

iTWO costX® 7.0 Release Notes

We never stop improving iTWO costX®. Each version of iTWO costX® brings a host of improvements, and iTWO costX® 7.0 is no exception. In version 7.0, we have improved support for RVT and IFC files, as well as making significant improvements to Zones and Variables functionalities to help boost your productivity.

This release also includes many usability and general system enhancements to provide an improved user experience, such as a new search function in the Buildings list, ability to automatically assign a random positive or negative colour to each dimension group, support for Windows 11, and new samples and template files in RIB TechWeb which can be accessed directly from within iTWO costX®.

Headline Features

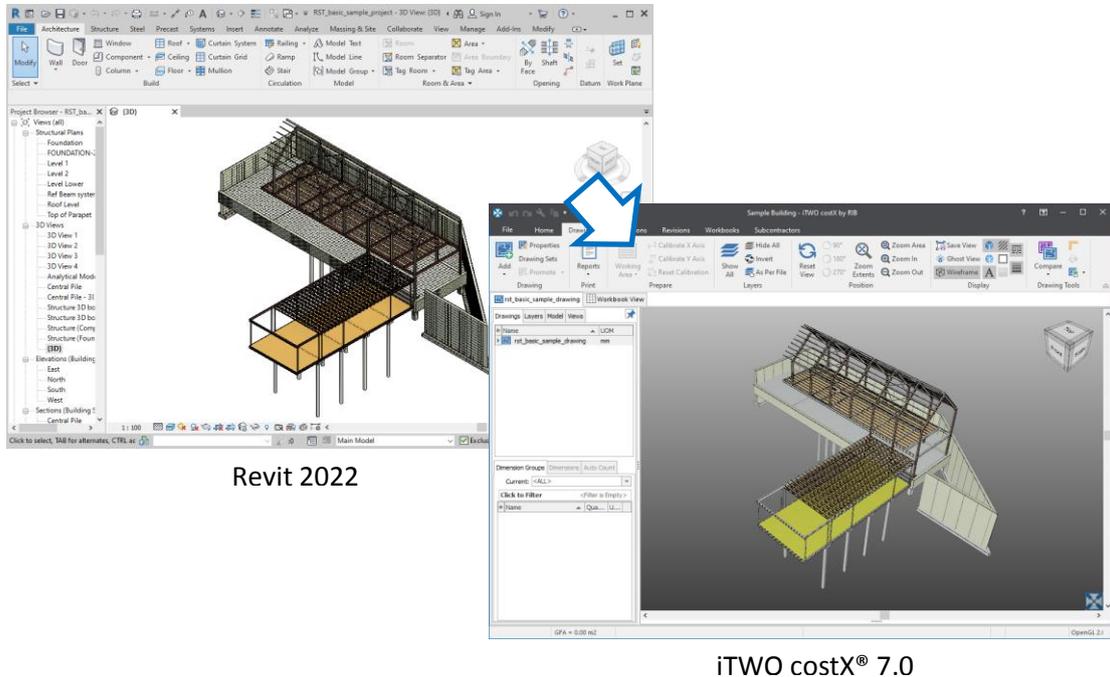
- **Major improvements to RVT file support** such as support for Revit 2021 and 2022 formats, multi-threaded property loading reducing load times by up to 75%, and support for additional RVT object properties.
- **Many Zones enhancements** including the ability to set default zones for drawings, ability to filter the dimension groups list by zones in the Workbook View, Zones moved from Project level to Building level, New Description field for Zones and much more...
- **IFC files** now support wireframe geometry, additional IFC entities, and improved colours.
- New **TechWeb Samples and Templates portal** with direct downloads from iTWO costX®.
- Various **improvements to dimension colours** for your takeoff including the ability to automatically assign a random colour to positive or negative dimensions in each dimension group.
- **Variables enhancements** to allow the value of a Variable to be set on a per-dimension-group or a per-dimension basis, along with a new XGETDIMGROUPVAR Custom Function to allow a live linked reference directly from the Workbook to your Variable values.
- **General Usability and System enhancements** such as
 - New search function in the Buildings list for easily locating the required Building when you want to open, copy, delete or export a Building.
 - Entire code branches in Code Libraries can be moved to different parent codes in the tree.
 - Dimension groups can now be copied without carrying over the dimensions.
 - Bulk User Import and Update tool which allows you to bulk import new users or bulk update existing users in iTWO costX® server admin.
 - Windows 11 and Excel 2021 Support.
 - And much more...

 **NOTE:** iTWO costX® 7.0 is only available in 64-bit. If you are still using a 32-bit operating system, you must upgrade to the 64-bit version before installing iTWO costX® 7.0. iTWO costXL will continue to be available in both 32-bit and 64-bit versions.

Drawings

Improved Support for RVT Files

- Support for RVT files from Revit 2021 and 2022.



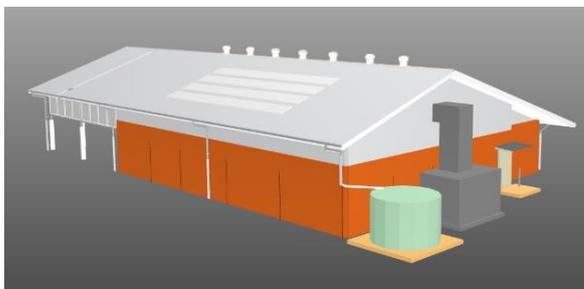
Revit 2022

iTWO costX® 7.0

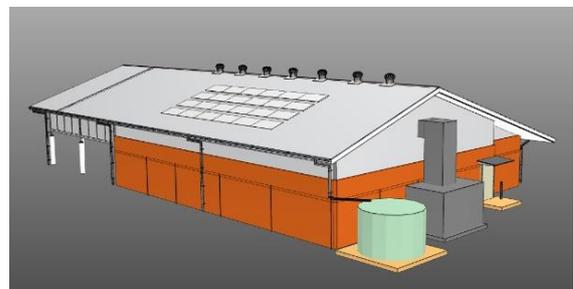
- Changed the loading of properties from RVT files to be multi-threaded for reduced load times. Times to load RVT files have been reduced by between 25% and 75%.
- Additional object properties now supported for RVT files.
- Various other smaller improvements for RVT files.

Improved Support for IFC Files

- Support for additional IFC entities.
- Improvements to IFC entity colours.
- Wireframe geometries are now supported.



Wireframe Off

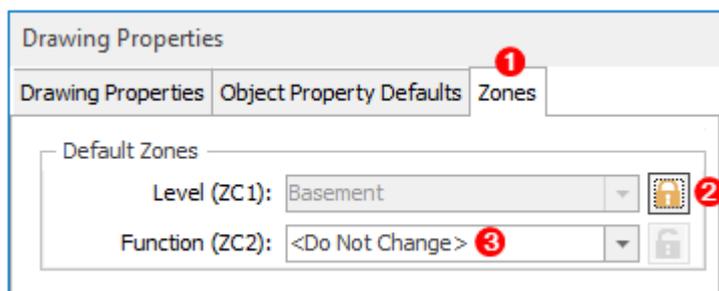


Wireframe On

Zones

Ability to Assign Default Zones to Drawings

You can now set default zones for a drawing by using the new **Zones** tab **1** in its **Drawing Properties**. The **Zones** tab is enabled when there are zones in the current Building and it only shows the Zone Categories that contain zones. You can select a zone from each Zone Category as the default zone for the drawing. Fields in the Zone Selection Bar above the drawing window will default to the selection made here each time you open the drawing.



When measuring from the drawing, it is possible to select a zone other than the default from any Zone Category in the Zone Selection Bar. However, Zone Categories in the Zone Selection Bar will be restored to their defaults if the drawing is closed and reopened.

To prevent a default zone from being changed, click the padlock button **2** to its right. Its parent Zone Category will be locked in both the **Drawing Properties** and the Zone Selection Bar, and all dimensions on the drawing will be locked to the default zone. If any existing dimension on the drawing uses a different zone for the locked Zone Category, the dimension must be updated to use the default zone.

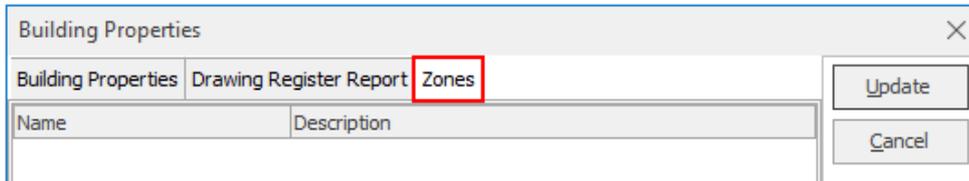
If you do not wish to set a default zone on the drawing for a certain Zone Category, select “<Do Not Change>” **3** from the Zone Category in the **Zones** tab. The Zone Category will be set to either of the following in the Zone Selection Bar each time you open the drawing:

- If the drawing is the first drawing opened in the Building, the Zone Category will be set to “<Blank>” or the first non-blank zone depending on whether it is a required Zone Category (i.e. whether it allows the <Blank> zone to be used).
- If there are other drawings already opened in the Building, the Zone Category will use the same setting as was set on the last opened drawing.

NOTE: When a Zone Category is set to “<Blank>” or “<Do Not Change>” in the **Zones** tab, the padlock button to its right is disabled and the Zone Category cannot be locked.

Zones Moved from Project to Building

In earlier versions of iTWO costX®, zones were added at the Project level using the **Zones** tab in **Project Properties**. This has been moved to the Building level. You can now use the new **Zones** tab in **Building Properties** to set the zones list for a Building. The zones of a Building will travel with the Building when you import and export.

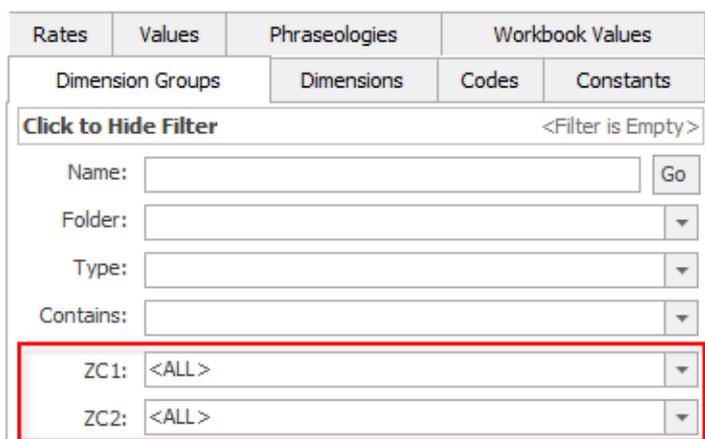


As before, you can quickly access the zones list by clicking the **Edit Zones** button on the **Dimensions** ribbon. The **Edit Zones** button now opens the **Zones** tab of **Building Properties** instead of **Project Properties**.

Zones that were added to a Project using previous versions of iTWO costX® will be automatically moved to the Building level when you upgrade to 7.0. The upgrade process will copy all existing zones in a Project to each Building in the Project. This may result in some Buildings containing many zones that are not used in the Building. You can delete all unused zones in a Building at once by using the new [Delete All Unused Zones](#) option.

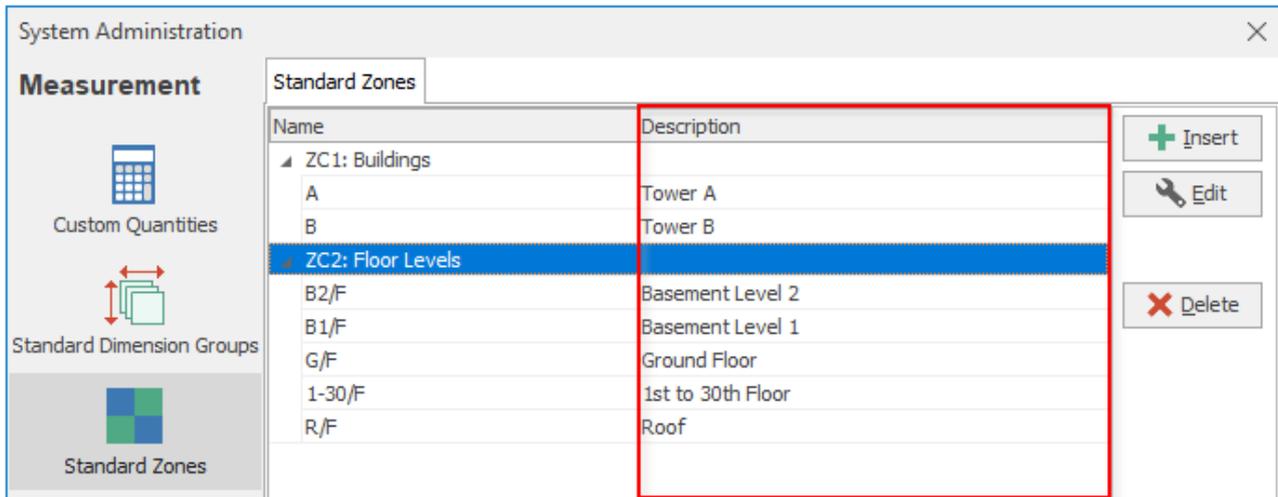
Filtering Dimension Groups by Zones in the Workbook View

The **Dimension Groups** tab in the **Workbooks Drag and Drop Window** now provides the ability to filter dimension groups by zones. This tab shows the Zone Categories that contain zones for the current Building. To filter the dimension groups list by zones, select the required zone from each Zone Category, the list will be filtered to show only dimension groups that contain dimensions from the specified zones, and the totals in the dimension groups will also be updated to show the results filtered by the selected zones.



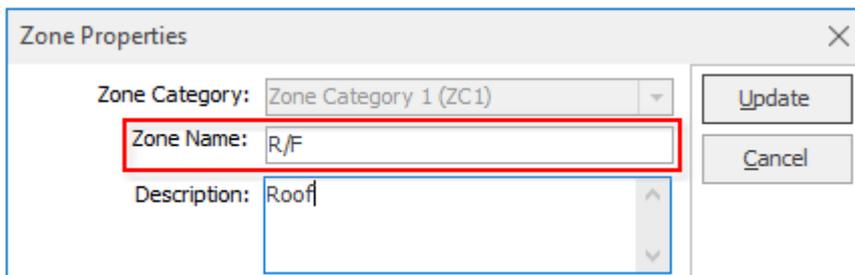
New Description Field for Zones

Zones, including Standard Zones and Building Zones, now have a new mandatory **Description** field. As zones set up in previous versions of iTWO costX® did not have a description, the upgrade process will automatically populate their **Description** field with the zone name. A new **Description** column has been added to both the Building Zones List (shown on previous page) and the Standard Zones List (shown below) to display the descriptions for zones.



Name	Description
<ul style="list-style-type: none"> ZC1: Buildings <ul style="list-style-type: none"> A B ZC2: Floor Levels <ul style="list-style-type: none"> B2/F B1/F G/F 1-30/F R/F 	<ul style="list-style-type: none"> Tower A Tower B Basement Level 2 Basement Level 1 Ground Floor 1st to 30th Floor Roof

With the introduction of the new **Description** field, the previous **Name** field for zones has been renamed to “**Zone Name**” for better clarity.



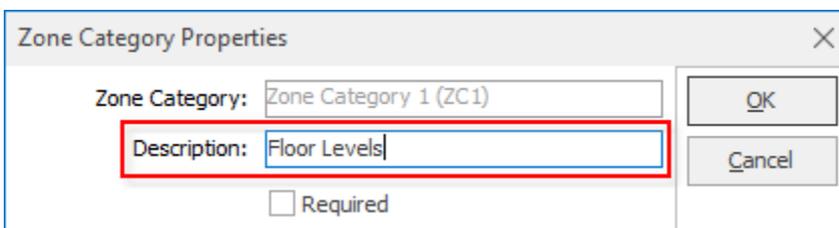
Zone Properties

Zone Category: Zone Category 1 (ZC1) [Update] [Cancel]

Zone Name: R/F

Description: Roof

The previous **Hint** field for Zone Categories has also been renamed to “**Description**” for consistency. The description for each Zone Category is now shown in both the Standard Zones list and the Building Zones lists (see above).



Zone Category Properties

Zone Category: Zone Category 1 (ZC1) [OK] [Cancel]

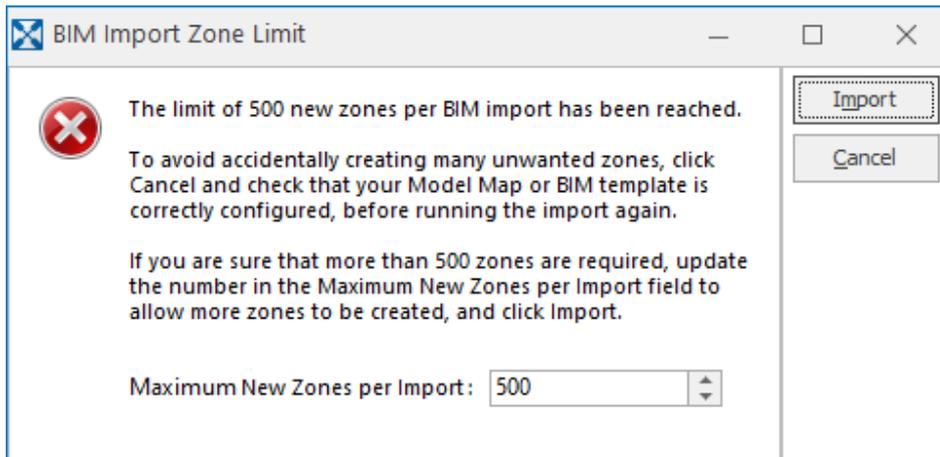
Description: Floor Levels

Required

New Warning for Preventing BIM Imports Accidentally Creating Many Zones

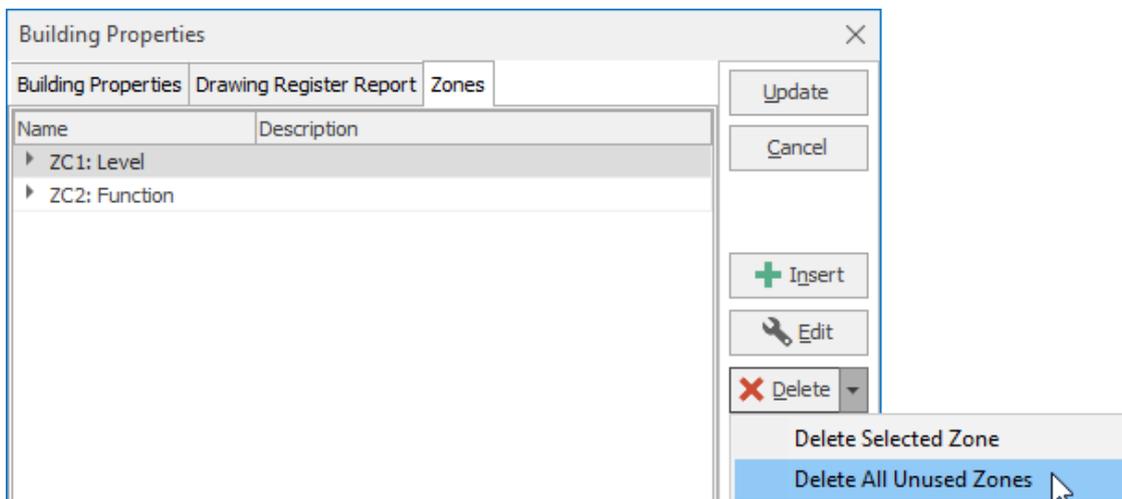
When importing BIM dimensions, a large number of zones can be accidentally created if the Model Map or BIM Template is misconfigured. This may result in too many zones in the Building, causing performance problems. To help avoid this issue, we have imposed a limit on the number of new zones that can be created in each BIM import.

You will see the following warning if a BIM import will cause more than 500 new zones being created. If this warning appears, please follow the instructions in the warning message to check your Model Map or BIM Template, or increase the “Maximum New Zones per Import” limit before running the import again.



New Option for Deleting Unused Zones

The **Zones** tab in **Building Properties** contains a new option for cleaning up unused zones in the Building. This helps to avoid having too many zones in the Building, which can cause performance issues.



When you use the **Delete All Unused Zones** option, a zone that meets all of the following criteria will be considered as unused and will be deleted.

- No dimension is assigned to the zone in all revisions of the Building.
- The zone is not used as a Default Zone for any workbook in any revision of the Building.
- The zone is not used as a Default Zone for any drawing in any revision of the Building. (“Set default zones for drawings” is a new feature in iTWO costX® 7.0. For more details, see [Ability to Assign Zones to Drawings.](#))

Variables

New Scope Field for Variables

Variables, including Standard Variables and Dimension Group Variables, now have a new **Scope** field which determines whether the value of a Variable can be set on a per-dimension-group or a per-dimension basis.

Variable Properties

Name:

Type:

Scope:

Unit:

If the **Scope** field of a Variable is set to “**Set per Dimension**”, a default value for the Variable can be set using the **Variables** tab in **Dimension Group Properties**. Dimensions measured into the dimension group will use this Variable value by default. However, the Variable value can be changed individually for each dimension using the **Variables** tab in **Dimension Properties**.

Dimension Group Properties

Properties Custom Quantities Variables BIM Dimensions Measured Dimensions

Define the default values for the dimension variables.

Referenced Variables

Insulation

Dimension Properties

Properties Custom Quantities Variables

Insulation

If the **Scope** field of a Variable is set to “**Set on Dimension Group**”, the Variable will not appear in the **Variables** tab in **Dimension Properties**. You can only change the Variable value using the **Variables** tab in **Dimension Group Properties**, and all dimensions in the dimension group will use the same Variable value.

In the Variables list in **Dimension Group Properties**, Variables with different scopes can be differentiated by the icon at the right end of each Variable. Variables whose value can be set per dimension use the dimension icon (📏), whereas Variables whose value can only be set on dimension group use the dimension group icon (📦), as shown in the example below.

Dimension Group Properties

Properties Custom Quantities Variables BIM Dimensions Measured Dimensions

Define the default values for the dimension variables.

Referenced Variables

Concrete Strength 📏

Reinforced? 📦

New XGETDIMGROUPVAR Custom Function

A new custom function XGETDIMGROUPVAR() can now be used in workbooks to establish live links to values of variables whose scope is “Set on Dimension Group”. The XGETDIMGROUPVAR() function returns the value of the specified Variable in the specified dimension group.

The syntax of the function is:

XGETDIMGROUPVAR("Dimension Group", "Variable")

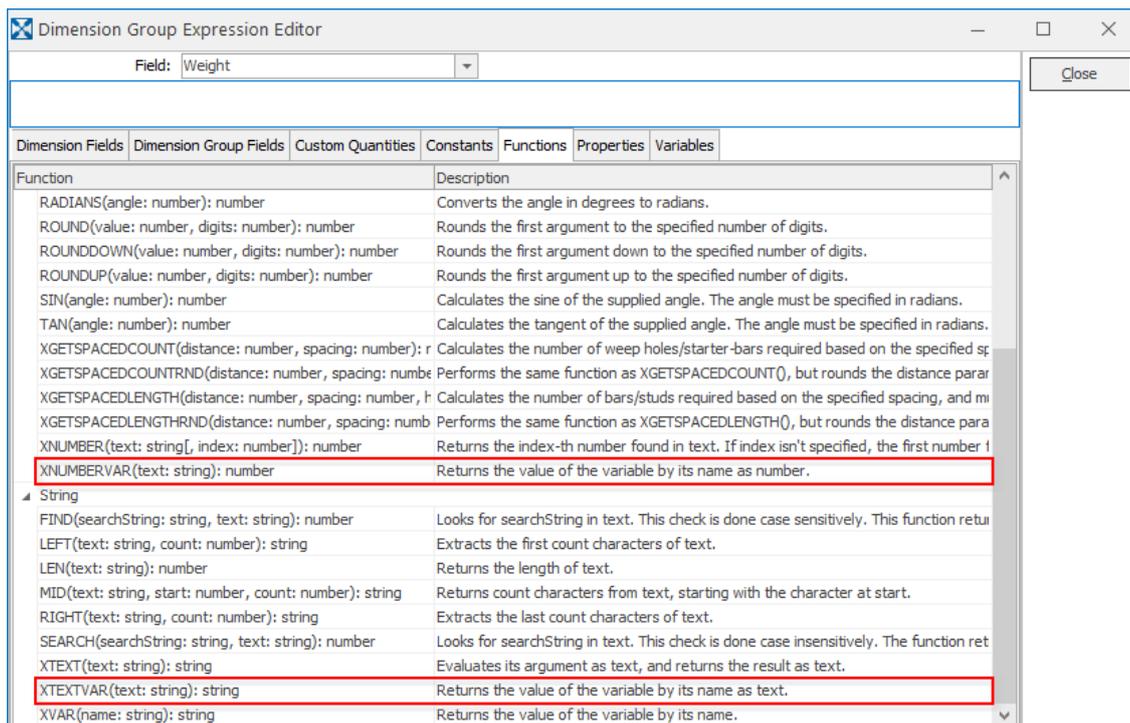
Where the arguments are as follows:

Argument	Required	Description
Dimension Group	Yes	The case sensitive name of the dimension group that contains the Variable. The name must be surrounded by double quotes.
Variable	Yes	The case sensitive name of the Variable that you want to retrieve the value for. The name must be surrounded by double quotes. The Variable must be referenced by one or more expressions in the specified dimension group. If an unreferenced Variable is specified, the “#VALUE!” error value will be returned.

New XTEXTVAR and XNUMBERVAR Functions for Returning Variable Values

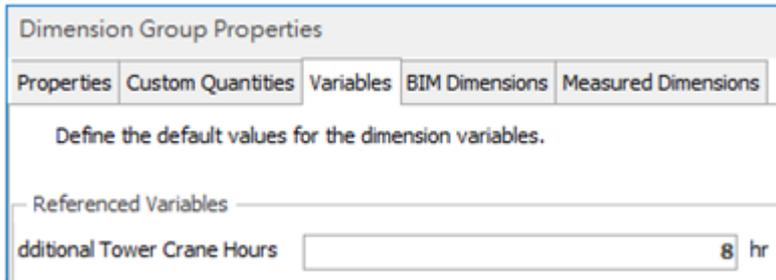
In addition to the existing XVAR() function, you can now also use XTEXTVAR() or XNUMBERVAR() to reference a Variable in dimension group expressions. The syntax of these two new functions is the same as that of XVAR(). However, XTEXTVAR() always returns the value of a Variable as text, whereas XNUMBERVAR() always returns of the value of a Variable as a number.

When constructing expressions in the Dimension Group Expression Editor, you can insert these two functions using the **Functions** tab in the editor. For detailed information about how to use these two functions, refer to the *Using Variables in Expressions* topic in iTWO costX® Help.

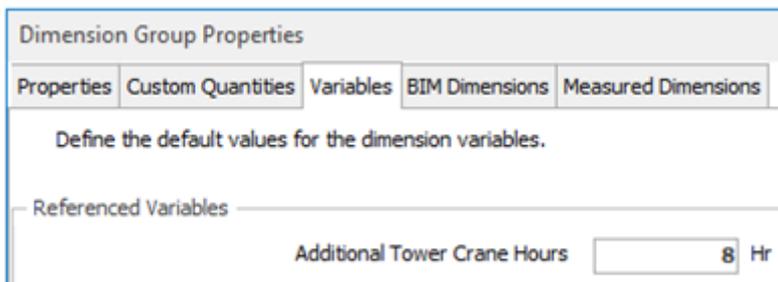


Improved Dimension Group User Interface for Displaying Long Variable Names

Previously when you expanded the **Dimension Group Properties** dialog to view long Variable names, the space for Variable names and the space for Variable answers would expand proportionally. This often resulted in the space for Variable names not being wide enough whereas the space for variable answers becoming much wider than necessary (as shown in the example below).



In iTWO costX® 7.0, the **Dimension Group Properties** dialog has been improved so that it is now easier to resize the dialog and when it is resized, both long variable names and variable answers are displayed nicely in their entirety. For example, the variable shown above will be displayed as below in iTWO costX® 7.0.



To avoid the need to resize the dialog again, click the **Update** button after resizing it. iTWO costX® will maintain the size of the dialog next time you open it.

Importing Standard Variables from CSV

Due to the added support for the **Scope** field, the CSV import format for Standard Variables has been updated. You now need to specify the scope for each Variable in the 7th column. In other words, each line must include the data fields of a Variable in the following sequence:

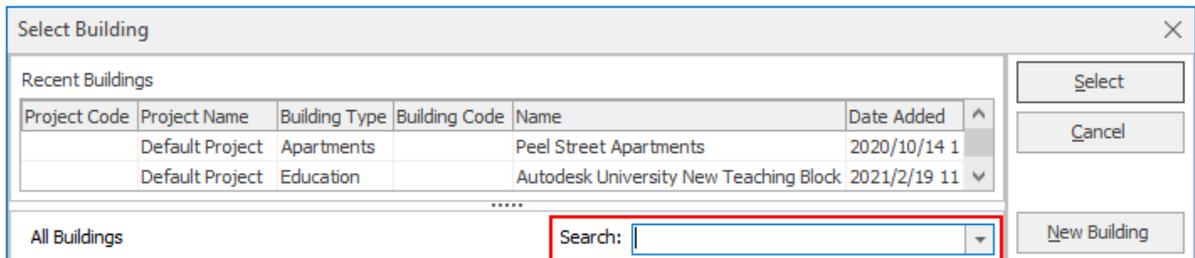
Folder, Name, UOM, Hint, Default Value, Type, Scope, Option 1, Option 2, Option 3...

When setting the scope for a Variable in the CSV file, enter **“Dimension”** if you want to set the scope to “Set per Dimension”, and enter **“Dimension Group”** if you want to set the scope to “Set on Dimension Group”. If the Scope field is left blank, the import will fail.

Usability Enhancements

Buildings

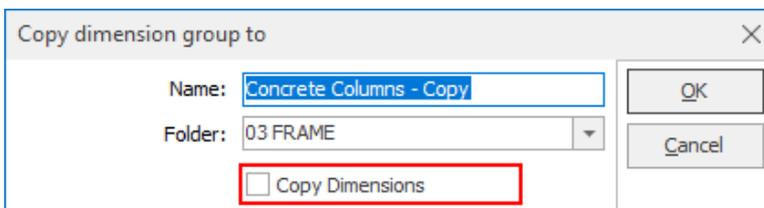
- A new search function has been added to the Buildings list, allowing you to easily locate the required Building when you want to open, copy, delete or export a Building. To search for a Building, simply enter the text you want to search for in the new **Search** field (outlined in red below). As you enter text in the field, iTWO costX® will look across the columns in the Buildings list from left to right and filter the list to show only matching Buildings.



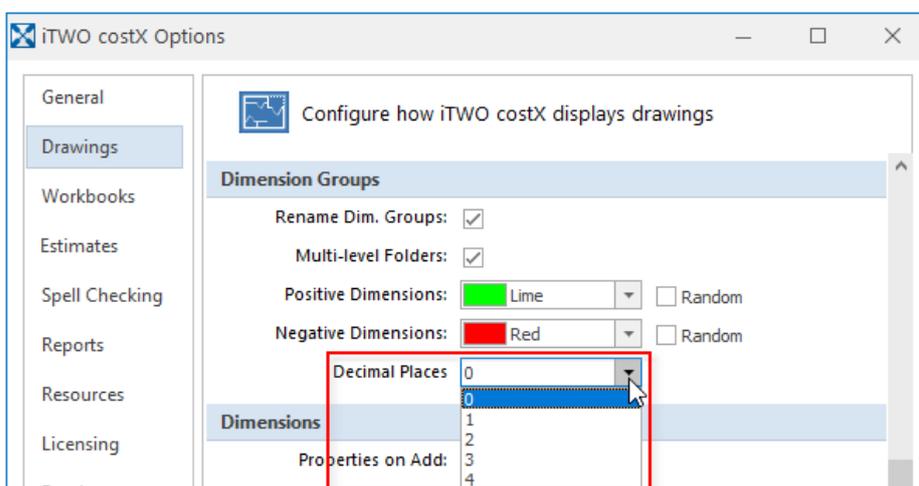
- Improved the process of starting and creating buildings to reduce the likelihood of various errors including "Revision not found" errors.

Dimension Groups and Take-off

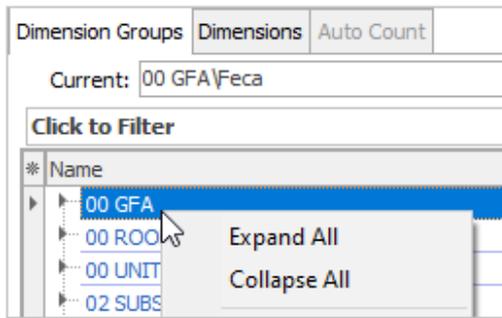
- When copying a dimension group, you can now choose whether to copy the dimensions in the dimension group. If the **Copy Dimensions** box is unchecked, only properties of the selected dimension group will be copied – dimensions within it will not be carried over to the new dimension group.



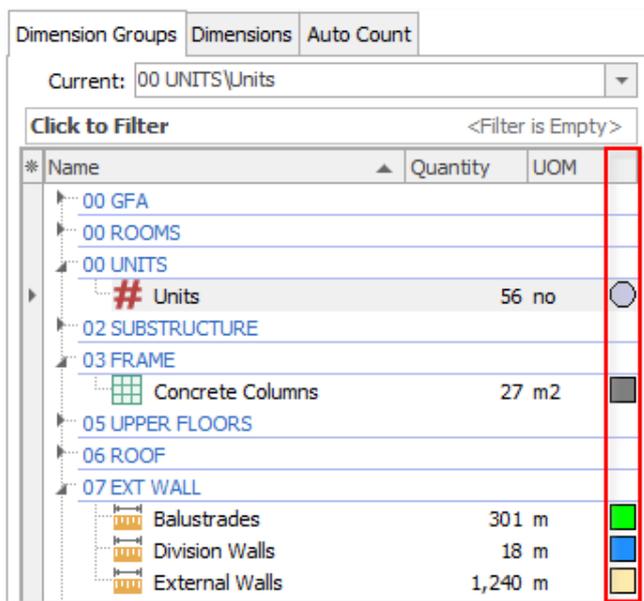
- When specifying the number of decimal places to display for quantities in the Dimension Groups List Window, it is now possible to select up to 4 decimal places, instead of only 2 previously.



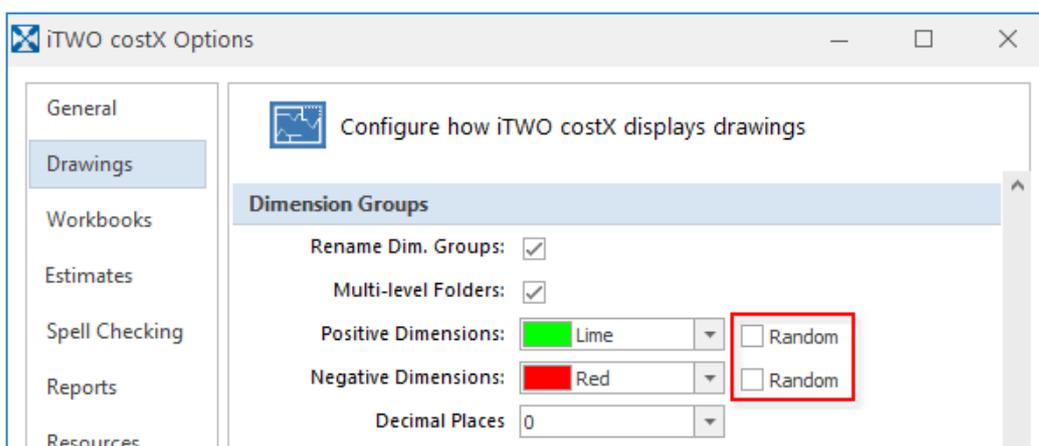
- You can now expand or collapse all dimension group folders in the Dimension Groups List Window at once by using the new **Expand All** or **Collapse All** option in the context menu.



- Colour icons in the Dimension Groups List Window are now turned on by default, making it easy to see what colour and hatching pattern/count symbol are used for each dimension group.



- Previously when creating a dimension group, positive and negative dimensions in the dimension group defaulted to the colours selected in the **Drawings** tab of **iTWO costX Options**. To use different colours for dimensions in different dimension groups, you had to manually change the colours for each dimension group. There is now a **Random** option for both positive and negative dimensions which can help you automate this process.



By enabling the **Random** option, no default colour will be set and a different colour will be automatically assigned to the positive or negative dimensions each time you create a dimension group. If you import dimension groups from BIM models or CSV files when this option is enabled, each imported dimension group will be automatically assigned a different positive or negative colour.

The **Dimension Group Properties** also provide two new refresh buttons, which can be used to automatically generate a different colour for positive or negative dimensions in individual dimension groups.

Dimension Group Properties

Properties Custom Quantities Variables BIM Dimensions Measured Dimensions

Name: Basement Slab

Folder: 02 SUBSTRUCTURE

Measurement Type: Area

Default Display: Area

Default Multiplier: 1.000000

Default Width: 0.0000 m

Default Height: 0.1800 m

Default Offset: 0.0000 m

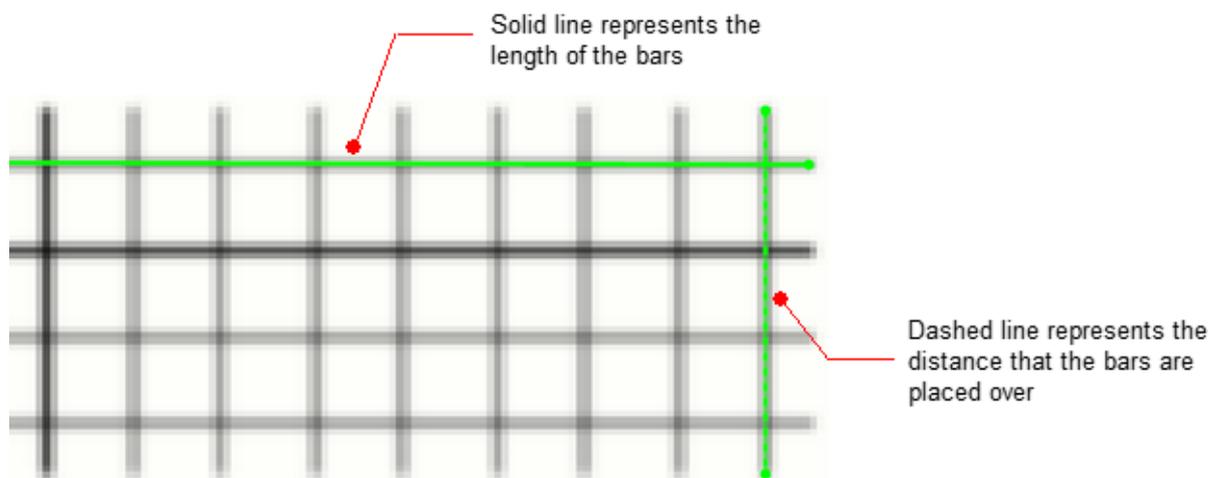
Add To GFA:

Positive Dimensions: Lime Solid

Negative Dimensions: Red Solid

Weight UOM:

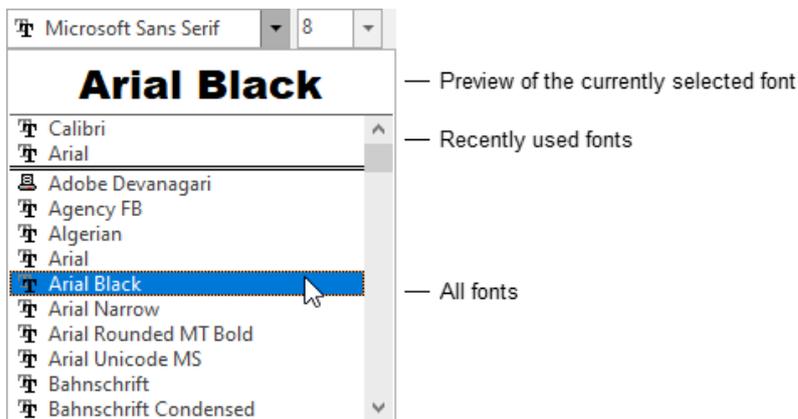
- Rebar take-off now uses a dashed line to represent the distance that the bars are placed over to help differentiate it from the line that represents the length of the bars.



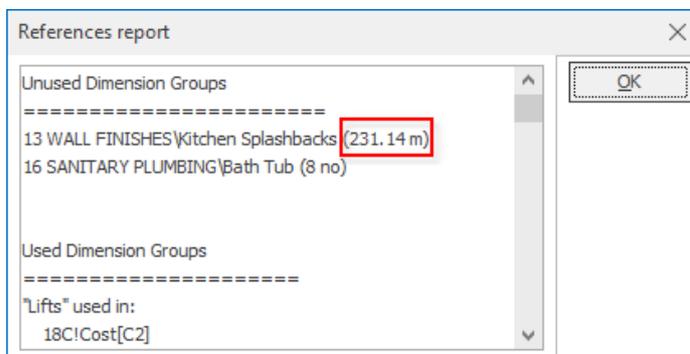
- Improved the performance of dimension group loading and recalculation.

Workbooks

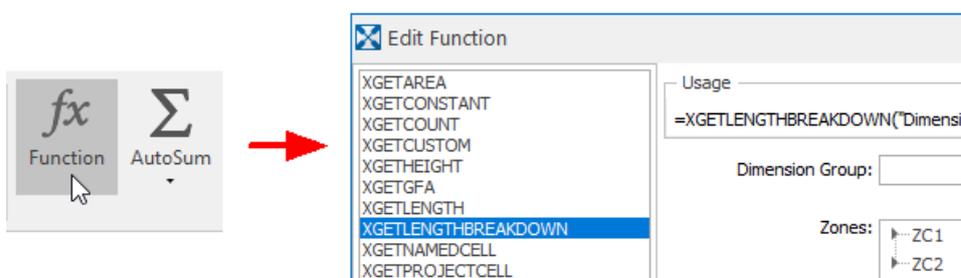
- In earlier versions of iTWO costX®, you had to scroll through the font list to locate the font you wanted to use when formatting text in a workbook. To make font selection easier and more efficient, we have introduced several improvements in this release. You can now look for a font by simply typing the first few characters of the font you want in the **Font** drop-down field, and the first matched item in the font list will be automatically highlighted. The font list now also shows the most recently used fonts and a preview of the currently selected font.



- The Workbook References Report now shows the Default Display quantity from a dimension group rather than the Measurement Type quantity, allowing you to more easily locate the dimension group from the dimension groups list.



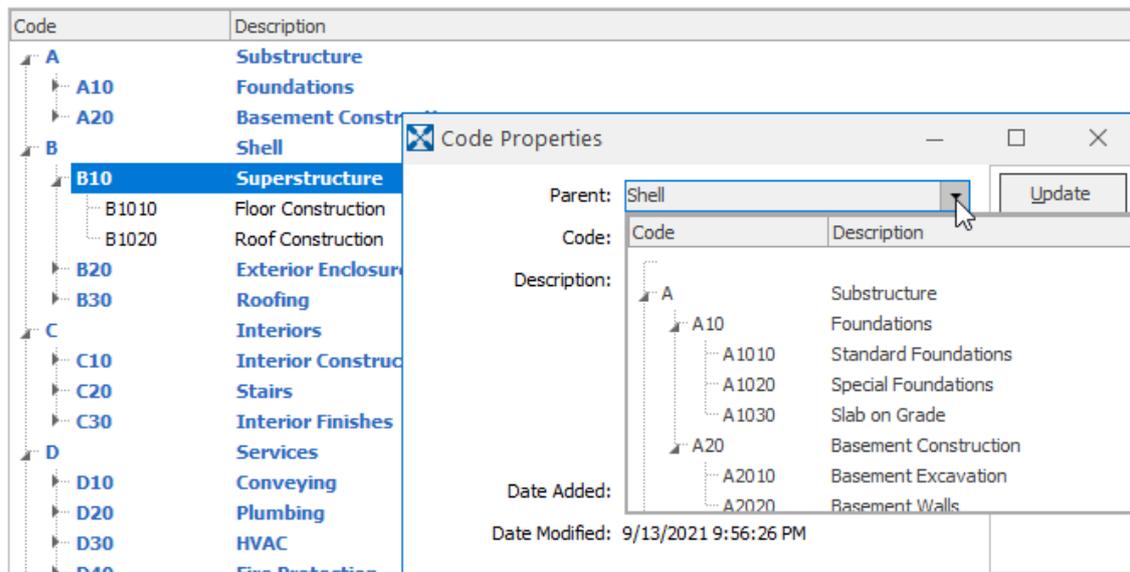
- The XGETLENGTHBREAKDOWN() function, which returns a list showing the count of each unique length within a specified dimension group and what that length is, could only be added to a workbook by manually typing it into a cell. It is now possible to insert this function by using the **Function** button on the **Workbooks** ribbon.



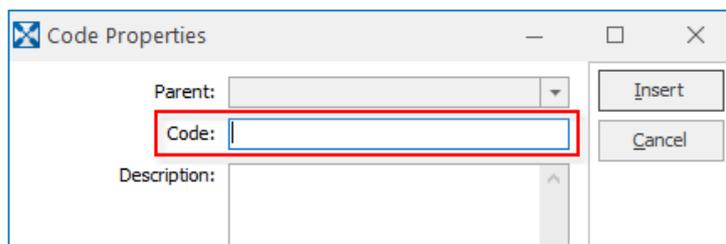
- Improved the performance of uploading a workbook to iTWO benchmark.
- Improved support for European locales with fixes for decimal separators in formulas in workbooks.

Code Libraries

- It is now possible to move an entire branch of codes to a different parent in the Code Library hierarchy. To do this, double-click the top-level entry of the required branch to bring up the **Code Properties** dialog, and then use the drop-down arrow of the **Parent** field to select a new parent from the hierarchy.



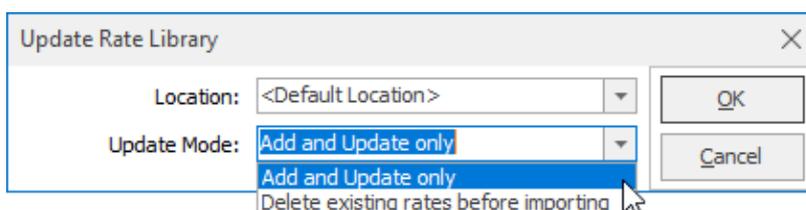
- The **Code** field now supports a maximum of 100 characters, instead of only 50 previously.



- Improved the performance of adding, editing and deleting codes.

Rate Libraries

- Previously when updating a Rate Library from CSV in System Administration, you were only allowed to add new rates or update existing rates – deleting rates was not allowed during the update process. There is now an option to let you delete existing rates before importing rates from the CSV update file. You can use the new **Update Mode** field in the **Update Rate Library** dialog to choose whether to add and update rates only, or delete existing rates before importing. For more details, refer to the *Updating a Rate Library from CSV* topic in iTWO costX® Help.



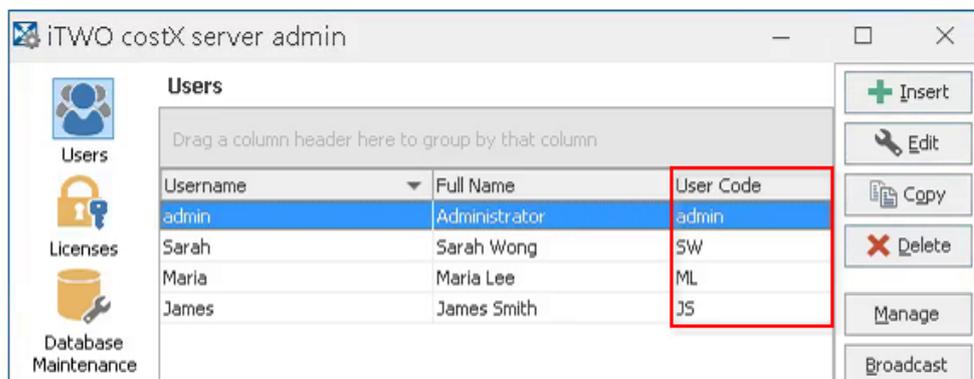
- Significantly improved performance when working with large Rate Libraries.

iTWO costX® server

- When connecting to iTWO costX® server, it is now possible to select from a list of servers that you have connected to before. Users who need to regularly switch between different iTWO costX® servers no longer need to type in the server name or address each time they want to access a different server. To switch to a different server, simply click the drop-down arrow of the **Server** field and select the required server from the list.



- The users list in iTWO costX® server admin now has a new **User Code** column, which allows you to see at a glance what codes have been used for existing users.



- The UserImporter tool, which can be used to bulk import users from an Excel file into iTWO costX® server admin, can now be found under the iTWO costX® server installation directory (the default path is C:\Program Files\Exactal\CostXSvr). This tool has also been enhanced to include the capability to update users in bulk. For detailed information on how to use the UserImporter tool, refer to the *Importing or Updating Users in Bulk* topic in iTWO costX® Help.

System

- From version 7.0 onwards, iTWO costX® client is only available in 64-bit. If you are still using a 32-bit operating system, you must upgrade to the 64-bit before installing iTWO costX® 7.0.

 **NOTE:** iTWO costX® server and iTWO costX® server admin are already 64-bit only. iTWO costXL will continue to be available in both 32-bit and 64-bit versions.

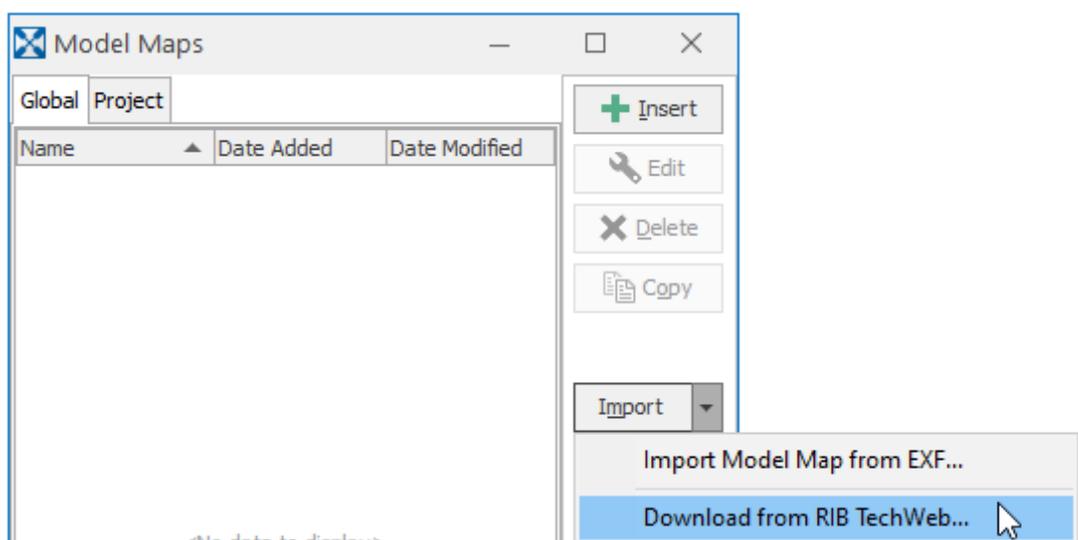
- Support for Windows 11.
- iTWO costXL now supports Excel 2021.
- Improved logic and error checking in iTWO costX® connections to iTWO costX® server.
- Improved the robustness of notifications from the server to the client.
- Updated underlying Microsoft Core libraries from 2.1 to 3.1.
- Performance optimisations for Buildings with many zones.
- Reduced CPU utilisation in various areas.
- Changed multi-threading code so that users see a progress bar instead of Not Responding when the main UI thread is waiting.

Other

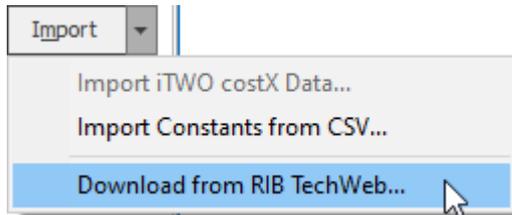
- RIB TechWeb now has a new area which provides downloadable samples and template files for each region. You can access these samples and templates using the following new options in iTWO costX® 7.0:
 - The new **Samples** button in the **Resources** tab in **iTWO costX® Options**.



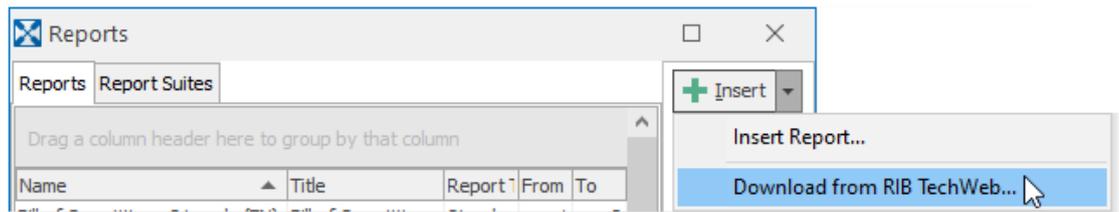
- The new “Download from RIB TechWeb” import option in the **Model Maps** dialog.



- The new **“Download from RIB TechWeb”** import option in the Constants, Standard Dimension Groups, Standard Variables, Code Libraries, Phraseologies and Rate Libraries sections of System Administration.



- The new **“Download from RIB TechWeb”** option in the **Reports** dialog.



- Cutouts in an area dimension are now maintained when the dimension is joined together with another area dimension using Quickpoint.
- The installer for iTWO costX® English now includes a Chinese language file that can be enabled, allowing deployment to all computers from a single installer, rather than having separate installers per language. For detailed information on how to change the iTWO costX® interface language from English to Simplified Chinese by enabling the Chinese language file, refer to the *Changing the Interface Language* topic in iTWO costX® Help.

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