PIX4Dengine SDK V.2 — FEATURE LIST

	Features	Advantages
INTERFACE	Python 3.8 interface for easy integration	Design your pipelines, scenarios, validations using a simple industry standard scripting language
	Easy 3rd party integrations	Integrate 3rd party solutions within the processing pipeline
OPERATIONS	Short processing times	Get your SLA under control. Process more and faster in one unit of time
	Large data sets ›10'000 images	Scale up your operations
	HW resource management	Control your hardware resources for each major processing step
	GPU processing	Increase the processing speed by leveraging the power of GPUs
	Creative custom pipelines	Feel free to create any pipeline for any scenario. It's quick and easy.
INPUTS	Aerial —nadir & oblique— and terrestrial imagery	Process images taken from any aerial, terrestrial, manned, or unmanned platform
	Aerial and terrestrial images in .jpg format	Use images acquired with variety of cameras - from consumer-grade to highly specialized cameras
	Large frame images	Process images with resolution ›100Mpx
	Images without IMU	Process image datasets with no IMU
	Multi-camera support in the same project	Create a project using images from different cameras and process them together
	RTK + IMU data support	Get faster and more robust calibration when using the Accurate Geolocation Pipeline
	Ground Control Points (GCPs)	Import GCPs to improve the absolute accuracy of a project
	Known or custom reference coordinate system	Select EPSG code from known coordinate systems or define your own local system
	Multiple coordinate system definitions	Use WKT or ESPG Coordinate Reference System formats
PROCESSING	Processing templates	Choose between preset templates for the best processing options (nadir, oblique) or make custom option modifications. Currently limited to calibration and densification.
	Rapid quality check	Automatically classify the RGB dense point cloud into four groups: ground road surfaces, high vegetation, buildings and human-made objects
	Camera self-calibration	Optimize internal camera parameters, such as focal length, principal point of autocollimation and lens distortions
	Rolling shutter effect correction	Correct the warp of images taken with rolling shutter cameras (like GoPro, DJI Phantoms, etc.) to maintain accuracy even when flying fast and low
	Automatic point cloud densification	Produce a dense and detailed 3D point cloud, which can be used as a basis for DSM and 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
	API providing Quality Report information	Assess the quality indicators and build your own reports
	Project area definition	Draw area polygons to generate results inside/outside specific boundaries
	Custom number of keypoints	Set the number of keypoints to filter noise or speed up processing
	Multiprocessor CPU	Increase the processing speed by leveraging the power of CPU cores and threads
	AutoGCPs	Let engine find and mark your GCPs on images without any human intervention required
	Sky/water surface detection	Automatically remove sky and/or water (water as beta) segments from images for generating smooth, noise free point cloud and slpk mesh
	Moving objects removal	Automatic removal of clutter and moving objects from orthomosaics
	Custom QA report API	Create your own, customized QA report and assess the accuracy and quality of projects
	Custom output directories (exports, logs, reports, work/tempo...)	Decide where you files will be located

OUTPUT RESULTS

2D output results:	Nadir orthomosaics in GeoTIFF output format
2.5D output results:	• Nadir DSMs in GeoTIFF format
3D output results:	• Full 3D textured mesh in .obj format
	• Tiled Level-of-detail (LoD) mesh in SLPK format
	• Point cloud in .las, .laz output format

HARDWARE SPECS

CPU: Quad-core or hexa-core Intel i7/i9/Xeon, AMD

GPU: GeForce GTX 1070 and up (compatible with OpenGL 3.2)

HD: Solid state drive (SSD)

OS: Windows 10 (64 bits) Ubuntu 20.04 (64 bits)

RAM: 32GB RAM (or more)

Amazon Web Services: m6i.2xlarge for 2,000 images m6i.8xlarge for 5,000 - 10,000 images

PIX4D

Get in touch:
pix4d.com/engine