X·PAD SURVEY 3.0

Innovative field solutions for Surveyors

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GEOMAX
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X·PAD

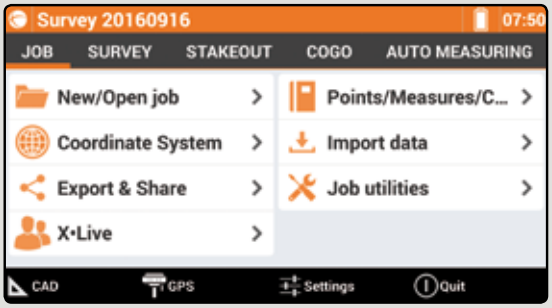
X·PAD SURVEY 3.0

INNOVATIVE FIELD SOLUTION FOR SURVEYORS

The software for survey, stakeout and control, ensuring productivity and flexibility in the field, provides perfect integration between measure tools. Developed for two platforms (Android and Windows Mobile) with amazing new features that will forever change the way you work.

X·PAD for Android

X·PAD for Android brings the best technologies to topography: integration of your data with the maps, camera for augmented reality, direct data exchange with cloud platforms, advanced graphics, use of sensors and much more. Available for all Android devices (tablets and smartphones, rugged and traditional).



X·PAD for WinMobile

X·PAD Survey for WinMobile is able to run on all controllers and on total stations (on-board) equipped with the classic, reliable Windows Mobile or Windows CE.

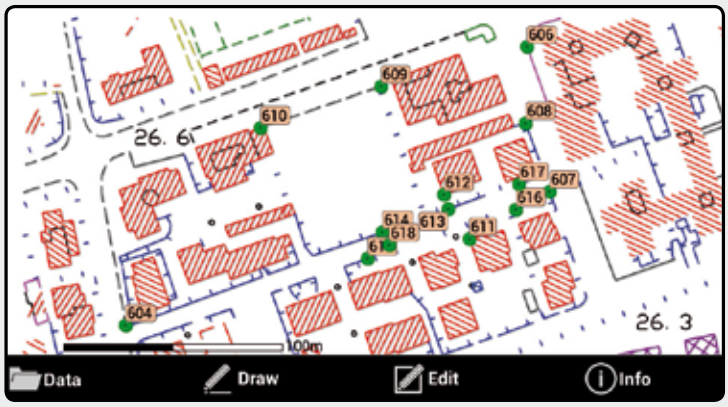
General features

Gallery, map and jobs calendar

With X·PAD, you can organise your job files in Sites and choice the job in four different ways: the gallery by displaying a photo or drawing, the map in which you can choose the job based on the geographical location, the calendar that displays jobs by creation dates or the classic list mode.

X·PAD SURVEY

General features



A topographic CAD

X•PAD includes a real topographic CAD, not just a simple graphic viewer, with specific functions to draw, edit and calculate the position of new elements that can be then used in the stakeout operations.

Features include layers management, object snap, import raster maps, import of file as external reference, 3D visualisation, contextual functions to the selected object, auto-hide zoom buttons, overlay control point labels.

Maps, WMS and off-line mode

X•PAD allows you to use different types of maps as a basis references for the survey and stakeout activities so you can see all of your data overlapped to a map. You can choose between Google maps, Bing, OpenStreet and many others. On the main maps you may overlap the WMS (Web Map Service) maps, provided by government agencies or other offices, that represent additional elements typical of the area and specifically interesting for your surveying activities.

If you do not have Internet access, you can define the area of interest and the maps that you want to use; X•PAD will store all the elements of the maps to use them in off-line mode.

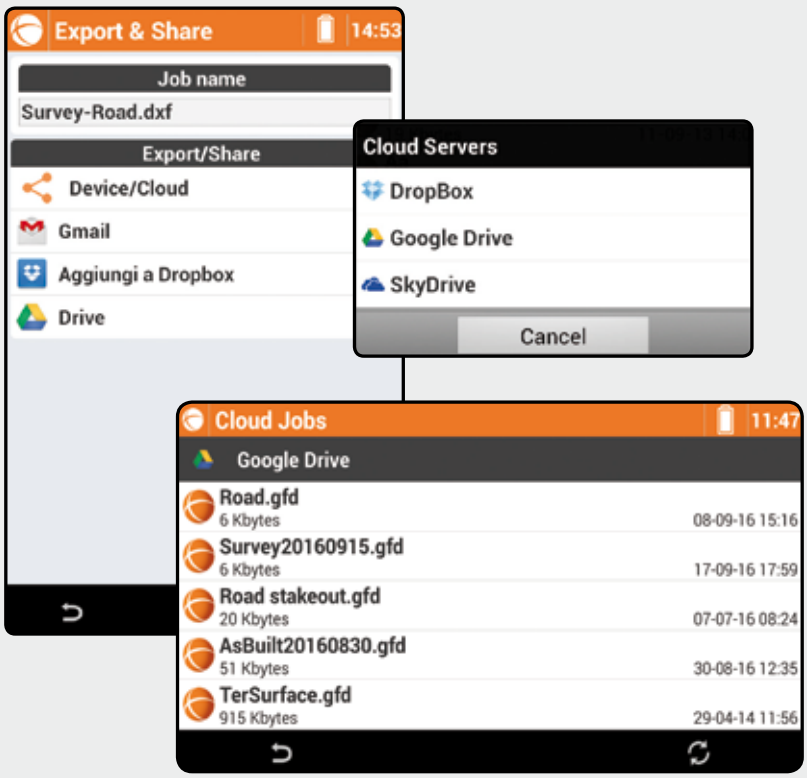
Augmented Reality. Turn on the reality!

How can augmented reality be a useful tool in topographic surveys and stakeout? Point the camera to the site and you can see immediately where the points and elements are for stakeout. X•PAD will guide you in the vicinity of the point and then determine the exact location, but you can also use augmented reality to see what is not possible to see (e.g., pipes, cables and connections belowground).

General features

Cloud & sharing point. Share and transfer, field and office always connected

With X•PAD you can open and import any file, even if it is in the cloud. You can save your data on the most popular cloud platforms, like Google Drive, Microsoft OneDrive and Dropbox, and access from the field or office. For example, at the end of the survey you can save your data in the cloud, and in the office you can start working right away. Without sending emails with attachments and without using the notebook, everything is available from X•PAD with a single command. If you need to, though, you can also share information and coordinates of the measured points quickly via a message or email with photo attached to those in the office waiting for the coordinates of a point.

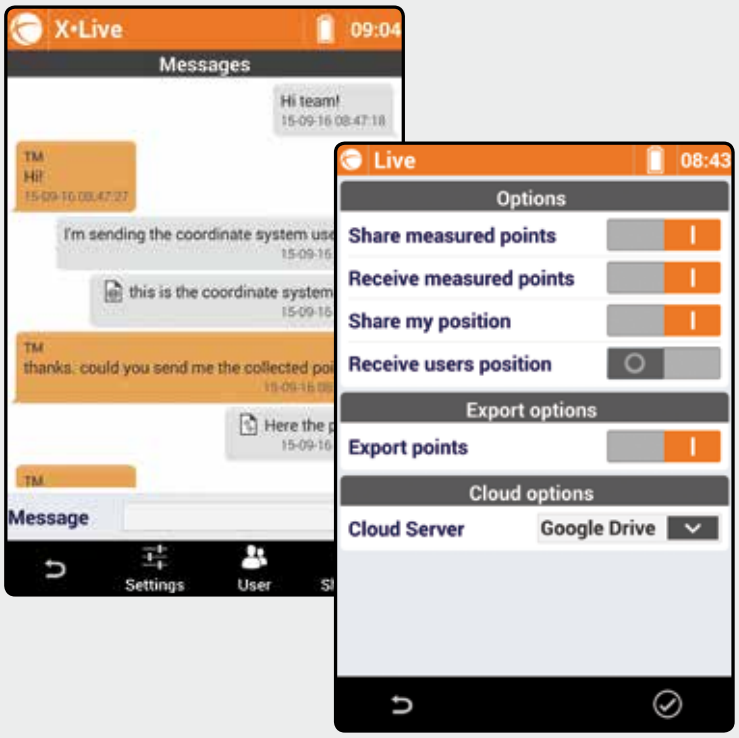


Automatic update

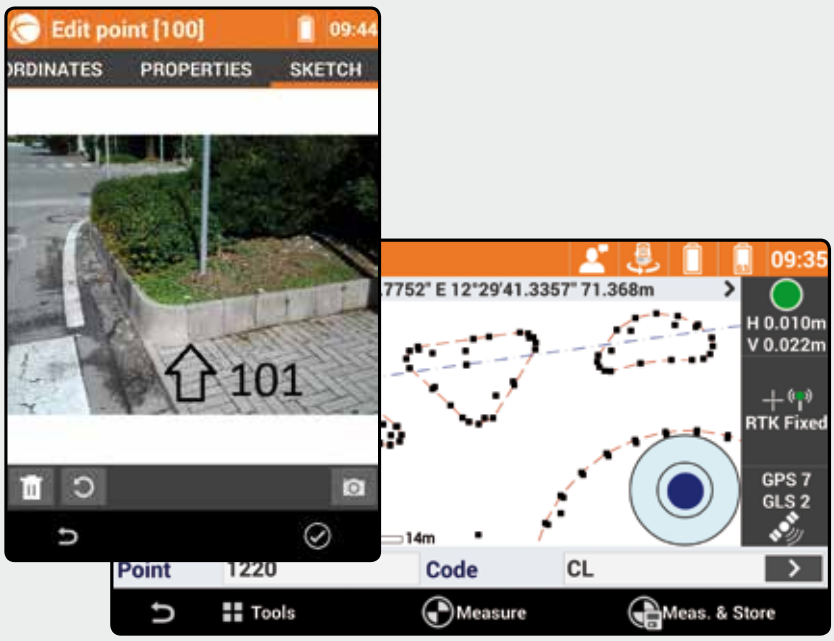
X•PAD updates itself, so you're always sure to use the latest version with the latest news and the latest updates.

X•Live: collaborative survey

X•Live is the innovative „collaborative survey" system that, through X•PAD, allows a data communication within a structure that uses daily topographic equipment. X•Live allows the creation of working groups and measuring sessions to which team members can participate and exchange instant messaging, measured points, coordinate systems, office files or generic files.
All activity takes place within and through X•PAD that displays notifications for incoming messages and is able to send the necessary data to other team members. Even office workers can participate in activities using X•PAD Office MPS.

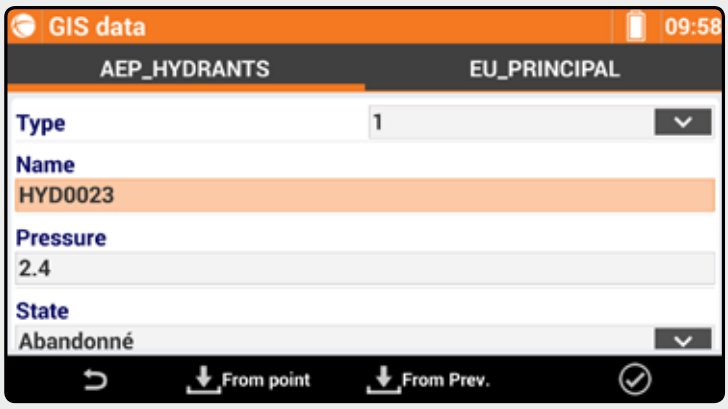


Survey & Stakeout



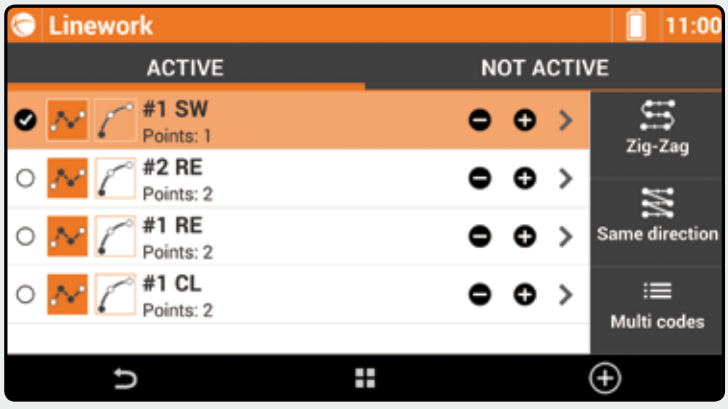
Data collections. Not only coordinates

Measuring the position of the points is the main purpose for which we use the topographic equipment, but with X·PAD you go further because you can integrate to the position, photos, notes and voice comments - all information that in the office can be useful to create the final drawings or for the design phases. Photos and images are a memory that remains over time and gives more value to a coordinate.
Quick Codes allow you to create your own custom panels with the most used codes and measure the position of the point automatically just after you choose the code; this means speed and efficiency in the field.



GIS: to record all the information you want

The integrated GIS module allows you to create your GIS features and to define the corresponding attributes that can be filled when the point is stored. So you can record much more information that can be exported in standard GIS formats.



SmartDrawing: measure and draw together

Do you think that measurements and automatic designs together are pure fantasy? Not with X·PAD. The innovative automatic design system with survey codes allows you to see the survey drawing compose point after point without requiring lengthy and complex coding. There is no limit to the number of lines that can be managed; a special page lets you control the working lines and define automatic coding rules (Zig-Zag, Same direction) to speed up the data collection. You can also create complex elements such as circles and rectangles, measuring the minimum number of points.

Survey & Stakeout

Stakeout... with closed eyes

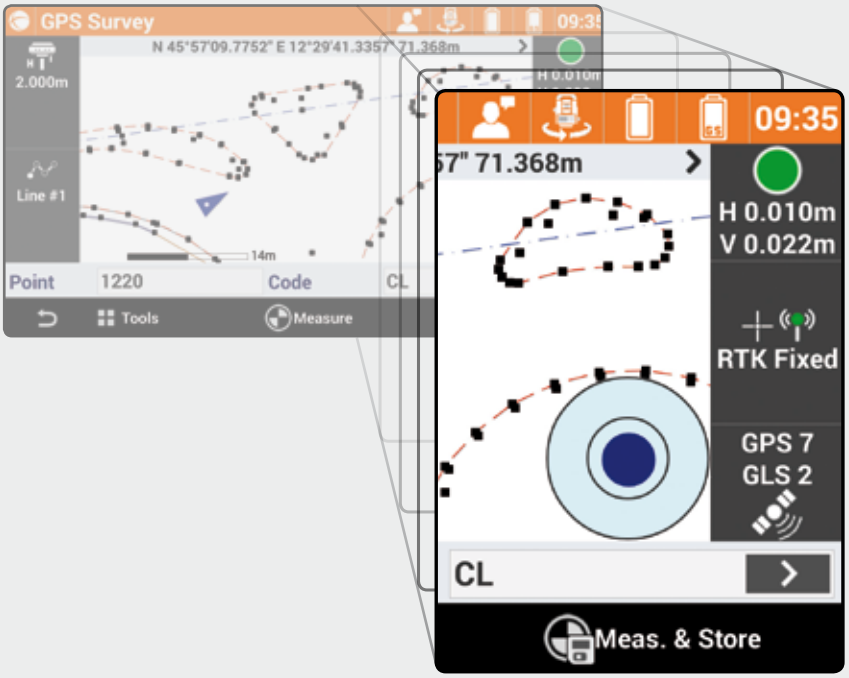
With X•PAD stakeout has never been easier or faster. Voice guidance allows you to arrive at the point without even looking at the display while the large compass simplifies visual navigation. Next indication, reference north or the sun directs you to the precise point without hesitation allowing the user to stakeout the design rapidly. There is no need to prepare the points list for staking out in X•PAD as you can stakeout directly from the imported CAD drawing. Every drawing element, including points, lines, arcs and every position, determined within the graphical view can be staked out to "10 meters forward, move on the right", "beep", "beep", plant the stake and run to the next point. What's the nearest point? X•PAD will tell you.

First Person View

The First Person view mode puts your position at the centre of the screen and the direction changes according to your direction of view. In this way, the design and maps are constantly georeferenced to your direction of movement, allowing you to always have the correct references.

Integrated electronic bubble. The accuracy, first of all

With the integrated electronic bubble your measurement time is reduced and you gain in accuracy. You can focus only on the display and on the electronic bubble rather than also concentrating on the conventional bubble placed on the pole. Moreover, X•PAD doesn't record positions when the bubble is not within the defined tolerance, eliminating errors for measurements with the pole out of plumb. If you are looking for accuracy, X•PAD it is the right solution for you.



Special features

X•Pole: one pole, two systems

The solution X•Pole allows you to work simultaneously with TPS and GNSS using the best features of each system and with maximum flexibility. The TPS may be oriented directly thanks to the GNSS position that can be acquired simultaneously with the measurement of the prism. A simple click is all you need to change the measurement mode and switch from GNSS to TPS mode and vice versa. The GNSS system positioned above the prism gives you a direct rotation on the prism speeding up the locking operations after loss.

X•PAD and the scanner GeoMax Zoom300

X•PAD can be used together with the scanner GeoMax Zoom300. Access the Zoom300 control window and manage scan procedures directly from the software. The position of the scanner and of the targets are displayed in the graphic view. The covered theoretical area (average scan radius) is also highlighted, allowing you to position the next scan in order to have good coverage of the area.

Zenith35 TAG Tilt & Go!

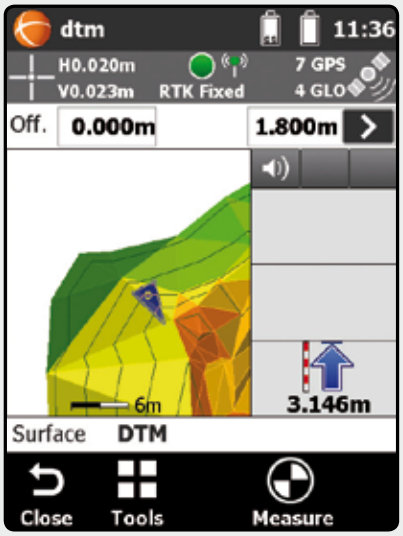
X•PAD is able to use the tilt and direction sensors present in the receiver GeoMax Zenith 35. An electronic bubble is displayed on the screen that represents the tilt of the pole, replaces a physical bubble, and prevents the measuring positions when the pole is not vertical.
Using the internal compass is possible to reduce the acquisition times and increase productivity because it is not necessary to place the pole in a vertical position: the system is able to automatically recalculate the correct position of the point to the ground even with the tilted pole.
By leveraging the accurate tilt sensor, you can measure inaccessible points with a sloping pole (up to 45°) in two or more positions; points, which otherwise would have required a measure for intersection of distance, become measurable quickly with a precision equal to that of the receiver.

Additional modules

Robotic total station. Work in Autonomy

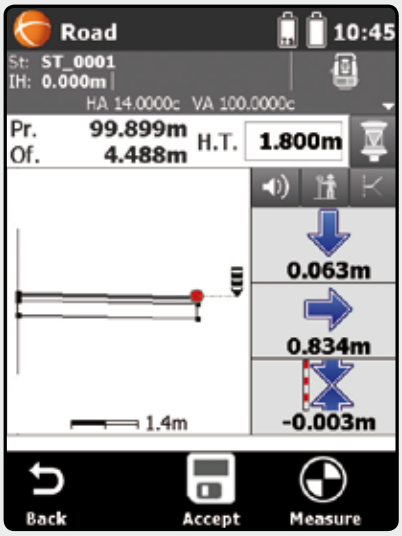
Robotic module allows you to have full control of the robotic total station remotely. Be efficient and work independently in the field. From a practical panel, you can access all the control functions of the station. In case of loss of the prism, it is possible to choose among different search strategies. Locking status is always available on the screen, and with one click, it is possible to start the searching process. The use of a robotic station greatly reduces the surveying time and allows it to be used in one-man mode.

Terrain models and Volumes



With the Volumes module, X•PAD can calculate terrain models from the points with the options to define breaklines and boundaries. You can build as many models as you like, display it in different ways, even with the contour lines, and get immediately the 2D and 3D surfaces. From the models, you can go to the volume calculation to determine at a glance the cubic meters of an excavation or of a pit.
You can also import models from DXF or LandXML files. Use the stakeout command to determine, in field, the design elevation wherever you are, because X•PAD interpolates elevation for the model according to your location.

Roading. The whole project in the controller



The Roading module allows you to load, manage and perform alignment stakeouts of works such as roads, highways and canals. The management is fully visual, so you always know what you're doing. At any moment, you can see plans, vertical profiles and cross sections.
You can stake all elements of the work (axes, edges, sideslopes, walls, ditches, etc.) at any station and with any offset, using the cross-sections, the edge polylines or by defining one or more sections template that will be extruded along the alignment. And with the „Where am I?" function X•PAD tells where you are relative to the project.

Additional modules

Automeasuring. The module to have the control

X•PAD Automeasuring is the simple, flexible, safe and economical solution for all you need to use the total station for automatic measurement and real-time checking of the movements of embankments, dams, buildings, bridges and other structures.
The system can be used for single measurement sessions or in automatic way at user defined time intervals. The station measures the control points from which its position is calculated and checked; then all the points to check are measured according to the defined settings.

It is possible to consult the results of measurements and calculations and generate different types of report. For every point, you can view the shifting measured in the sessions, and for each session, you can view the shifting of the points. All reports can be exported into Excel format and sent automatically at the end of each session by e-mail or stored on a FTP area.

X•PAD and the bathymetric survey

Bathymetry is a module of X•PAD Survey software that enables bathymetric survey by using an echosounder and a GPS receiver. The software is able to connect to the echosounder through Bluetooth and receive in real time the depths; at the same time the accurate positions are given by the GPS receiver placed just over the echosounder. It is possible to record automatically positions and depth by defining a time interval, a distance or a depth interval; current depth and the longitudinal profile of the bottom are displayed in real time through a specific panel.

To be sure to cover all the area without missing any detail, it is possible to define routes and have on the screen all the necessary information to keep the right direction. A route can be a line or a polyline that can be simply selected on the screen. Another way to define a route is enter an azimuth value as reference direction to follow. Collected data can be exported in customisable ASCII format or AutoCAD DXF drawing.

PicPoint. Measuring on photos

PicPoint is an innovative way of measuring points that are not directly accessible from the GPS equipment. The combination of GPS location, with the photos acquired by a calibrated camera positioned on the pole allows you to measure directly in the field but also in the office later, adding new points directly on the photo. Facades, unreachable points, edges, elements to be measured bounded by fences, etc. are all situations where PicPoint is the practical solution, fast and precise.

X•PAD and the locators

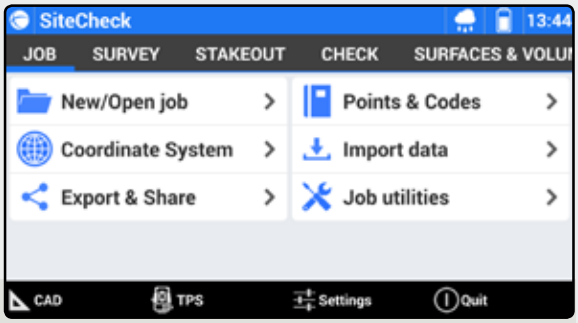
Through the Bluetooth connection, X•PAD can connect to the utilities locators (pipelines, power lines, etc.), receive the depth information, associate them to the GPS position, and record the point with all the information - perfect integration of different tools.

X·PAD CONSTRUCTION 3.0

THE ON SITE MEASURING EQUIPMENT FOR EVERYONE

X•PAD Construction is the ideal solution for all your measuring construction needs - measuring all construction activities in an efficient and productive way. X•PAD Construction, combined with the total station or GPS, allows you to perform the measurement, stakeout and control with simple and functional procedures.

With X•PAD, construction companies can solve all measuring situations onsite in an autonomous and independent way, improving productivity and reducing costs.
To use X•PAD Construction you don't need to be a surveyor; all procedures are guided and can also be used by those who use this type of equipment for the first time.



Android & WinMobile

X•PAD Construction is based on X•PAD Survey from which inherits many features and functionality and is available in Android version and Windows Mobile.

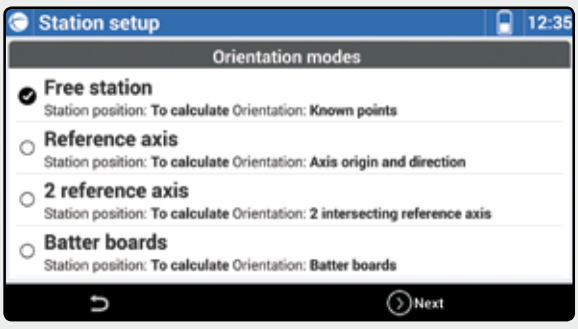
X·Pad Construction modules

Orientation and coordinate system

- Total station orientation on reference line
- Total station orientation on intersection of two reference lines
- Total station orientation on known points (free station)
- Total station orientation on batter-boards
- Station elevation from reference point
- GPS local coordinate system on reference line
- GPS local coordinate system on reference points (site calibration)
- GPS cartographic coordinate systems

Stakeout

- Stakeout of points and drawing coordinates
- Creation and management of list of points to stakeout
- Stakeout of lines, arcs and drawing elements even by offset
- Stakeout of sideslopes
- Stakeout on vertical facades
- Voice guidance
- Orientation to North, Sun or Point
- Speed, ease of use and clarity of navigation
- Creation of stakeout final report



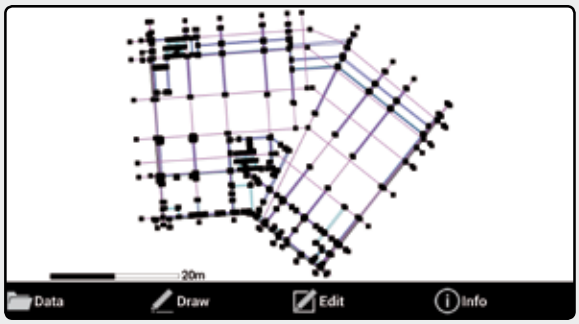
X·Pad Construction modules

Survey

- Measuring of points with code descriptor assignment
- Automatic drawing during survey
- Automatic survey of points
- Real time visualization of survey and drawing
- Measurement of not accessible points

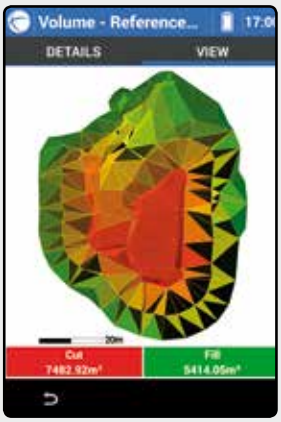
CAD

- Import/Export of DXF/LandXML files
- Drawing of lines, arcs, circles, polylines, points
- Layout for fast creation of design points
- Snap to object in drawing operations
- COGO commands: offset, divide, measure, chain and offset, intersection, ecc.
- Calculation of distances, surfaces, ecc.



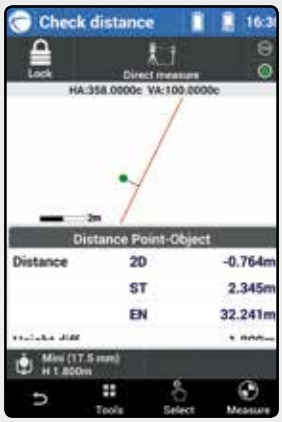
Volumes

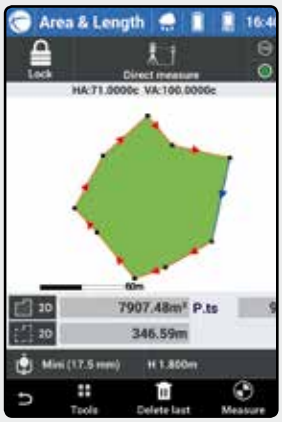
- Creation of 3D surfaces in automatic and manual way
- Calculation of horizontal and sloped area
- Display of surfaces with shading and contour lines
- Management of more surfaces on the same job
- Volume calculation on reference elevation or on a reference level
- Volume calculation of stockpile or pit
- Management of all volume calculation results
- Measurement of not accessible points



Checking

- Check of elevations on horizontal and sloped levels
- Check of distances between points and elements
- Check of angles
- Calculation of surfaces and perimeters
- Continuous check of the quality of work and the progress





Robotic

- One-man mode for every operation: survey, stakeout and checking
- Prism search and locking
- Continuous tracking
- Manual commands for full control of total station

SmartPole

- Total station orientation from GPS position
- Prism lock from GPS position
- Switch from TPS to GPS with one single click

X·PAD SURVEY 3.0

GPS	Main module that includes all the functionality for survey, stakeout and control with GNSS receiver.
TPS	Main module that includes all the functionality for survey, stakeout and control with mechanical total station.
Robotic	Extends the TPS main module with features that allow full control of motorised and robotic total stations.
GIS	Define GIS features and attributes to be assigned to measured points. It includes import and export functions of GIS data.
Volumes and Surfaces	Create and import 3D surfaces to be used for all stakeout operations; it includes functions for the calculation of the volumes according to different methods.
Roads	Import of road design data from different formats and stakeout of any element of the alignment in various ways.
Auto Measuring	Allows automatic measurements (for single sessions or at time intervals) of points; includes report generation an automatic sending of the results.
Bathymetry	Manage bathymetric surveys by acquiring depth data from echo sounder and GPS positions. It includes a route control.
Locators	Connect to utilities locators and record depths at corresponding GPS positions.
Pic Point	Captures and photo processes for the measurement of points directly on the photos themselves.

X·PAD CONSTRUCTION 3.0

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