- when it has to be **right**

Product: **iCON office**

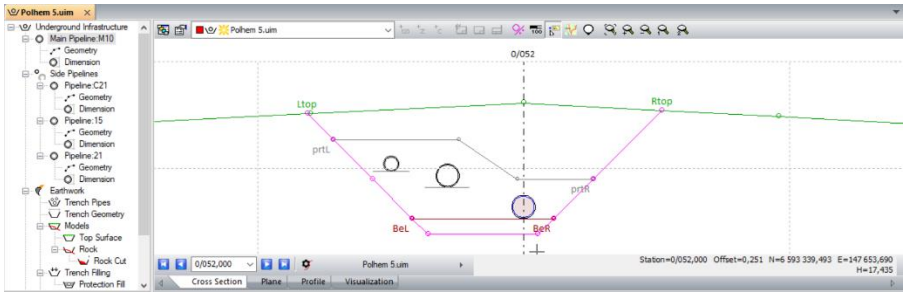
Date: 07.05.2020

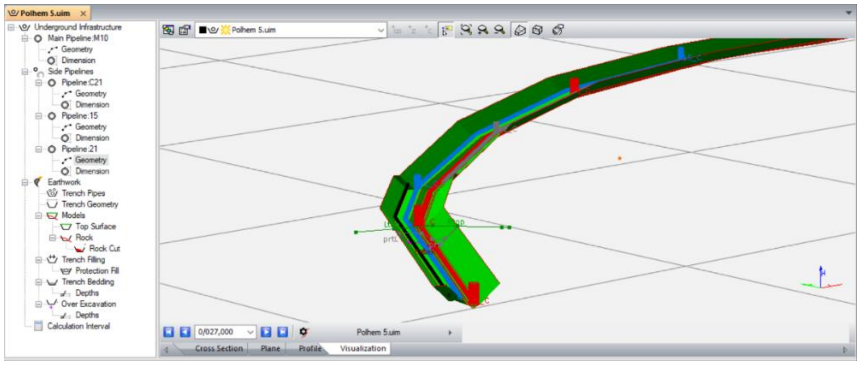
From: Torgny Israelsson

iCON office release of version 2020.2.2.15

We are pleased to announce a new release of iCON office. All users with a valid subscription will be able to install and run this new version. Verify that your subscription date expires after the build date of this version.

In this version a new license module, Trench, is released. From 3D lines, representing pipes or cables, and a set of rules, e.g. minimum distance between pipes and walls, and a user defined slope of the trench walls, a TIN model of the trench can be created. The created model can be used as a reference model in our machine control solution for excavators. The trench module is also useful for reporting and calculates the volume of the trench cut, volumes of protection and backfill. A length report for all pipes in the trench can be generated.





We haven't forgotten the small but effective improvements to speed up common workflows. The most useful graphical tools are now implemented in 3D. The connect and split polyline tool is also merged in to one tool, which will speed up editing of data. These and other improvements are described in more detail in this document.

Table of Contents

1 New Functions and Improvements

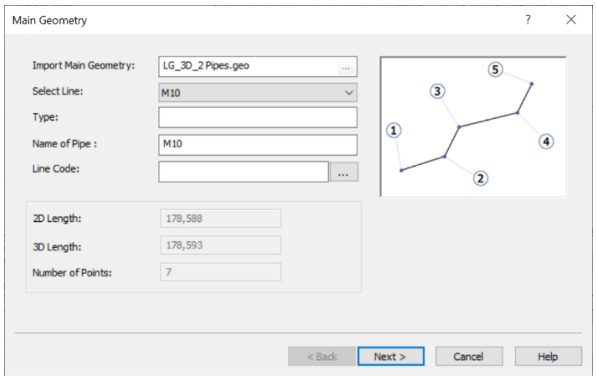
1.1 *Trench Module*

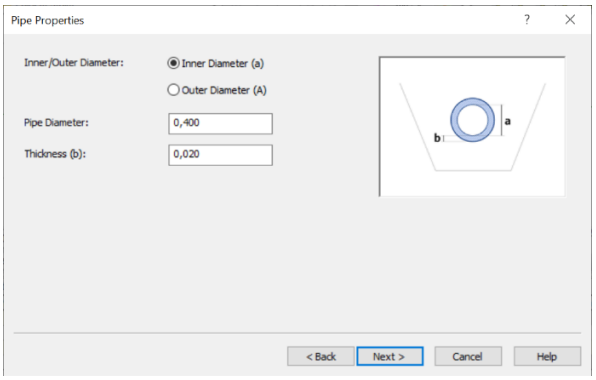
The new trench module will improve the workflow when working with underground utility projects. Input data is 3D lines with the geometry of the pipes, the user can define the minimum required distance between pipes and walls, which slope of walls that should be used, thickness of required trench bedding and iCON office can generate a model of this trench.

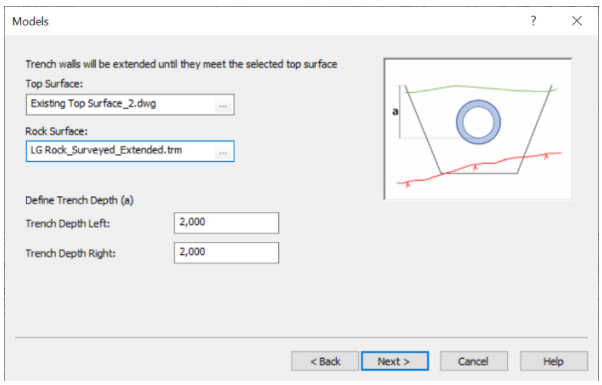
Functions connected to the trench model (*.uim):

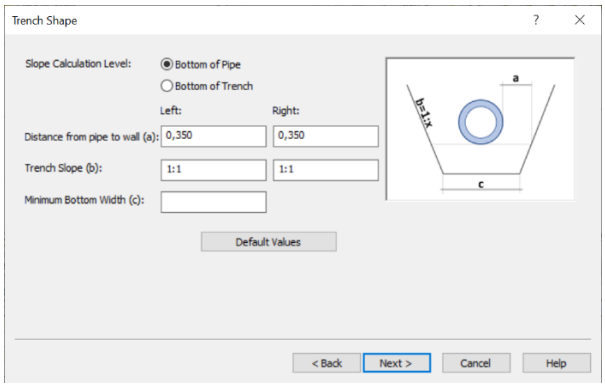
- Create excavation model
- Create cross sections
- Volume and area calculation
- Length calculation of pipes
- Create stake out data

A user-friendly wizard, with descriptive images, is used to create the dynamic cross section template of the trench:

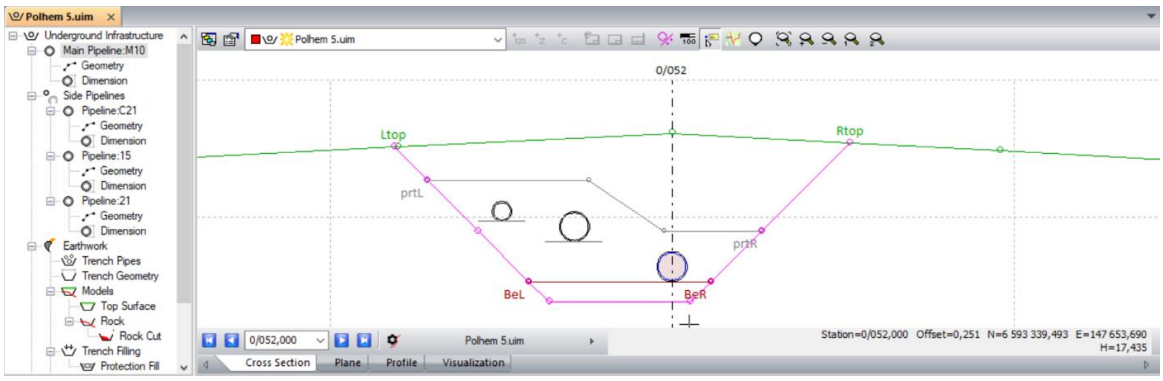








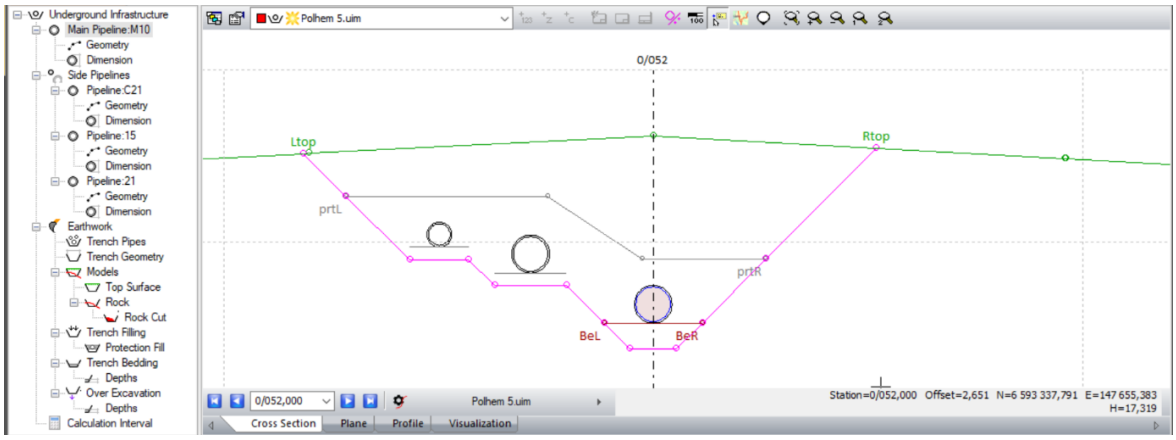
An arbitrary number of pipes can be added to the trench and the shape of the trench will be automatically updated.



Trench model with three pipes

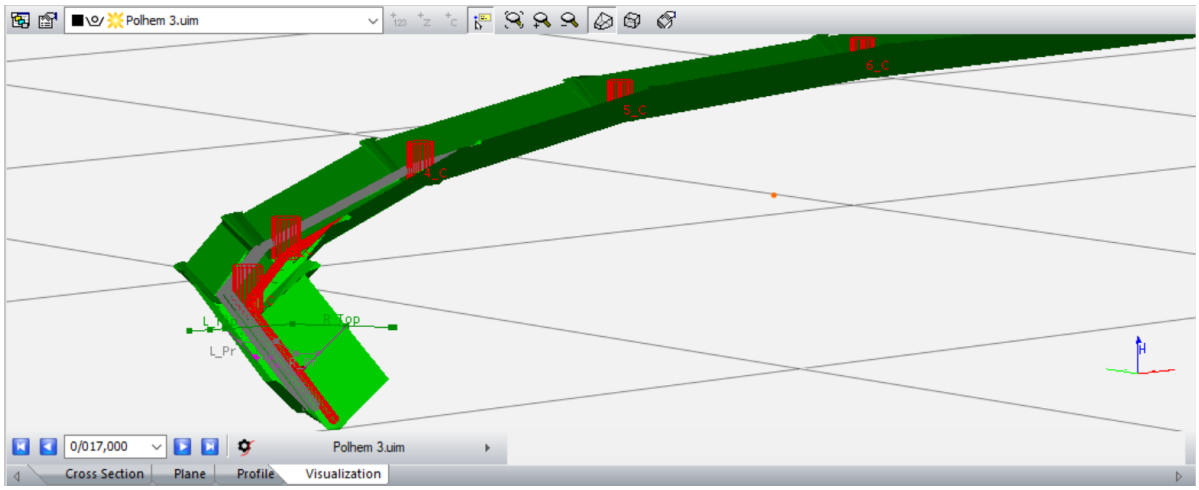
There are also options to save backfill material or limit excavation by creating shelves.

			Affects		Protection	Pipe Bedding		Limit Excavation		Side Distance		Max Side Offset	
	Pipeline	Code	Trench	Protection Fill	Filling Height	Use	Additional Offset	Account Code	Use	Shelf Depth	Left	Right	Left	Right
	M10	418	☑	☑		☐	0,200		☐					
	C21	211	☑	☐		☑	0,200	CEC	☑	0,150				
	15	438	☑	☑	0,450	☑	0,200	CEC	☑	0,150				
	21		☑	☑		☐	0,200		☐	0,200				



Cross section view when limit excavation option is selected

When working with the trench, the model can be viewed in cross section, plan, profile and 3D visualization.



3D visualization

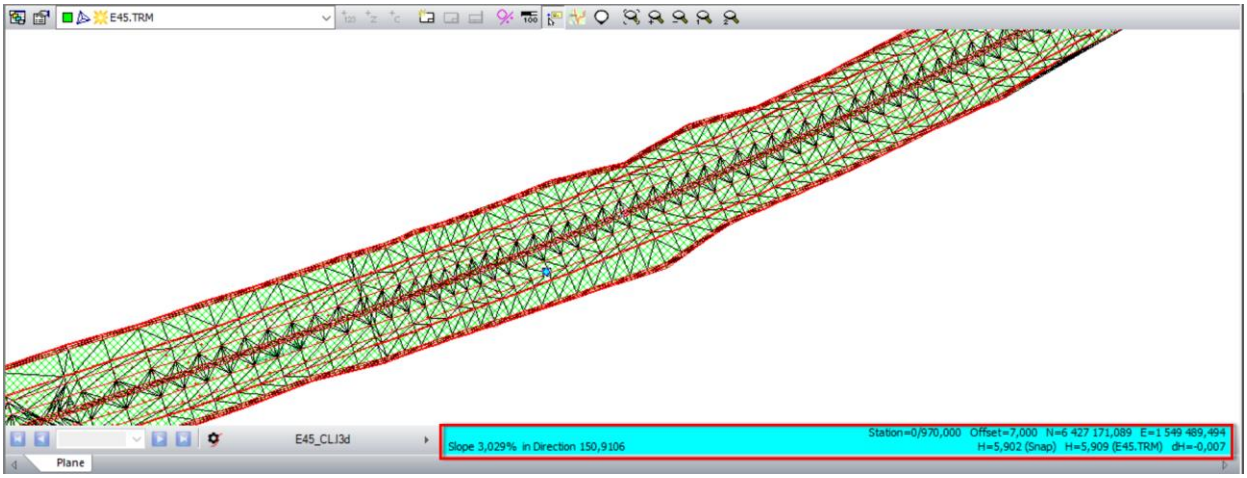
1.2 *Improvements of 2D and 3D Graphics*

The tools listed below are now implemented in 3D graphics as well:

- Split and connect lines
- Trim and extend lines
- Auto join lines
- Create road line
- Set point information

The rotation point is made more visible and break lines in terrain models are visible in 3D.

Coordinates, height, stationing and offset information are moved up to the status bar of the graphical window. Delta height (dH), in relation to a terrain model or cfm, can be displayed if e.g. the information (Info) or measure tool is activated in combination with snap functionality.



Coordinate and height info

Possible to move the camera position in the 3D view by using the following keys:

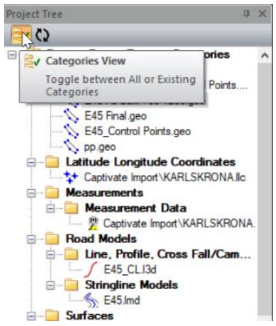
- [+] Move forward 1 meter
- [-] Move backward 1 meter
- [Shift] Moving faster
- [Ctrl] Moving slower
- [<] or [A] Turn left
- [>] or [D] Turn right
- Arrow up or [W] Turn up
- Arrow down or [S] Turn down

In the 3D Graphic Properties, it's possible to turn on an overview window to facilitate the navigation.

1.3 *Project Tree*

A toolbar is added at the top of the project tree with two icons.

One is to refresh the project tree. The second icon is an option to toggle between showing all or only existing categories, which will give a cleaner impression of the project tree.



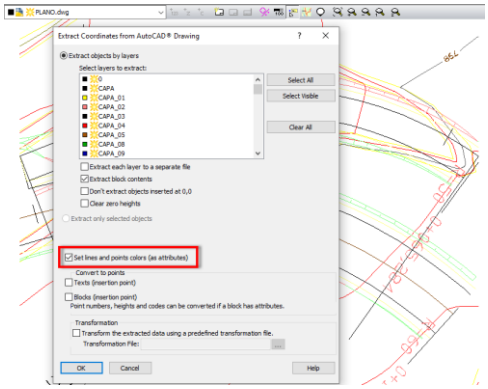
1.4 *Connect and Split Poly Lines*

To speed up the work to edit data, the two tools, connect and split polyline, are merged into the same tool. Connect functionality, when clicking over a point and split, when clicking over a line.

1.5 *DWG/DXF*

New function to get correct line and point color when importing from DWG/DXF, i.e. using "Extract Coordinates from AutoCAD Drawing" and selecting the option "Set lines and points colors (as attributes)".

DWG content with 0 height is drawn on the reference grid in the 3D view.

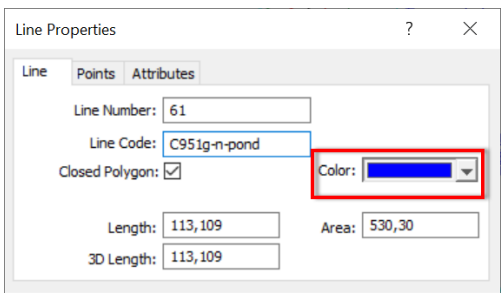


1.6 *LandXML*

If a LandXML file contains PipeNetworks, the user can select to create a trench model (*.uim) directly in the import, or as lines in a coordinate file.

1.7 *Coordinate Files*

New function to edit color of points and lines in a coordinate file. The function is added to the property dialog for selected point or line. So even if point and lines are saved in the same coordinate file (*.geo), they can have different colors.



Coordinate files can be opened directly in numerical, 2D graphical or 3D graphical window from the project tree.

The function, Coordinate File Reports, is improved so it can include all attribute columns in the generated report

.

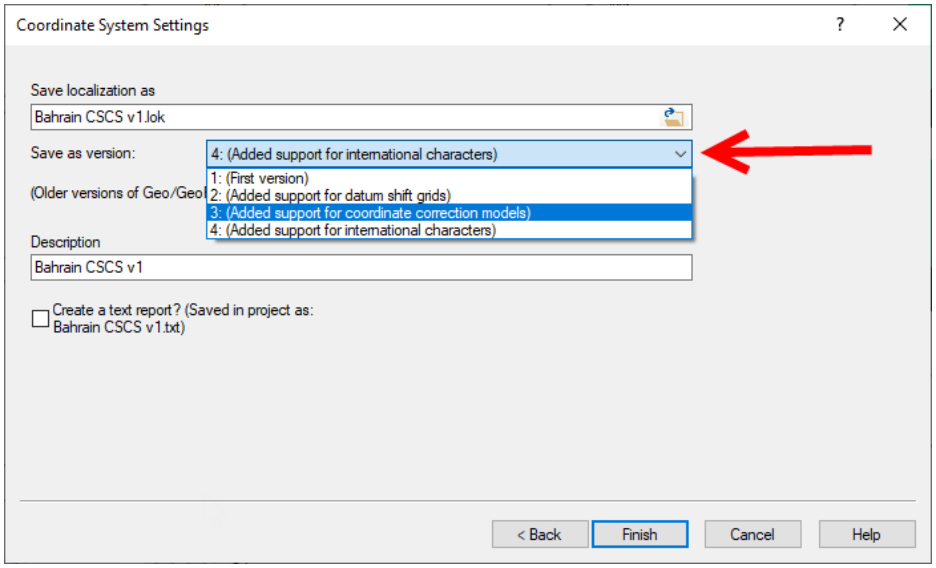
1.8 *Surveying*

Possible to calculate free station with only one recorded distance.

1.9 *System*

iCON office is now adapted to support file names encoded in UTF8, which means that iCON office supports international characters in both file names and file content.

Be aware, because of this, the version of coordinate system files (*.lok) is updated to version 4. If the user imports or creates coordinate system files in iCON office and the files will be used by older versions of iCON site or iCON 3D, it makes sense, at least during a transition phase, to save the resulting lok-files as version 3.



1.10 *Bug Fixes and Maintenance*

- Default font for text in graphics is changed to Calibris
- Updated help text
- Finding objects in DWG in 3D doesn't work. Fixed
- Bug when using the function Modify Cross Sections. Fixed
- The buildup layers (bup) were lost when editing the nsd file in mbs. Fixed
- The snap tool, Snap to Midpoint, could snap to single points in some cases. 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
- 906348 **Trench** – Underground utilities module (requires Terrain module)
- 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

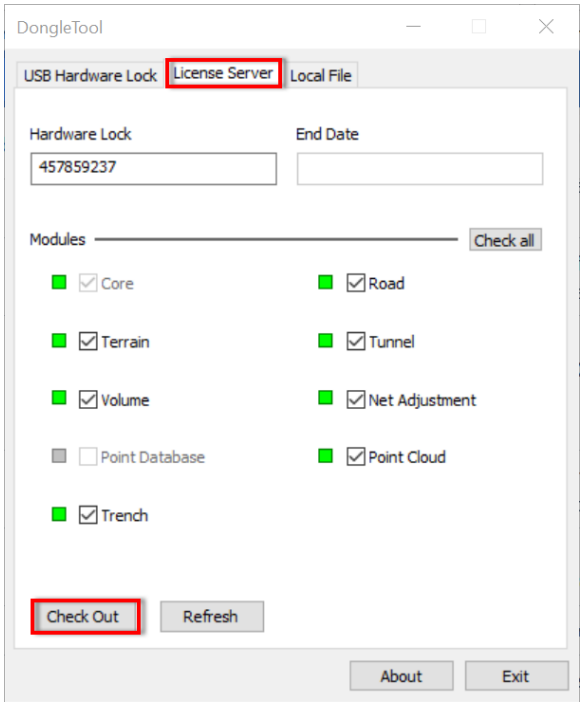
Please use Leica myWorld to find the latest version of the software. Access Leica myWorld by using the following link:

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.

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. Start 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 license information.