Metashape

Intelligent photogrammetry

Agisoft

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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.

Dense Cloud Based Out-of-Core Mesh Generation in Arbitrary Mode

New dense cloud based mesh generation algorithm in Metashape 1.8 is implemented in out-of-core style, which allows to generate mesh model even for a dense cloud with hundreds of millions of points on a machine with a moderate amount of RAM.
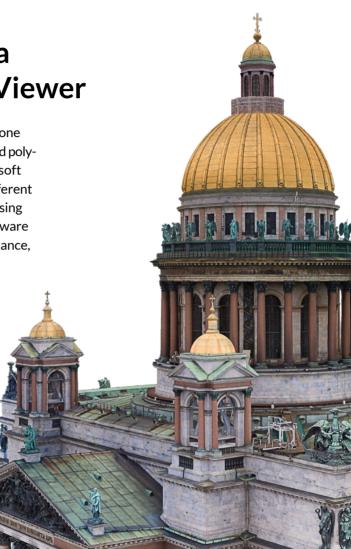
This polygonal model generation approach is suitable for projects with manually edited or imported dense point cloud or when only designated dense point cloud classes should be used for mesh reconstruction.

Prescription Maps Calculation and Export

Metashape 1.8 allows for prescription maps calculation based on NVDI ortho-mosaic generated in the software or imported from an external source. The prescription maps as multi-polygon shape files can be exported in industry standard SHP format, with the meta information saving the fertilizer rate to be used for the area and mean index value for the given zone. Index value range for each vegetation zone can be calculated automatically or set manually based on the NDVI histogram.

Wide Range of Geospatial Data Formats Supported in Agisoft Viewer

Improved Agisoft Viewer is released with Metashape 1.8 as a stand-alone software for visualization of the photogrammetric results such as tiled and polygonal models, point clouds, elevation models and orthomosaics. Agisoft Viewer supports wide range of geospatial data formats. Data from different sources can be displayed at the same time allowing to combine processing results from Metashape and external 3D (raster and vector) data. Software tools enable to create vector layers with annotations and perform distance, profile, area and volume measurements.

Measurements and Annotations in Agisoft Cloud

Agisoft Cloud offers photogrammetric processing based on Metashape algorithms in cloud infrastructure.

Agisoft Cloud functionality for published projects is further extended with photo inspection capability, tools to draw and annotate vector shapes and to perform distance and area measurements.

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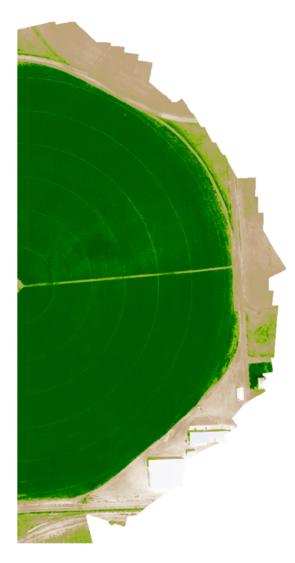
Automatic non-coded targets detection capability saves up on manual work in inspection projects done on a regular basis

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, macOS and Linux

⚙ Capabilities

01. Satellite, aerial and close-range triangulation

02. Incremental image alignment

03. Mission planning for complex sites

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. Automatic powerlines detection

15. Multispectral imagery processing and vegetation index calculation

16. Prescription maps generation and export

17. Texture generation with delighting and deghosting filters

18. Ambient occlusion and normal maps generation

19. 4D reconstruction for dynamic scenes

20. Hierarchical tiled model generation and visualization

21. Polygonal model reconstruction

22. Spherical panorama stitching

23. Built-in Python scripting and Java API for job automation

24. Headless operation support

Metashape

Want to try?

Start your testing with free 30-day trial license
— compare editions and download at **www.agisoft.com**

Register at **cloud.agisoft.com** and get personal account to try move your data processing workflows to the cloud

To place an order contact our sales department **sales@agisoft.com**

Benefit from the local purchase — check the list of our authorized resellers at **www.agisoft.com**