

# Trimble SiteVision

## Software Version 1.10

This document contains summary information on new features, product information, updates, and additional troubleshooting tips not covered in the Trimble® SiteVision™ user documentation.

The content that follows is organized into the following sections:

- Introduction
- Recommended Devices
- Software Download and Installation
- New features and changes
- General Improvements
- Known Issues

### Introduction

The Trimble SiteVision team is pleased to announce that version 1.10 of Trimble SiteVision Software is now available. These release notes describe the features and enhancements that are new in version 1.10 of Trimble SiteVision Software, Trimble SiteVision AR Exporter for Trimble Business Center, and The Trimble SiteVision Visualization Manager. For further support information, go to <https://sitevision.trimble.com/support/>.

### Recommended Devices

Trimble SiteVision runs on mobile devices, smaller than 8", supporting Google Play Services for ARCore and a minimum Android™ Operating System Version 9.0. New Android mobile phones added to the [recommended and supported mobile phones](#) for v1.10 include:

Trimble Recommended:

- Samsung S10 5G

Trimble Supported:

- Sony Xperia 1
- Sony Xperia 5
- OnePlus 7 Pro

Please note:

- Recommended devices have been tested and verified by the Trimble SiteVision Team.

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- Supported devices, have their camera offsets pre-populated in the SiteVision Application and have not been through the same quality assurance testing as the Trimble recommended devices.
- For more information on mobile phones refer to the Trimble SiteVision [Blog](#).

# Download and Installation

## Trimble SiteVision Software

The Trimble SiteVision application will be automatically updated to the latest SiteVision software if auto-updates for the application has been enabled on the Google Play Store.

## Trimble SiteVision AR Exporter for Trimble Business Center

The Trimble SiteVision AR Exporter for Trimble Business Center is available in versions 5.10 or later. You can obtain the latest version of the SiteVision AR Exporter using the *Check for Updates* tool on the TBC Start Page.

## Trimble SiteVision AR Exporter for Trimble SketchUp

The Trimble SiteVision AR Exporter for SketchUp is available for Trimble SketchUp Pro 2018/2019 (Desktop) users. The extension has been developed to facilitate the automatic placement of 3D models designed in SketchUp alongside a Trimble Site Calibration file.

To download the extension visit the [SketchUp Extension Warehouse](#), or via the SiteVision [website](#). Click the .rbz file on your computer to start the installation process and follow the instructions on screen.

## Trimble SiteVision Visualization Manager

The Trimble SiteVision Visualization Manager is a Windows Desktop application, and complementary tool that is used as part of the data preparation process for the Trimble SiteVision Mobile Application. The tool generates user defined content for improved visualization and management of data in SiteVision.

To download the Trimble SiteVision Visualization Manager (Windows only) go to: <https://sitevision.trimble.com/support/> and under *Popular Links* you will find the Trimble SiteVision Visualization Manager. Click the icon to download, and follow the instructions on screen to install the program.

Note: Sample rules files are available for download from the SiteVision website. For guidance on how to use the Visualization Manager see the SiteVision User Guide.

# New features and changes

## Trimble SiteVision Software

### Ability to use SiteVision without Internet Connectivity

Users can log in and use SiteVision without an internet connection. This has been introduced to improve system robustness and enable users to work in areas where internet connection is limited/unreliable.

In order to use this workflow, users must be aware of the following:

- The positioning will not be accurate, as you will not have VRS corrections, and be operating in RTX (corrections via satellite).
- Models must be downloaded from Trimble Connect using the “On Device Workflow” detailed below.
- Todos cannot be created or saved, and measured data cannot be synced to Trimble Connect in real time. This data will be stored on the device, and be available to sync to Trimble Connect once a reliable internet connection is available.
- A prior active log in to SiteVision on the mobile device is required (i.e. not logged out of SiteVision on the mobile device).
- There is a time limit of being offline for up to 30 days depending on license expiration.

### On Device Workflow

Users can now download models from Trimble Connect, via the SiteVision application, and store them on your mobile phone, under the Trimble Connect Project Name. This supports a workflow for users operating in areas with poor cellular connectivity, as well as the additional benefits of not using cellular data for model download and better performance of the model in the SiteVision application.

Associated updates to the user interface include an extended Load Model Menu:



Please note:

- Downloaded models are stored under the Trimble Connect Project Name, folder hierarchy is not downloaded to enable easier navigation and visibility on what data is available on the device.

- We do not support a “drag and drop” workflow directly onto a mobile device. All downloads must be via the SiteVision application.
- On device models will not be updated if there are updates/changes to the model in Trimble Connect. If there is an update to a model in Trimble Connect, this model will need to be downloaded to the device again.
- Downloaded data models can only be visualized by the signed in user.

### **Placing Pit View using EDM**

When using Pit View, the integrated EDM will be used to place the Pit accurately at ground level. If the EDM is not available, or unable to take a measurement, the Pit will be placed 1.5m below the device. This improvement provides a user more accurate depth information, as indicated by the lines within the Pit, in relation to the real-world ground surface.

### **Coordinate Systems and Geoids**

Expanded coordinate system support:

- The Coordinate System Definition (CSD.xml) downloaded as part of SiteVision will auto update when new versions of the CSD.xml are released by Trimble.

Geoids:

- Improved display of the geoid that the data model is using. Geoid information is now displayed in the model information window, accessed via selecting the “i” beside the model name when the menu is open.
- Updated error messages for unsupported or missing geoid files.

### **Management and Support of Esri Data**

Users will receive an in app notification when there are multiple EPSG codes associated with the data model (e.g. horizontal and vertical).

If an EPSG code is not supported by the Coordinate System Definition (CSD), Trimble Coordinate System library, or EPSG.io, there will be a notification and the data model placed close to your current location.

Unit conversion is applied in the following order: Definition per CSD, EPSG.io, then SiteVision application settings.

### **Measurement Mode User Interface**

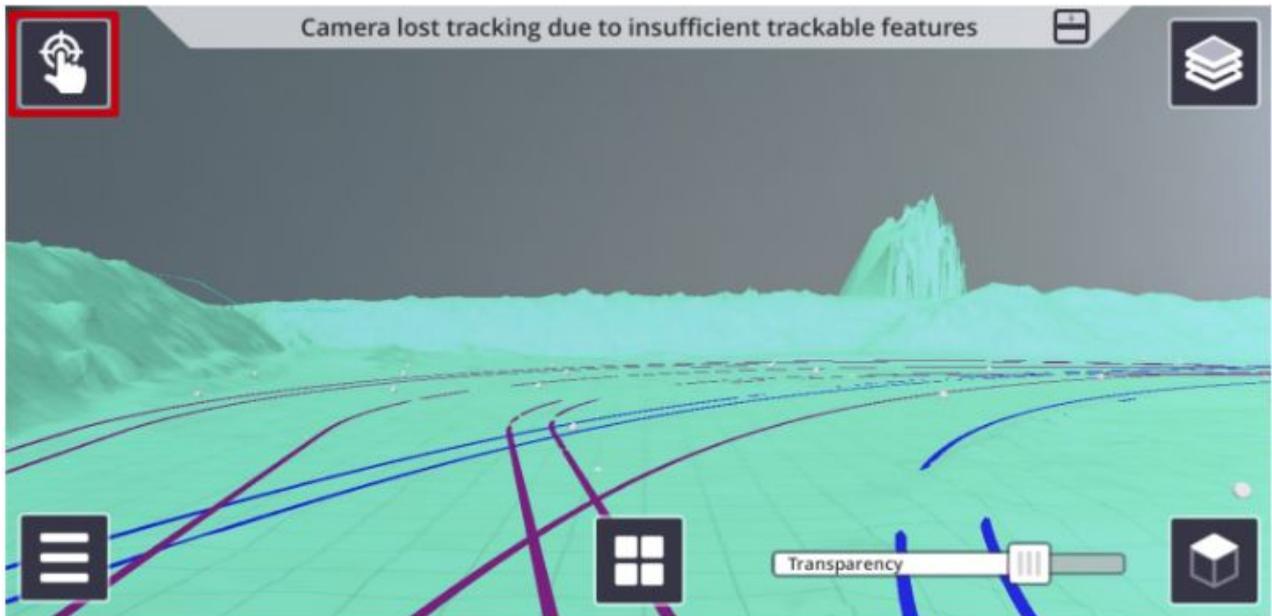
Changes have been made to the user interface for the measurement modes (GNSS, EDM and AR) when using the supported measurement applications. These changes are to make the colours for each mode clear and prominent to the end user.

### **2D View**

When using 2D view, it is now possible to view model attributes and display control point names. When using 2D view to navigate, the user’s current location and orientation will also be displayed.

### **Manual Placement**

Indication to user when in Manual Placement mode (in place of the GNSS and orientation icons).



Improved gesture support for improved positioning of data model:

- Twist gesture
- Pinch and zoom
- Zoom to extents on start up

### Measured Placement

Improvements to the order of the steps for the measured placement workflow, and the ability to snap to control points. The changes make it more consistent with other Trimble calibration procedures in survey and construction field software.

### Trimble SiteVision Visualization Manager

The Trimble SiteVision Visualization Manager is a Windows Desktop application, and a complementary tool that is used as part of the data preparation process for the Trimble SiteVision Mobile Application. The tool generates user defined content for improved visualization e.g. converting 2D data into 3D models with symbology, and management of data in SiteVision.

The tool will read a data file, provided by a user, and within the tool allows the user to assign shapes, symbols, and colours to certain components of the data. For example, a simple, white, 2D line called "Stormwater" can be converted into a 3D Pipe of the correct diameter, and that is blue. If the data contains a lot of information such as attributes or layers, the user can also use the tool to manage layers (turn them on and off), as well as organizing attributes for better viewing in SiteVision.

The Visualization Manager is ideal for use with GIS and utilities data (SHP, GDB, TMAPS) but other functionalities such as attribute and layer management are useful for users of other supported data formats.

### Trimble SiteVision AR Exporter for Trimble Business Center

The Trimble SiteVision AR Exporter for Trimble Business Center is available in versions 5.10 or later. Latest updates include support for objects created in the utilities module, and support for material colours.

# General Improvements

## Updated User Guide

New sections added to the User Guide outlining the process for creating a Trimble SiteVision calibration file, and common data preparation workflows for Architects and Landscape Architects, Civil Engineers and Contractors, and GIS Professionals.

Please note: The Data Preparation section of the User Guide is available online only, and not via the SiteVision application.

## Pit View

We have significantly improved the management of data when using Pit View.

Improvements include:

- Better alignment of data outside of the Pit
- Easier selection of attributes outside of the Pit
- Ability to measure using AR to data outside of the Pit
- Clean transition between shapes/modes of Pit View.
- Support for symbology

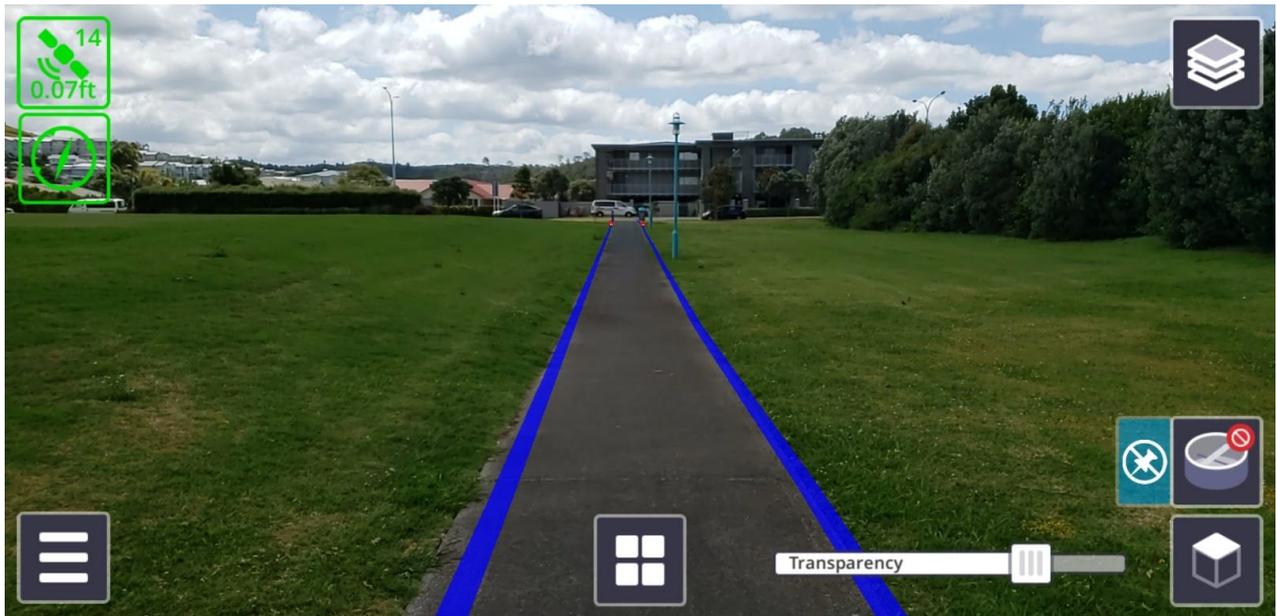
## Positioning and Orientation

Improvements to the orientation accuracy indicator, where an in app notification will warn the user of inconsistencies with Google Play Services for AR (formerly ARCore) and reset the orientation to red. It is also possible for the user to reset the orientation manually as well, by selecting the orientation icon - this is useful for long sessions and when the AR Services start to degrade. Improvements have also been made to compensate for tilt error, when visualizing long datasets, to improve the horizontal alignment of the data with the real world. The results and performance of this is dependent on the type of phone being used.

Example without Tilt Correction:



Example with Tilt Correction:



## General System Improvements

- Improved speed of browsing within Trimble Connect
- Warning if Catalyst Service is configured to be optimised
- Data built and rendered more efficiently
- Latest version of Google Play Services for AR
- EDM connectivity and measurement responses are more reliable

## Bug Fixes

Here are the list of the major bugs fixed in the v1.10 release:

- Downloading of .DGF files from CoreX to support grif datum transformations (snake grids)
- Downloading large geoid files was locking/freezing the application UI
- Download button was not always downloading the supporting files. Note: Geoids associated with the model or calibration file (JXL, DC, CAL) are not downloaded via this workflow.
- UI rendering would get scrambled when using both the cross-section and distance sliders
- TTM and draping of images: Textures were tiling on a TTM surface if the image was smaller than the TTM surface.

## Known Issues

Listed below are the main known issues to be aware of.

### Tilt error in phone can cause vertical errors in EDM measurements when Pit View on

- The tilt error on the phone, which is associated with Google Play Services for AR, can introduce errors to the measurements taken with the EDM when the Pit View is on. The error is dependent on if there is a tilt error in Google Play Services for AR for a given session of SiteVision, and can vary between types of mobile phones being used with SiteVision. The error affects vertical measurements (calculated elevation) of the measured point, and the error will be greater for

measurements taken at a distance. If vertical measurements are important, it is recommended that Pit View is turned off when using the EDM, or the GNSS measurement method is used.

**AR Measurements to Shapefiles (.SHP) and Geodatabase (.GDB) calculates to centre of pipe/line**

- When using the AR measurement method while viewing a Shapefile or Geodatabase, all measurements are calculated to the centre of the pipe, or line, not to the rendered surface displayed in 3D. For example, when taking measurements to pipes underground, the elevation value displayed will be to the center of the pipe, not the top or edge of the pipe, resulting in a greater depth value than where the top of the pipe is. This is likely to be seen by users who have applied rules and symbology to their .SHP/.GDB dataset to convert 2D data into 3D objects.

**AR Measurements to objects outside of PitView calculated to draped location**

- When taking AR measurements to objects outside of the Pit View, measurements will be taken to the draped/ground location, not the true in-ground location of the pipe.