










	Features	Advantages
INPUTS	Aerial and terrestrial images in .jpg .jpeg .tiff formats	Process any RGB images that support basic EXIF/XMP tags
	LiDAR and RGB images from PIX4Dcatch	Process both LiDAR and RGB images outputs from PIX4Dcatch for a full terrestrial workflow
	Multi-camera support in the same project	Create a project using images from different cameras and process them together
	Import image geolocations and orientations as .csv or .txt	Text file import (.csv/.txt) for image geolocation and orientation
	Ground Control Points (GCPs)	Import and mark ground control points to improve the absolute accuracy of the project
	Known reference coordinate system support	Select EPSG or ESRI codes from known coordinate systems libraries. Select a default coordinate reference system for easy setup
	Geoid support	Support of most commonly used geoid models. You can select a geoid height even if there are geoids available
	Arbitrary coordinate reference system support	Georeferencing of the project with GCPs in local or site specific coordinate systems
	Site localization	Import a .wkt created with PIX4Dcatch, or a .prj file and set your custom coordinate system
	Region of interest (ROI)	Define a region of interest to delimit an area in order to reduce the extent of outputs generated for a project, speed up the processing, or create sharper outputs
	Scale constraint	Define a scale constraint with a distance and an accuracy, which enables scaling a project based on that input at the Calibration step
	Orientation constraint	Define an orientation constraint with a direction and an assigned axis, which enables orienting a project without orientation information at the Calibration step
	PROCESSING	Open Photogrammetry Format (OPF) 1.0
Edit Camera Internals and Externals		Fine-tune camera settings for enhanced control over calibration and data accuracy
Geometries (.dxf, .shp, zipped .shp)		Import geometry files in .dxf, .shp, zipped .shp or .GeoJSON to view in your project
Multicore CPU + GPU support		Increase the processing speed by leveraging the power of CPU cores and threads, as well as GPUs
Backup mechanism		An automatic backup mechanism ensures that you do not lose your work when something unexpected stops PIX4Dmatic
Save copy		Save copy allows you to easily create a copy of your project, so that you can continue your work while being sure you have a copy of a previous state
Calibration		Define the <i>Template</i> , <i>Pipeline</i> , <i>Image Scale</i> , <i>Keypoints</i> and <i>Internals confidence</i> parameters for the optimization of internal camera parameters (e.g. focal length, principal point of autocollimation and lens distortions) and external camera parameters (position, orientation) during calibration
Reoptimize		Reoptimize internal and external camera parameters based on GCPs, MTPs, VTPs, or mITPs to improve the reconstruction
Auto-mark		Auto-mark will find more marks in images for tie points or geometry vertices, as long as you marked at least 2 images
AutoGCP		Automatic detection of control targets of known shape for faster marking experience
Intersection Tie Points (ITPs)		Generate intersection tie points as part of the calibration for improved calibration e.g. for indoor scenes
Merge & Register projects		Merge & register two projects
Depth point cloud		Create a depth point cloud based on LiDAR inputs from PIX4Dcatch
Point cloud densification		Define the point cloud Density, Number of Matches, Image Scale, Noise filter, and Sky filter parameters to create a dense point cloud based on the sparse point cloud created during calibration
Depth & dense fusion		Create a single point cloud based on the depth point cloud and the dense point cloud
Mesh		Define the mesh Input, Template, Texture size, Deghosting, Decimation, Sky mask, Smoothing parameters to create a 3D Textured Mesh
Digital Surface Model		Define the Resolution cm/px, enable Surface smoothing with its Median filter radius (px) and enable Interpolation for the digital surface model creation
Orthomosaic		Create an orthomosaic based on the digital surface model and the images and set Deghosting or Oblique parameters
Quality report	Assess the quality of the reconstruction between processing steps with the detailed quality report	
Processing templates	Select the Nadir, Oblique, PIX4Dcatch or Custom processing template	

RAYCLOUD

Project visualization		Visually assess the accuracy of the camera geotags, the quality of optimized camera positions, automatic tie points, dense point cloud, mesh, digital surface model and orthomosaic. In Perspective or Orthographic views
GCPs		Annotate GCPs with the highest accuracy, using both original images and 3D information at the same time
Checkpoints		Annotate Checkpoints with the highest accuracy, using both original images and 3D information at the same time to verify the absolute accuracy of the project
Manual Tie Points (MTPs) 		Create and mark manual tie points to improve the calibration of your project
Intersection Tie Points (ITPs) 		Create and mark manual ITPs or edit and delete automatic ITPs to improve the calibration of your project
Vertex Tie Points (VTPs)		A geometry vertex can be converted to a vertex tie point (VTP), so that image marks of geometries are taken into account in Reoptimization or Calibration
Undo/Redo your changes		Undo/Redo actions
History 		All actions of a given session are available in the history panel. Revert to the project at any stage, while keeping the other steps that were done as items in the history
Status center 		The status center displays tracking notifications and progress reports of different processing steps
Distance measurement		Measure a distance in the 2D or 3D views, refine in the images for higher accuracy. Option to take projection distortions into account
Marker		Create a marker to measure or highlight a specific point in your project
Polyline		Create a polyline to vectorize linear objects
Polygon		Create a polygon to vectorize a surface with the option to add a planarity constraint, add polygon holes, edit polygons or connect polygons into a polygonal mesh surface
Vector layers and Layers templates		Enhance workflow with customizable vector layers and pre-defined layer templates for efficient data management
ASPRS Classes 		Classify point clouds from your projects. You can edit classes membership, export per class, delete, or show/hide each class
Section view		Create vertical or horizontal sections, or sections along a polyline, in order to vectorize a scene in a plane or to verify the quality of the results
Base maps		Get context about your scene by displaying map or satellite data in the background of your scene in the 2D viewer
Point Cloud editing		Edit and optimize your point clouds for higher-quality meshes, DSMs, and orthomosaics. Disabled points are always stored in the "Disabled points" panel
Clipping box		Isolate and focus on specific regions within your point cloud for more targeted analysis
Videos & views		Create views of your project to easily access the same view point again, to document your scene in a custom report or to create a video animation of your project
Invert selection		Allows to invert the selected point clouds
Color by elevation		Use a histogram and a selection of spectrums to interactively display your point clouds by elevation value
Color by relative confidence		A color by relative confidence tool for advanced users to assess their data accuracy
Minimum number of matches slider		Display the Automatic Tie Points (ATPs), dense point cloud, or fused point cloud based on the number of matches each point has to assess the quality
Snapping window		Facilitates the picking of points when creating a geometry in the 3D view by giving a sense of depth
Object selection tool		A smart object selection tool for point cloud classification
Image masks		Create masks in images to improve the point cloud or mesh

EXPORT	Export GCPs	 Export GCPs for enhanced workflow flexibility
	Export MTPs, mITPS, ITPs (.txt, .csv)	 Export tie point marks
	Point cloud (.laz, .las 1.4, .las 1.2, .XYZ) 	 Export generated point clouds in .laz, .las (1.2 and 1.4 for better compatibility) and .xyz file formats
	Mesh (.obj, Cesium 3D tiles, .slpk) 	 Export a generated digital surface model in a single cloud optimized .geotiff or in tiles. Optionally with .tfw and .prj files. Select the compression rate of the file. LZW compression available
	Point cloud from Mesh (.laz) 	 Export a point cloud from your mesh for better modeling in Revit
	Digital Surface Model (.tiff, .tfw, .prj) 	 Export generated digital surface model in a single .tiff or in tiles. Optionally with .tfw and .prj files. Select the compression rate of the file. LZW compression available
	Orthomosaic (.tiff, .tfw, .prj, .jpg, .jgw) 	 Export a generated orthomosaic in a single or tiled cloud optimized .geotiff with optional .tfw and .prj files, or as .jpg with a .jgw file for geolocation. Select the compression rate of the file. LZW or JPEG compression available
	Quality report (.pdf) 	 Export the quality report to assess the accuracy and quality of projects
	Custom report (.pdf)	 Export custom reports with your logo containing an Overview plan, Views, and an Inventory describing your project
	Geometries (.dxf, zipped .shp, .shp or .GeoJSON)	 Export created geometries (Markers, Polylines, Polygons) and layers to .dxf, zipped .shp, .shp or .GeoJSON
	Direct export to PIX4Dsurvey	 Seamless export of processed PIX4Dmatic projects (.p4m) into PIX4Dsurvey
	Share to PIX4Dcloud 	 Upload results from PIX4Dmatic to PIX4Dcloud for sharing and collaboration
	Open Photogrammetry Format (OPF) 1.0	 Export a project in the Open Photogrammetry Format (OPF) 1.0 specifications
	Video (.webm)	 Export a video of your project to share on social media or with stakeholders

LANGUAGE	Language option 	 English, Japanese, Spanish, French, Simplified Chinese, Traditional Chinese, Korean, German, Portuguese, Turkish
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LICENSING OPTIONS	Organizational license support 	 If you are in a Pix4D organization, you can access those organizational licenses and see how many are available
	SSO support 	 SSO-enrolled companies can use their defined SSO provider to log in
	Offline license 	 Fully offline licensing available
	Proxy configuration	 The usage of proxies is supported for system or manual proxy configurations

HARDWARE SPECS 



CPU: Quad-core or hexa-core Intel i5



GPU: Any NVIDIA GPU that supports OpenGL 4.1 or higher



Disk Space: 150 GB Free Space (2000-5000 images at 20MP). 350 GB Free Space (5000-10000 images at 20MP)



RAM: 32GB (2000-5000 images at 20MP). 64GB (5000-10000 images at 20MP)



OS: Windows 10, 11 (64 bit) or macOS Sonoma (14.x) + Ventura (13.x)