

# TRIMBLE BUSINESS CENTER

## Release Notes

Version 3.61

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# Welcome to Trimble Business Center

Trimble® Business Center office software is ideal for working with all types of geospatial data. The software provides numerous innovative and powerful features, and it is easy to learn and use.

## Installing or updating

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

**Notes:**

- 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. It does not allow you to use any licensed features. To view your license after installation is complete, select View License Manager on the Start Page. For a description of the features available in each licensed configuration, see "Licensed Features" in the online Help.

- After installation, be sure to select Check for Updates on the Start Page to ensure you have the latest updates for Trimble Business Center.

▪ **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 November 2015 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. On the Start page, select View License Manager to verify your warranty expiration date.

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

- a. Ensure the following:
  - Your computer can connect to the network server where the Sentinel HASP multi-user network license is installed.
  - There are no Sentinel HASP hardware keys connected to your computer.
- b. Install TBC from the TBC installation package downloaded from the Trimble website.
- c. Run TBC.

The software automatically searches the network for a Sentinel HASP network key. If a Sentinel HASP network key is found and the multi-user license limit has not been exceeded, the license is available for use and all licensed features in TBC are available. If a Sentinel HASP network key is not found or the multi-user license limit has been exceeded, licensed features are not available and an appropriate message is displayed when you attempt to use them.

Optionally, you can verify whether or not you have access to the multi-user license by selecting View License Manager on the Start Page. For more information on using the License Manager dialog, press F1 with the dialog open.

Note that each time you run TBC, the software will need to automatically access the multi-user license installed on the network.

**Note to Administrators:** For instructions on installing a Sentinel HASP network key (multi-user license) and viewing and managing license information, select Network Licensing Read Me on the Tools menu on the TBC Installation DVD.

## New features

Following are the new features included in the various licensing options for this version of Trimble Business Center. See "Licensed Features" in the online Help to help determine which of these new features are available with your license.

### GIS module

Geographic Information System (GIS) data sources, such as geodatabases, shapefiles, and GIS feature services, are used by many users as their main system of record. TBC allows you to quickly connect to a GIS data source and download a GIS schema (feature definitions), use the schema to create a Feature Definition Library (FXL) file that can be used in Trimble Access to collect feature data, process feature data collected in the field using the FXL file, and upload the processed feature data back into the same GIS data source. Using ESPG ID and WKT mapping, TBC performs necessary coordinate system transformations when possible and provides feedback on the process.

**Note:** To connect to and use Esri geodatabases, you must have a valid ArcGIS for Desktop (ArcMap) license or ArcGIS Engine license with an edition level appropriate for functionality required. (For example, to store media files as attachments, you will need the Standard or Advanced edition of ArcGIS for Desktop.)

The GIS feature set includes the following new commands:

- **GIS Connection Manager** - Use this command to establish a connection to a selected GIS data source (Esri Enterprise and File Geodatabase as well as Shapefile data provider). One or more GIS data connection instances can be stored in the VCE project, allowing them to be reused when required and/or shared through project templates. (See Connect to a GIS Data Source in the help.)
- **Get GIS Schema** - Retrieve feature definitions from a GIS data source by extracting its schema into a feature definition library (.fxl file) that can be further reviewed and edited in the Feature Definition Manager. The .fxl file can then be downloaded to field devices for data collection, ensuring that the user collects feature attributes matching the schema. (See Download a GIS Schema and Create an FXL File in the help.)

- **Write Features to GIS** - Use this command to upload (sync) all or selected features (including images) that are related to a selected feature group (GIS schema) to a GIS data source referenced by a selected GIS data connection. View a report showing the results of the upload. (See Upload Processed Features to a GIS Data Source in the help.)
- **Import/export Esri file geodatabases** - If you prefer to use a more file-based exchange over communication via a live GIS connection, you can use the file geodatabase format to import and export shapefiles and Esri file geodatabases to and from TBC.

## Data review and editing

- **Multiple record definitions for custom leveling importers** - When you use the Custom Importer to create an importer for leveling data, you can specify that the import file includes multiple record types; each record type is identified by a field code in the record. This enables you to import non-uniform level data files from non-Trimble level instruments and reuse importers that you may have created for other level adjustment applications such as STAR\*NET. (See Import Level Data Using a Custom Importer in the help.)

## Feature coding and attribution

- **New Layer Editor** - Create/edit/delete and import/export layers in TBC and Feature Definition Manager using the new Layer Manager, which combines all layer editing features in one easy-to-use dialog. This allows you more flexibility in editing and removing layers in Feature Definition Manager as well as provide a more comprehensive view of all of your project layers. (See Manage Layers in the help.)
- **Add symbol for list attribute** - In Feature Definition Manager, add a symbol for a list attribute so that, based on the list attribute specified for a feature, the symbol displays in TBC after feature processing. That is useful when you have, for example, tree features that can have list attributes (conifer, deciduous, oak, and so on) and you want the symbol to change based on the list attribute. (See the Feature Definition Manager help.)
- **Assign layers and labels to points in line and polygon features** - In Feature Definition Manager, assign layers and labels to points used for line and polygon features, allowing you to control the labeling and layers of points that are coded as part of line and polygon features. (See the Feature Definition Manager help.)
- **Feature codes are preserved when feature lines are deleted** - When you delete a line feature from your project, the line feature codes remain on the associated points and will be used to recreate the line if you reprocess feature codes.

## Survey computations and COGO

- **Streamlined exchange of coordinate systems using EPSG ID** - Import/export Trimble coordinate systems from/to third-party software (for example, GIS data sources) using EPSG (European Petroleum Survey Group) IDs or OGC WKT (Open Geospatial Consortium Well Known Text) strings. EPSG IDs are stored in the Coordinate System Manager database and are displayed as properties for each coordinate system, datum, ellipsoid, and geoid model.
- **Automatic update of Coordinate System Manager** - Installing TBC automatically supplies the latest data to the Coordinate System Manager. Previously, it had to be updated by selecting it after installing TBC.

- **New coordinate systems added to Coordinate System Manager** - The Coordinate System Manager now includes the following new coordinate systems:
  - IA County (Iowa, USA)
  - IN County (Indiana, USA)
- **VRS processing mode** – In TBC, you can specify that an imported raw GNSS data file be processed as a VRS (Virtual Reference System) reference station. VRS enables RTK corrections over a large geographic area where robust cellular data coverage is available.
- **Export Applanix SmartBase files** - Immediately after importing GNSS points contained in one or more raw data files, you can export all or some of those points to a single Applanix SmartBase file (.asb) that can be uploaded to the Applanix SmartBase Cloud service. The Applanix SmartBase Cloud Service then uses the data to deliver a virtual base station in the center of the surveyed area that covers the entire time duration of all the selected GNSS points. The virtual base data can then be imported into TBC for post-processing. (See Export Applanix SmartBase Files in the help.)

## CAD and drafting

- **Group layers** – Use the Layer Manager command to assign layers into groups that appear in the View Filter Manager. (See Manage Layer Groups in the help.)
- **Enhancements to CAD grips** - For polyline, linestring, polygon, and line entities, you can move the entire entity by selecting an endpoint grip and moving it with the Ctrl key pressed. For polyline entities, you can double-click on a segment grip and change the segment type from a line to an arc, and vice versa. (See Move and Modify CAD Objects Using Grips in the help.)
- **Benefit from the latest Teigha® version** (support for CAD data) - Teigha 4.0.1 is now supported:
  - Better import of .dgn files
  - Better rendering of .dwg and .dgn files
  - Implementation of associative arrays and recalculation of associative dimensions
- **Include profile tables on alignment profile sheets** – The editor for creating profile sheets now includes settings you can use to include a table of the profile's station, elevation, and other values, such as grade or cross-slope. This is a format for plotting alignment profile data that is commonly used in Europe. (See Profile Sheet Set Options in the help.)

## Terrestrial photogrammetry

- **Improved workflow for photo station adjustments when compass is inaccurate** – TBC has been enhanced to support a quick and simple manual photo station adjustment that will typically ensure a successful automatic adjustment regardless of inaccuracies in the compass readings. (See Adjust Terrestrial Photo Stations in the help.)
- **Adjust photo stations in a straight line** - TBC has been enhanced to compute a more robust and successful photo station adjustment when Trimble V10 imaging rovers are set up in a straight line in the field.

## Aerial photogrammetry

- **Trimble UX5 HP support** - TBC fully supports importing and processing data collected with the new Trimble UX5 HP, which includes an integrated GNSS receiver and high-resolution camera. (See Work with Aerial Photo Stations in the help.)
- **UAS engine enhancements** - The UAS engine (used to process aerial survey data) has been significantly improved and is more robust with capability to handle more challenging datasets. It includes the following enhancements:
  - Now uses approximate 3D technology, making the engine less dependent on the given rotation. This results in better correction of ( $\kappa$ ) heading direction.
  - Accuracy for RTK is now fixed at 5 cm.
  - Can eliminate isolated GNSS blunders (although it is not able to detect blocks of GNSS blunders).
  - Supports GNSS corrections.
  - The new UAS Adjustment Report includes more information and graphics, making it a helpful reference tool when communicating with Customer Support.
- **Export a flight mission** - Export a flight mission's adjusted trajectory data that can be imported into Inpho UASMaster. For each image included in the flight mission, the exported file includes the camera's position, roll, pitch, and yaw, along with the GNSS event time. (See Export Flight Mission Files in the help.)
- **Process UAS data using a southwest-oriented coordinate system** – Users in South Africa and other countries using a southwest-oriented coordinate system can now process UX5 data and generate UAS deliverables.

## Machine data

- **Prepare data for the latest PCS900 version** – You can now export field data files to PCS900 versions 2.1 and 2.2 using either the Field Data workflow or the manual Machine Job Site Design exporter. (See SCS, GCS, and PCS Functional Compatibility Chart and Workflow for Managing Data for GCS in the help.)

**Note:** If you want to include a coordinate system in your export, you must use either the manual exporter or select v2.1 in the field data workflow; there is no coordinate system support for PCS 2.20 in the Field Data workflow in this version.

## Usability and performance

- **Set a reminder to save your project** - Use the Save Project Reminder setting in Options > Project Management to set a timed reminder that prompts you to save your project. When enabled, the Save Project dialog appears at an interval you specify. (See Set a Reminder to Save Your Project in the help.)

## Resolved issues

Following are issues that have been fixed in this version of TBC:

- If your project included a closed line feature with offsets, the offset lines did not connect correctly at the end/start point.

## Known issues

Following are known issues in this version of TBC:

- A rendering issue may cause an irregular dark pattern to display in a top view of a point cloud created from a surface.
- The mouse cursor leaves a "trail" image when it is moved in the Plan View. If you pan or zoom out, the trail no longer displays.

## Miscellaneous notes

- **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.
- **Know issue with HASP license key and Intel C602 chipset** - The HASP license key required to run TBC is not compatible with the Intel C602 chipset used in some server/workstation environments. The use of the HASP license key in combination with the C602 chipset will cause the application to crash.
- **SitePulse** - SitePulse has not been updated to support the newer VCL format created in this version of TBC. If you are using SitePulse, do not upgrade until you have installed an updated version of SitePulse.
- **VCE compatibility** - You cannot open a VCE project file created with this new version of TBC in an older version of TBC.
- **Tutorials PDF** - If you click the Tutorials link on the Start page and receive a message indicating the required Adobe Flash Player is not installed on your computer, the link to the installation page contained in the message may not work correctly. Go to <http://helpx.adobe.com/acrobat/kb/reader-acrobat-flash-player-download.html> to download and install the Flash Player.
- **Windows 10 users** - When you create an HTML-based report, the links in the report to objects in TBC do not work.
- **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>

- **Windows XP users** – Some components in TBC require Microsoft .NET Framework 4.5, which is not supported by the Windows XP operating system. To run this version of TBC, you must install a different operating system. See "System requirements" for complete operating system requirements.

- **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.
- **TSPX file format** - TBC no longer supports the creation of TSPX (.tsp) files used to open TBC project data in Trimble RealWorks. As a workaround, you can export whole point clouds (not scans) to an .e57 or .las file format, which can be imported into RealWorks. You can export other types of data to an appropriate format (for example, points to .jxl, linework to .dxf, and images to .jpg) that also can be imported into RealWorks.
- **3D PDF** – The Create 3D PDF command causes texturized surfaces (that is, a surface to which a texture image has been added) to display as black in the PDF Reader when the surface shading is set to something other than “by elevation.” To avoid this problem, select “Shading: by elevation” in the surface Properties pane for any texturized surface before creating a 3D PDF.
- **Known issue with KMZ panoramas** - KMZ (.kmz) panorama files created in TBC do not display in Google Earth version 7.0 and later. For them to display correctly, it is recommended that you use an earlier version of Google Earth. Or, use the option to generate Google Earth KML Powered by InSphere.
- **Proxy server settings** - If you receive an error when trying to access an external server to process data (for example, export KML graphic files to Trimble InSphere for use in panoramas displayed in Google Earth), 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) Microsoft Windows 7 (64-bit version with Service Pack 1)
Processor:	Dual-core 1.80 GHz or better recommended
Random access memory (RAM):	2 GB or more recommended
Hard disk space available:	5 GB or more recommended
Graphics:	DirectX 9 (or higher) compatible graphics card with 512 MB memory or more  <i>Note:</i> To display point cloud data (if applicable), your graphics card must support OpenGL version 3.2 or newer.
Monitor:	1280 x 1024 or higher resolution with 256 or more colors (at 96 DPI)
I/O Ports:	USB 2.0 port