Product: **iCON office**

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iCON office release of version 2019.1.11.20

We are pleased to announce the release of iCON office 2019. iCON office is now available as 64-bit version. Another new feature in iCON office 2019 is support for IFC files. IFC files are listed in the project tree and it's possible to open and view IFC models, to use the new filter view to filter and search for different objects. Objects can be selected and their properties are displayed in the workflow view. Selected IFC objects can be imported as points, lines, surfaces and road lines (alignments) to Leica Machine Control native formats.

These and other improvements, e.g. improved LandXML import, are described in more detail in this document. All users with a valid subscription will be able to install and run this new version. Verify that that your subscription date expires after the release date of this iCON office version.
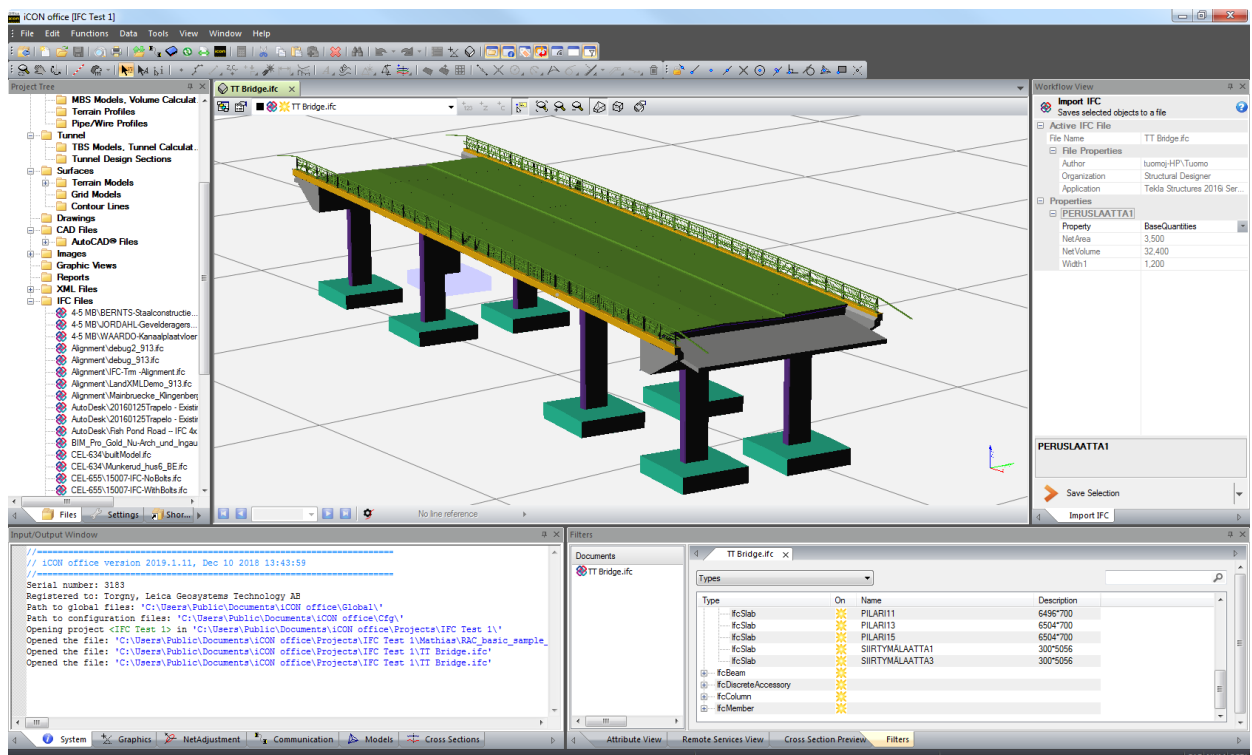
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1 New Functions and Improvements

1.1 *IFC Models*

IFC (Industry Foundation Classes) is an exchange format for 3D data in the world of BIM and in iCON office 2019, we have added support for IFC models. IFC has been in the market for quite some time, but mainly for buildings. Now the first steps for IFC in horizontal infrastructure projects, i.e. roads, have been taken. But so far only TIN surfaces and alignments are supported.
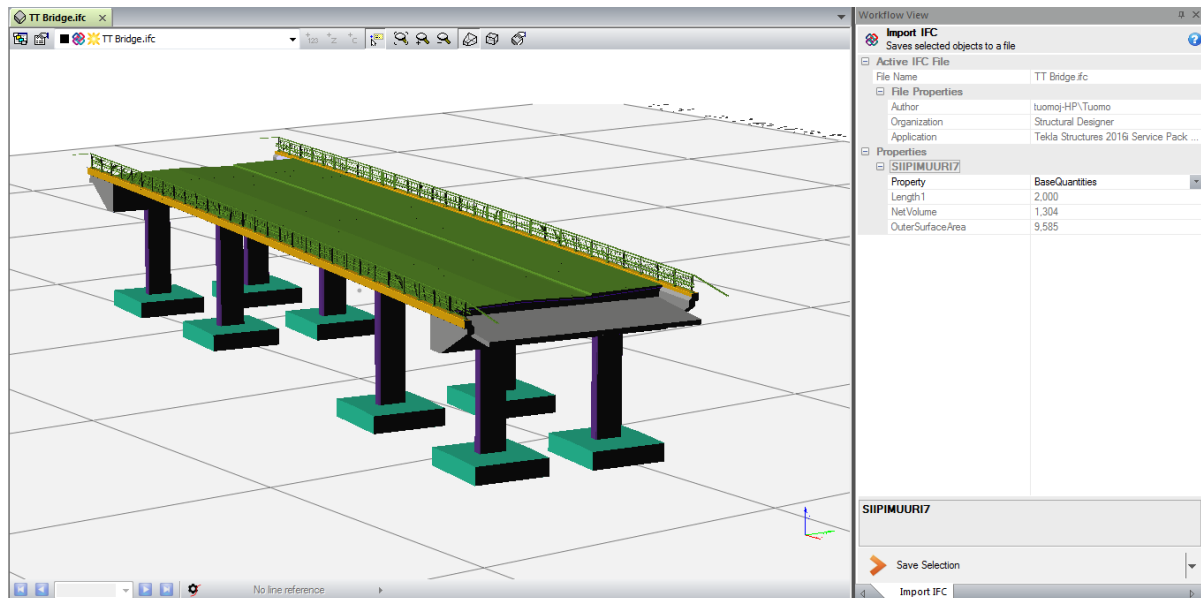
IFC models can be very big and contain a lot of objects. To make it easier for our users get an overview of the model and to extract the data they need, we have implemented a new filter view. In a drop down menu in the filter pane, it's possible to select to filter based on the **structure** of the IFC model or on **IFC types.**
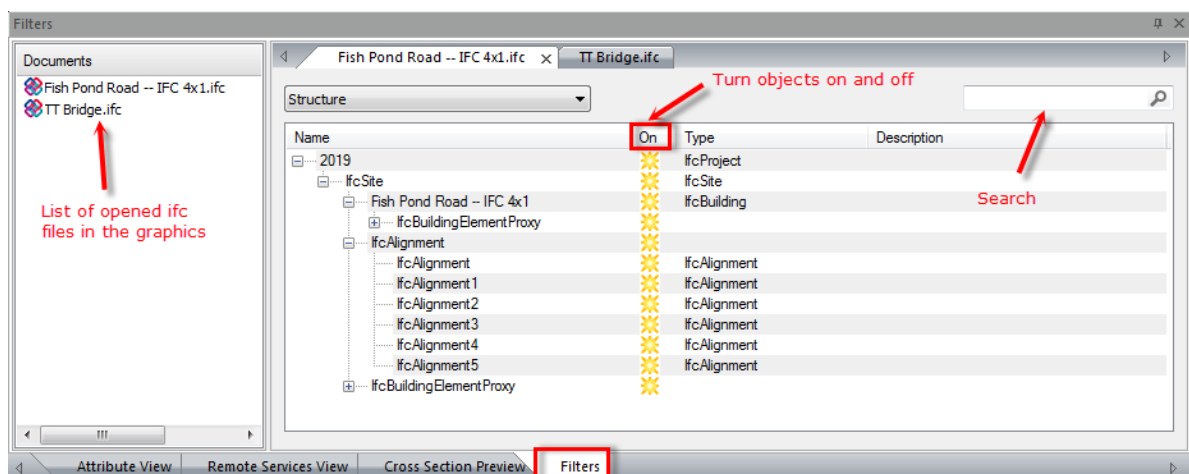
IFC filter

In the filter view the IFC model is displayed with as a tree structure with name, type and description.

- Single objects or multiple parts of the model can be toggled on/off
- Single or multiple objects can be selected
- It's possible to run an instant search to find objects.

If an object is selected in the graphics or in the filter view:

- The object is highlighted in the graphics, see image below.
- In the workflow view to the right, properties for selected objects are displayed.
- Use the small arrow to the right, if the selected IFC object has many different types of properties and meta data.

To save selected objects the user has to hit **Save Selection**, which can be found at the bottom of the workflow view.

- IFC objects are saved as points and lines in a coordinate file (*.geo) and can be used for stake out or for further processing in iCON office.
- TIN surfaces are saved as terrain models (*.trm).
- ifcAlignments are also supported and will be saved as a road line as a L3D-file.
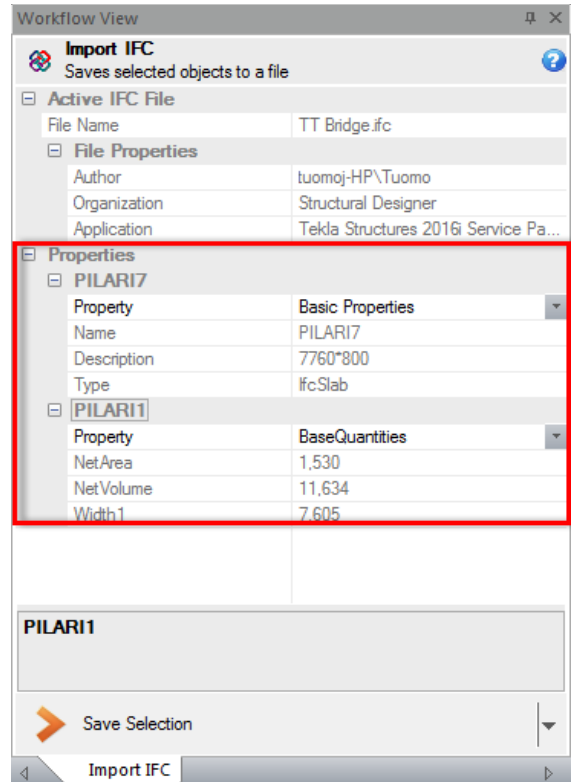
Workflow view for IFC
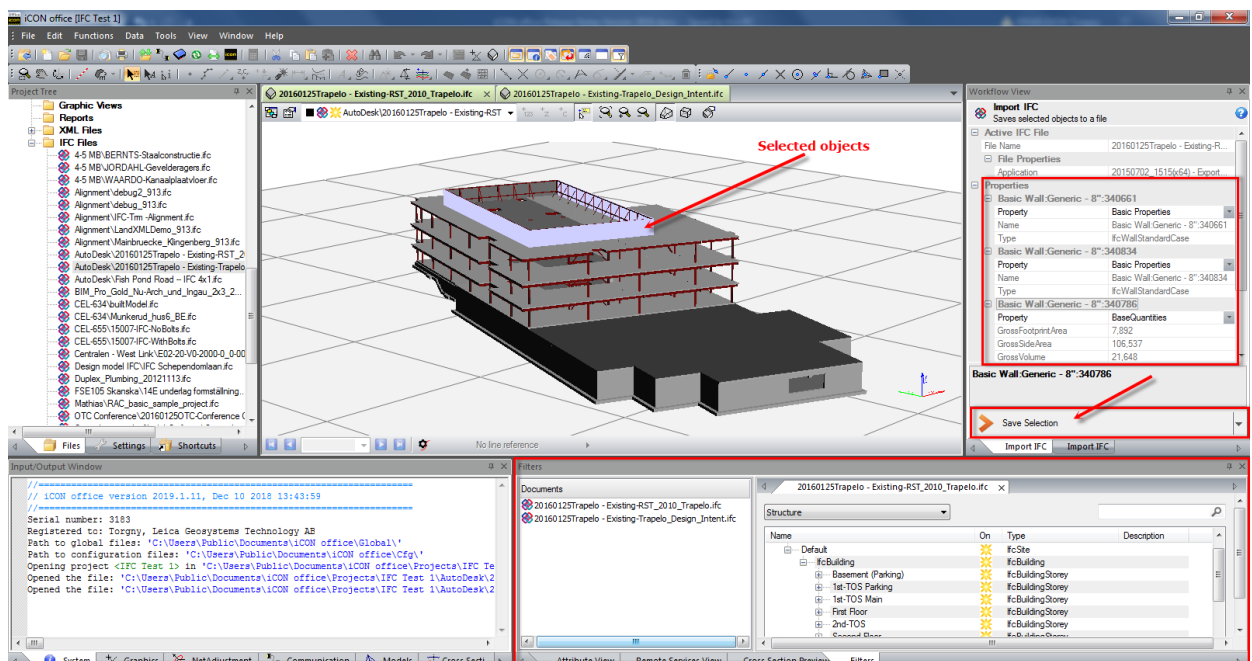
IFC model in iCON office with filter view and workflow pane with properties

1.2 System – iCON office 64 bit version

iCON office is now available as 64-bit version, which will improve the performance. E.g. does it mean that iCON office can use more of the computer's RAM memory.

Be aware, that the Leica plugin *iCON office Converters*, which make it possible to import formats like Clip, Ispol and MXGenio, is not available as 64-bit version. For users that still are importing these formats, it's possible to install iCON office 2019 as 32-bit version as well. It's possible to have both versions of iCON office as parallel installations on the computer.

1.3 Graphic Tool

New function to interpolate height along a poly line for nodes that are missing heights. The tool, **Interpolate Height for Points**, is available in the right click menu, when a poly line is selected in the graphics. Nodes with no height get an interpolated height based on the surrounding nodes. Be aware that 0 is considered to be a height value.
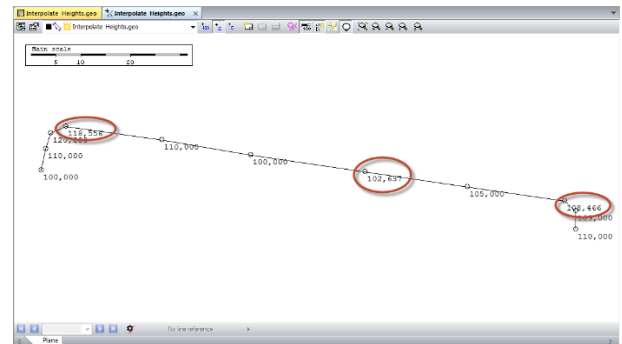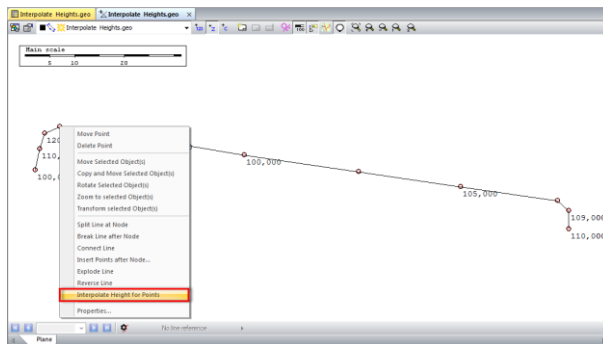
1.4 3D Graphics

The 3D graphics is improved so the rotation center is automatically set to the center of visible objects.

1.5 LandXML

We are continuously improving the LandXML import. Now we have added support for measured data from total stations (TPS), i.e. angles and distances, if the user would like to re-calculate a TPS survey in iCON office.

Support for importing leveling data as LandXML is also implemented and previously we have added support for import and export of latitude and longitude as CGpoints from GNSS.

Import of parcel with curves is now supported and import of cross sections from Civil 3D is improved.
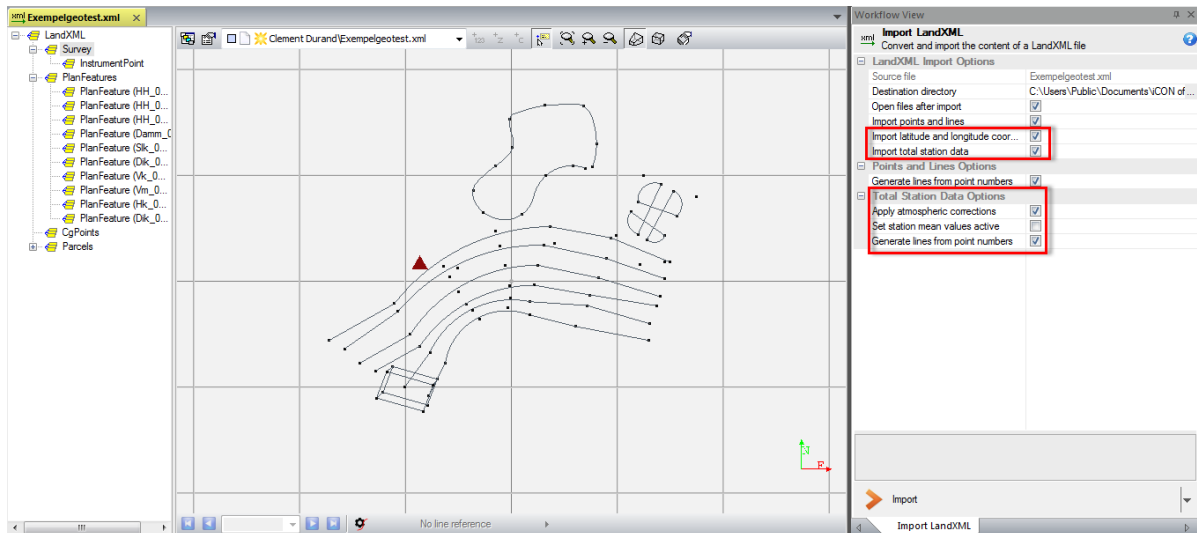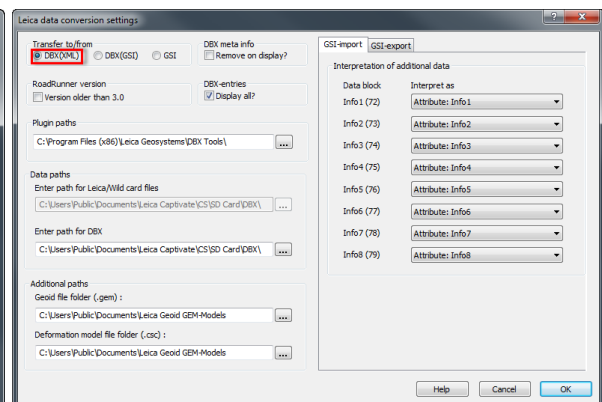
LandXML viewer with import options

1.6 Leica DBX import

Leica DBX import now uses HeXML as interface for import of data from Captivate or Viva. Make sure that the latest *Lexa DBX Tool* is installed, which is available on Leica myWorld. The user might has to change the option in the settings for the Leica DBX import. The old import option called DBX(GSI) still works as before.
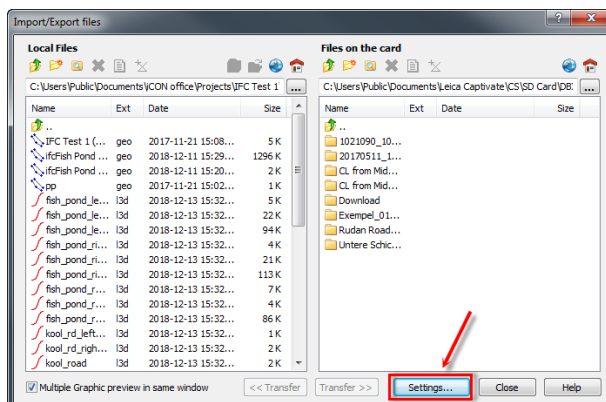
Leica DBX import dialog   Settings for Leica DBX import

1.7 AutoCAD

The CAD-engine is updated to Teigha 2019. Hatched areas in TRM files are exported to separate DWG layers.
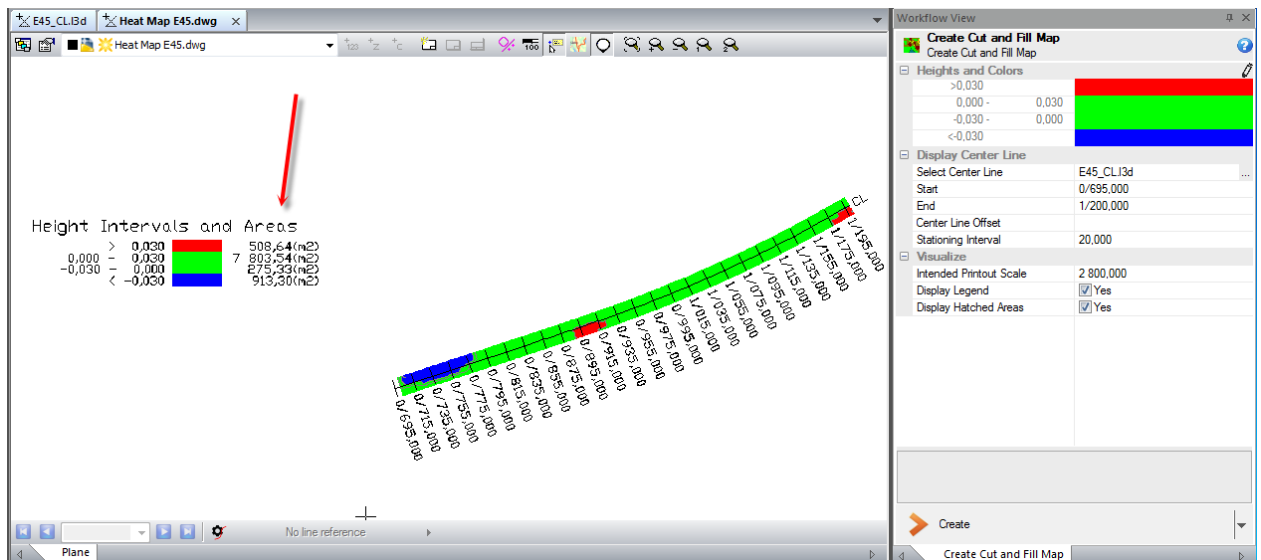
1.8 Cut and Fill Map

The function, **Create Cut and Fill Map**, is found in the Data menu for difference model (DFM).

The DWG output is from this function is improved, so the contour lines are divided into different layers. The areas of the hatched cut and fill areas are also reported separately, see image below.
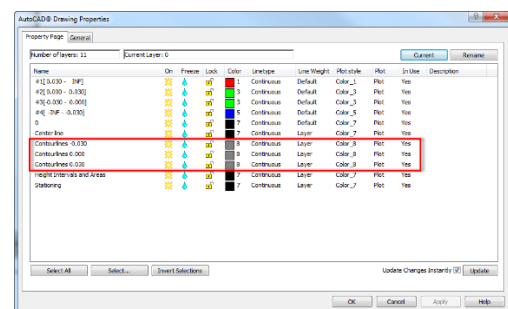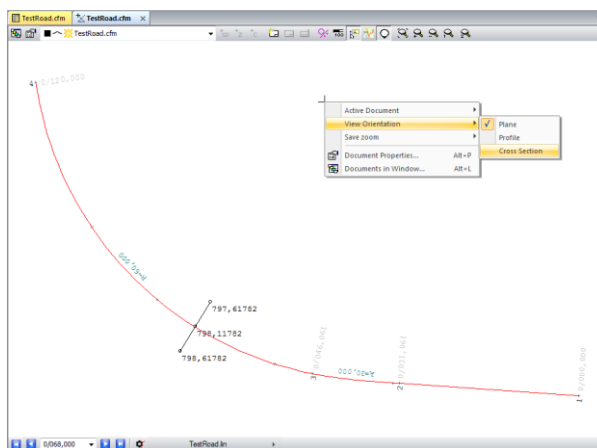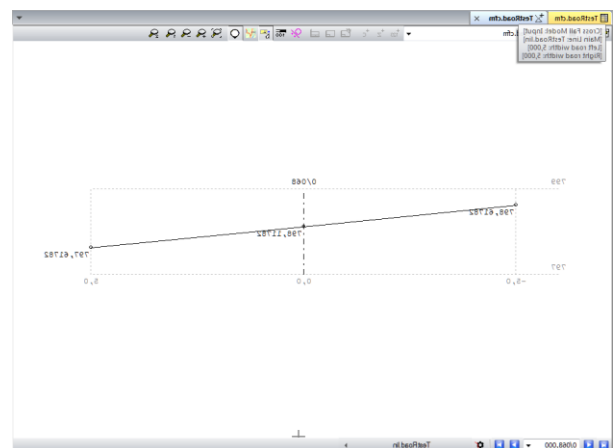

Properties for cut and fill DWG

DWG cut and fill map with area information

1.9 *Road*

If a cross fall models (CFM) is assigned to a center line and a road width is defined, the surface can be seen in a cross section view. It's possible to step along the center line according to a defined interval.

CFM in plane view

CFM in cross section view

1.10 *Point Cloud*

Import of LAS 1.3 and 1.4 is now supported

### 1.11 *Other Import/Export Improvements*

General text export for grid coordinate files (*.geo) and latitude/longitude files (*.llc), can now be found in the import/export dialog. TN3 is a Topcon format for TIN surfaces and is now supported both for import and export.

1.12 *Leica ConX*

Icons for truck, piler, roller and driller are added, if the Leica ConX integration in iCON office is used.

1.13 *Export to iCON site/built*

Export of coordinate systems to iCON site/built by USB is improved. The correct folder structure, including a folder called *CoordinateSystem*, is automatically created on the USB-stick.
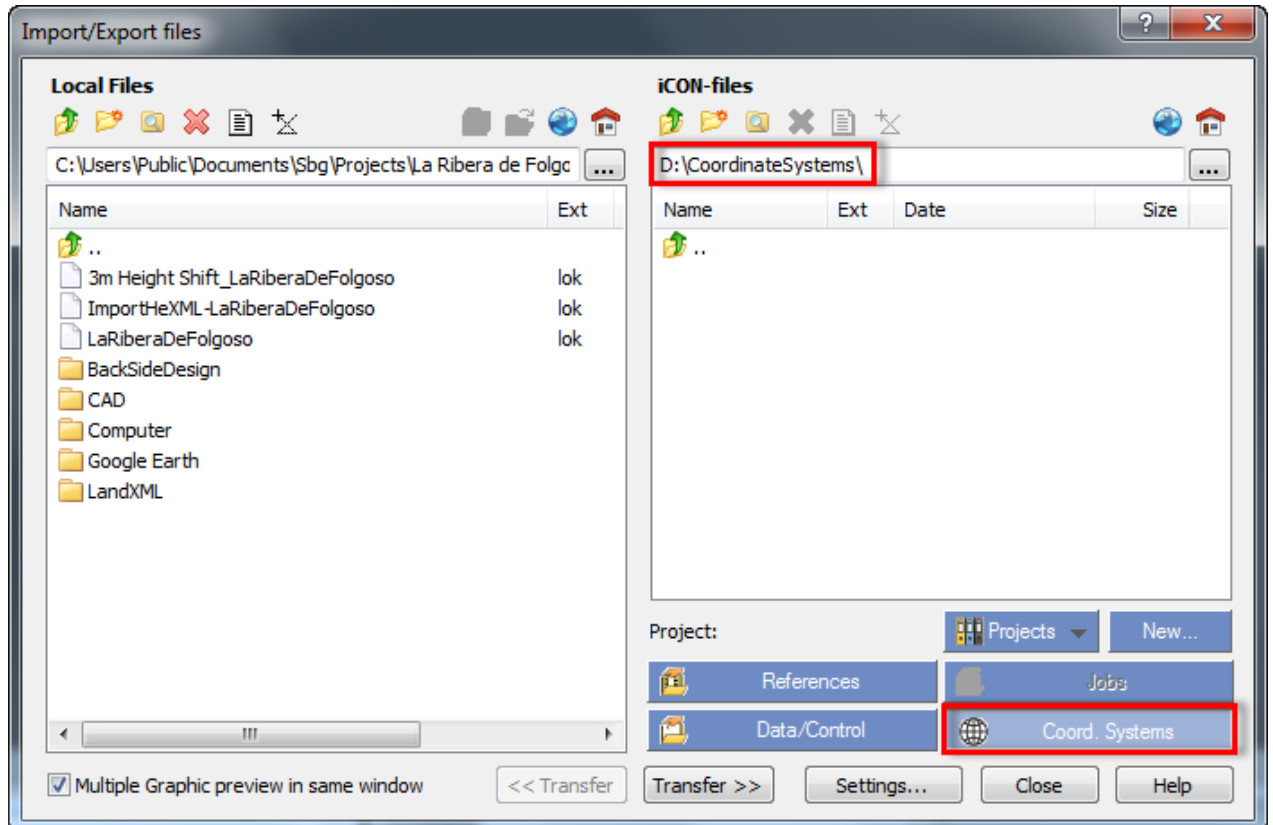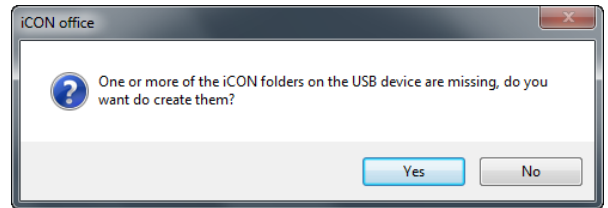
iCON site/built export dialog

1.14 *Bug Fixes and Maintenance*

- Not possible to save transformation file (*.tpf) after entering parameters for Affine transformation.
- Crash when selecting file under "External References" for DWG file on Windows 10.
- Radius was not handle correctly for source files in "Extract coordinates" with border polygon.
- If "Extract Points" is used together with a border polygon the line code was lost.
- Net adjustment did report too low relative redundancy for free net adjustments. It did not affect coordinates and separate observations, only relative redundancy for the entire net adjustment.
- Some issues with the graphic tool "Trim Line" is fixed.

2 iCON office modules

- 797955 CSW301   **Core Module** – Import/Export and basic functionality

Add-On modules:

- 797956 CSW302   **Road** – Advanced road line calculations
- 797957 CSW303   **Terrain** - Volume calculation model to model
- 797958 CSW304   **Volume** - Volume calculation by sections
- 797959 CSW305   **Tunnel** – Tunnel functionality
- 797580 CSW306   **Net Adjustment** - Network adjustment and calculations
- 832546 CSW313   **Point Cloud** – Import and filtering of scanning data

Available packages:

- 6007380   iCON office Core package, includes installation package, Core
- 6007381   iCON office Terrain package, includes installation package, Core, Road, Terrain
- 6007382   iCON office Volume package, includes installation package, Core, Road, Terrain, Volume
- 6007383   iCON office Tunnel package, includes installation package, Core, Road, Tunnel

3 Update Service (Subscriptions)

- 849563, iCON office Update Service (subscription) 1 year

- 849565, iCON office Update Service (subscription) 2 years

- 868774, iCON office Update Service (subscription) 3 years

- 868776, iCON office subscription revival
  This revival option should be used when subscription expired more than two years ago. The new subscription will be valid one year ahead from the date of purchase.

Provide serial number of the license or the hardware lock ID, when you order an extension of license (update service). Use Dongle Tool to update the USB hardware lock with the license.

4 Leica myWorld

Please use Leica myWorld to find the latest version of the software. Access Leica myWorld by using the following link:

https://myworld.leica-geosystems.com/

- If it is a new iCON office installation the HASP driver must be installed so the computer can recognize the USB hardware lock.

- Point cloud utility is the point cloud engine and must only be installed if the point cloud module is purchased.
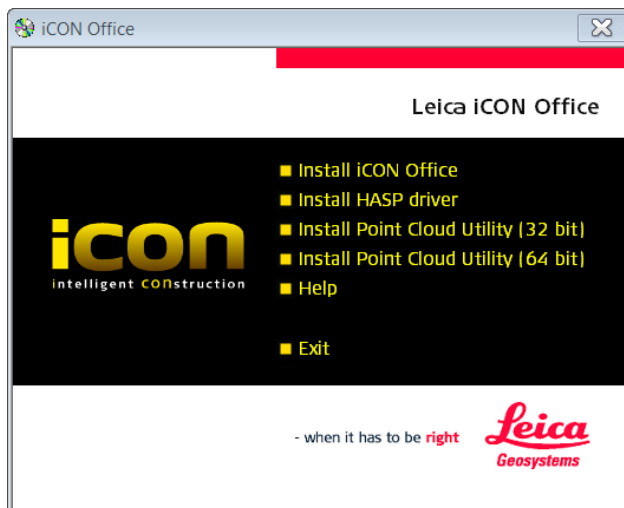
Menu of the installation package

5 Dongle Tool

Use **Dongle Tool** to update the hardware lock with extended subscription for Leica iCON office or to unlock new modules purchased for the license. Place an order using your normal order channels and when the logistics has processed your order, you can run Dongle Tool and update the USB hardware lock.
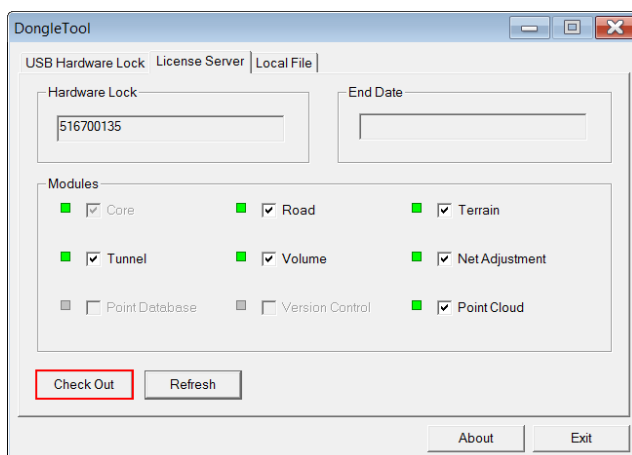
1. Insert the HASP hardware lock into the USB port.
2. Go to Start >> All Programs >> Leica Geosystems >> iCON office and select Dongle Tool.
3. To change the subscription date or to add/remove modules it is first necessary to check in the current license to the license server. This is done by pressing **Check In**.
4. Switch to the **License Server** tab. Select the modules open for use and then press **Check Out**.

This will give the hardware lock a new certificate containing the updated information.