X■PAD Office Fusion	PRO	X-TOPO	X-SCAN Next	X-PHOTO AERIAL	X-PHOTO GROUND	GNSS POST-PROCESS	GNSS PPAdv (NET ADJUST.)	BIM CONNECT (opt)[1]
General	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
Jobs management	●	●	●	●	●	●		
System settings (units, precision, parameters, etc.)	●	●	●	●	●	●		
Data management (drawings, surveys, surfaces, point clouds, raster maps)	●	●	●	●	●	●		
Filters panel to manage entities visibility	●	●	●	●	●	●		
2D/3D advanced viewer	●	●	●	●	●	●		
Info commands (id, distance, area, angle)	●	●	●	●	●	●		
Import & Data transfer	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
TPS/Digital level direct transfer (download)	●	●	●	●	●	●		
TPS/GPS/Digital Level data format	●	●	●	●	●	●		
X-PAD Survey and X-PAD Build	●	●	●	●	●	●		
Customizable ASCII import (points, measurements, codes)	●	●	●	●	●	●		
Autodesk DXF/DWG	●	●	●	●	●	●		
Adobe PDF vector format	●	●	●	●	●	●		
LandXML (points, drawing, surfaces)	●	●	●	●	●	●		
Google Earth KML/KMZ	●	●	●	●	●	●		
Esri Shape (points, drawing)	●	●	●	●	●	●		
OBJ file (3D models)	●	●	●	●	●	●		
GRD and ASC format (surfaces or DEM)	●	●	●	●	●	●		
Raster map (PNG, JPG, BMP, TIFF, PDF) with World file for positioning	●	●	●	●	●	●		
BLK360 G1, BLK2GO scans direct transfer (download)	●	●	●	●	●	●		
Standard Points cloud data format (E57, LAS, PTS, PTX, ASCII)	●	●	●	●	●	●		
Leica scanner Points cloud data format (LGS, BLK2GO, RTC360)	●	●	●	●	●	●		

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FARO colorized scans	●	●	●	●	●	●		
IFC models								●
Export	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
TPS direct transfer (upload)	●	●	●	●	●	●		
TPS/GPS data format	●	●	●	●	●	●		
X-PAD Survey and X-PAD Build	●	●	●	●	●	●		
Customizable ASCII export (points, measurements, codes)	●	●	●	●	●	●		
Autodesk DXF/DWG	●	●	●	●	●	●		
Standard Points cloud data format (E57, LAS, PTS, ASCII)		●	●	●	●			
OBJ (surfaces)		●	●	●	●			
WEBGL (surfaces)		●	●	●	●			
LandXML (points, surfaces)		●						
Google Earth KML		●						
PDF3D		●						
CAD	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
Layers management	●	●	●	●	●	●		
Snap to object	●	●	●	●	●	●		
Drawing aids (ortho, grid, snap, automatic list)	●	●	●	●	●	●		
Properties panel of selected objects	●	●	●	●	●	●		
Selection tools		●	●	●	●			
Drawing commands (line, polyline, polygon, arc, circle, text, block)		●	●	●	●			
Annotation commands (linear, aligned, angular, radius, diameter, coordinates, object)		●	●	●	●			

X-PAD FUSION

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Table of data fully customizable or dynamic		●	●	●	●			
Editing commands (delete, move, copy, rotate, scale, align, trim, extend, offset, explode, linearize, chamfer, fillet)		●	●	●	●			
Editing polyline commands (open, close, insert, delete, join, invert, remove loops, reduce, grid of vertices)		●	●	●	●			
Map view (OpenStreet Map, Bing Map, WMS, …) and extraction of raster map		●	●	●	●			
Second viewport	●	●	●	●	●	●		
Fly mode and Panorama mode	●	●	●	●	●	●		
Clip planes and Clipboxes		●	●	●	●			
Projection planes		●	●	●	●			
Clean drawing commands (purge, keep only visible or only selected)		●	●	●	●			
Quick sections of 3D models		●	●	●	●			
Edges extraction from 3D models		●	●	●	●			
Creation of final drawings on paper size		●	●	●	●			
Designer for plot box customization		●	●	●	●			
Object's report		●	●	●	●			
Orthophoto generation		●	●	●	●			
Topography	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
Management of topographic points (Simple)	●	●	●	●	●	●		
Management of topographic points (Advanced)		●						
Management of TPS & GNSS measurements (Simple)	●	●	●	●	●	●		
Management of TPS & GNSS measurements (Advanced)		●						
Management of Survey codes	●	●	●	●	●	●		
Cartographic coordinate systems		●		●		●		
GNSS localization systems		●		●		●		

GE■MAX

X▪PAD Office Fusion	PRO	X-TOPO	X-SCAN Next	X-PHOTO AERIAL	X-PHOTO GROUND	GNSS POST-PROCESS	GNSS PPAdv (NET ADJUST.)	BIM CONNECT (opt)[1]
Geoid corrections		●		●		●		
Calculation of coordinates from measurements (Simple)	●	●	●	●	●	●		
Calculation of coordinates from measurements (Advanced)		●						
Traverse adjustment		●						
Topographic utilities		●						
Calculation reports		●						
Georeferencing of raster maps		●						
Automatic vectorization of monochromatic raster maps		●						
Raster editing: Transparent, Invert, Brightness/Contrast/Intensity, Crop		●						
Photos manager		●						
Reference points manager		●						
Digital level data management and calculation		●						
Transformation commands (scaled, rigid, Helmert 3D)		●						
Coordinate transformation (map ⇔ map, map ⇔ geographic, geographic ⇔ geographic)		●						
Compare surveys coordinates and report		●						
SURFACES	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
Breaklines and boundary lines		●						
Terrain 3D surfaces from points and points cloud		●						
Slopes symbols		●						
Contour lines		●						
Volume calculation from 3D surfaces (to elevation, to reference plane, between two surfaces, stockpile/pit)		●						
Automatic adjustment of reference plane to balance cut and fill volume		●						
Calculation zones for volumes		●						

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Fill Analysis with graph and reports		●						
Cross-sections from points, lines, surfaces and point clouds		●						
Customizable annotations and layout for cross-sections		●						
Apply raster map on surface as texture		●						
3D Design	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
Lay polyline to surface, to a plane or to a fixed elevation		●						
Extract perimeter polyline of a 3D surface		●						
Sideslopes creation: to another surface, to an elevation, to another polyline		●						
Sideslopes creation by width and height or slope		●						
Rapid design excavation command from building layout		●						
Ramp creation from top to bottom of excavation		●						
Close polyline triangulation		●						
Merge terrain model with design model		●						
Remove part of the surface, Divide and cut surface		●						
Points Cloud	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
Render mode (Colour, Intensity, True colours, Distance, Elevation)	●	●	●	●	●	●		
Point size	●	●	●	●	●	●		
Point selection tools (Nearest, Lowest, Highest, Average)	●	●	●	●	●	●		
Point selection with Smart Magnifier		●	●	●	●			
Manual clean of points cloud		●	●	●	●			
Editing tools (cut, copy)			●	●	●			
Merge of multiple scans in one single Points cloud			●	●	●			
Level points cloud to horizontal			●					

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Automatic plane detection and projection on plane intersection			●					
Point cloud registration (full auto, cloud to cloud, visual alignment, by targets)			●					
Support of panoramic images			●					
Terrain surfaces from Points cloud			●					
Mesh 3D from Points cloud (maximum 100000 points)			●					
Image processing	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
Import of photos				●	● (max 75)			
Import of navigation data (Exif, standard formats and custom ASCII)				●	●			
Import of Ground Control Points from custom ASCII files or from Fusion topographic points				●				
Definition of cartographic or local coordinate system				●				
Graphical selection of the cameras to use				●	●			
Fast workflow to define position of Ground Control Points				●				
Automatic detection of Ground Control Points markers and auto centering				●				
Support of RTK GNSS missions and data processing without Control Points				●				
Calculation of dense points cloud with different level of details				●	●			
Editing of the dense points cloud to clean and reduce calculation area				●	●			
Move, Rotate and Scale tools to resize and georeferenced the points cloud (terrestrial photos)				●	●			
Digital Surface Model				●				
Digital orthophoto (from DSM or from Mesh3D) with automatic split in parts if the size if too big				●				
Optimization of specific area of the orthophoto by using specific images				●				
3D mesh with texture				●	●			
Report with different level of details				●				

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Generation of Solid orthophoto that allows to create 3D drawings working on the 2D orthophoto				●				
3D drawing by defining coordinates in 2 or more images				●				
Calculations with support of multi processors CPU and GPU				●	●			
GNSS Post Processing	**PRO**	**X-TOPO**	**X-SCAN**	**AERIAL**	**GROUND**	**GNSS PP**	**NET ADJ**	**BIM**
Import of GNSS raw data from GeoMax receivers						●		
Import of RINEX raw data						●		
Editing of observations and intervals						●		
Visualization of data and results on time diagram and on a map viewer						●		
GNSS baseline processing						●		
Calculation by using precise ephemeris						●		
Direct download of raw data from reference stations of several providers (SMARTnet, SOPAC, RGP, UNAVCO, NGS)						●		
Antenna manager						●		
GNSS baseline network adjustment							●	
Customizable report						●		
Export observations in RINEX format						●		

[1] BIM CONNECT module requires X-TOPO main module