Pix4Dmapper Pro | Feature list
Version 2.0

	Features	Advantages
INPUTS	Aerial (nadir and oblique) and terrestrial imagery support	Process images taken at any angle and from any aerial manned or unmanned platform as well as from the ground
	Imagery from video (mp4 or avi format) support	Software automatically extracts still frames from video files to create a project
	Any camera (compact, SLR, multi-spectral, GoPro, Tetracam, large-frame add-on)	Use images acquired by any camera, from small to large sensors, from consumer-grade to highly specialized cameras
	Multi-camera support for the same project	Create projects using more than one camera and process them together (NIR and RGB for example)
	Standard camera rig support	Process camera rigs (arrays) of multiple multi-band synchronized cameras from known manufacturers (Tetracam, Airinov, MicaSense, WaldoAir) for more robust, accurate and faster processing
	Multiple file types (.jpg, single band or multi band .tiff)	Input various file types, including single or multi-band images
	Ground Control Point edit and import (.csv, .txt)	Import and edit Ground Control Points to improve the accuracy of your project
	Local, global and arbitrary coordinate reference system support in meters and feet	Choose from all known coordinate systems or your own local system
	Camera exterior orientation(omega, phi, kappa) support	Optimize camera exterior orientation parameters starting from GPS/IMU input parameters
	External point cloud import	Import a point cloud from different sources, such as aerial LiDAR, and use it to create a DSM and orthomosaic
PROCESSING	Rapid Check processing mode	Process initial project results in low-resolution within minutes
	Rapid Check Quality report	Assess quality and completeness of acquired images while still on site
	Processing templates	Automate processing and generation of outputs by using standard or customized templates
	Camera self-calibration	Optimize internal camera parameters, such as focal length, principal points and lens distortions, without the need of a camera calibration report
	Automatic Aerial Triangulation (AAT) and Bundle Block Adjustment (BBA)	Process automatically with or without known camera position and exterior orientation
	Automatic point cloud densification (semi-global matching add-on)	Produce a dense and detailed 3D point cloud, which can be used as a basis for DSM and orthomosaic generation
	Automatic point cloud filtering & smoothing	Use presets or edit point cloud filtering and smoothing options
	Automatic Terrain/Object point cloud classification and DTM extraction (BETA)	Classify and remove buildings and vegetation automatically in the point cloud to generate bare-earth DTMs and contour lines. For additional control, select and delete points manually in the rayCloud to improve DTM generation
	Automatic brightness and color correction	Compensate automatically for change of brightness, luminosity and color balancing of images
	Quality Report	Assess quality of projects
	Project merging	Process parts of projects individually and merge them into one project
	Project area definition	Import (.shp) or draw specific orthomosaic and point cloud densification/filtering areas to generate results inside specific boundaries
	Project splitting	Split large projects automatically into smaller parts for more efficient large-scale mapping
	Targeted Feature Extraction	Gain speed when calibrating high-res/high-overlap imagery
	GPU support	Leverage the power of Nvidia GPU's for 10%-75% faster initial processing (depending on image content and project size). GPU support also used for densification and semiglobal matching
RAYCLOUD EDITOR	Project viewing	Assess flight plan and camera positions, inspect automatic keypoint matching and add uncalibrated cameras
	Navigation Modes	View the point cloud / mesh in standard, trackball, or first person modes
	Scale and Orientation Constraint	Set accurate scale and orientation of projects with no or imprecise geolocation by simply defining one distance and one axis
	Manual tie point editing	Annotate and edit GCPs (2D & 3D), Check Points and Manual Tie Points with the highest accuracy, using both original images and 3D information at the same time.
	Project reoptimization	Reoptimize camera positions and rematch images based on GCPs and Manual Tie Points to improve reconstruction of difficult areas
	Image annotation	Remove points from the 3D point cloud and create filters based on image content
	Point cloud editing	Select, classify or delete points from the point cloud using various selection tools.
	Polyline object creation	Annotate and measure polylines (3D breaklines) in the point cloud and accurately refine polyline vertexes in multiple original images
	Surface object creation	Annotate and measure surfaces in the point cloud and accurately refine surface vertexes in multiple original images; use the surface to simplify, flatten and correct DSMs (e.g. for removing structures or tree stands).
	Stockpile object creation (Volume measurement)	Annotate and measure volumes (stockpiles) in the point cloud. Import/export reference surface for volume calculation and easily determine changes in volume over time.
	Digitization tools / Vector object editing	Draw and edit vector objects and export them in various formats (.dxf, .shp, .dgn, .kml)
	Fly-through animation	Create a virtual camera trajectory in the 3D point cloud, play the animation in real-time, export the animation as a video (in mp4 and avi format) and the flightpath waypoints in CSV format

INDEX CALCULATOR	Radiometric adjustment interface	Make the indices more reliable and accurate by correcting for illumination effects using a radiometric target
	Reflectance base map	Generate an accurate Reflectance Map at the preferred resolution as accurate basis of index maps
	Multiple Region management	Improve your analysis by managing and visualizing index values per each region (field boundary)
	Automated index generation (NDVI)	Generate single-band and index maps based on pre-defined formulas in a single click without manual user intervention
	Formula editing	Create and save your own formulas choosing among each available input band and generate custom index maps
	Color Classes management	Create the basis of your annotation Prescription map by automatically segmenting the data into classes using statistical algorithms (equal area, equal spacing, jenks)
	Application Prescription map annotation	Match ground observations with survey data by assigning values and annotating zones based on your decisions
	Prescription map shapefile (SHP) export	Put your data into action and import the application map directly into the tractor console or most Farm Management Software.
MOSAIC EDITOR	Cell editing	Create and edit cells in the mosaic, choose the best content from multiple underlying images & projection type to remove moving objects, artifacts, adjust color and brightness.
	Local blending	Edit only the desired portion of the orthomosaic, blend it in real-time and get the improved orthomosaic within minutes.
	Planar/ortho projection selection	Apply planar projection to remove orthorectification artifacts
	Mosaic color/brightness editing	Adjust color and brightness to improve the mosaic quality
OUTPUT RESULTS	2D output results:	• Georeferenced nadir orthomosaics in GeoTIFF output format • Georeferenced oblique orthomosaics in GeoTIFF output format • Google tiles export in KML and HTML output formats • Mapbox tiles in MB format • Index maps (DVI, NDVI, SAVI, etc.) in GeoTIFF and SHP formats
	3D output results:	• 3D PDF for easy sharing of 3D mesh • Georeferenced nadir DSMs and DTMs in GeoTIFF output format • Georeferenced oblique DSMs from any plane in GeoTIFF output format • Full 3D textured mesh in OBJ, PLY, DXF, FBX • Point cloud in LAS, LAZ, XYZ and PLY output format • Contour lines in SHP, DXF, PDF format • User-defined vector objects in DXF, SHP, DGN and KML format
	Generate fly-through animations and flightpaths	Point cloud and 3D mesh fly-through animation in MP4 and AVI formats Fly-through waypoints and path in CSV format
	Optimized camera position, external orientation and internal parameters, undistorted images	Export Aerial Triangulation results into traditional photogrammetry software solutions (e.g. INPHO, Leica LPS, DAT/EM Summit Evolution)
SUPPORT & MORE	Personal support	Get free access to personal support
	Extensive Knowledge Base	Find answers to most of your questions on our publicly available and continously updated Knowledge Base
	Training	Gain in-depth knowledge of Pix4D software with webinars and workshops organized on a regular basis
	Translation of the software	Interface translated in Chinese and Spanish
	Multi-device license	License can be activated on two computers: one for on-site Rapid Check and one for full processing mode
	Licensing server	Easily move your license among several computers by activating and deactivating devices at any time

Hardware specifications
Minimum requirements: Windows 64bit / 7, 8,10, Server / 2-Core CPU / 4GB RAM / GPU: any Nvidia and AMD model starting from 2008 and Intel model starting from 2012 (OpenGL 3.2). Recommended: 6-Core CPU i7 or Xeon /16GB RAM (or more depending on dataset size) / CUDA compatible GPU