



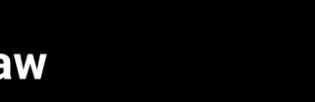
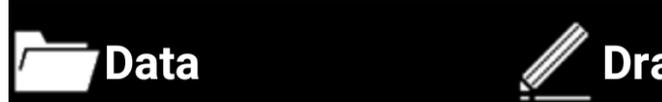
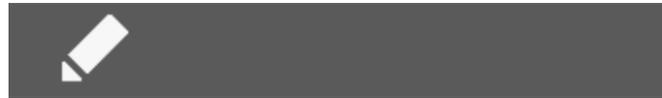
# X-PAD Ultimate

Service Pack 1 2020

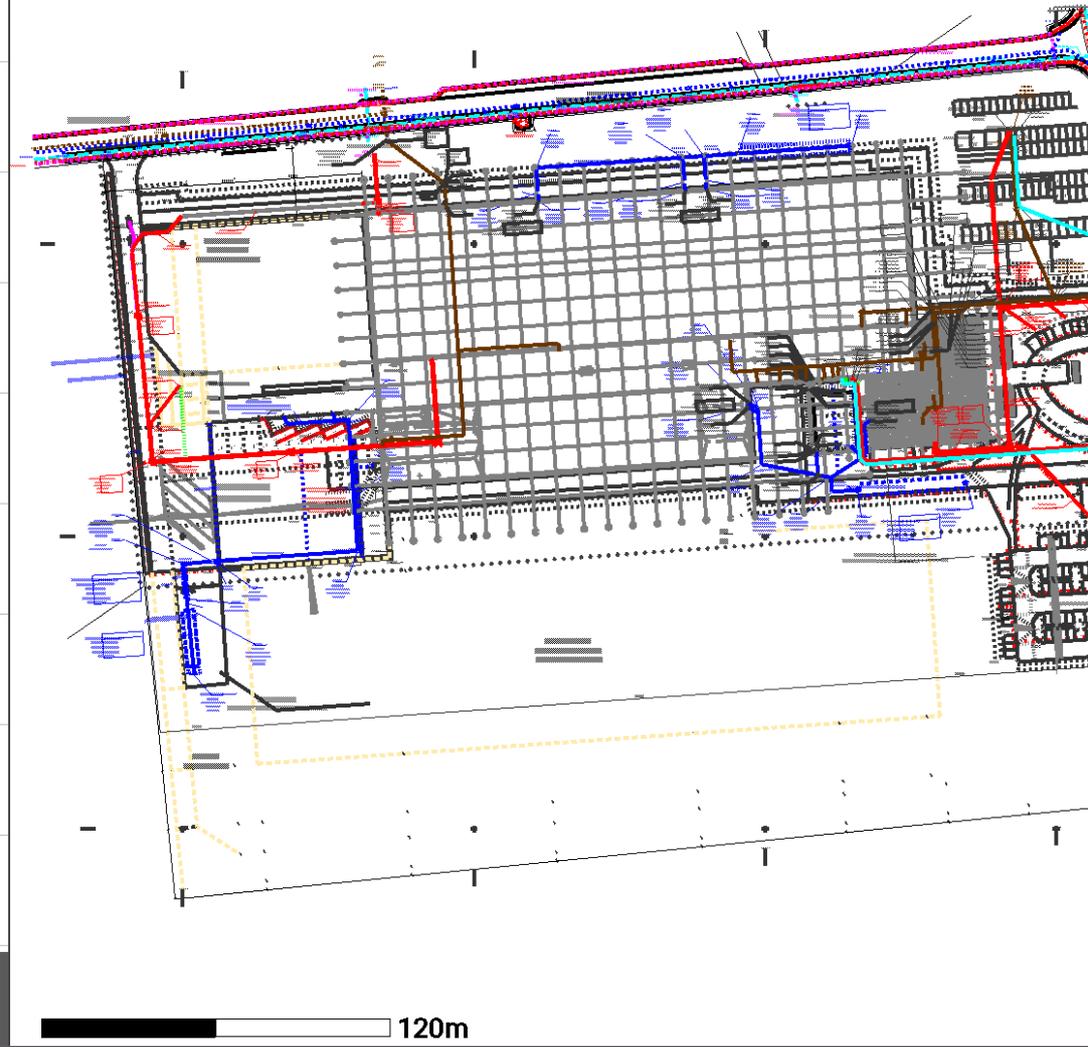
Spring 2020



				
<input checked="" type="checkbox"/>		0		
<input type="checkbox"/>		0_909		
<input type="checkbox"/>		0_910		
<input type="checkbox"/>		0_910_BK0-3		
<input type="checkbox"/>		0_914_VERSIC...		
<input type="checkbox"/>		0_BE_EINRICH...		
<input type="checkbox"/>		0_PL_BAUM		
<input type="checkbox"/>		0_PL_BAUM_WR		
<input type="checkbox"/>		0_PL_BELEUC...		
<input type="checkbox"/>		0_PL_BELEUC...		



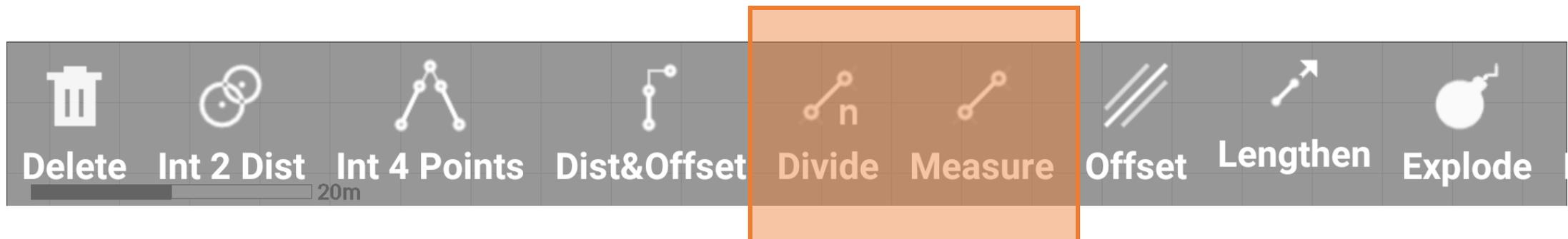
CAD



# Divide & Measure on multiple objects

The Divide and Measure commands allow to automatically create topographic points along the selected CAD object. With the new Service Pack it is possible to select **multiple objects** and divide/measure each of them in one single step.

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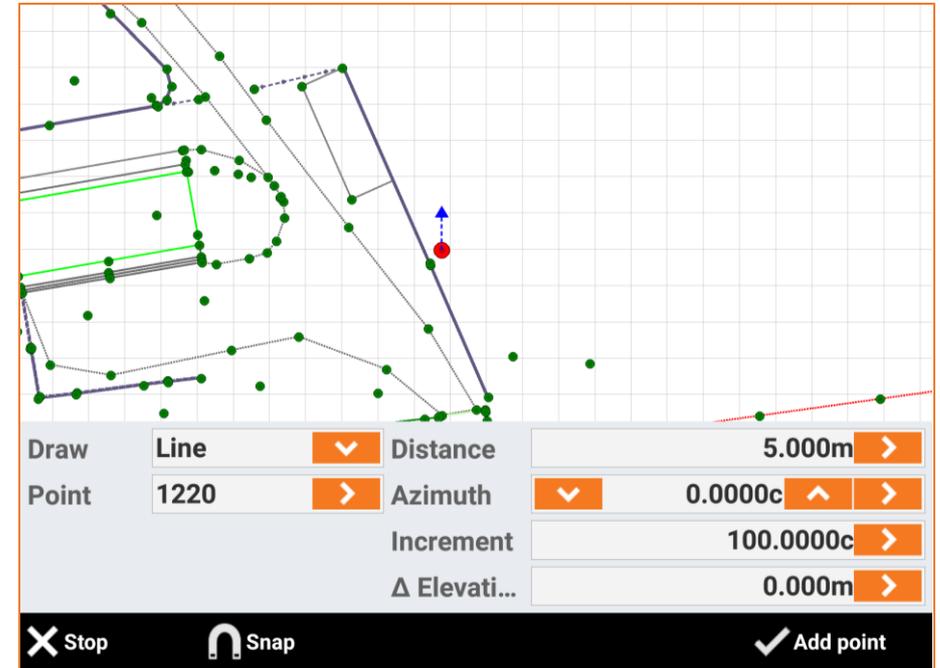
# Join command

The new **Join command** allows to merge together several entities with one point in common. If you have multiple lines that you need to manage as a single polyline, Join command do that. This means that you can solve a lot situations in the field with one click.



# Layout command improvements

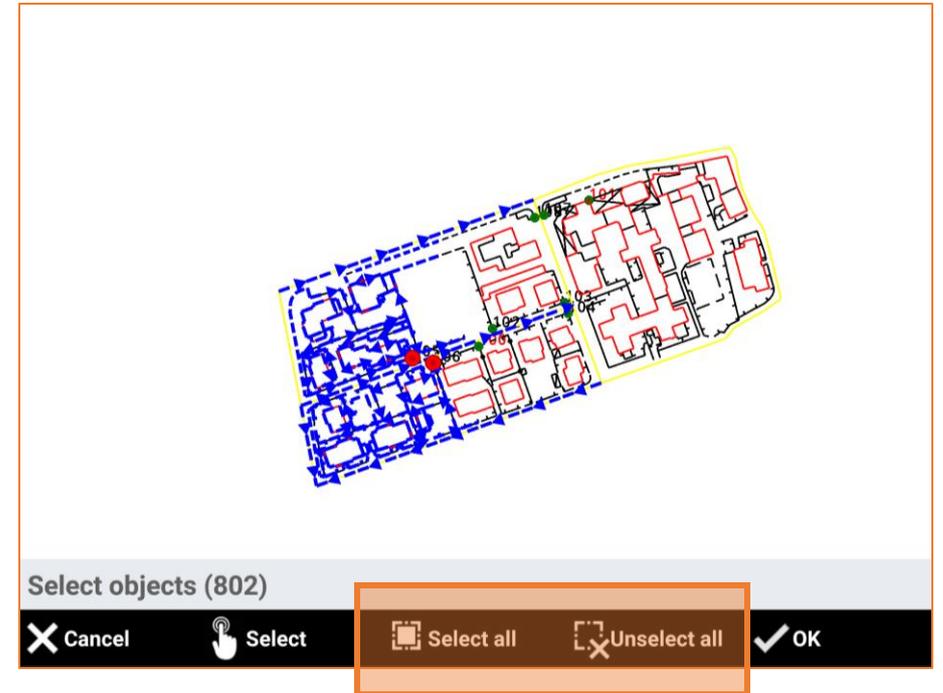
The Layout command is a very intuitive tool that allows to create points and lines easily. The **starting point** no longer has to be a topographic point but can be defined at every position.



# Selection

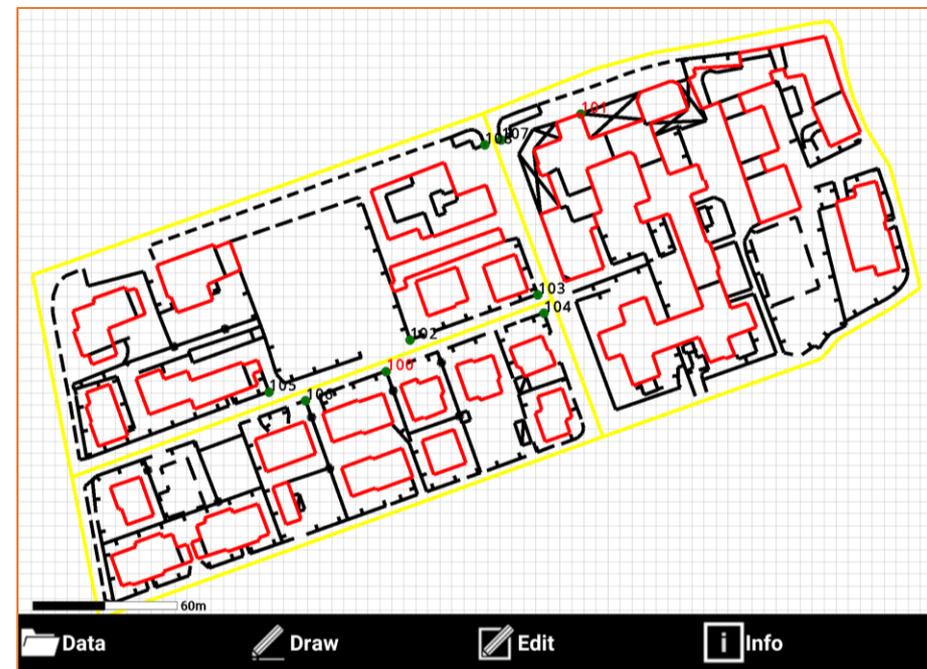
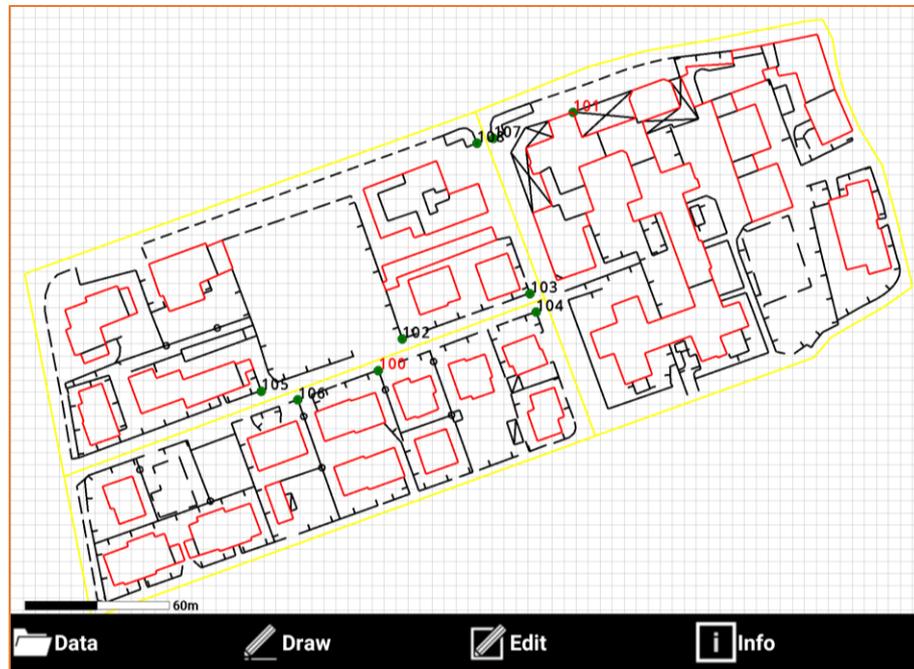
Several significant improvements have been done on the object selection:

- If an object has been selected, it can be **unselected** by clicking on it again
- Two new buttons allow to **select all** the objects or **remove the selection**



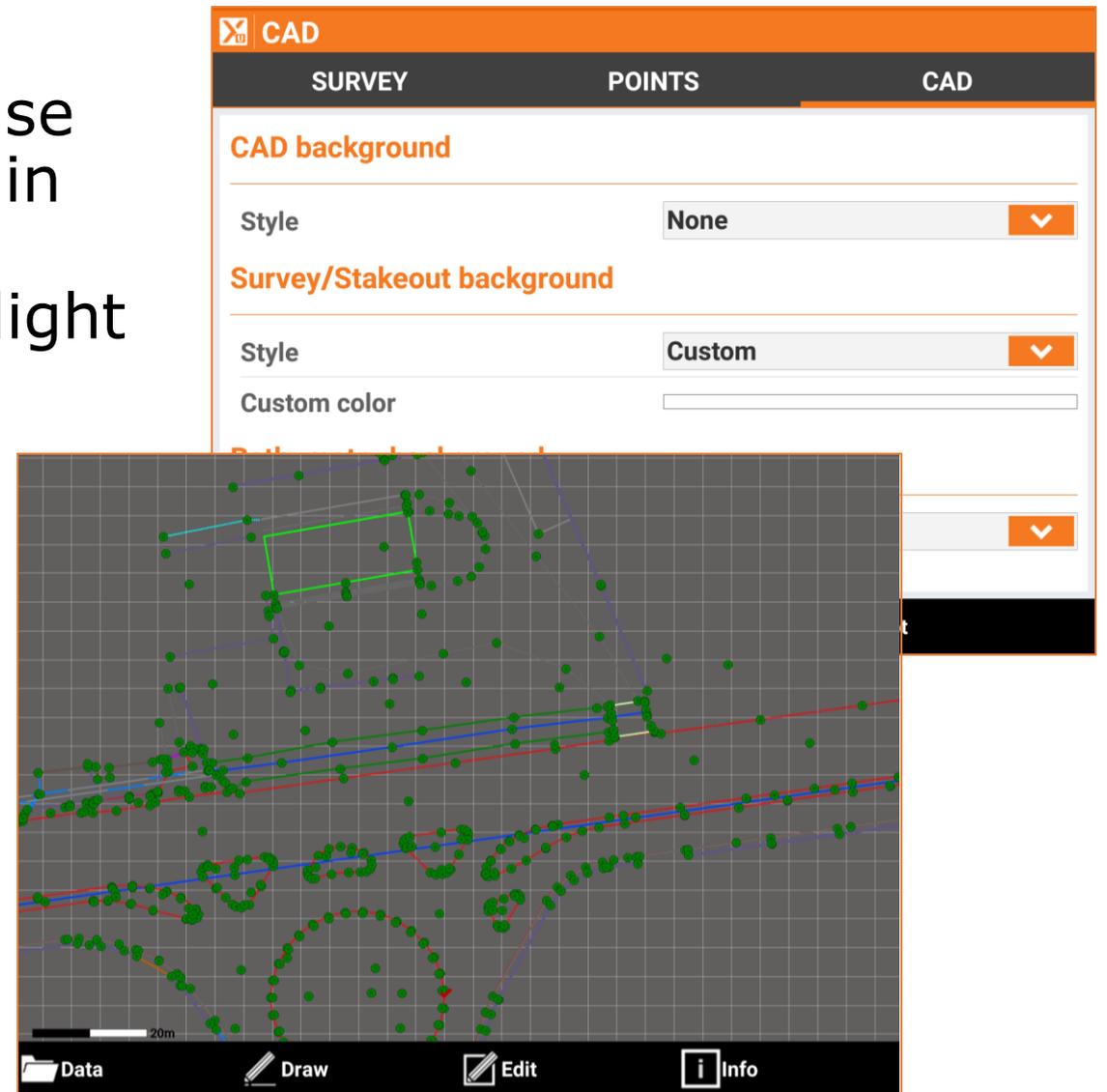
# Line double thickness

The **Line double thickness** option allows to increase the thickness of the drawing objects. Displaying elements in double thickness makes them better visible. This is very useful in conditions with low visibility as, for example, sun exposure.



# Background color

This nice feature allows to customise the background colour of the CAD in the main view. This option is very useful if light colors like yellow or light gray are used for drawing objects.



# Symbol of topographic points

Symbols and labels used to display topographic points have been improved to offer a better readability.



# Snap symbols

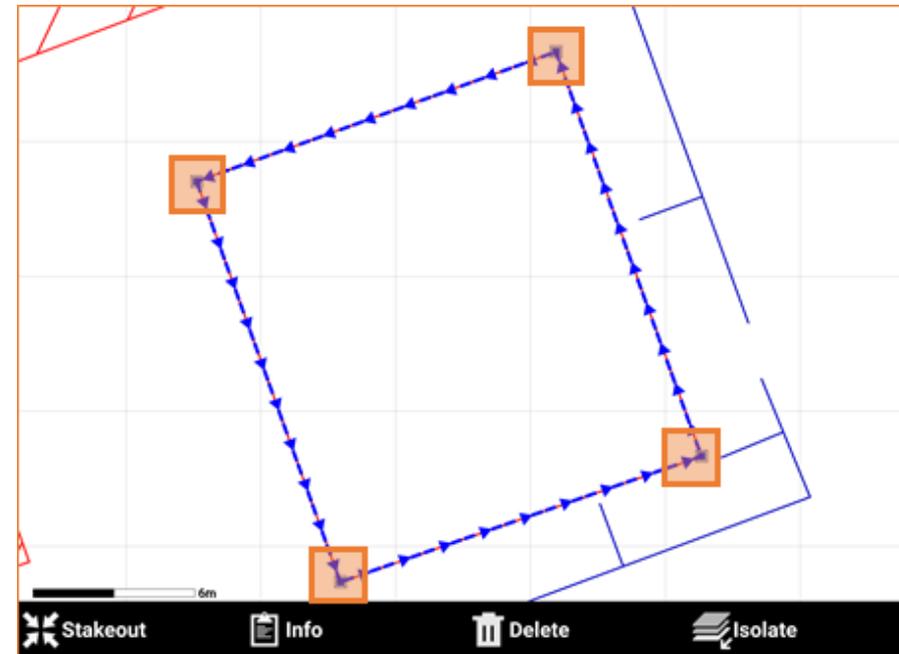
Snap to object is an essential part of the drawing functions and offers the possibility to connect your drawing to existing coordinates (end of a line, intersection, perpendicular etc.).

The new Multiple snap mode makes sure your element gets snapped to the right coordinate if there are multiple options for it to be fixed to. The symbol corresponding to the selected snap is displayed before to get the coordinates.



# Symbol on vertices

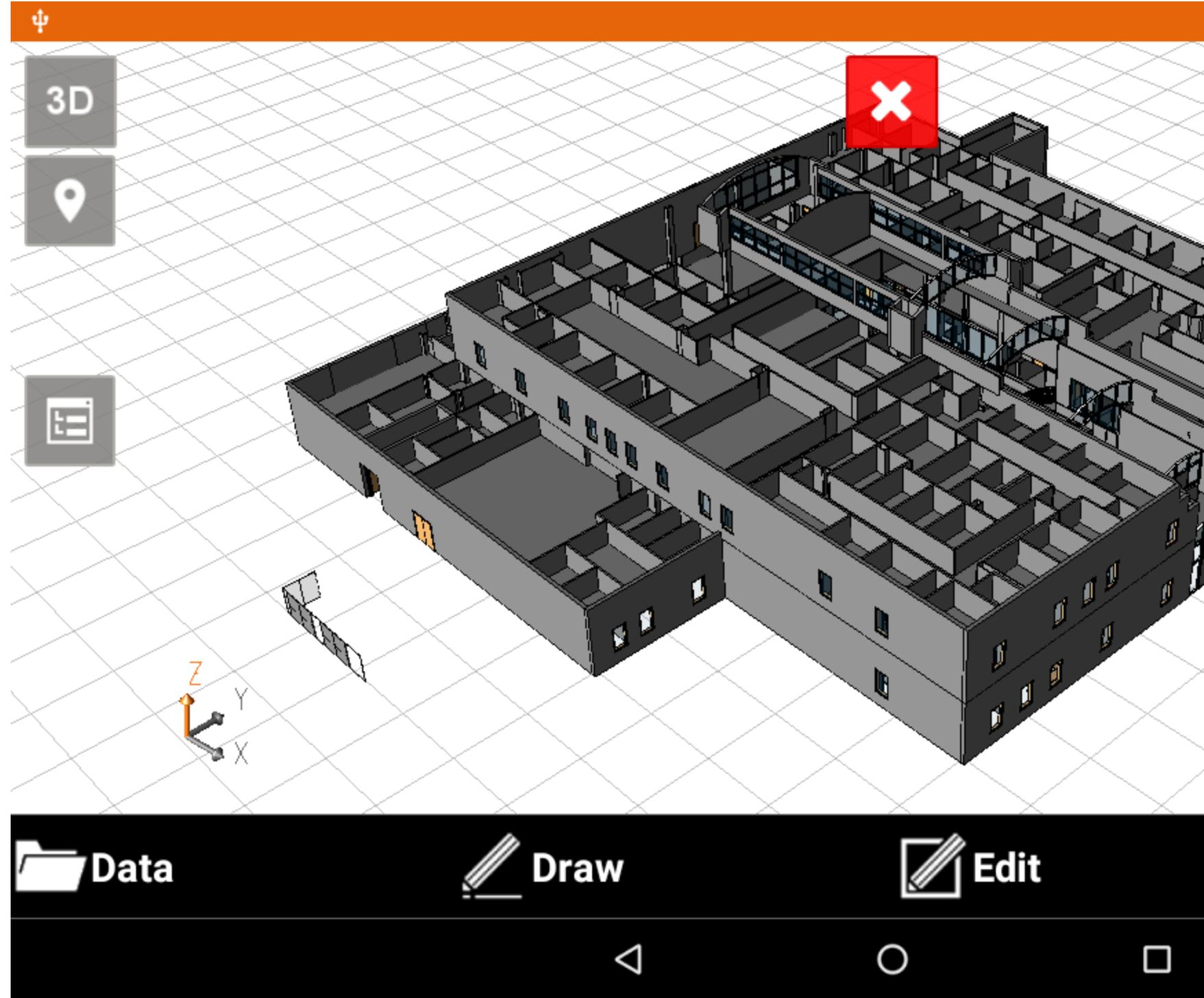
A small symbol on the vertices of the selected entity is now displayed; vertices of the element are in this way better identified.





# 02

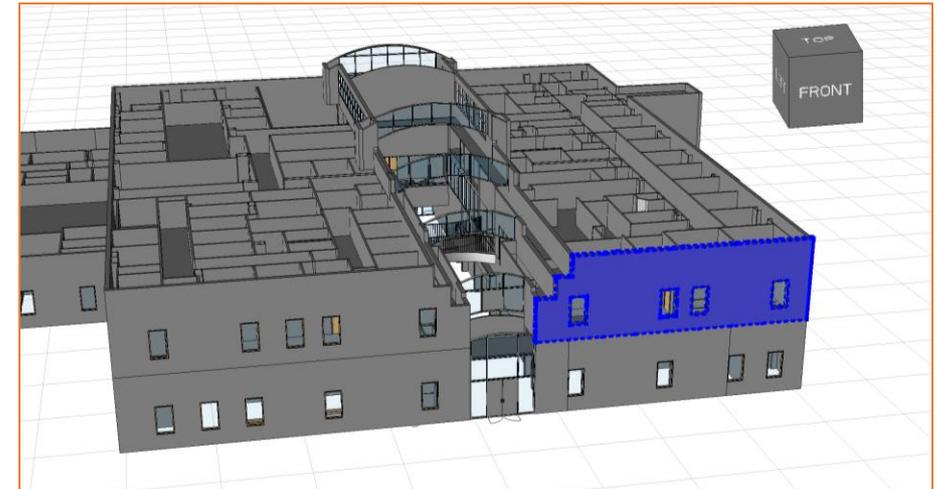
BIM



# BIM

From now on you can easily access all design properties of the BIM elements on the construction site using INFO command.

In this way your BIM module become a valid tool not just to stakeout designs in the field but also for BIM assistants.



Info object	
IFC Entity	
Name	Basic Wall:Exterior - Insul Panel on Mtl. Stud:130954
TYPE	IFCWALLSTANDARDCASE
Pset_WallCommon	
Reference	Basic Wall:Exterior - Insul Panel on Mtl. Stud
LoadBearing	No
ExtendToStructure	No
IsExternal	Yes
PSet_Revit_Constraints	
Location Line	?



**GE**  **MAX**

**03**

**GNSS**



# GPRS fast connect and disconnect

In some cases, and for certain applications, it is necessary to **frequently disconnect and reconnect to the GPRS/NTRIP service**. This was possible before but required a cumbersome process. For now on all it takes is a **long-press** on the GNSS status panel to interrupt or restore the connection.



# E-Bubble temporary deactivation

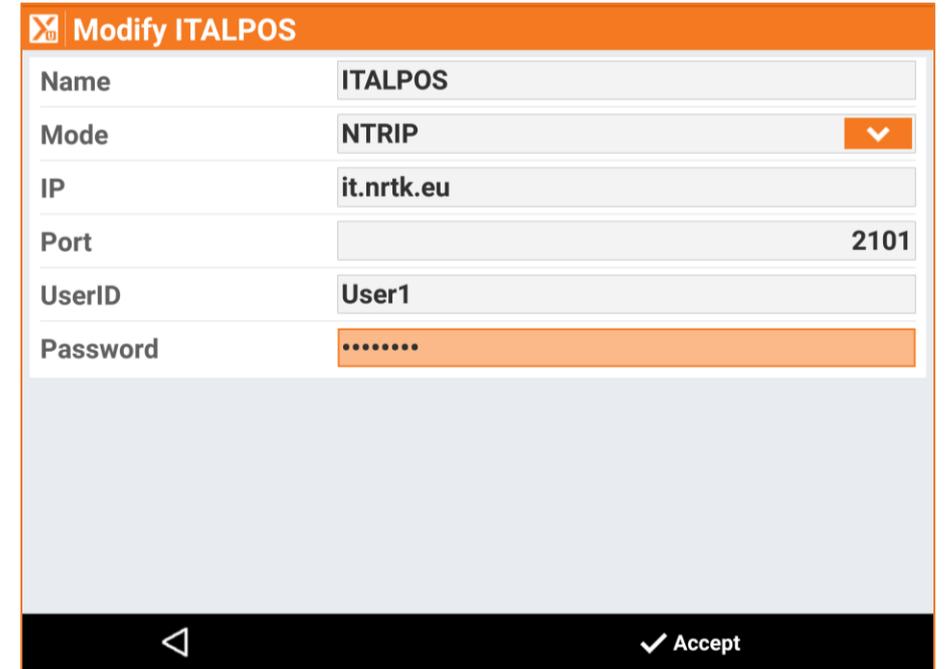
E-Bubble check is a popular feature in X-PAD Ultimate that uses inclination sensors (from the controller or from the receiver) to avoid storing positions if the pole is not fully vertical.

Now it is possible with one single click to **temporarily deactivate** the use of the sensors and store positions without any check.



# NTRIP password

For partners who run a rental business, it is now possible to **hide the NTRIP password** to prevent abuse after the rental is completed. Please contact the support team to activate this option.



The screenshot shows a mobile application interface for modifying an ITALPOS entry. The form is titled "Modify ITALPOS" and contains the following fields:

Name	ITALPOS
Mode	NTRIP
IP	it.nrtk.eu
Port	2101
UserID	User1
Password	.....

At the bottom of the screen, there is a navigation bar with a back arrow on the left and a checkmark icon followed by the text "Accept" on the right.

# NTRIP error messages

If the connection to the NTRIP server goes wrong some specific error messages have been added in order to help the user to identify the problem. The most common problem are **wrong UserID and Password**. This is now clearly recognisable.

The screenshot displays a mobile application interface with two main sections. The top section, titled "GNSS Receiver info", contains a table of receiver details. The bottom section, titled "NTRIP Messages", shows a list of error messages with timestamps.

Receiver info	
Battery A	90%
Serial Num.	3130014
Model	Zenith 25
Firmware	3.13
GLONASS	Available
GALILEO	Available
BEIDOU	Available

NTRIP Messages	
11:36:22	No internet connection available.
11:35:42	Password or UserID not valid.

# Ellipsoidal distance & azimuth

In CAD Distance command and in COGO Distance command it is now displayed the **Ellipsoidal distance & the Ellipsoidal azimuth** between the two selected points.

Distance		
<b>Result</b>		
Distance	2D	18.134m
	3D	18.134m
	$\Delta E$	-16.742m
	$\Delta N$	-6.968m
Height difference		0.164m
Azimuth		274.8923c
Zenith		99.4254c
Slope		0.90%
Ellipsoidal distance		18.139m
Ellipsoidal azimuth		310.6529c

# Radio advanced configuration

In order to accomplish radio regulations active in several countries, the access to some advanced settings of the radio are now protected by a password.

The advanced settings affected are radio frequencies and spacing.

The password is provided only to dealers and support team.

Existing users are affected by these changes unless they want to modify the frequencies or spacing.

**GE**  **MAX**

**04**

**TPS**

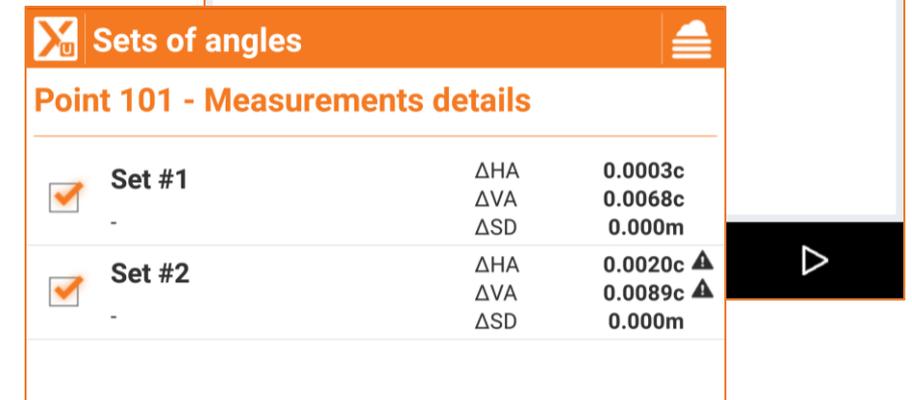


# Sets of angles

Sets of angles is a function that allows you to perform multiple calculations with predefined points. The data of all the measurements are used to calculate the average values of distance and direction, and to calculate new coordinates. This command was available only on Windows Mobile version, now it is available also on the Android version.



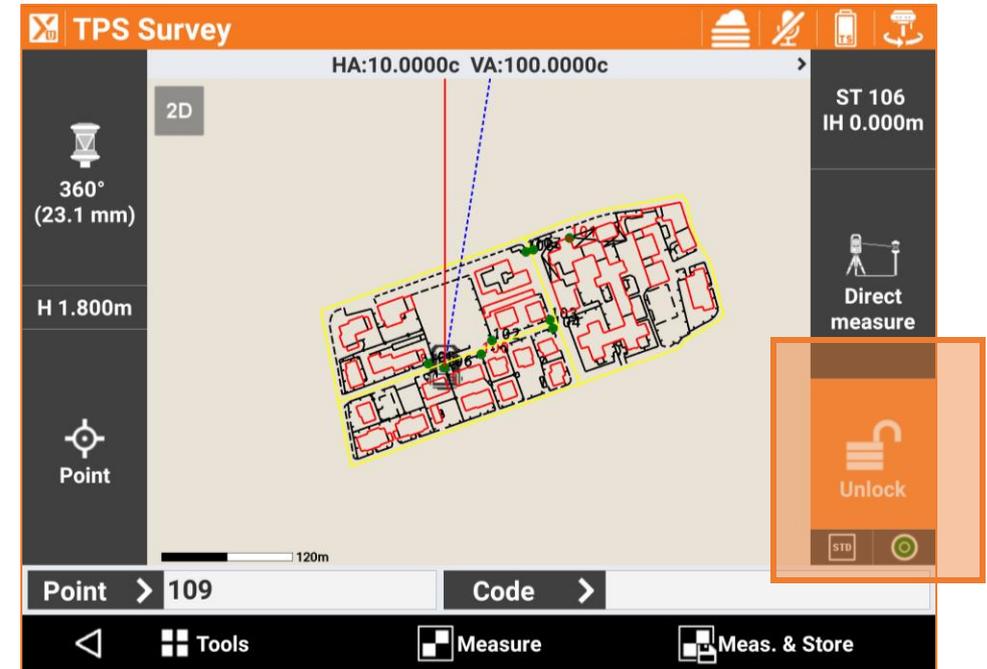
Sets of angles		
Point list		
 101 H: 1.800m		31/01/2020 09:59:28 >
 102 H: 1.800m		31/01/2020 10:00:19 >
 103 H: 1.800m		31/01/2020 10:01:58 >



Sets of angles		
Point 101 - Measurements details		
<input checked="" type="checkbox"/> Set #1	$\Delta$ HA	0.0003c
	$\Delta$ VA	0.0068c
	$\Delta$ SD	0.000m
<input checked="" type="checkbox"/> Set #2	$\Delta$ HA	0.0020c ▲
	$\Delta$ VA	0.0089c ▲
	$\Delta$ SD	0.000m

# Search prism

A shortcut has been introduced to run the prism search. As you **press longer on the «Lock» icon**, prism search will start directly without the need to select the corresponding command in the «Robotic» window.



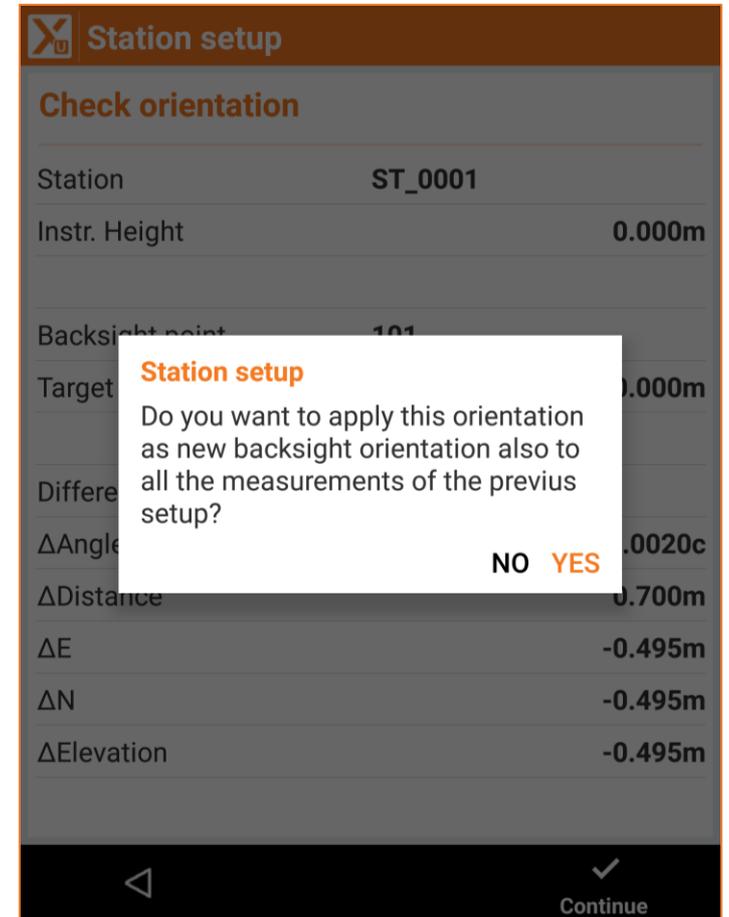
# TPS – tracking mode

A couple of improvements have been introduced for the work with the total station used in the tracking mode:

- In Survey it is now possible to **change the Point name** even during measurements
- When staking out it is now possible to **accept and store** the position without stopping the measurement

# Check TPS orientation

During a TPS survey it is a good practice to check if the orientation is still valid or if, for some reasons, the TPS orientation is no more accurate. The Check TPS orientation command allows to perform this check. If after the check you want to apply a new orientation, it is possible to **adjust also all the previous measurements** with the new setting and not only the following ones.

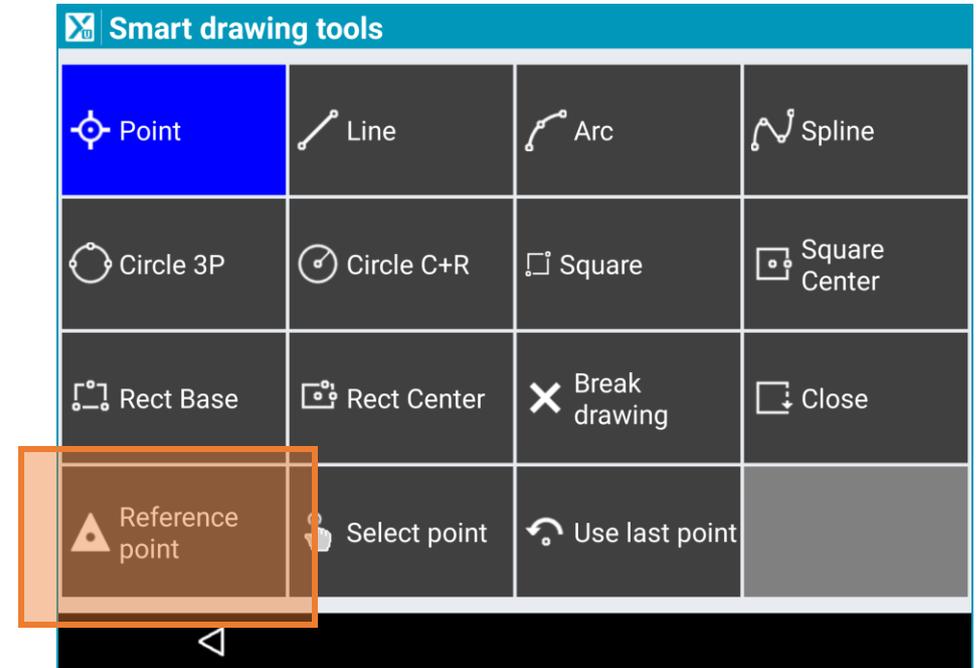


# Measure reference point

BUILD version

In a construction site it is very important to define the reference points that will be used daily to setup and orientate the TPS.

A new option allows to **measure and store reference points**; this is much more straight forward than measuring standard points and then transfer them to the list of reference points.



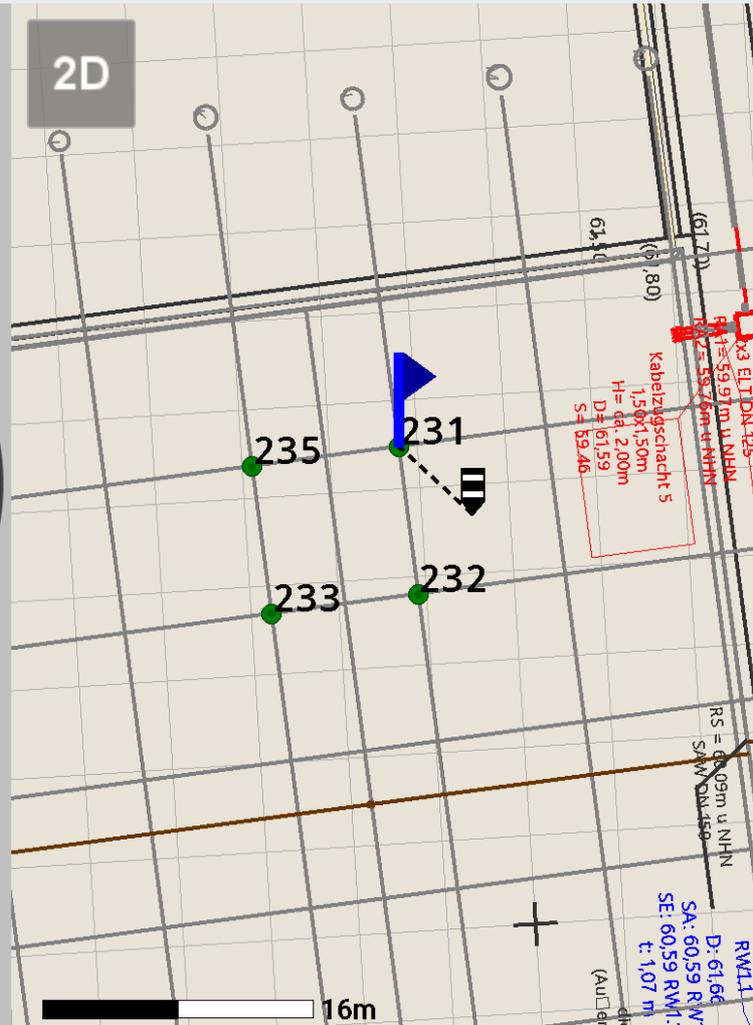
HA:13.1000c VA:103.3300c

5.722m

0.017m

-0.050m

5.722m



Point > 231

360° (23.1 mm)



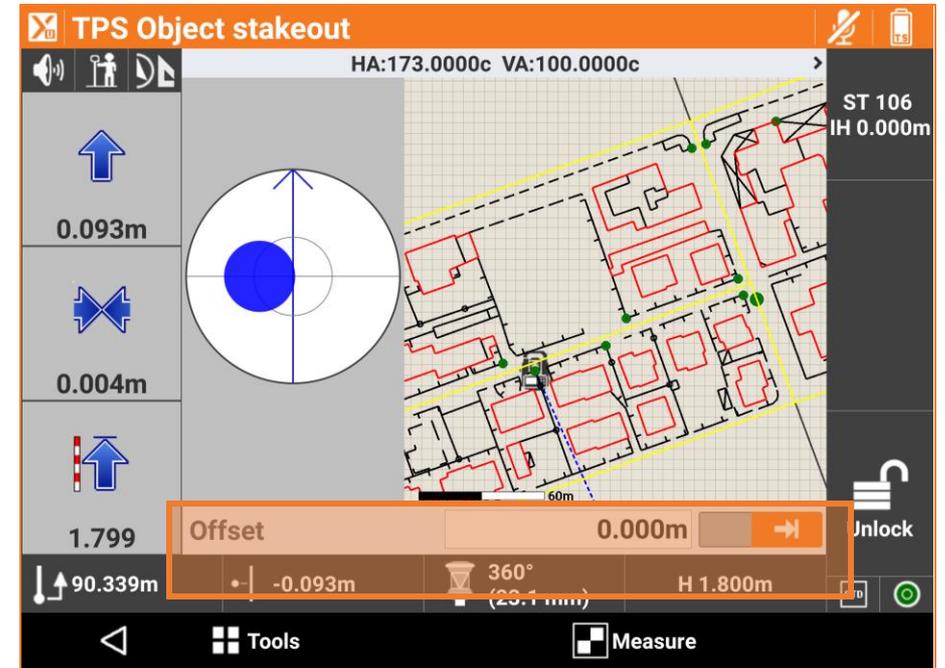
05

Stakeout

# Stakeout object

Stakeout of object allows you to find the position of every type of drawing element with the possibility to define an offset in addition. To change the offset now is no more necessary to go back to the previous window but can be done directly on the stakeout window.

This option, together with the possibility to select the object to stakeout, offers everything in one single window.





06

COGO

**Reference line**

HA:13.1000c VA:103.3300c

129.181m

-1.316m

0.052m

St.:15.166m

Off.: -0.989m

360° (23.1 mm)

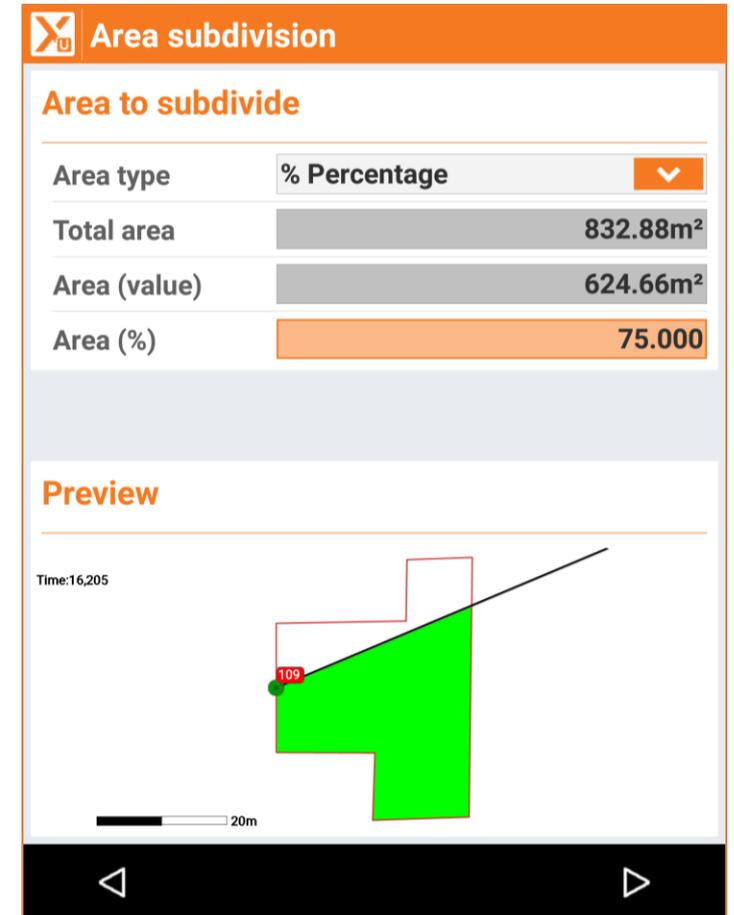
Accept

Me

# Area subdivision around a point

The Area subdivision command allows to divide a parcel or a polyline by defining a subdivision line and the size of the area to divide. This command has been improved with a new option for the subdivision line: **subdivision around a fixed point**.

Based on a fixed point and the size of the area to be subdivided, X-PAD Ultimate calculates the correct position (using the fixed point as the center of rotation) of the subdivision line that delimits the defined area.





07

Road

# TPS Road Stakeout

HA:13.1000c VA:103.3300c

0.124m

0.348m

-0.516

0.370m

10m

St.:499.642m

Off.: -10.009m

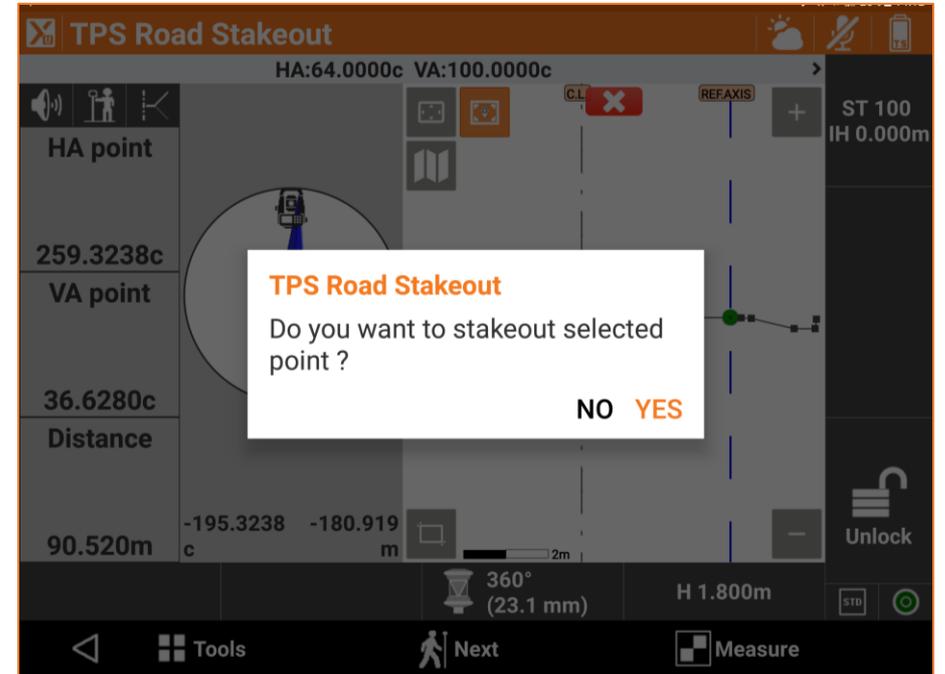
360° (23.1 mm)

Accept

Me

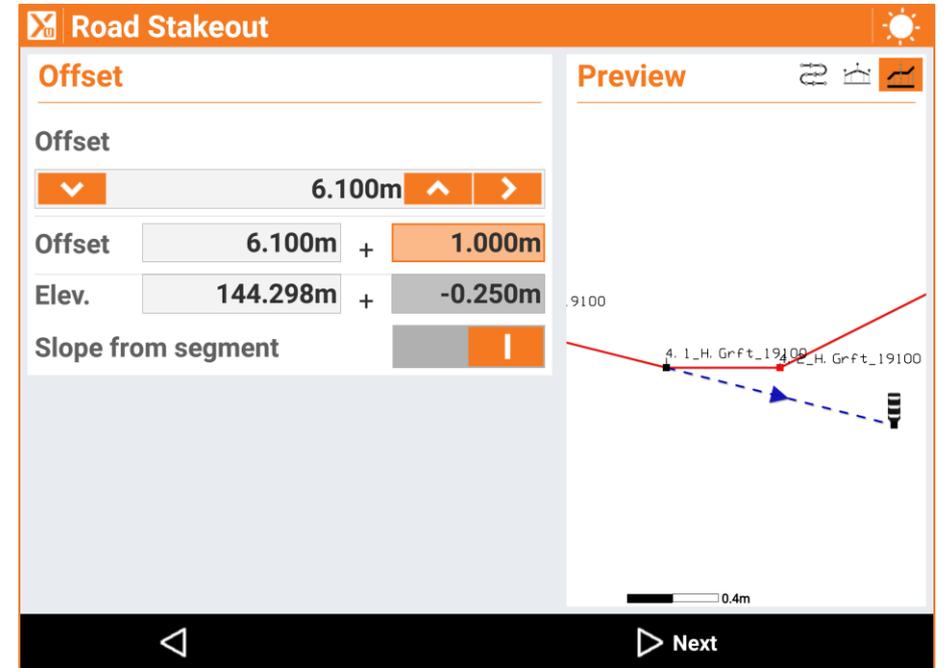
# Selection of the point to stakeout

The Road stakeout command allows to specify a station along the road and stakeout some points on it. This point can now be selected directly in the stakeout window both **from the section view and from the planimetry view**. It is no longer necessary to go back to previous windows to specify the point to stakeout; everything can be done in the stakeout window.



# Extend stakeout segment

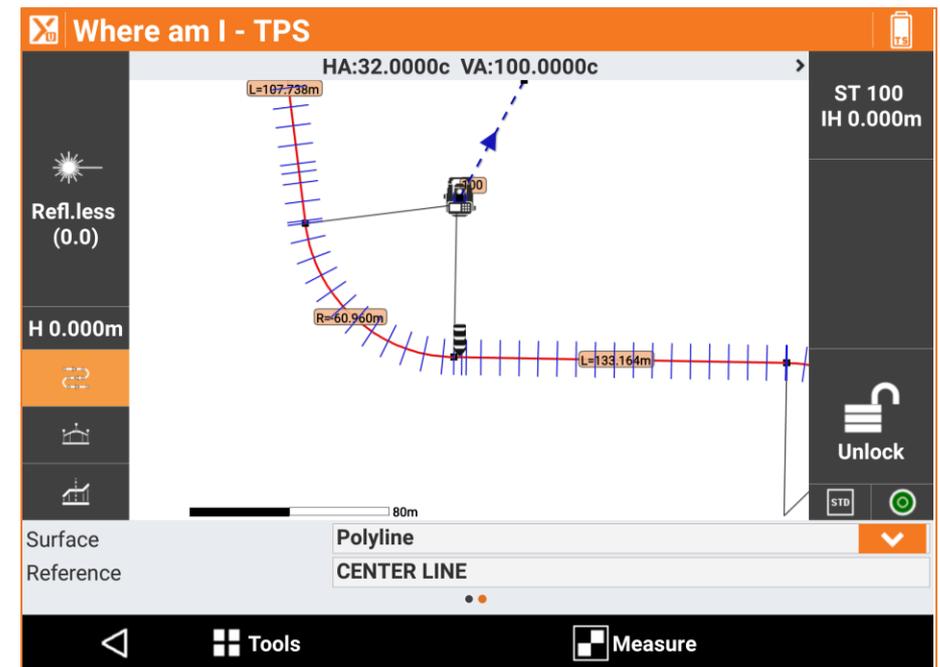
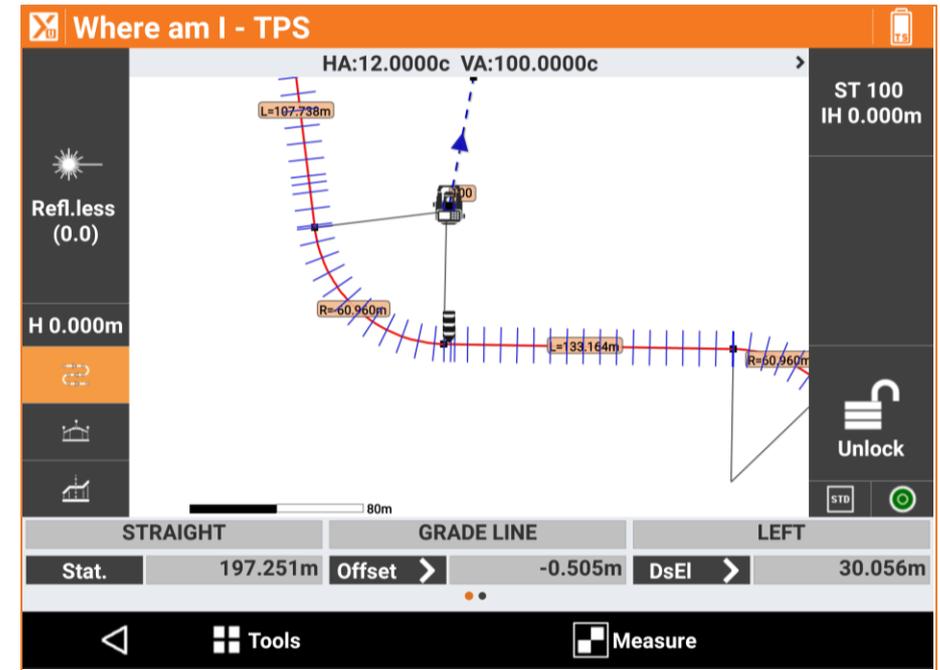
When stakeing out roads it could be useful to place the stake not exactly on the correct position but more external with an additional offset. The offset has to maintain the slope of the segment: for this reason the option **Slope from segment** has been introduced. If the stake has to be placed 1m out of the correct position, the elevation is calculated considering the current slope of the segment.



# Where am I

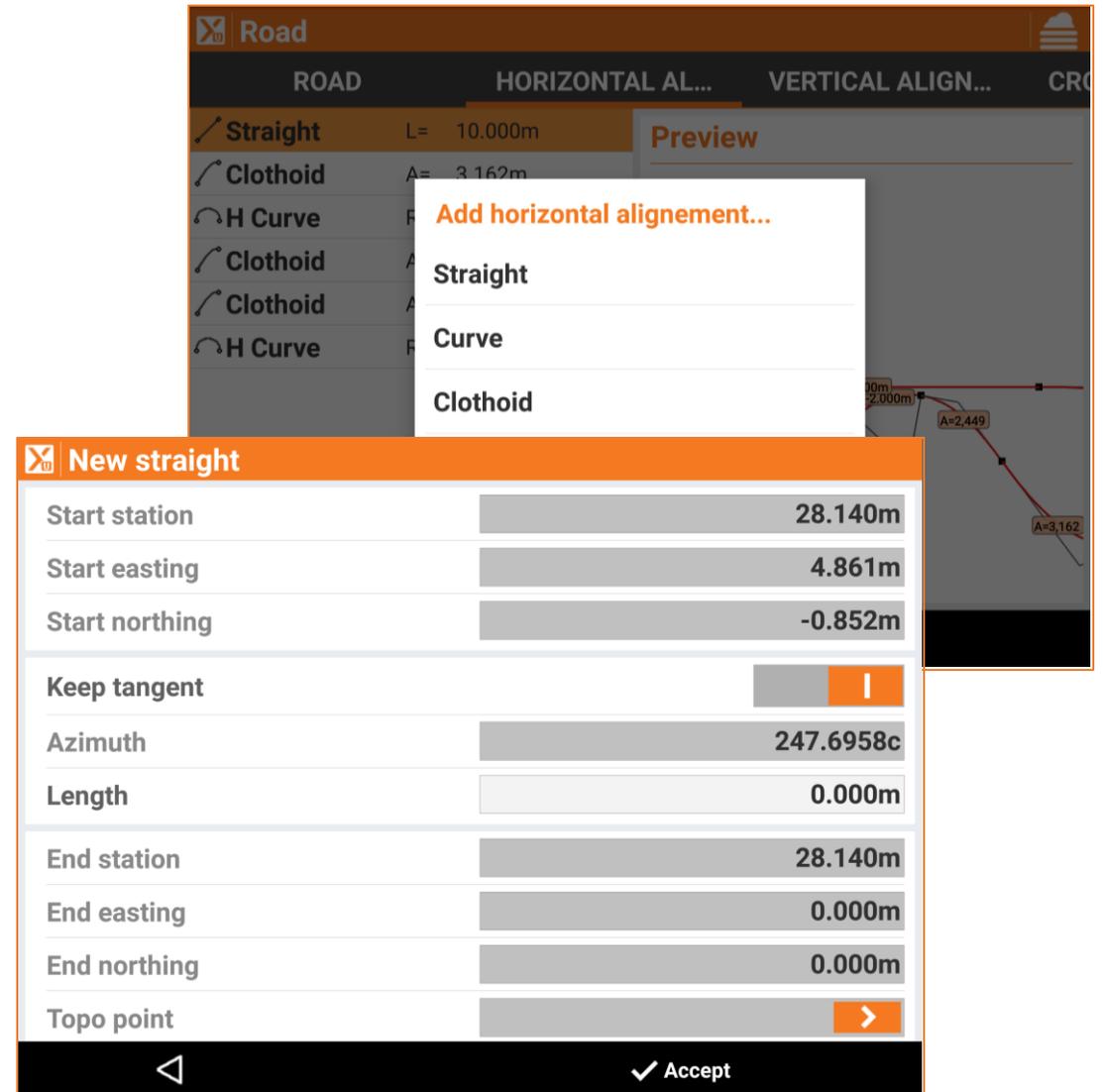
The Where am I command has been strongly revised and now offers a lot of additional features:

- Possibility to select the «reference line» from which you get the distances (before it was only the center line)
- New annotations with the possibility to switch to multiple values
- Possibility to change the surface



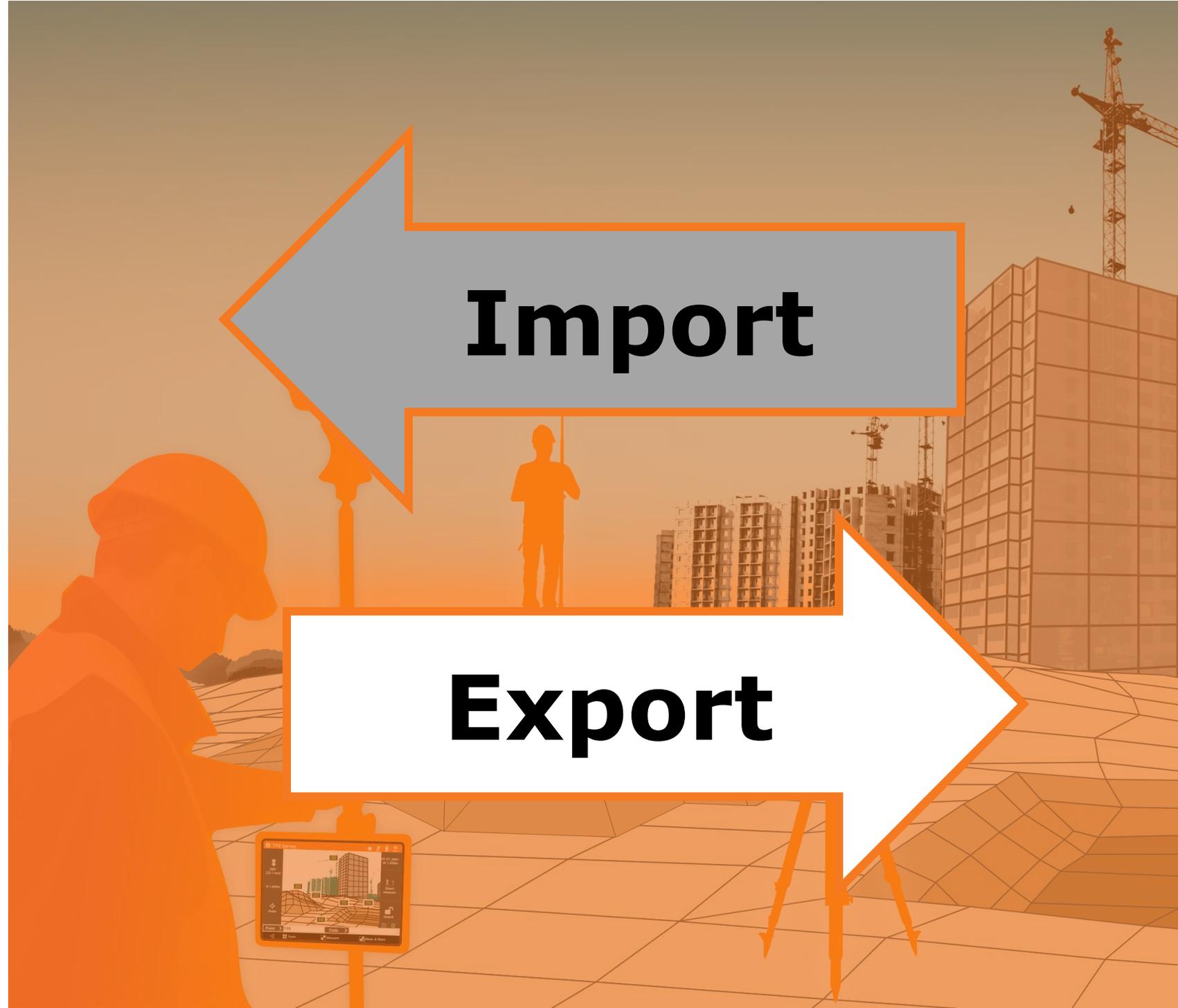
# Full road definition

With X-PAD Ultimate it is not only possible to stakeout a road model imported from external files but also **design completely** a new road model by defining the main elements as horizontal and vertical alignment, cross-section templates, superelevation and widening rules.



# 08

## Import & Export



# External references

The performance of visualisation in case of use of drawings as external references have been improved in a very significant way comparing to the previous release. The new system allows to work in a fast way even with heavy drawings linked as external references.

# Microsoft OneDrive

The full support of **Microsoft OneDrive** as a cloud service has been redesigned according to the new requirements defined by Microsoft.

Thanks to this, users can now store and retrieve their data in the OneDrive cloud server.

OneDrive completes the list of supported cloud servers that include also:



# Reports in HTML format



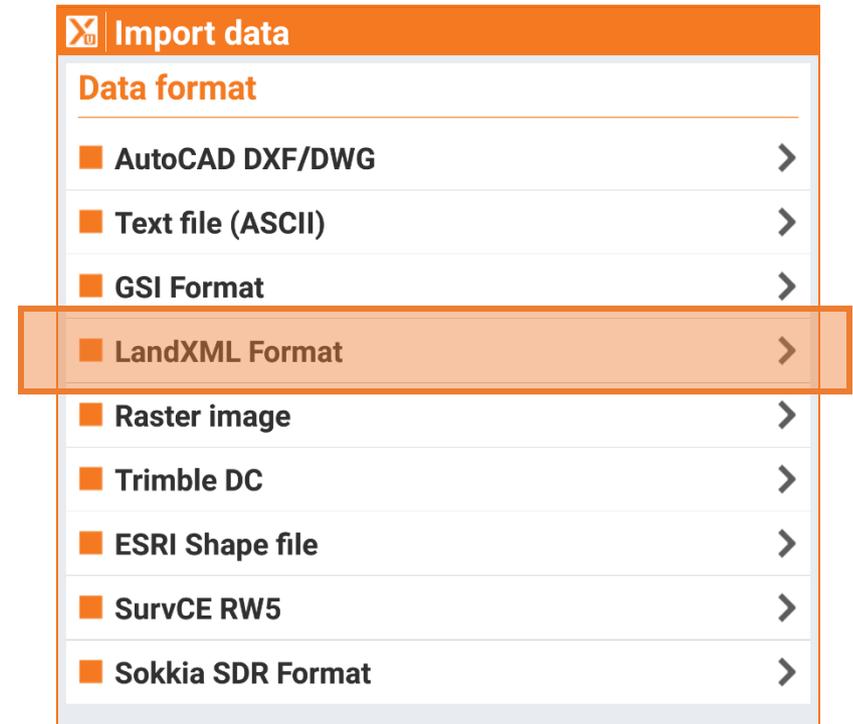
All reports can be exported in **HTML format**. HTML format completes the list of supported formats that includes:

- PDF
- Excel (CSV & XML)
- Text

Report type
ASCII format
Excel CSV
Excel XML
PDF document
HTML format
<b>CANCEL</b>

# LandXML

LandXML can include several types of data: topographic points and measurements, terrain and design surfaces, road design data. In X-PAD Ultimate there was one specific import command for each one of this data types. These multiple commands are fused one that allows to import all types of data saved in the LandXML file.





# 08

Other features



# Zenius800 – Function keys customisation

Function keys F1 and F2 of the Zenius800 controller can be customised with specific functions/commands in order to be faster and more productive in the field.



F1/F2 keys settings	
GNSS	TPS
<b>Survey</b>	
F1	GNSS status
F2	Measure & Save
<b>Stakeout</b>	
F1	Next Point
	Measure
✓ Accept	

# DWG and IFC files on Android 4

DWG and IFC files cannot be imported by X-PAD Ultimate in controllers equipped with Android version lower than 5.

One of the controller affected by this changes is the Panasonic FZ-B or the Panasonic FZ-BD.

All other features are still available for all controllers with Android higher or equal than 4.1.

# Leica Disto X-series

Leica Disto X-series are now fully supported in X-PAD Ultimate and they can be used to measure inaccessible points.

