



Intelligent photogrammetry

Agisoft

Metashape

Agisoft Metashape is a cutting-edge software solution, with its engine core driving photogrammetry to its ultimate limits, while the whole system is designed to deliver industry specific results relying on machine learning techniques for post-processing and analysis tasks.

The software allows to process images from RGB or multispectral cameras, including multi-camera systems, into the high-value spatial information in the form of dense point clouds, textured polygonal models, georeferenced true orthomosaics and DSMs/DTMs. Further post-processing enables to eliminate shadows and texture artifacts from the models, calculate vegetation indices and extract information for farming equipment action maps, automatically classify dense point clouds, etc.

Very fast & highly accurate

Based on the state-of-the-art technology developed by Agisoft, Metashape allows for **very fast processing**, providing at the same time consistent and **highly accurate results** both for aerial and close-range photography (up to 3cm for aerial, and up to 1mm for close-range photography).

Local or cloud processing

Agisoft Metashape is capable of **processing of 50 000+ photos** across a local cluster, thanks to **distributed processing functionality**. Alternatively, the project can be easily **sent to the cloud** to minimize hardware investment, with all the processing options being still available.

Intuitive UI & stereo mode

The software package has a linear **project-based workflow that is intuitive** and can be easily mastered even by a non-specialist, while professional photogrammetrists can benefit from advanced features like **stereo mode** and have **complete control over the results accuracy**, with detailed report being generated at the end of processing.

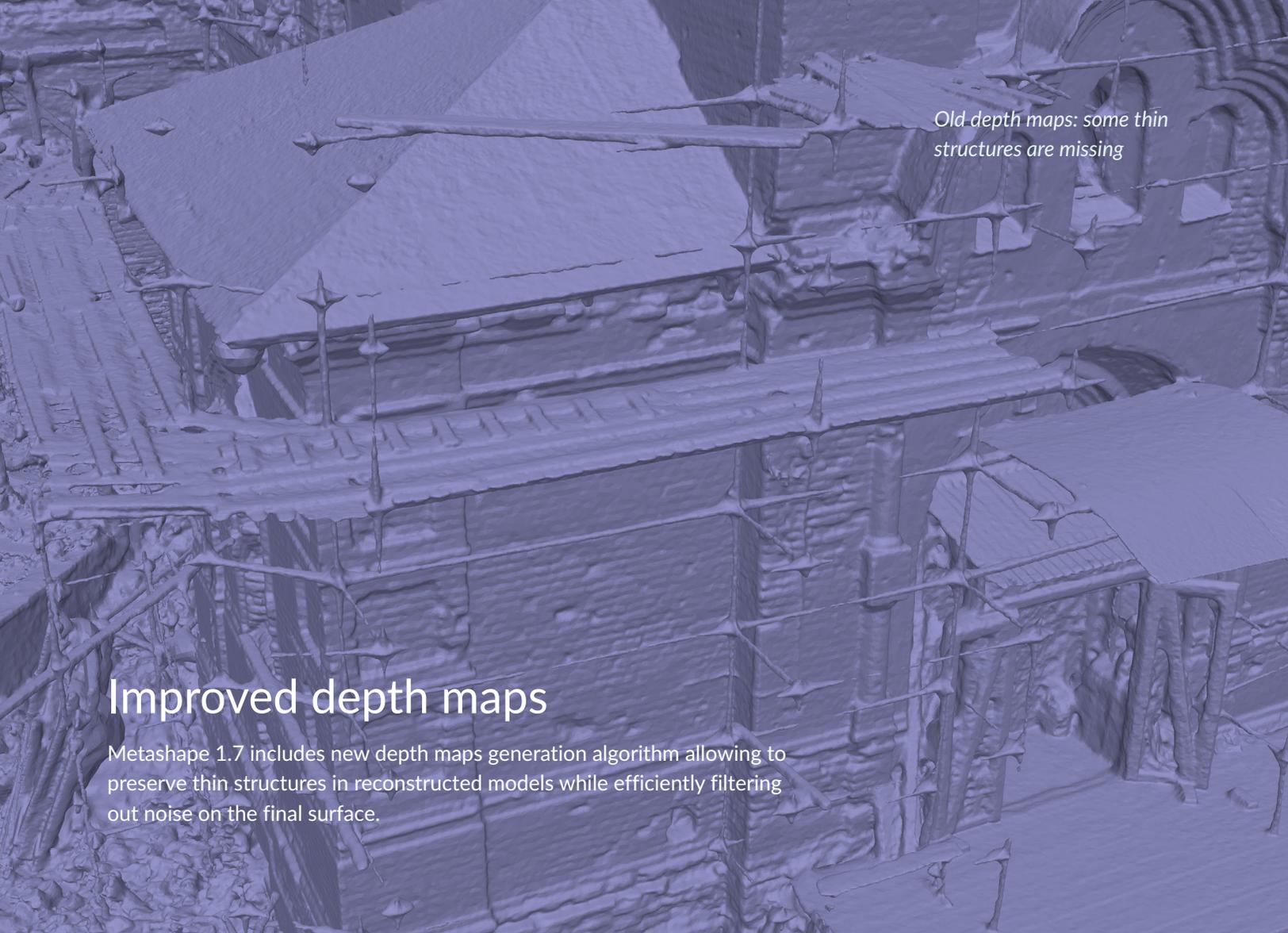


Terrestrial laser scanners support

Metashape 1.7 in addition to photogrammetric processing workflow of color and multispectral images presents functionality to join terrestrial laser scanner and camera data in one project.



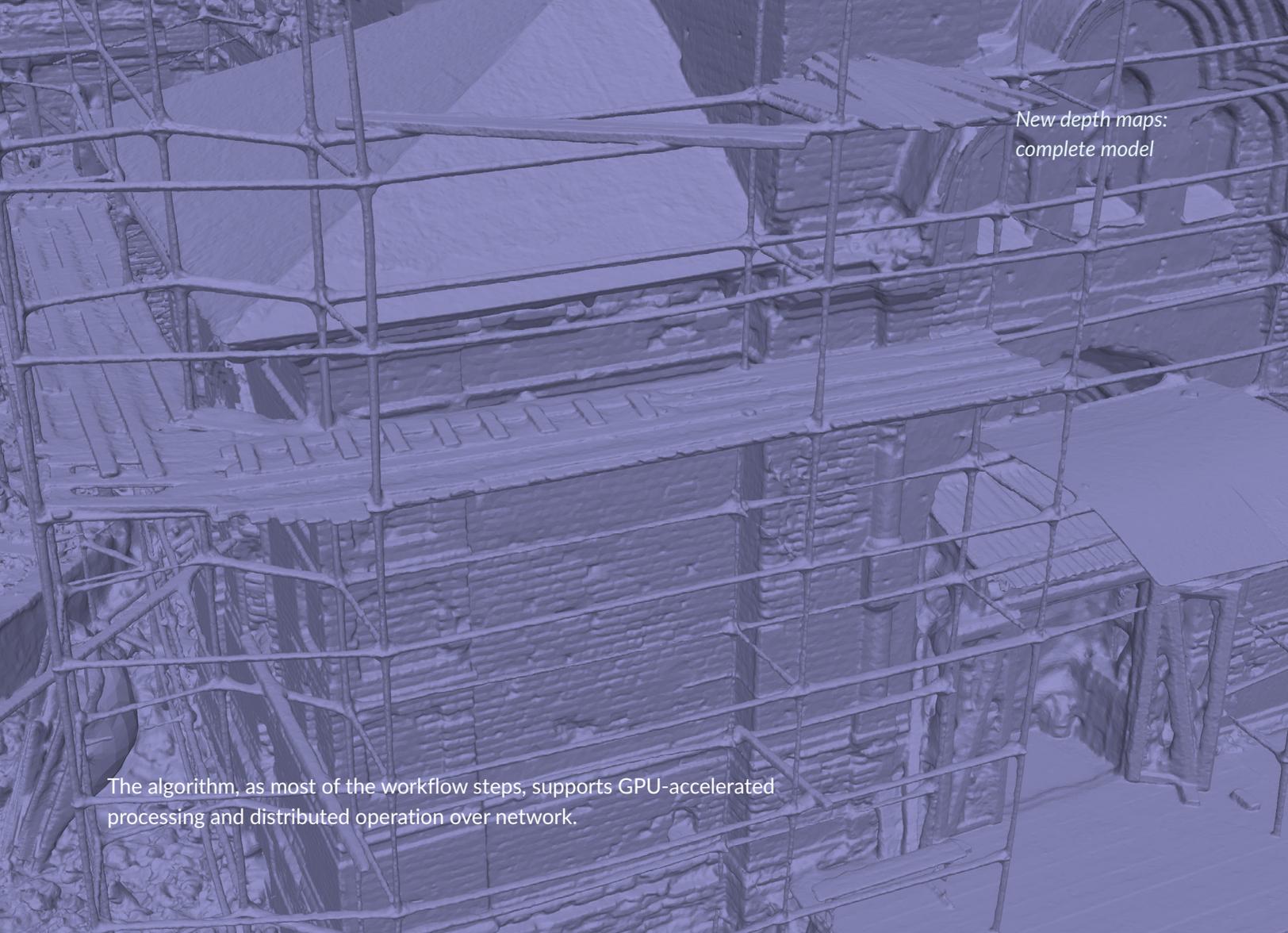
Simultaneous adjustment of both laser scanner and camera positions allows to combine LiDAR and photogrammetric depth maps, which enables to benefit from LiDAR technology for interiors and photogrammetry for exteriors and photorealistic textures. Seamless integration makes it possible to apply full range of photogrammetric software tools to LiDAR data: markers support and automatic targets detection for manual alignment of scanner data, masking instruments to ignore unwanted objects, etc.



Old depth maps: some thin structures are missing

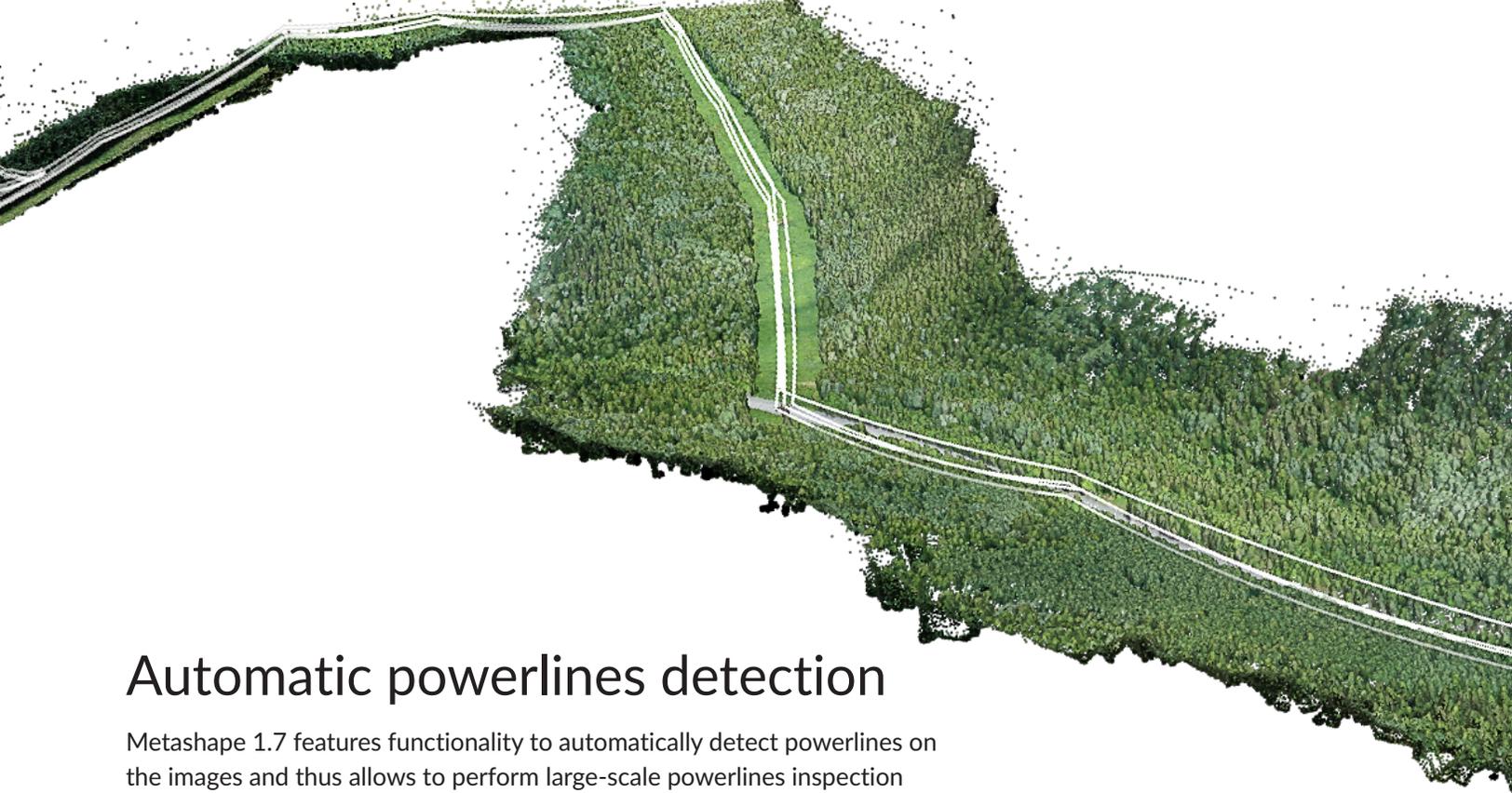
Improved depth maps

Metashape 1.7 includes new depth maps generation algorithm allowing to preserve thin structures in reconstructed models while efficiently filtering out noise on the final surface.

The image shows a 3D architectural reconstruction of a building, possibly a historical structure, rendered in a monochromatic blue color. The building is heavily encased in a complex network of scaffolding, consisting of numerous vertical and horizontal poles and cross-braces. The architecture features a prominent gabled roof on the left side and a series of arched openings or windows on the right. The overall scene is a detailed digital model of a construction site.

*New depth maps:
complete model*

The algorithm, as most of the workflow steps, supports GPU-accelerated processing and distributed operation over network.



Automatic powerlines detection

Metashape 1.7 features functionality to automatically detect powerlines on the images and thus allows to perform large-scale powerlines inspection projects without need to invest in LiDAR equipment. The results in a form of a 3D polyline model for every wire can be exported for documentation and analysis in industry-specific tools or used for obstacle avoidance by mission planning algorithm within Metashape. Robustness of the results is ensured with catenary curve fitting algorithm.

Agisoft Cloud official release

We are proud to finally announce commercial release of Agisoft Cloud platform with flexible subscriptions including limited free plan for non-commercial use and scalable pay-as-you-go plan for your professional projects.

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In line with Metashape 1.7 release Agisoft Cloud functionality is extended with sharing processing results option and embedding code generation tool to integrate your models in any website.



Seamless orthomosaic for Surveying & Mapping

Metashape is a perfect tool for aerial imagery processing. The functionality of the program is being constantly developed according to the tasks set by rapidly emerging UAS industry.

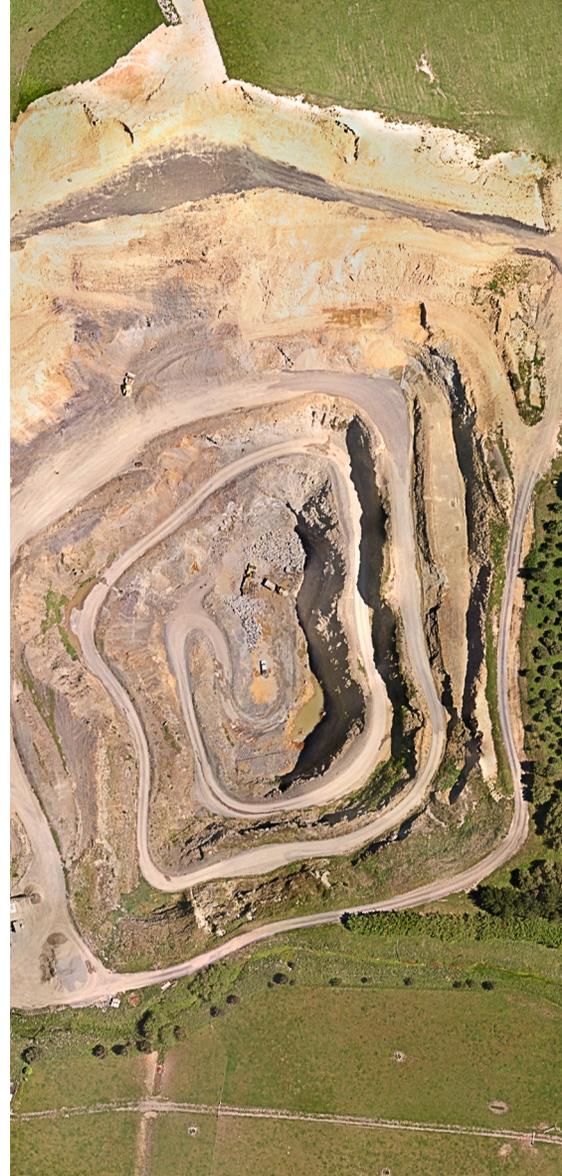
Metashape has proved to be a professional level post-processing tool capable of dense point clouds generation and classification for further exceptionally detailed DSMs/DTMs calculations and high-resolution seamless orthomosaics export, not to mention reconstruction of precise polygonal models of large scale objects. It is an indispensable part of GIS workflow starting with a UAV system.



Highly accurate measurements for Mining & Quarrying

Highly accurate DEMs produced by Metashape lay the grounds for precise area and volume measurements, both for excavations and piles. Once multiple flights performed at different time moments, Metashape allows for volume change tracking, soil erosion and glacier studies.

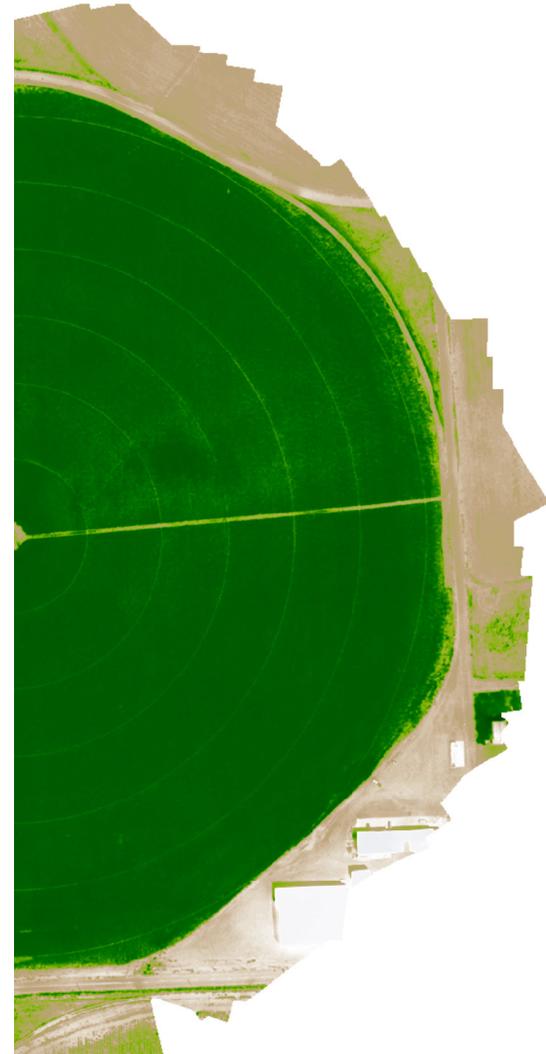
Automatic non-coded targets detection capability saves up on manual work in inspection projects done on a regular basis



Customized vegetation index calculation for Precision Agriculture & Environmental Management

With support for panchromatic, multispectral and thermal imagery, Metashape seamlessly integrates into workflows involving processing of data from diverse sources, like vegetation and soil analysis, fires and night studies, etc.

Vegetation indices calculation according to a user-defined formula allows to analyze crop problems and generate prescriptions for variable rate farming equipment.



Consumer camera support for Archaeology & Documentation

Archaeology more and more often relies on photogrammetric approaches today, be it a need to model an artifact or a demand for an excavation mapping.

Thanks to the capability to process imagery from any digital camera, Metashape is widely used in various archaeological projects both up in the mountains and deep under the water, including special researches like greenery pattern studies to find ancient ruins under the ground or rock art documentation and analysis projects.



Oblique imagery support for Architecture & Cultural Heritage Preservation

Numerous projects prove that Metashape is a quality tool to solve the tasks of facade and building modeling.

With support for oblique imagery processing, Metashape allows to reconstruct the whole building, which can be employed for virtual tours creation, with reconstruction results being exhibited as illustrative models of large-scale cultural heritage objects. 3D models of partially ruined monuments and artifacts generated with Metashape present reliable basis for restoration works thanks to exceptional accuracy of reconstruction results.

Castle Spangenberg by Aibotix GmbH
www.aibotix.com



Photorealistic textures for Visual Effects & Game Design

Thanks to being highly detailed and photorealistic, Metashape models meet the strict requirements of professional animation studios, which successfully employ the software for movie and game production.

Face and body capture results, being among the most demanded ones, prove that Metashape potential goes beyond one's imagination.

Human scan by Infinite Realities
www.ir-ltd.net





Advantages

01. Highly accurate and detailed results

02. Fully automated and intuitive workflow

03. GPU acceleration for faster processing

04. Network processing for large projects

05. Agisoft Cloud for processing, visualization & sharing of the results

06. Reasonably powerful Standard edition for art projects

07. Easy sharing with PDF or fly through video export and direct upload to online resources

08. Stereoscopic measurements for precise feature extraction



Compatibility

01. Processes images from digital/film/video cameras and multi-camera systems

02. Supports frame/fisheye/spherical/cylindrical/RPC camera models

03. Works well with most UAVs (copters, fixed-wings, VTOLs)

04. Integrates with aerial LIDAR workflows with point cloud import

05. Exports results in widely supported formats

06. Supports most EPSG coordinate systems and configurable vertical datums

07. Runs on Windows, Mac OS X and Linux



Capabilities

01. Satellite, aerial and close-range triangulation
02. Incremental image alignment
03. Mission planning
04. Image set redundancy analysis
05. Dense point cloud generation and automatic multi-class classification
06. DSM/DTM generation
07. True orthomosaic generation in user defined projections
08. Automatic seamline refinement for traditional DTM-based orthomosaics
09. Manual seamline editing
10. Elevation contour lines generation
11. Georeferencing using flight log and/or GCPs
12. Coded and non-coded targets auto detection
13. Coordinate/distance/area/volume measurements
14. Multispectral imagery processing and vegetation index calculation
15. Texture generation with delighting and deghosting filters
16. Ambient occlusion and normal maps generation
17. 4D reconstruction for dynamic scenes
18. Hierarchical tiled model generation and visualization
19. Polygonal model reconstruction
20. Spherical panorama stitching
21. Built-in Python scripting and Java API for job automation
22. Headless operation support