Pix4Dmodel

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Features			Advantages
INPUTS			
Aerial (nadir and oblique) and terrestrial imagery	☁	🖥	Process images taken at any angle and from any aerial manned or unmanned platform as well as from the ground
Video (mp4 or avi format)		🖥	Automatically extracts still frames from video files to create a project
Any camera (compact, SLR, GoPro, 360-degree) images in .jpg or .tiff	☁	🖥	Use images acquired by any camera
Multi-camera support for the same project	☁	🖥	Create a project using images from different cameras and process them together
Ground control point edit and import (.csv, .txt)		🖥	Import and edit ground control points to improve the absolute accuracy of your project
Local, global and arbitrary reference coordinate system support in imperial or metric units		🖥	Select EPSG code from known coordinate systems or define your own local system
Camera exterior orientation support	☁	🖥	Optimize camera exterior orientation parameters starting from GPS and IMU input parameters
PROCESSING			
Processing templates		🖥	Automate processing and generation of outputs by using standard or customized templates
Rapid Check with Quality Report		🖥	Rapid processing template for a dataset quick check while still on site
Camera self-calibration	☁	🖥	Optimize internal camera parameters, such as focal length, principal point of autocollimation and lens distortions, without the need of a lab calibration report
Rolling shutter effect correction		🖥	Correct the warp of images taken with rolling shutter cameras (like GoPro, DJI Phantoms, etc.) to maintain good accuracy, especially useful when flying fast and low.
Automatic Aerial Triangulation (AAT) and Bundle Block Adjustment (BBA)	☁	🖥	Process automatically with or without known camera exterior orientations: (x, y, z, w, f, k)
Automatic point cloud densification	☁	🖥	Produce a dense and detailed 3D point cloud, which can be used as a basis for 3D mesh
Automatic point cloud filtering & smoothing	☁	🖥	Use presets for point cloud filtering and smoothing options
Automatic brightness and color correction	☁	🖥	Compensate automatically for change of brightness, luminosity and color balancing of images
Quality Report	☁	🖥	Assess the accuracy and quality of projects
Project merging		🖥	Combine individually-processed projects into one
Project splitting		🖥	Split large projects into sub-projects for more efficient processing
Project area definition		🖥	Import (.shp) or draw specific areas to faster generate results inside specific boundaries
Targeted Feature Extraction		🖥	Give the number of features to find, getting more features in low-texture images to assist the reconstruction or less features for large-frame images to speed up processing
Multiprocessor CPU + GPU support		🖥	Increase the processing speed by leveraging the power of CPU cores and threads, as well as GPUs
RAYCLOUD EDITOR			
Project visualization		🖥	Assess quality of optimized camera positions, 3D point cloud and mesh
Navigation modes		🖥	View 3D point cloud and mesh in standard, trackball, or first person viewing modes
Scale Constraint		🖥	Accurately scale projects with no or imprecise geolocation by defining one/multiple distances
Orientation Constraint		🖥	Orientate projects with no or imprecise geolocation by defining directions of one/multiple axes
Manual tie point editing		🖥	Annotate and edit 2D and 3D ground control points (GCPs), 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/or rematch images based on GCPs and manual tie points to improve reconstruction of difficult areas
Image masking		🖥	Carve: Remove points from 3D point cloud and create filters based on image content.
		🖥	Mask: Clear the unwanted background in orthoplane results.
		🖥	Global Mask: Disregard objects which appear in all images, such as a drone leg or tripod which occluded the lens during all image acquisition.
Point cloud editing		🖥	Select, classify or delete points from the point cloud using various selection tools
Polyline and surface object creation		🖥	Annotate and measure polylines and surfaces in the point cloud.
		🖥	Accurately refine vertexes in multiple original images.
3D mesh		🖥	Annotate and create surfaces in the point cloud to flatten an area, or to fill up holes in the mesh, caused by insufficient image content
Fly-through animation		🖥	Create a virtual camera trajectory in 3D rayCloud viewer, play the animation in real-time, export the animation as a video (in mp4 and avi format) and the editable flightpath waypoints in .csv format

	3D output results:	🖥	• 3D PDF for easy sharing of 3D mesh • Full 3D textured mesh in .obj, .ply, .dxf, and .fbx format • Tiled Level-of-detail (LoD) mesh in osgb and slpk (Esri) format
		☁	• Full 3D textured mesh in .obj and .fbx format • Point cloud in .las output 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)
COLLABORATION	Web share and visualization	☁	Visualize 3D models using any web browser
		☁	Instant measurement of distances and surfaces
		☁	Share Projects with annotations via a simple link
		☁	Embed project output in a webpage
MULTI-LINGUAL	Language Options	🖥	Desktop software in English, Spanish, Chinese (traditional and smiplified), Russian, German, French, and

HARDWARE SPECS

CPU: quad-core or hexa-core Intel i7/Xeon recommended

GPU: Compatible with Open-GL 3.2 (GeForce 2 GB RAM recommended)

HD: SSD recommended

OS: Windows 7, 8, 10 64 bits, Mac OS (Beta), Linux (Enterprise only)

RAM: DDR4-2400 64 GB recommended

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