Trimble Business Center

Release Notes

Version 5.32

TRANSFORMING THE WAY THE WORLD WORKS

Welcome to Trimble Business Center 5.32

Trimble Business Center (TBC) provides a complete office software solution for survey and construction professionals. Having the ability to work in a single software environment streamlines operational efficiency while minimizing the costs of data management, software maintenance, and training.

This version of TBC includes numerous enhancements. See "New features" for more information.

Installing or updating

For installation or update instructions, see the appropriate bullet below.

> *Note:*
> Trimble Business Center (TBC) licensing information is contained in a Sentinel HASP hardware or software key connected to or installed on your computer. If no key has been connected or installed, TBC allows you to import and view data only (excluding data collected with Trimble-branded Mobile Mapping hardware, which requires an appropriate license). It does not allow you to use any licensed features. To view your license after installation is complete, select Support > License > License Manager. For a description of the features available in each licensed configuration, see "Licensed Features" in the online Help.

> *Warning!*
> When installing Trimble Business Center and various support applications (for example, Microsoft DirectX and Windows Mobile Device Center), you may be prompted to reboot your system multiple times to ensure the proper installation of these applications. To prevent the possibility of lost or corrupted data, it is highly recommended that you save all files and close all other applications prior to performing this installation.

- **New users installing TBC to use with a single-user license:**

  a. Before you insert the new Sentinel HASP hardware key you received in your installation package, install TBC from the TBC installation package downloaded from the Trimble website.

  b. Before running TBC for the first time, insert the new Sentinel HASP hardware key into an available USB port on your computer.

     All licensed features will be available when you run TBC. Your 1-year warranty begins the first time you open the software.

- **Existing users installing this version of TBC:**

  Install TBC from the installation package downloaded from the Trimble website.

> *Important Note!* This version is available to users whose current warranty expiration date is **1 April 2020 or later**. If your warranty expires prior to this date and you proceed with the installation, licensed features will not be available. Contact your distributor to purchase a warranty extension. In the TBC ribbon, select Support > License Manager to verify your warranty expiration date.

New users installing TBC to use with a multi-user license installed on a network:

▪ Ensure your computer can connect to the network server where the HASP multi-user network license is installed. When you run the software after installation is complete, it will automatically search the network to locate the license.

▪ Ensure no HASP hardware key is connected to your computer during installation.

▪ See your administrator for more information.

Note to Administrators: For instructions on installing a HASP network key (multi-user license) and viewing and managing license information, in the TBC ribbon, select Support > License > License Manager. Then, in the License Manager dialog, select the Network Licensing Read Me link.

New features

Following are the new features included in this version of Trimble Business Center. The features are organized by their related ribbon tabs. To view context-sensitive help at any time while using TBC, press F1.

Survey

▪ **CDDIS FTP update** - The current Internet download service CDDIS FTP, which is accessible when using the Internet Download command, will be obsolete on Oct 31. Because the newly updated FTP site is available now, TBC v5.32 links to the new site. This ensures that you will have uninterrupted access to this service, and no changes are required on your part. For additional information, visit the CDDIS website at https://cddis.nasa.gov.

Resolved issues

The following issues **have been fixed** in this version of TBC:

▪ You could not create or edit corridor superelevations because the Alignment Editor's Superelevation tab was disabled.

▪ TIFF (.tif) image files were blank when imported into TBC.

▪ It took an unexpectedly long time to calculate a corridor mass haul analysis (cross-sections were being computed more than once).

- You received an error ("Attempted to perform an unauthorized operation") when trying to download IGS orbit results.

- Alignment graphics were not being refreshed when you moved an alignment (dots at the ends of line segments remained visible in the Plan View).

- Line marking graphics were not being refreshed when you made changes, e.g., when you deleted a linestring's vertical points of intersection (VPIs), the markers remained.

- When you ran a Scan Refinement Report, percentages in the Overlap % column were multiplied by 100; the decimal point was in the wrong position.

- You encountered an exception error when:

  - Trying to access Project Settings > Units > (various settings).

  - Trying to print large images (e.g., 2 GB). Also, the image did not display.

  - Trying to display raster images in a dynaview.

  - Trying to import RealWorks Scan Data Exchange (.tdx) files with all colorization boxes checked.

  - Trying to import CORS data that you downloaded via Internet Download. The import also crashed the program.

Known issues

See "Known Issues" in the TBC Help for a complete list of known issues associated with the software and related utilities, along with possible workarounds.

Miscellaneous notes

- **TBC floating tool panes "disappear"** - If you are running TBC using two monitors at different resolutions and you move a TBC floating tool pane (for example, Layer Manager) from one monitor to another, it is possible for the pane to "disappear" (that is, it no longer displays on either monitor even if you close all other open windows). When this occurs, you can re-display the pane by holding the Shift key and clicking the associated command icon in the TBC ribbon.

- **Windows 7 no longer supported** - On January 14, 2020, Microsoft officially ended its support for the Windows 7 desktop operating system, which could leave computers vulnerable to cyber attacks or dangerous software bugs. In accordance, TBC v5.21 and later is not supported on computers running the Windows 7 operating system.

- **Ignore unknown satellites in baseline processing** - If an "unknown" satellite (that is, a satellite that is not listed in Project Settings > Baseline Processing > Satellites) is imported into a project from raw data files, TBC automatically sets the satellite's baseline processing status to "ignore" so it is not included in the processing (just as if you had unchecked it in Project Settings had it appeared there).

- **New prism height measurement method for Trimble SX10** - Prior to TBC v5.20, typical measurement methods for Trimble prisms designed for traversing with S-series total stations included "True vertical", "Bottom notch", "Bottom of V10", "Lever of V10 extension", etc. For TBC v5.20, the prism measurement method "Bottom notch" has been renamed "S notch" (same as the prior "Bottom notch"), and a new "SX notch" measurement method has been added that provides the same horizontal and vertical offsets as the bottom notch on the SX10. Other prism measurement methods have not been changed.

- **Mobile Mapping Windows display** - When processing Mobile Mapping data, it is recommended that your Window's display scale and layout not exceed 100%.

- **Disabling a laptop integrated graphics card** - If you are using a laptop computer with both an integrated (on-board) graphics card (for example, Intel®) and a discrete graphics card (for example, NVIDIA®) enabled, TBC may freeze when you are working with point clouds. To avoid this problem, you must select to disable the integrated graphics card and use only the discrete graphics card when working with scan registration. Follow these steps:

    a. Open your Windows Control Panel, select BitLocker Drive Encryption, and select to suspend protection - if it is turned on. This is required to make the BIOS change required to disable the integrated graphics card.

    b. Restart your laptop computer and select to enter the BIOS setup utility as soon as the first image displays (prior to Windows launching) by pressing the appropriate shortcut key (for example, F1, F2, F10, ESC, or DEL). The BIOS shortcut is typically displayed briefly on the screen during startup.

    c. Once in the BIOS setup utility, navigate to the location of the graphics card control and use the appropriate method to disable the integrated graphics card. The method for doing this will vary depending on the BIOS setup utility. You can search the Internet for specific instructions.

    For example, for a Dell® laptop implementing NVidia Optimus™ technology, you would select Settings > Video > Switchable Graphics in the BIOS setup utility, and then uncheck the Enable Switchable Graphics check box.

    d. Save changes and exit the BIOS setup utility to continue computer startup.

    e. If BitLocker Drive Encryption was suspended, turn it back on.

    Additional notes:

    - Your laptop computer consumes more power when using the discrete graphics card exclusively. If it is running in battery mode, you should re-enable the integrated graphic card when you are done working with scan registration.

- Do not use Device Manager to disable the integrated graphics card. Device Manager disables the card just for Windows, not for the entire motherboard, causing the integrated graphics card to still load first.

- Some laptops do not allow you to disable the integrated graphics card.

- **ArcGIS versions and Windows operating systems** - When using TBC to connect or write data to an ArcGIS Enterprise Geodatabase provider, see your ArcGIS user documentation to determine which versions of the ArcGIS products are supported on the various versions of the Windows operating system.

- **OpenCL Runtime driver** - OpenCL Runtime is a graphics accelerator driver required when TBC is performing automatic tie point matching or dense point cloud creation. If the driver is not installed, an error message is displayed indicating OpenCL Runtime cannot be found. In this case, you must download OpenCL Runtime from https://software.intel.com/en-us/articles/opencl-drivers#phiwin and install it on your computer using the instructions provided.

- **VCE compatibility** - As a general rule, you cannot open a VCE project file created in a newer version of TBC in an older version of TBC.

- **Windows 8 users** – Some components in TBC require Microsoft .NET Framework 3.5 to operate. If the .NET Framework 3.5 is not installed, you are prompted to install it when you install TBC. If your computer is connected to a domain that does not allow you to directly connect to Windows Updates on the Internet to enable and install .NET 3.5, you may need to change your group policy settings. See your system administrator for assistance.

    For more information, see http://technet.microsoft.com/en-us/library/dn482065.aspx

- **TabletSync transfers -** If you use TabletSync to transfer large files (for example, panoramas) into TBC, it can take a long time for the upload to complete. As an alternative, you can shorten the transfer time by copying the files from the tablet onto a USB memory stick and copying the files from the stick into TBC.

- **Proxy server settings** - If you receive an error when trying to access an external server to process data, you may need to specify a proxy server for your LAN using Internet Properties > Connections > LAN settings > Proxy Server.

System requirements

Operating system:	Microsoft Windows® 10 (64-bit version)
	Microsoft Windows 8 (64-bit version)
	Note: Starting with TBC v5.21, Microsoft Windows 7 is no longer supported.

Processor:	Dual-core 1.80 GHz or better recommended
	Quad-core 2.80 GHz or better (additional cores with hyper-threading support highly recommended for Aerial Photogrammetry, Mobile Mapping, and Scanning modules)
	Important! Because components of TBC make use of Intel-only multi-thread processing, ***AMD Ryzen processors are not supported***.
Random access memory (RAM):	4 GB or more recommended
	32 GB or more recommended for Aerial Photogrammetry, Mobile Mapping, and Scanning modules
Hard disk space available:	10 GB or more recommended
	100 GB or more on solid-state drive required for Aerial Photogrammetry, Mobile Mapping, and Scanning modules
	The recommended SSD overall hard drive capacity is 500GB or more for Aerial Photogrammetry, Mobile Mapping, and Scanning modules
Monitor:	1280 x 1024 or higher resolution with 256 or more colors (at 96 DPI)
I/O Ports:	USB 2.0 port required if HASP hardware key is used

Graphics:	DirectX 11 compatible graphics card with 512 MB memory or more
	OpenGL version 3.2 or later required when working with point cloud data (latest version recommended)
	8 GB graphics card or higher (for example, NVIDIA Quadro P4000) required when working with Aerial Photogrammetry, Mobile Mapping, and Scanning modules
	Note: If you are using a laptop computer with both an integrated (on-board) graphics card and a discrete NVIDIA graphics card enabled via Optimus technology, your computer must allow you to select to disable the integrated graphics card and use only the discreet graphics card when working with point cloud data. See "Disabling a laptop integrated graphics card" in the "Miscellaneous notes" section earlier in this document.

Important!
It is critical that you keep your graphics driver(s) updated if you are working with point cloud data.
Whether your computer has one or multiple graphics cards installed, you must ensure each has been updated with the latest driver provided by the card's manufacturer. The best way to determine if your driver needs to be updated and, if so, perform the update is to visit the card manufacturer's website. For more information, see "Update and Configure Your Graphics/Video Driver" in the online Help.
(If, instead, you decide to update your driver using the Windows Device Manager and the "Search automatically" option, the program may suggest using a Microsoft-approved WHQL version of the driver. However, to ensure you have the latest bug fixes and new features for your graphics card, it is recommended that you use the latest manufacturer version instead.)