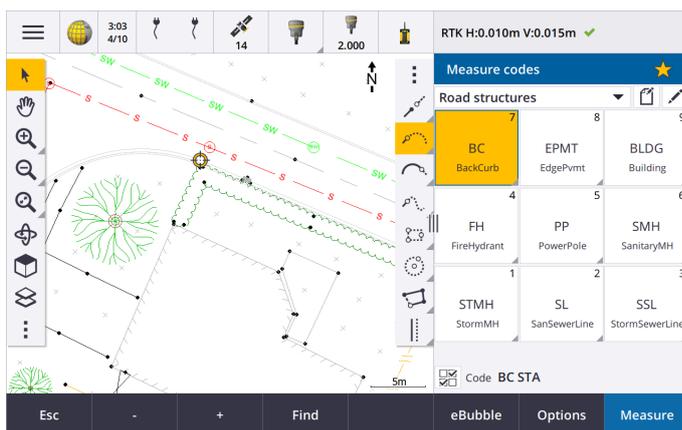
## Feature library enhancements

### Feature coded linework and symbols now shown in the map

Feature library files created using the Feature Definition Manager in Trimble Business Center can include rich linework and symbol definitions for different feature codes. Trimble Access now supports symbols for point, line and block codes, including 1-point, 2-point, and 3-point blocks. This enables you to use different symbols to represent different features, and see those features represented in the map. For example, you can now code lines to visually represent real world features such as hedges, or add text characters into the drawn line, such as ST.

**NOTE** – Feature symbols are created in Trimble Access and Trimble Business Center by processing the code on points with the symbols defined in the FXL file. You can export feature coded symbols as a DXF file from Trimble Business Center. Feature coded symbols cannot currently be exported from Trimble Access, and features will be represented as simple points and lines in an exported file.

To view symbols in the map, tap  and select **Settings**, and then from the **Point symbols** field select **Feature symbols**.



### FXL file colors defined by layer

When using an FXL file created using the Feature Definition Manager software where colors are defined **By layer**, Trimble Access now uses the color defined in the FXL file. If a layer color is not

found then Trimble Access uses black. Previously Trimble Access always used black where the FXL file defined colors **By layer**.

## Automatically install example feature library file during software installation

You can now install the **GlobalFeatures.fxl** example feature library file when you install the Trimble Access software.

Install the **GlobalFeatures.fxl** using Trimble Installation Manager. If you keep the **GlobalFeatures.fxl** check box selected in Trimble Installation Manager, the file will be installed each time you install or update the software, including any updates to the **GlobalFeatures.fxl**. The **GlobalFeatures.fxl** file is installed to the **System Files** folder. If the **GlobalFeatures.fxl** file already exists in that folder, the new file is named **GlobalFeatures(1).fxl**.

The **GlobalFeatures.fxl** feature library file has feature codes set up for points, attributes, lines and symbols, and control codes for drawing features using the CAD toolbar. You can use the file to see how the feature library files makes it easy to enter attributes, draw features using the CAD toolbar, or measure and code features in one step using **Measure codes**.

To set up your own feature library file, you can take a copy of the **GlobalFeatures.fxl** file and edit it in Trimble Access or using the Feature Definition Manager in Trimble Business Center.

For more information on using feature library files, see the topic **Feature library** in the [Trimble Access Help](#).

## Design file attributes automatically copied to job

When you use an entity from a design file (including a BIM model, DXF file, Shapefile, or LandXML file) in a Cogo calculation, during stakeout, or to create a point in the job, Trimble Access now automatically copies the attributes of the object from the design file and stores them with the point or polyline in the Trimble Access job. Previously, you needed to configure the software to save the design file attributes for the selected item with the as-staked point.

To review design file attribute information for entities in a design file, select the entities in the map and then tap **Review**. If you selected more than one entity, select it from the list and tap **Details**.

## Export enhancements

Trimble Access version 2022.10 includes the following enhancements for exporting data:

### Configurable CSV delimiter

When exporting a CSV file using the **Comma Delimited (\*.CSV, \*.TXT)**, **CSV Global Lat-long points**, or **CSV with attributes** file formats you can now select the **Field delimiter** that separates the data in your file into distinct fields. The delimiter options include comma, semicolon, colon, space, and tab.

### Exporting points with combined ranges

When selecting points for export using **Points with same code**, or **Points by name range** you can now select up to 5 codes or 5 point name ranges instead of just one.

## DXF export enhancements

- Point names, codes, elevations and extra attributes associated with the inserted blocks as attribute text are now enabled for display by default in DXF files.
- The point name, code, elevation and extra attributes included as attribute text are now added to their own individual layers.
- You can now select the number of decimal places exported on elevation labels.

## Georeferencing map files

When georeferencing a map file it is now relocated to *the center of the current view*. Previously an approximate georeference was performed by relocating the center of the map file close to the existing job data. This could make it difficult to find the map file to fine-tune the georeferencing if the job data included data, for example a base point, that was a long way from the other data in the job.

## Control code behavior now aligns with Trimble Business Center control codes

Trimble Access uses the same control codes as Trimble Business Center to create line, arc, or polygon features from points, but in some cases the control code behavior was subtly different between these two applications. We have made changes to the behavior of the tangential arc, skip join, and close polygon control codes so that Trimble Access now processes these codes in the same way as Trimble Business Center.

Depending on how you have been using these codes, you may now need to use these control codes slightly differently. For more information, watch the video on how control codes now work, available from the [Trimble Access channel on YouTube](#).

For more information on how to use control codes to create features, see the topic **To create features using control codes in Measure codes** in the [Trimble Access Help](#).

## Sync scheduler

Local jobs in cloud projects can now be automatically uploaded according to the settings defined in the **Sync scheduler**.

If the current project is a local project and does not yet reside in the cloud, then when you set the **Automatically upload the current project** switch to **Yes**, Trimble Access now shows a message asking if you want to upload the project now. In the message box:

- Select the **Connect server** to use and tap **Yes** to upload the current project to the cloud. The configured **File upload settings** will apply to the project.
- Tap **No** if you do not want to upload the current project to the cloud. The configured **File upload settings** will not apply to the current project unless it resides in the cloud. To upload the project to the cloud later, select the project in the **Projects** screen and then tap  and select **Upload**.

## Station interval improvements for alignments

During alignment stakeout, when selecting a station from the list, you can now use the new **Select station** screen to:

- Define a station interval for lines and a separate station interval for arcs and transitions. A separate station interval value for arcs and transitions enables you to tighten the interval for curves and more accurately represent the design on the ground.
- Specify the available station types from the station list. Previously they were only available at the **Options** screen when starting the stakeout process.
- Select the **Method** used to increment the station interval:
  - The **0 based** method is the default method and gives station values that are multiples of the station interval.
  - The **Relative** method gives station values relative to the start station.

For more information, see the topic **Stations available for stakeout** in the [Trimble Access Help](#).

## Sta+ and Sta- function keys

When assigning favorite functions to function keys on the controller, we have renamed the **Stakeout station increment** function to **Station+** and renamed the **Stakeout station decrement** function to **Station-**, to more closely match the names of the **Sta+** and **Sta-** functions as they appear on softkeys. Assign these functions to a controller function key so that you can select the next station with a single keypress when staking a line, arc, alignment or polyline.

For more information, see the topic **Favorite screens and functions** in the [Trimble Access Help](#).

## Stakeout deltas

We have improved the display of stakeout deltas so that deltas that are irrelevant to the selected item and stakeout method are not available.

In addition, you can now select **Design station**, **Design string**, **Design horizontal offset** and **Design vertical offset** values from the list of deltas. These are particularly useful when you have elected to not show the stakeout graphics.

For more information, see the topic **Stakeout navigation deltas** in the [Trimble Access Help](#).

## IFC 4.3 files

Trimble Access version 2022.10 reads IFC 4.3 files. IFC 4.3 supports **linear infrastructure assets** including **roads**, **rail** and **bridges**. IFC 4.3 is a new schema, and there are very few products that can currently create IFC 4.3 files. As a Strategic Member of buildingSMART International, Trimble is committed to working with our industry partners on supporting this open, vendor-neutral international standard. If you obtain an IFC 4.3 file that does not work as expected in Trimble Access, please pass the file to us via your Trimble Distributor.

## Separate configuration settings for Resection and Measure rounds

Trimble Access now saves your settings separately for **Resection** and **Measure rounds** measurements, so you can configure them independently. **Station setup plus** settings were always saved independently. To use the

same settings across all measurement types, tap **Options** the appropriate measurement screen and configure the settings per your requirements.

### Add snapshot and description fields to Measure rounds

When measuring rounds of observations, you can now automatically add a snapshot to the first observation for each point in the first round.

If the job is using additional **Description** fields, these fields are now available when measuring rounds.

### Target lock mode now stored in job

The target locking mode used to measure the point is now stored with the observation in the job, and is included when exporting to JXL. The observation record also indicates if the target was set to semi-active mode.

### Improved icon when target lock is lost

We have added a pulsing red halo to the rotating target icon in the status bar that indicates when the instrument has Autolock enabled but is not currently locked onto a target.



### Perpendicular target height method for Object oriented setup

Trimble Access version 2022.10 provides a new target height method, **Perpendicular**, for use when performing an **Object Oriented Setup** with the target mounted on a surface. In the **Targets** screen tap  and select **Perpendicular**. Enter the height of the target, measured from the base of the target to the center of the target. In the **Perpendicular to surface** field, enter the name of the surface, or select the surface in the map.

**NOTE** – The object oriented station setup is available only when the **Object Oriented Setup** Trimble Access software option is licensed to the controller. To purchase a license for the **Object Oriented Setup** option, contact your Trimble Distributor.

### EDB10 Bluetooth connection

When connecting to the EDB10 Data Bridge using Bluetooth, the Trimble Access software now automatically sets the **Controller port** in the **Radio settings** screen to **BT Radio**. Previously when setting up the Bluetooth connection to the EDB10 you had to switch to the **Radio settings** tab and tap the **Options** softkey to configure the **Controller port** yourself before the EDB10 would connect.

### Receiver Wi-Fi configuration

We have improved the **Receiver Wi-Fi configuration** screen so that it now provides separate tabs for **Access point** mode and **Client** mode. Each mode can be enabled separately, and allows some receivers (such as the Trimble R10 and R12 GNSS receiver) to have both modes enabled at the same time. For receivers that support only one mode at a time, enabling one mode in the **Receiver Wi-Fi configuration** screen automatically disables the other mode. In addition, the Trimble Access software now only prompts you to restart the receiver if the connected receiver must be restarted for new settings to be applied. For some receivers, modified settings are applied without the receiver having to be restarted.

## Antenna list now provided by the Antenna.ini file

Trimble Access version 2022.10 reads the list of available antennas from an Antenna.ini file, rather than an Antenna.dat file. The advantages of using a .ini file are:

- The Antenna.ini file is now installed using Trimble Installation Manager, and can be updated independently from updates to the Trimble Access software, if required.
- The file can now be edited in a text editor, if required. For example, you can edit the Antenna.ini file to add a new antenna or to shorten the list of antennas that you can choose from when creating a survey style.

When you upgrade to Trimble Access version 2022.10 the existing Antenna.dat file will be retained in the **C:\ProgramData\Trimble\Trimble Data\System Files** folder but it is no longer used. You can safely delete the Antenna.dat if you choose.

## Satellite subset now stored in note

If a satellite subset is active, a note is now added to the point record as the point is stored, indicating which satellite subset (**SV set A** or **SV set B**) applies. The notes are included when exporting the job. No note is added if all the satellites have been used.

## Auxiliary GNSS positions no longer included in map extents

Auxiliary GNSS positions from the controller's internal GNSS receiver are no longer included in map extents, unless there is a current station setup that is using GPS search. For example, if you leave the job site and return to the office and open the job, your current position is no longer included in the map. This change is especially useful when zooming to job extents or when adding data where the software would prompt you to georeference files because the current position was a long way from the map data.

## QC graph no longer includes base positions

Trimble Access now excludes GNSS base points from the selection set used for the QC graph.

## Unique survey style names

When you create a survey style using the **New** or **Copy** softkeys in the **Survey Styles** screen and enter the name of the new survey style in the **Survey details** screen, the software now checks that a survey style of the same name does not already exist.

## Workflow improvement for drop-down lists

When you select an item in a drop-down list, the software focus now automatically moves to the next available field, and that field is highlighted.

## Performance improvements

- Trimble Access now uses less operating system memory when loading background files including JPG, PNG, TIF files and data from a Web Map Service (WMS). You should now see faster map updates and more reliable performance, particularly on Android controllers.
- You should now see fewer map update delays when closing the **Layer manager** when **Auto update** is enabled.

- When using a Trimble SX10 or SX12 scanning total station, we now stop streaming video when switching from the **Video** screen back to the Map. This can result in better battery life and improved performance when working at extreme radio range. This change was made for Trimble S-Series instruments with video in Trimble Access version 2022.01.

## Coordinate System Database updates

The Trimble Coordinate System Database installed with Trimble Access includes the following enhancements:

- Added UCS-2000 coordinate system for **Ukraine**.
- Added new ETRS89-D96-17 reference frame for **Slovenia**.
- Added new TMCI-5.5 coordinate system for **Ivory Coast**.
- Added "System Cityring" for the Metro in **Copenhagen**.
- Added EGM2008 geoids for **Guyana, Eastern Caribbean & Middle East**.
- Added new geoid PI-geoid-2021 for **Poland**.
- Fixed geoid model for **Cyprus**.
- Updated EPSG ID for geoid models in **Switzerland**.
- Cleaned up datums & zones used in the **US**.
- Updated datum JGD2011 for **Japan**.
- Updated displacement model POSGA07 for **Argentina**.
- Updated displacement model NKG-RF17 for **Northern Europe**.
- Added ITRF2020 and missing realizations for WGS84, IGS & RTX.
- Fixed incorrect reference epoch for Prince Edward Island, **Canada**.

## Resolved issues

- **Signing in:** When signed in, the software no longer prompts you to sign in each hour. We have also fixed other issues that sometimes caused other project-related messages to appear when signing in.
- **Exit Sign in screen:** When presented with the **Sign in** screen, you can now tap X in the top right corner if you want to exit the screen rather than sign in.
- **Downloading projects:** We have fixed an issue where if team members were part of a group then they were unable to download projects assigned to them.
- **.0 appended to project name:** We have fixed an occasional issue where deleting a cloud project from the controller and then downloading the cloud project onto the controller again sometimes resulted in two projects with the same name appearing on the controller, with .0 appended to one project name.

- **CadastralTolerances.xml copied with job:** When copying a job using the **Copy job** screen in Trimble Access, if the **System files** folder contains a **CadastralTolerances.xml** file then the file is now copied with the job.
- **DXF export:** We have fixed an issue when exporting to DXF, where the FXL file from the current job was used for the export when the job being exported was not the current job. This could result in an incorrectly feature coded layer, line color, or line style.
- **Incorrect Global reference datum used when selecting a coordinate system with a datum grid:** We have fixed an issue where the correct **Global reference datum** was displayed in the **Select coordinate system** screen, but the software actually used WGS 84 as the **Global reference datum**. This would result in incorrect results when transforming RTX positions.
- **Reloading CSV files after changing coordinate order:** If you change the **Coordinate order** for the job in the **Units** screen, then any CSV files attached to the job are now automatically reloaded to read the columns correctly in the CSV files.
- **Georeference map files:** We have fixed an issue where if you added map files to the job that contain data at a location far away from existing job data, the software did not prompt to georeference the map files if the existing job data was in a linked CSV file. The software did show the prompt when the data was in a linked job file.
- **WFS server data:** We have fixed the following issues when connecting to and using data from a WFS server:
  - We have improved server type detection. This resolved an issue where sometimes Trimble Access was not able to connect to the configured WFS server.
  - Trimble Access now includes the version parameter when requesting data from a WFS server. This resolves an issue where sometimes Trimble Access could connect to the WFS server but no data was shown in the map.
  - WFS parameter settings are now consistently saved before you tap **Next**. Previously some settings were not saved which could result in incorrect parameters being used.
  - When connecting to a WFS that requires authentication which you have set up using Trimble SiteVision™ Manager, Trimble Access no longer prompts you to enter your user name and password twice.
  - Errors are no longer shown when requesting data from servers where the URL includes spaces or + characters.
- **BIM model display:** We have fixed an issue where setting the display of BIM models to Wireframe or transparent also changed the display of other map files to transparent.
- **Elevation value for keyed in points:** We have fixed an issue where sometimes the **Vertical exaggeration** value affected the elevation determined from a surface when keying in a point.
- **Elevation value for points from a DTM:** When you tap and hold on a DTM, the software now always interpolates the elevation from the DTM, whether the map is in plan view or in orbited view.

- **Compute inverse:** We have fixed an issue where if the points used to compute an inverse included points from a linked job and one of those points replaced a deleted point of the same name in the linked job, then the coordinates of the deleted point were used in the calculation.
- **Attributes for offset lines and polylines:** We have fixed an issue where the **Attributes** softkey was not shown and the software did not prompt for attributes to be filled out when you offset a line or polyline and then assigned a feature code that has attributes.
- **Attributes not remembered:** We have fixed an issue where, when measuring a point with two code values, the last used attribute values for both codes were not remembered if the order of the two codes was reversed for the previously measured point.
- **Polyline drawn incorrectly:** We have fixed an issue when measuring a polyline, where after adding an arc to the polyline an additional line was drawn through the arc to the previous point.
- **CAD toolbar message:** We have fixed an issue when using the CAD toolbar where if the software showed an error warning the selected point could not support the intended action, sometimes the wrong point name was referenced in the message.
- **Stakeout deltas for XYZ (CAD):** When staking out using the **XYZ (CAD)** coordinate order, the **Delta X** and **Delta Y** coordinates are now shown in the **As staked deltas** and **Job review** screens.
- **Polyline stakeout:** When staking out a polyline containing non-tangential segments, Trimble Access would previously determine that the closest point on the polyline was always to a line or arc segment, even if there was a vertex closer than that segment. Now, it will include any available vertices when determining the closest point.
- **Alignment stakeout:** When you stake out an alignment from the menu, the current map selection is cleared to make sure there is no alignment already selected in the map. This resolves an issue where it was possible for the software to show the name of the alignment you selected from the menu, but you were in fact staking a different alignment that was already selected in the map. .
- **Check backsight:** When you open the **Check backsight** screen, the **Method** field now reverts to the last method used to measure the backsight position whether you opened the screen using the **Chk BS** softkey or by pressing **Ctrl + K**. When you exit the screen the software reverts to the last method used to measure a topo point.
- **Target settings not retained after checking backsight:** We have fixed an issue where the target semi-active tracking setting could be switched to passive tracking following a **Check backsight** observation.
- **Incomplete panorama screen:** We have fixed an issue where after replacing the battery in the connected instrument when the **Panorama** screen was open, the software resumed but sometimes there were some fields missing from the **Panorama** screen.

- **SX instrument adjustment:** We have improved the instrument adjustment error messages when adjusting a Trimble SX10 or SX12 scanning total station, so that whatever the angle units you are using, the information provided is similar to that provided for DDD.MMSS.
- **Surface inspection:** We have improved the performance of the **Scan to Surface** inspection, which ran very slow with some 3D models in the previous release of the software.
- **Object oriented station setup:** We have fixed issues when the face order was set to F1/F2, where the instrument did not turn correctly to the point, and when measuring to known points the station setup completed after measuring two points rather than three.
- **Export to LAS using an Android controller:** We have fixed an issue when exporting to a LAS file from Trimble Access when running on an Android controller, where the exported LAS file was much larger than the same LAS file exported from a Windows controller, and sometimes would not import correctly into Trimble Business Center.
- **Linked points display on Android:** We have fixed an issue where linked points from a CSV file were sometimes shown in black rather than blue on an Android controller when **Auxiliary GPS** was enabled or when a Cogo arrow was displayed on the map.
- **Changing targets on Android:** We have fixed an issue where if you pressed the number key corresponding to the number of the target in the **Targets** screen the software did not change to that target. This issued affected Android controllers only.
- **Android connections to Focus 30/35 using EDB10:** We have fixed an issue where the Trimble Access software would not connect to a FOCUS 30 or FOCUS 35 instrument using the EDB10 Data Bridge when using an Android controller.
- **TCU5 Connections screen:** The **Connections** screen now shows the appropriate tabs and the **Auto-connect** tab shows check boxes for equipment types supported by the connected model of TCU5. The TCU5 model 2 supports Bluetooth and GNSS receivers, as well as radios and conventional instruments.
- **CAD toolbar point names:** When using the CAD toolbar, the naming sequence for the selected GNSS measurement method specified in the **Additional settings** screen is now respected when you select **Next point name**.
- **eBubble calibration:** We have fixed an issue where the progress bar that appears during an eBubble calibration in Trimble R series receivers did not progress correctly.
- **GNSS contacts:** We have fixed an issue where if you selected **Use RTX (Internet)** in the GNSS contact, the **Mountpoint name** setting for **RTX (Internet)** surveys was not applied correctly; instead the global RTX Internet service was always used. Now if **Use RTX (Internet)** is selected, setting the **Mountpoint name** field to **RTXNA** or **RTXEU** uses the correct regional RTX service.

- **xFill-RTX for IMU tilt compensation:** You can now use xFill-RTX during an IMU tilt compensation survey when using receiver firmware version 6.15 or later.
- **Horizontal tilt offset:** When measuring using the **Horizontal tilt offset** method, if you have enabled **Prompt for attributes** in the **Options** screen the software now displays the **Attributes** screen before allowing you to store the point.
- **Multi station RTK surveys:** If your survey style has the rover **Broadcast format** set to one of the **Multi station** options, and you connect to a VRS data stream provided by a Trimble Pivot Platform RTK network, the software now displays the message "Base data is in Network mode. Change style or select a different corrections source. Survey will now end." When you tap **OK** in that message, the software ends the survey. This change is to prevent the rare occurrence of VRS RTK base coordinates being used as single base stations, which could lead to incorrect rover RTK positions if the network was set to not increment the VRS ID.
- **Integrated survey resection points:** We have fixed an issue when performing a resection in an integrated survey, where if you attempted to measure an observation to a point that did not yet exist in the job, when the software switched to the GNSS measure screen it also changed the point name to the next point name in the GNSS point sequence, rather than retaining the name you had entered for the conventional point.
- **TDC600 function key:** In the Trimble Access version 2022.00 release notes we reported we had fixed an issue where you could assign a favorite function to F4 (the function key on the side of the TDC600 controller), but subsequently pressing F4 did not activate the assigned function. That issue was fixed for the **TDC600-model 1** handheld. In Trimble Access version 2022.10 this issue is now also fixed for the **TDC600 model 2** handheld.
- **Tapping in text fields:** We have made improvements to provide more reliable and consistent behavior when you tap and hold or double-tap in text fields. In particular the behavior is now the same when Trimble Access is running on a Windows device or an Android device.
- **USB drive name on Windows:** When using a USB drive inserted to a Windows controller, Trimble Access now uses the same drive letter as the Windows operating system. Previously the software assumed the USB drive was always drive D:, which was only the correct drive letter when using a TSC7 controller.
- **Eject USB drive on Windows:** We have fixed an issue when using a USB drive inserted to a Windows controller, where tapping the **Eject** button in the **Select folder** screen did not eject the USB drive. The **Eject** button worked as expected on an Android controller.
- **Application errors:** We have fixed several issues that caused occasional application errors when using or closing the software. In particular:
  - When opening the **Layer manager** and selecting an RXL file while still in the process of creating a job and defining the coordinate system settings in the **Job properties** screen.
  - When hiding a surface in the **Layer manager** when the surface is still selected in the map.

- After removing a USB drive from the controller when the **Select folder** screen is open.
- When attempting to complete a station setup on a TDC600 in portrait mode using a Trimble instrument that has VISION technology, while showing the video view alongside the station setup form.
- When tapping **Calc** after changing the selected points in the **Surface inspection** screen.
- When tapping **Cancel** in the **Close all windows** screen when exiting the software.
- When exiting the software when the **New target** screen is open and has been changed.
- When attempting to switch back to a single prism after using a dual prism offset.
- When measuring a distance offset with the instrument in tracking mode and **Add to CSV file** is enabled in the job.
- When measuring to an edge during an object oriented station setup where the face order is set to F1/F2.
- When attempting to reconnect to the receiver after powering on a controller that has gone to sleep while connected to the receiver.
- In an NTRIP Internet RTK survey, if the named mountpoint required by the **Connect direct to mountpoint** setting in the GNSS contact did not exist in the NTRIP source table, and the mountpoint chosen to start the survey required authentication.
- When starting an RTX Internet survey and tapping **Cancel** while the software is attempting to connect to the Internet.

## Roads

### Enhancements

#### Station interval improvements

For an RXL, LandXML and 12da road we have made the following improvements when defining station intervals:

- You can now define a station interval for lines and a separate station interval for arcs and transitions. A separate station interval value for arcs and transitions enables you to tighten the interval for curves and more accurately represent the design on the ground.
- We have made it easier to specify or edit the interval values:
  - When defining a road you can now specify the interval values when you enter the road name. Previously the interval was specified as part of the horizontal alignment **Start point** element.
  - When editing a road you can now edit the interval values from the **Options** screen. You can still edit the values when starting the stakeout process.

- When staking a road you can now edit the interval values using the new **Station settings** screen when selecting a station from the list.
- Using the new **Select station** screen when selecting a station from the list, you can now:
  - Specify the available stations from the station list. Previously they were only available at the **Options** screen when starting the stakeout process.
  - Select the **Method** used to increment the station interval:
    - The **0 based** method is the default method and gives station values that are multiples of the station interval.
    - The **Relative** method gives station values relative to the start station.

For more information, see the topic **Stations available for stakeout** in the [Trimble Access Help](#).

## Road selection

You can now select a road from the map by tapping the road surface, rather than tapping the alignment.

## Menu workflow enhancements

You can now select LandXML string roads from the **Define** and **Stakeout** menus and you can select 12da roads from the **Stakeout** menu. Previously you could select LandXML or 12da roads only from the map.

## Clearer RXL selection from the menu

When you edit a road using the **Define** menu, the road list no longer remains displayed after you select the road. This avoids the possibility where you could select a different road and yet still be editing the first road you had selected.

## Construction offset deltas

You can now display all three construction offsets in the stakeout form.

- Horizontal const. offset
- Vertical const. offset
- Station const. offset

Previously you could only display the horizontal offset by selecting the **Constr. Offset** delta which has now been removed.

## Stakeout performance improvements

You should now see fewer map update delays and faster update of stake deltas, particularly when staking out long roads on Android controllers.

## Resolved issues

- **RXL reference alignment:** When you select an RXL road for stakeout from the menu and then select another RXL road as the reference alignment, the reference alignment is now highlighted in the map.

- **GENIO road alignment shown when navigating:** We have fixed an issue where the alignment was not shown as excluded when staking to a string or a station on a string. This was an issue only in the navigation screen and did not affect the stakeout deltas.
- **12da one string/two string stakeout:** We have made several fixes for these stake methods, including:
  - When staking a 12da road using the **Two strings** method you can now apply a vertical construction offset.
  - When you return to the string selection list the currently selected string is now shown selected.
  - When your position is not adjacent to the string, the selected string is now shown selected.
  - We have improved the selection of strings from the map. Previously, if you tapped more than one string on the map and then selected a string from the list, the name of the string did not always appear in the **String name** field on the first attempt.
  - When you add a construction offset it is now displayed at the plan view.
  - The correct station for a string that returns on itself is now being targeted. Previously, the software was not always targeting the closest station.
  - You no longer have to select **Zoom extents** to see the target in the cross section view. This was an issue only when the target was not between the two strings.
  - Improved support for roads where the horizontal alignment has non-tangential elements.
  - The **Nearest string** field is now reliably auto populated with the alignment name.
  - For the **Two strings** stake method, we have fixed an issue where the deltas were sometimes displayed only for **String 2**.
  - We have fixed an issue where the **One string** and **Two strings** stake methods were sometimes missing from the **Stake** drop-down list.
  - When staking relative to a DTM, the DTM drawn in the cross section view will extend to your current position.
- **Stakeout road list:** You can now sort the list by file type.
- **Available strings list:** We have fixed an issue where the list of **Available strings** accessed from the **Strings** field was sometimes empty or showed only the alignment.
- **Staking a side slope:** We have made several fixes to the workflow when adding or editing a side slope at the navigation screen, including:
  - When staking a station on an outermost string that is not a side slope, you can now stake the cut ditch. Previously the navigation deltas were null and there was no target shown.
  - When staking to a side slope string, after editing the slope values the target position is now updated to reflect the new values.

- When staking to a side slope string and staking the cut slope hinge, a target is now displayed in the cross section view.
- **Staking relative to a DTM:** We have fixed the following issues when staking relative to a DTM:
  - When using a perpendicular offset, the **Perp. Dist to DTM** and the **V. Dist to DTM** deltas are now shown. Previously, the **Perp. Dist to DTM** delta showed the **V. Dist to DTM** value.
  - The **V. Dist to DTM** delta is now displayed at the **Confirm staked deltas** screen.
- **Target centered stakeout navigation:** We have fixed an issue when the stake method was **To the string** where if the display mode was set to **Target centered** the software continued to display **Surveyor centered** mode.
- **Construction offsets:** After entering a construction offset, the highlight now moves to the next construction offset field. Previously the highlight moved back to the **Stake** field.
- **Station construction offset:** We have fixed an issue where the station construction offset was not being applied when the stake method was **Station on string** and you keyed in an offset instead of selecting a string.
- **Station selection for station equations:** You no longer need to include the zone number when keying in a station value for a road that includes station equations. This was an issue at review and stakeout. ]
- **Precise elevation V.dist:** We have fixed an issue where the **V.dist** delta was null when measuring a station on a string during a precise elevation integrated survey.
- **Nominal station calculator:** We have reinstated the **Station** field at the base of the station list, where you can enter a nominal station value and, if required, access the calculator to calculate the nominal station value. While you can enter a nominal station in the **Station** field on the stakeout form, the calculator is only available when you use the **Station** field at the base of the station list.
- **Application errors:** We have fixed several issues that caused occasional application errors when using or closing the software. In particular:
  - After viewing the **Construction offsets** screen and then using the main menu to return to the map and double-tapping a point.
  - When you select a 12da file at the **New job** screen when the **Layer manager** is open and there is no other job in the project.
  - When attempting to define a GENIO road.

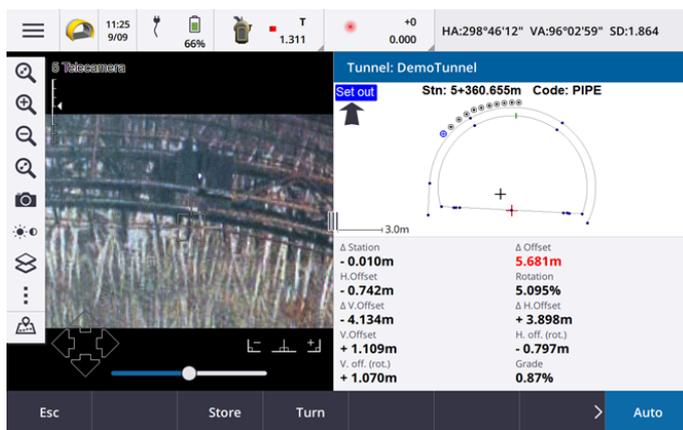
# Tunnels

## New features

### Pipe umbrella

Trimble Access Tunnels version 2022.10 supports a new set out type for setting out a pipe umbrella. Design and set out pipe positions for installing the arch of pipes that extend lengthwise along the planned tunnel alignment to reinforce the roof of the working area. Typically, a series of regularly spaced and overlapping arches of pipes comprising the pipe umbrella are installed throughout the sequential excavation of the tunnel.

Pipe set out positions are indicated by an open circle with a dot inside it.



## Enhancements

### Setting out

We have made a number of enhancements to the set out workflow:

- When setting out, you can now use the **Set out type** field to filter what is shown in the cross section view and therefore what can be set out. This allows you to use a single TXL file for all set out types, and then set out only one type at a time. To view all set out types in the cross section view, choose **All** from the **Set out type** field.
- You now only need to define the **Start station** and the **Station interval**. Previously you also had to define the **End station**, even if you were setting out at only one station.
- You can now use the video feed in the split screen view to set the **Start station** by measuring to a point in the tunnel.
- You can now automatically set out multiple types of set out positions. Previously auto set out could be selected for blast holes only. To select multiple set out positions, use the tap and hold menu in the cross section view.

## Auto scan workflow enhancements

When performing **Auto scan**, the set up user interface is now split screen, showing the map or video view on the left with the auto scan form on the right. This enables you to more easily point the instrument to the exact target location in the tunnel and then tap **Measure** when defining the **Start station** or **End station**.

## Tunnel selection

You can now select a tunnel from the map by tapping the tunnel surface, rather than tapping the alignment.

## Set out function keys

You can now configure the **Point+** and **Point-** functions as favorite function keys for selecting the point when setting out.

You can also configure the **Station+** and **Station-** functions as favorite function keys for selecting the station when setting out.

Assign these functions to a function key so that you can select the next item with a single keypress.

For more information, see the topic **Favorite screens and functions** in the [Trimble Access Help](#).

## Stakeout delta display

When setting out positions, all available delta values are now displayed in an automatically resizing area alongside the plan or cross section view. Previously, only three delta values were displayed in a single row and you needed to tap onscreen to view more delta values.

To show or hide deltas, tap and hold in the delta display area of the screen. In the **Deltas** list, tap a delta to change whether the delta is displayed. A check mark indicates the delta will be shown. To reorder the deltas, tap and hold a delta and drag it up or down the list. Tap **Accept**.

To change the position of the delta display area, tap  and swipe left. The plan or cross section view resizes to the closest preset position, so that the delta display area is positioned alongside the plan or cross section view, rather than below. Tap  and swipe right to make the plan or cross section view smaller with the delta display area below.

## Δ offset values for pipes and blast holes

When setting out a single blast hole or pipe for a pipe umbrella, the software now shows the **Δ H.Offset** and **Δ V.Offset** values to show the difference between the horizontal offset/vertical offset of the projected line of the pipe or blast hole and the current position measured by the instrument.

## Support for inverted arcs

By default, arcs included in the tunnel design are created in a clockwise direction between the start point and end point. You can now change the direction of the arc to anti-clockwise, by selecting the **Inverted** check box.

## Resolved issues

- **Inserting set out positions:** When defining set out positions, tapping the **Insert** softkey now inserts the new position before the currently selected position. Previously, the **Insert** softkey always added the position to the end of the set out position list.
- **Map progress bar:** The map progress bar now provides progress information when loading a tunnel file.

- **Viewing TXL file:** If your project includes a TXL file and you make that file visible in the **Layer manager**, the alignment and surfaces appear in the map, whether or not you have a Trimble Access Tunnels license.
- **Application errors:** We have fixed several issues that caused occasional application errors when using or closing the software. In particular:
  - When pressing the arrow keys on the keypad to turn the instrument when a form was open alongside the Video screen and the target illumination light (TIL) was enabled.
  - When selecting an item on a surface when editing the tunnel template.
  - After deleting one of only two vertical elements in the tunnel definition.

## Mines

### Resolved issues

- **Station offset in Auto stakeout:** When you define the **Station offset** distance for a grade or center line during auto stakeout, whether by entering the **Station offset** value or by pointing the laser to a new start position, the software now only shifts the start point along the grade or center line and no longer shifts the end point accordingly.
- **Application errors:** We have fixed several issues that caused occasional application errors when using or closing the software. In particular:
  - When pressing the arrow keys on the keypad to turn the instrument when a form was open alongside the Video screen and the target illumination light (TIL) was enabled.

## Pipelines

### Resolved issues

- **Attributes not stored:** We have fixed an issue where if you tapped the **Attrib** softkey and entered attributes before measuring a pipeline point then the attributes were not stored.
- **Erroneous feature library error:** We have fixed an issue when using feature code library where the file name included a dot prior to the .fxl file extension, where the software would display an error message erroneously reporting a feature code library could not be found.
- **Application errors:** We have fixed several issues that caused occasional application errors when using or closing the software. In particular:
  - When using tilted measurements and tapping the **Attrib** softkey to enter attributes before a measurement.

# Supported equipment

Trimble Access software version 2022.10 communicates best with the software and hardware products listed below.

**NOTE** – For best performance, hardware should always have the latest available firmware installed.

For more information on recent software and firmware versions, refer to the [Trimble Geospatial Software and Firmware Latest Releases](#) document.

## Supported controllers

### Windows devices

The Trimble Access software runs on the following Windows® 64-bit devices:

- Trimble TSC7 controller
- Trimble T7, T10, or T100 tablet
- Supported third-party tablets

For more information on supported third-party tablets, go to [Trimble Access Downloads](#) and click **Support Bulletins – Trimble Access** to download the **Trimble Access 2021 on 64-bit Windows 10** bulletin.

### Android devices

The Trimble Access software runs on the following Android™ devices:

- Trimble TSC5 controller
- Trimble TDC600 handheld
- Trimble TDC650 handheld GNSS receiver
- Trimble TCU5 controller

A small number of features are not supported when running Trimble Access on an Android device. For more information, see the section **Tips for Android devices** in the [Trimble Access Help](#).

## Supported conventional instruments

Conventional instruments that can be connected to the controller running Trimble Access are:

- Trimble scanning total stations: SX12, SX10
- Trimble VX™ spatial station
- Trimble S Series total stations: S8/S6/S3 and S9/S7/S5
- Trimble mechanical total stations: C5, C3, M3, M1
- Trimble SPS Series total stations
- Spectra® Geospatial total stations: FOCUS® 50/35/30
- Supported third-party total stations

The functionality available in the Trimble Access software depends on the model and firmware version of the connected instrument. Trimble recommends updating the instrument to the latest available firmware to use this version of Trimble Access.

**NOTE** – Connections to the SX10 or SX12 are not supported when using the TCU5 controller or the TDC600 model 1 handheld.

## Supported GNSS receivers

GNSS receivers that can be connected to the controller running Trimble Access are:

- Trimble integrated GNSS surveying systems: R12i, R12, R10, R8s, R8, R6, R4, R2
- Trimble modular GNSS surveying systems: R750, R9s, NetR9 Geospatial, R7, R5
- Trimble SPS Series GNSS Smart Antennas: SPS986, SPS985, SPS985L, SPS785, SPS585
- Trimble SPS Series GNSS modular receivers: SPS85x
- Trimble Alloy GNSS Reference Receiver
- Trimble TDC650 handheld GNSS receiver
- Spectra Geospatial integrated GNSS receivers: SP85, SP80, SP60
- Spectra Geospatial modular GNSS receivers: SP90m
- FAZA2 GNSS receiver
- S-Max GEO receiver

**NOTE** – Because Spectra Geospatial receivers use different GNSS firmware to other supported receivers, not all functionality in the Trimble Access software is available when a Spectra Geospatial receiver is in use. For more information, refer to the support bulletin [Spectra Geospatial receiver support in Trimble Access](#).

## Installation information

### License requirements

You can install Trimble Access 2022.10 using a perpetual license that is licensed to the controller or as a subscription license that is assigned to an individual user. Licenses are required for the General Survey app as well as for each Trimble Access app you want to use.

#### Perpetual license

To install Trimble Access 2022.10 onto a supported controller that has a **perpetual license**, the controller must have a Trimble Access Software Maintenance Agreement valid up to **1 October 2022**.

**TIP** – To upgrade from an older controller to a new controller, you can relinquish your Trimble Access software license from an older controller that has a current Software Maintenance Agreement using the appropriate Trimble Installation Manager. Once your distributor has reassigned the licenses to your new controller, you can install Trimble Access to the new controller using Trimble Installation Manager.

## Subscriptions

If you are using a Trimble Access **subscription** rather than a perpetual license, you can install Trimble Access 2022.10 onto any supported controller.

To use the software subscription:

1. The License Administrator in your organization must assign a subscription to you using the [Trimble License Manager webapp](#).
2. The first time you start the Trimble Access software, you must sign in using your Trimble ID to download your Trimble Access subscription license to the controller. Otherwise you are prompted to sign in only if you have previously signed out.

Subscriptions are locked to that controller until you sign out. Once signed out, you can run Trimble Access on a different controller and sign in to lock the subscription to that controller and use the software.

## Don't have a current license? You can still try out the software

You can use Trimble Installation Manager to create a limited demonstration license and then install Trimble Access 2022.10 onto any Windows 10 computer or a supported Trimble controller running Android.

Demonstration licenses are limited to adding 30 points per job, however large jobs created elsewhere can be opened and reviewed. Demonstration licenses allow connections to GNSS receivers and total stations for the first 30 days. After 30 days you can emulate a total station survey using a manual instrument (Windows and Android), and emulate a GNSS survey (Windows only).

**NOTE** – You can only create a demonstration license for Trimble Access on devices that do not already have a Trimble Access license.

For more information, refer to the topic **To try out software** in the *Trimble Installation Manager Help* for your controller operating system.

## Installation and upgrades using Trimble Installation Manager

To install the software to your controller, use the appropriate Trimble Installation Manager for your controller operating system:

- Trimble Installation Manager for Windows 
- Trimble Installation Manager for Android 

### To install the software to a Windows controller

To download and install Trimble Installation Manager for Windows , connect the controller to the internet, and then go to [install.trimble.com](https://install.trimble.com) and select the **TIM for Windows** tab.

To run Trimble Installation Manager on the controller, tap the **Search** icon in the Windows task bar and enter **Install**. Tap Trimble Installation Manager , in the search results to open the Trimble Installation Manager. When you run the software, it updates itself automatically with the latest changes and software releases.

Jobs that were last used in Trimble Access version 2017.xx and later are automatically converted to the latest version of the software when you open them in Trimble Access. There are a number of tools for converting

older jobs. For more information, refer to the **Trimble Access: Converting jobs to a newer version** document, available from [forms.trimble.com/globalTRLTAB.asp?nav=Collection-62098](https://forms.trimble.com/globalTRLTAB.asp?nav=Collection-62098).

Trimble Installation Manager for Windows can be installed and uninstalled as required, without affecting the Trimble Access software.

For more information refer to the [Trimble Installation Manager for Windows Help](#).

## To install the software to an Android controller

Trimble Installation Manager for Android is *often preinstalled* on Trimble Android devices.

To download and install Trimble Installation Manager for Android , connect the controller to the internet, and then go to [install.trimble.com](https://install.trimble.com) and select the **TIM for Android** tab.

To run Trimble Installation Manager on the controller, go to the Android **Apps** screen and tap the Trimble Installation Manager for Android  icon. When you run the software, it updates itself automatically with the latest changes and software releases.

**NOTE** – *Trimble Installation Manager for Android must remain installed on the controller for the Trimble Access software to run.*

Jobs that were last used in Trimble Access version 2019.xx are automatically converted to the latest version of the software when you open them in Trimble Access. There are a number of tools for converting older jobs. For more information, refer to the **Trimble Access: Converting jobs to a newer version** document, available from [forms.trimble.com/globalTRLTAB.asp?nav=Collection-62098](https://forms.trimble.com/globalTRLTAB.asp?nav=Collection-62098).

For more information refer to the [Trimble Installation Manager for Android Help](#).

## Updating office software

You may need to update your office software, so that you can import your Trimble Access version 2022.10 jobs. All required updates to Trimble Business Center are handled using the **Check for updates** utility provided with Trimble Business Center.

**TIP** – If you are using other office software such as Trimble Link™ to convert job files to other file formats, install the Trimble Installation Manager onto the computer where Trimble Link is installed and then run Trimble Installation Manager to install office updates.

## Solution Improvement Program

The Trimble Solution Improvement Program collects information about how you use Trimble programs and about some of the problems you may encounter. Trimble uses this information to improve the products and features you use most often, to help you to solve problems, and to better meet your needs.

Participation in the program is strictly voluntary. At any time, you can choose to participate, or not to participate in the Solution Improvement Program. To do this, in Trimble Access tap  and select **About**. Tap **Legal** and select **Solution Improvement Program**. Select or clear the **I would like to participate in the Solution Improvement Program** check box.

# Learning resources

To learn more about Trimble Access software features and how to get the most out of the software, visit the resources below.

## Trimble Access Help Portal

The **Trimble Access Help Portal** is available at [help.trimblegeospatial.com/TrimbleAccess/](https://help.trimblegeospatial.com/TrimbleAccess/) and includes the full contents of the onboard *Trimble Access Help* in 14 languages. It also provides links to other useful resources, including the *Trimble Installation Manager Help*, *Trimble Sync Manager Help*, and the Trimble Access YouTube channel.

You can view the **Trimble Access Help Portal** from any computer that has an Internet connection, without needing to have the Trimble Access software installed. You can also view it from your mobile phone, or from the controller running Trimble Access if you chose not to install the onboard help.

## Trimble Access Help

The *Trimble Access Help* is installed with the software when you select the **Language & Help Files** check box in Trimble Installation Manager. To view the installed help, tap  in the Trimble Access software and then select **Help**. The *Trimble Access Help* opens, taking you right to the help topic for the current screen in the Trimble Access software.

## Trimble Access YouTube channel

The Trimble Access YouTube channel provides a large number of videos highlighting useful software features. Watch videos on recently added features or take a look at one of the playlists to explore a specific area of the software.

We post new videos regularly, so make sure to click **Subscribe** on the Trimble Access YouTube channel page to get notified when new videos are available.

# Trimble Access Apps

The Trimble Access software suite offers surveyors and geospatial professionals a range of specialized field applications designed to make fieldwork easier. With an easy-to-use interface, optimized workflows, and real-time data synchronization, the Trimble Access software suite enables you to accomplish more every day. Improve your competitive edge by selecting the applications that best suit the work that you do.

## Trimble Access apps supported on Windows devices

The following Trimble Access apps are supported when running this version of Trimble Access on a [supported Windows device](#):

- Roads
- Tunnels
- Mines

- Land Seismic
- Pipelines
- Power Line
- Katastermodul Deutschland
- Monitoring
- AutoResection
- BathySurvey

**NOTE** – Changes to the Trimble Access apps that are supported can change after release. For up to date details, or details on apps supported with previous versions of Trimble Access, see [Trimble Access App availability](#).

### Trimble Access apps supported on Android devices

The following Trimble apps are supported when running this version of Trimble Access on a [supported Android device](#):

- Roads
- Tunnels
- Mines
- Pipelines
- Power Line
- Katastermodul Deutschland
- Monitoring
- AutoResection
- AllNAV Rounds

**NOTE** – Changes to the Trimble Access apps that are supported can change after release. For up to date details, or details on apps supported with previous versions of Trimble Access, see [Trimble Access App availability](#).

### Legal information

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