TRIMBLE BUSINESS CENTER

Release Notes

Version 3.50

www.trimble.com

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 April 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.

Data Prep module

Use the new Data Prep module to create high-accuracy surfaces for stakeout using Trimble Access or other Trimble positioning systems. Your data for these models may come in any number of formats: paper drawings that describe what to construct, files with 2D or 3D surveys or designs, or some combination of all three.

The Data Prep module includes the following new commands:

- **Georeference Vector PDF** - Geodetically position portable document file (PDF) pages containing vector data in the Plan View by correlating the position of specific vector data points with their known coordinates.

- **Import PDF File (Importer)** - Portable document files (PDFs) are the format created by Adobe Acrobat. PDFs essentially capture 2D documents as static pages that are uneditable when viewed in a PDF reader. Although PDF files can contain text, raster graphics, vector graphics, and interactive objects, TBC imports only raster graphics. Typically, PDF pages are imported to use as background images of a site in the Plan View. In order to see the PDF in the view, you need to georeference it.

- **Digitize Linestring** – Digitize a multi-segment line with one or more elevations by streaming points (adding points as you hold down the digitizer button and move the puck, and releasing the button at the end point). For simpler linestrings, you can simply pick individual points. (See Digitize a Linestring in the help.)

- **Digitize Pad** - Digitize a polyline representing a building pad at a constant elevation by streaming points (adding points as you hold down the button and move the cursor, and releasing the button at the end point). You can also pick each segment's start and end points to create a simpler polyline. (See Digitize a Pad Line in the help.)

- **Digitize Contour** - Digitize a series of multi-segment lines representing topographic contours at constant elevations by streaming points (adding points as you hold down the digitizer button and move the puck, and releasing the button at the end point). The contour polylines can be incrementally elevated automatically, based on a specified starting elevation, increment direction, and contour interval. (See Digitize Contour Lines in the help.)

- **Create Points from Spot Elevations** - Create 3D points from a variety of spot indicators types and their elevation text in preparation for using the Elevate Lines command.

- **Elevate Contour** - Elevate a series of 2D lines representing surface contours by clicking one line at a time. The lines are elevated based on a specified starting elevation, increment direction, and contour interval.

- **Elevate Contours by Crossing** - Quickly elevate a series of 2D lines or linestrings representing surface contour lines by drawing a line across them that applies a specified starting elevation, increment direction, and contour interval.

- **Elevate Contours by Label** - Automatically elevate selected lines using their nearest in-line elevation labels.

- **Elevate Lines** - Elevate lines using a variety of objects that either intersect or lay nearby them. The elevations of text labels and their leader lines, points, and intersecting lines can be used to elevate lines.

- **Elevate Pads** - Add elevations to closed 2D or zero-elevation polylines that represent building pads using elevation labels that lie inside the pad lines. You can also create and elevate lines offset from the original pad lines.

- **Project Cleanup** - Automatically clean up your project data by removing unneeded objects, converting CAD lines into linestrings, joining lines, setting elevations on objects, and more.

- **Standardize Layers** - Manually move imported objects from their source layers onto the appropriate standard layers that you use for every project.

Data review and editing

- **Review total station data in a spreadsheet-like view** - Review your total station observation using the new Total Station Editor, which enables a quick verification of field practices and data integrity. (See View and Edit Total Station Data in the help.)

- **Manually key in raw total station data** - Manually enter total station setups and observations with the Total Station Editor using same workflows as in Trimble Access. In addition to changing data imported from files, you can now key in new data from hand written notes or spreadsheets. (See View and Edit Total Station Data in the help.)

- **Trimble R8s receiver support** - Download and process data collected with the new Trimble R8s receiver.

- **Manually key in raw level data -** Manually enter and edit single-wire level data from a non-Trimble instrument. Get all of your historical and hand written levelling observations into a digital form and adjust together with other optical and GNSS data using Network Adjustment in TBC. (See Work with Keyed-In Level Data.)

- **Trimble S5/S7/S9 support** - Download and work with data coming from the new line of Trimble total stations.

- **Import annotated images** - Import from Trimble Access images with automatic annotations and manual annotations (scribbles) to provide more complete documentation in your project.

- **Import NIKON files** - Users of Nikon-based instruments (Nivo C Series – using Survey Basic, Nivo M Series, NPL-322, DTM-322, FOCUS 8 – using Survey Basic, FOCUS 6, Trimble M1) can drag-and-drop Nikon raw data files into TBC.

Feature coding and attribution

- **Automatic shapes from feature codes** - TBC can now process the following feature types to provide more accurately scaled and oriented symbol representation with less work:

  - Rectangular features (for example, utility boxes) collected using only three points or two points plus a width

  - Circular features (for example, manholes) collected using only one point plus a radius, two points, or three points

  (See Line Control Code Options in the Feature Definition Manager help.)

- **Copy and paste feature definitions** - In the Feature Definition Manager, you can now copy one or more feature definitions and paste them into the same or a different feature category where you can rename and modify them as necessary. This can save you time if you are creating new definitions that will use some or all of the attributes of an existing definition. (See the Feature Definition Manager help.)

- **Support for multiple feature control codes on a point** - You can now assign multiple linear features to the same point. For example, a single location can represent the beginning of a sidewalk and the end of the concrete pad.

Survey computations and COGO

- **Updated Baseline Processor** - Support GNSS independent constellation processes (PP/PPK), including Beidou only, GLONASS only, and Beidou + GLONASS only. Beidou + Glonass-only users can process baselines even when there is no GPS data, allowing them to work anywhere in the world staying compliant with local regulations. (See Process Baselines in the help.)

- **Two-point site calibration** - Perform a two-point site calibration and get exactly same results as in Trimble Access.

- **Point merging limit removed** - The 1,000 points-per-file limitation for the point merging algorithm has been removed from the following importers: DC, NGS, TDE, JobXML, OPUS, and RTX. When importing files of this type that contain more than 1,000 points, all points will now be merged correctly. (This enhancement was also included in the Version 3.40.2 update.)

- **Change the coordinate system database** - Select a coordinate system database (.csd) file other than the default current.csd to use in the Coordinate System Manager and the programs that link to it. This allows you to easily switch between several versions of the database (in different folders if necessary), or rename current.csd to custom.csd (used by Trimble Access) so you can drag and drop the database file between your computer and a field unit. (See the Coordinate System Manager help.)

- **Coordinate System Manger (CSM) update** – The CSM database file current.csd has been updated as follows:

- Changes have been made to Greek coordinate system definitions.
- The "ITRF to NAD 1983 (2011)" datum has been duplicated to be also available as the "NAD 1983 (2011)" datum.
- A new Norway geoid model has been added.
- Coordinate system extents for some Canadian (Atlantic) zone definitions have been updated.
- A geoid model to be used by the Czech coordinate system zone has been added.

Data interoperability

- **Exchange files with Trimble Connect** – Set up Trimble Connect as an external service so you can exchange BIM and other design files with TBC. Trimble Connect (formerly GTeam) is a system for architecture, engineering, and construction teams to collaborate and share 3D and project information to save time, reduce change orders, and reach consensus faster.
- **Export Bluebook (BBK) G-Files** - Export your TBC project data to a Bluebook G-File that can be submitted to the US National Geodetic Survey (NGS) for inclusion in the National Spatial Reference System (NSRS). (The B-File and S-File formats are not supported at this time.)
- **Support for Autodesk drawing templates** – Import .dwt files into TBC and reuse existing block and drawing definitions, preserving the integrity of your data.

CAD and drafting

- **Automated labeling** - Automatically apply labels to individual or groups of points, lines, and polygons using predefined label styles. Labels are dynamically linked to the object and update as the geometry/location of objects changes. Automatic labeling includes the following new commands:
    - Label Style Manager - Create multiple labeling styles for different point, line, and polygon geometry labeling, specifying the label placement location, prefix, unit display.
    - Label Lines - Automatically place length and bearing/azimuth labels for lines, and arc length, radius, chord length, chord azimuth, tangent length, and delta angle for arcs using the style defined in the Label Style Manager.
    - Label Points - Automatically place northing, easting, elevation, feature codes, and attribute labels for points.
    - Label Polygons – Automatically place polygon perimeter and area information for polygons.

    (See Work with Point, Line, and Polygon Labels in the help.)

- **Dimensioning** - Using predefined dimension labeling styles, create labels that specify dimensions for both lines (based on point pairs, line segments, and arc segments) and angles (based on either two lines or an arc segment). Dimension labeling includes the following new commands:
    - Dimension Style Manager - Use Dimension Style Manager to define line and arrow types/shapes, text and unit styles as well as position/placement of the dimensions
    - Create Linear Dimension - Specify linear object or two points to dimension.

- Create Angular Dimensions - Create dimension object between any two lines or an arc segment.

(See Work with Dimension Labels in the help.)

- **Track region outline** - Create a 2D or 3D linestring representing the 2D outline of a region from a set of separate (potentially unconnected) lines and/or surface and site improvement edges.

- **Clip lines** - Use the new Clip Lines command to:

  - Remove lines (and portions of lines) that lay within one or more closed bounding lines. The lines that cross the bounding lines are clipped at their planimetric intersection with the line.

  - Remove lines (and portions of lines) that lay outside of the specified bounding lines.

  - Break lines that cross open or closed lines where they intersect.

Corridor design

- **Alignment-only RXL export** - Export alignment data only to the RXL format. The export can include horizontal and vertical alignment; begin station, end station, and station interval. (See Export RoadXML Files (.rxl) in the help.)

- **Create multiple corridor surfaces** – In addition to the surface automatically created when you create a corridor, you can use the new Create Corridor Surface command to create additional surfaces based on various material layers in the corridor. Note that if you have a corridor in a project that was saved prior to Trimble Business Center version 3.50, you must use the new Create Corridor Surface command to recreate the corridor surface. (See Create a Corridor Surface in the help.)

- **REB import enhancement** - You can now create a separate surface from each layer in a cross-section contained in an REB (Regeln zur Elektronischen Bauabrechnung) roading file. (See Import REB Files (.reb) in the help.)

Terrestrial photogrammetry

- **Create dense point clouds from Trimble Vision** - Generate dense point clouds from terrestrial (for example, Trimble V10 and VX) panoramas data to achieve an accurate 3D representation of a site. This allows you to generate very dense point clouds that you can use for area and volume computations, linear measurement, and terrain modeling. (See Create a Point Cloud from Trimble Photo Images in the help.)

- **Group photo stations** - Create a group of terrestrial photo stations that can be adjusted separately from other photo stations in the project. You no longer have to adjust the whole project; you can adjust only a portion of data at a time. This is particularly useful when you are adjusting data from complex objects (for example, bridges, where you typically do not have any shared tie points between the upper deck of the bridge and traffic lanes below). (See Create and Edit Photo Station Groups in the help.

- **HDR processing** - Image triplets of varying exposures are automatically combined into high-dynamic-range (HDR) images. HDR images compensate for the high range of luminance levels found in real-world scenes, resulting in increased detail in both darker and brighter areas of the image.

- **Display Trimble Vision panoramas in Google Earth v7.0 and later** -- Create panorama KML files and store the referenced images on a Trimble InSphere Web server so they can be displayed in the Google Earth v7.0 and later. (Only pre v7.0 versions of Google Earth support KML images stored locally.) (See Process Panoramas in the help.)

Point clouds

- **Limit box for graphic views** - Use the new Activate Limit Box command to display objects within a box in Plan View and 3D View. The intent of the Limit Box is to use primarily with points clouds, allowing you to easily visualize point cloud data. But the functionality extends to any data inside TBC. Limit boxes are helpful in hiding extraneous objects in the project and providing focus just on that part of the view in which you have interest (for example, a single floor in a multi-floor building). You specify the size, shape, location, and orientation of the limit box using either the Edit Limit Box command pane, the controls displayed with the box in the graphic view, or a combination of both. (See Limit the Graphic View in the help.)

General software improvements

- **Warranty expiration notice** - Starting at 60 days from the expiration date of your TBC warranty, you will be periodically notified via messages that the expiration date is approaching, providing you plenty of time to renew your warranty and keep your version of the software up to date with the latest features.

- **Change language on the fly** - You now have the option when installing TBC to install additional languages. You can then use the **Options** dialog to select the installed language you want to work with at any time. (See Choose Application Options in the help.)

- **Tutorials on the Internet** - The Trimble Business Center Tutorials PDF portfolio is now downloaded on demand (instead of being installed with TBC), ensuring you are always receiving the latest updates. In addition, you download only the tutorial project data you need via a link in each individual tutorial PDF.

- **Float all tab views** – Unlock any of the graphic view tabs and the Start Page tab to move them to standalone windows outside the application window, possibly providing additional workspace. (See Float and Unfloat Views in the help.)

- **Use enhanced functions for External Services** – Create one or more account profiles for any service (such as the Connected Community or Bentley ProjectWise) to save time entering your user name, password, and so on when you login. You can easily set a default profile for each service and stay logged in to multiple services. (See External Service Options in the help.)

- **Limit rotation in 3D view** - Objects in the 3D View are prevented from being rotated upside down, helping to minimize confusion when viewing the objects. (See 3D View in the help.)

- **Trimble Office Cleanup Utility** – This new utility software enables you to potentially resolve problems related to Trimble Business Center installations. You can use the utility to restore a system to a clean state so the application can be reinstalled or updated cleanly. Using this utility, you can:
  - Uninstall applications and related updates.
  - Remove files and registry entries shared between applications.
  - Remove application-specific user data.

▪ Remove residual files and registry keys.

To download this utility, go to the Trimble Business Center Support site at
https://www.trimble.com/survey/trimble-business-center_support.aspx .

Note: Although this utility has been tested on multiple operating systems and
environments without issue, it is provided "as-is" and with no implied warranty or
guarantee.

Resolved issues

The following issues **have been resolved** in this version of Trimble Business Center:

▪ You cannot import .las files in units other than metric.

▪ When a rod is tilted in a sensorless V10 workflow, blunder detection may fail during
photo station adjustment.

▪ Numeric attributes (long, short, float, double) are not being read when you import
.xml geodatabase files into Feature Definition Manager.

▪ When you attempt to open a saved project file, you may get an error message stating
that the file name is "not a properly formatted path name" and the project file will not
open.

▪ Imported Autodesk text is not formatted correctly.

▪ Arcs in vertical alignments are ignored if the grade break is very small. (To fix this
issue, the minimum tolerance has been reduced to 0.1% deflection.)

Miscellaneous notes

▪ **VCE compatibility** - You cannot open a VCE project file created with this new
version of TBC in an older version of TBC.

▪ **Translated Help and Tutorials** - If you install TBC in a language other than English,
you may see some topics in the online Help and tutorials in English rather than the
installed language. This is the result of translated versions of the topics not being
ready at the time TBC was packaged for delivery. To determine if newer, fully-
translated versions of the Help or tutorials are available for download, select File >
Help > Check for Updates. If a newer version is available, it will be included as a
download option.

▪ **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 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 (.tspx) 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.

- **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® 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
	Note: 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