Metashape

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 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 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.

Enhanced photogrammetric engine with rigorous statistical assessment

Photogrammetric engine inside Metashape software is developed to provide flexibility in the choice of the sensor, including support for frame, fish-eye and spherical cameras, as well as multi-camera systems, with new option to input slave offset reference to improve accuracy of the results.

For processing of the data captured with consumer cameras, in addition to rolling shutter compensation, Metashape 1.5 was enhanced to work with photo-invariant parameters for higher precision in case of unstable interior orientation parameters. To perform uncertainty analysis of the results, co-variance data is now available for all BBA parameters (camera IO and EO parameters, GPS/IMU antenna offset, slave sensor offset, tie points).
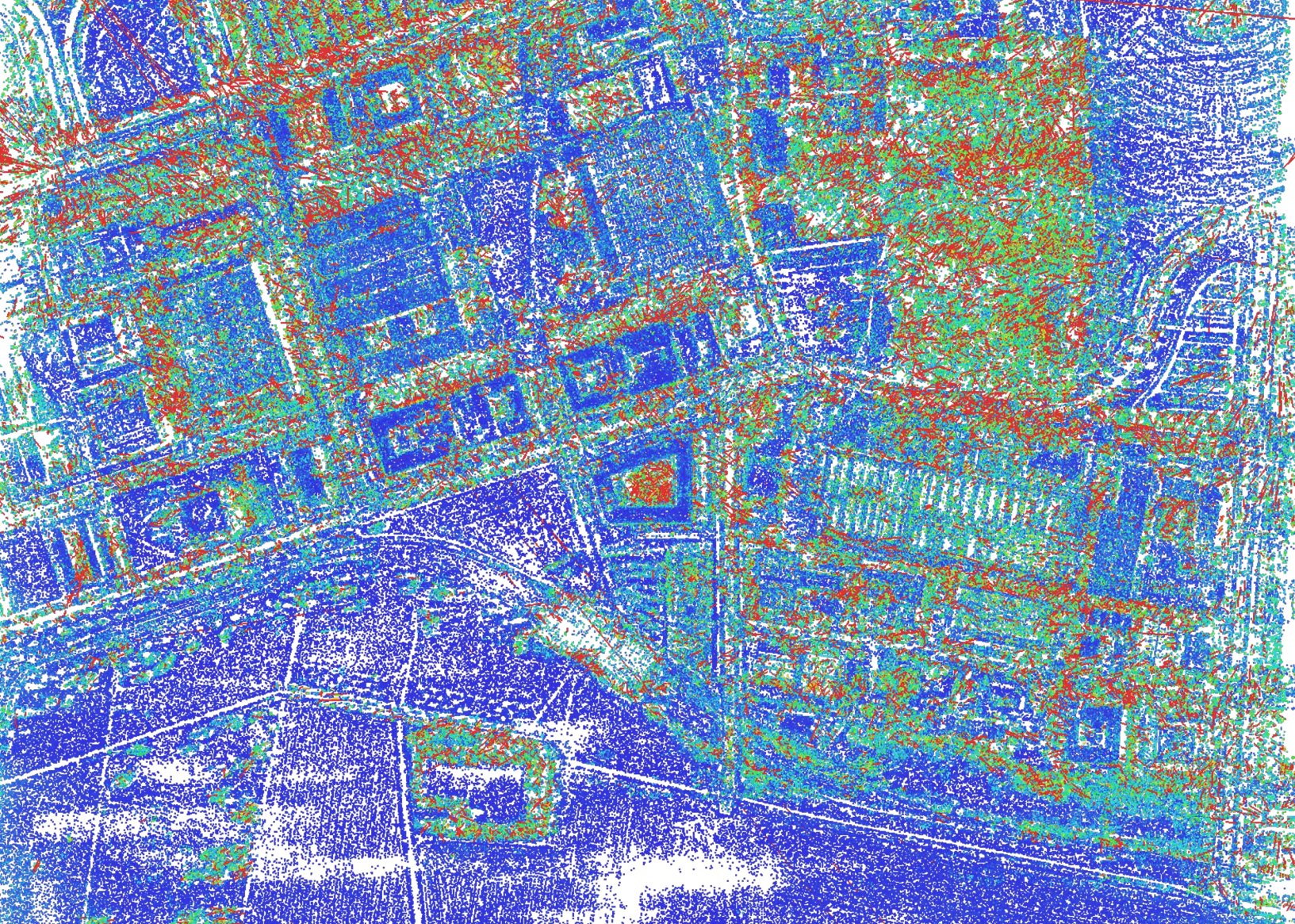
Classical photogrammetry
with user-friendly interface

Metashape enables to perform manual vectorization from stereo pairs using anaglyph glasses or specialized 3D displays for the tasks where it is necessary. Metashape 1.5 makes vectorization in stereo mode more convenient thanks to the possibility to directly select the stereo pair from the Photos pane, with the lock option to prevent from accidental switching.

A new smart seamlines function automatically makes the seamlines bypass buildings and other objects to generate seamless orthomosaics based on DTMs.

Modern post-processing tools for your applications

Metashape is capable of eliminating shadows and texture artifacts from the models, calculating vegetation indices and extracting information for farming equipment action maps. With the new semantic classification of 3D point clouds, Metashape helps to solve the crucial task of higher-level interpretation of the scanned data. Using modern machine learning techniques Metashape 1.5 enables automatic dense point cloud classification into Ground, Vegetation, Building, Road and Car classes.

Local / Network processing / Cloud

Metashape is optimized for multi-core CPUs and multi-GPU systems for fast generation of the results. Distributed processing on a HPC cluster helps to speed up all the calculations for massive data sets even further.

Metashape 1.5 presents cloud processing option integrated in the application user interface for those who don't want to invest in the hardware infrastructure. Different payment plans are offered depending on the project demands.

Account

General   Projects   Payments   Personal Data

My Projects

Aerostream_DemoDEM_140918	919 Mb	🔵 In Progress	Photos List ⌄	Delete
Terioki_MainVersion_3	1,77 Gb	✅ Completed	Photos List ⌄	Delete
Untitled-Project-21	1,1 Gb	✅ Completed	Close List ⌃	Delete

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DSC998431987_12.jpg	DSC998431988_27.jpg	DSC998431987_42.jpg	DSC998431990_12.jpg	DSC998431992_27.jpg

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 human 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.
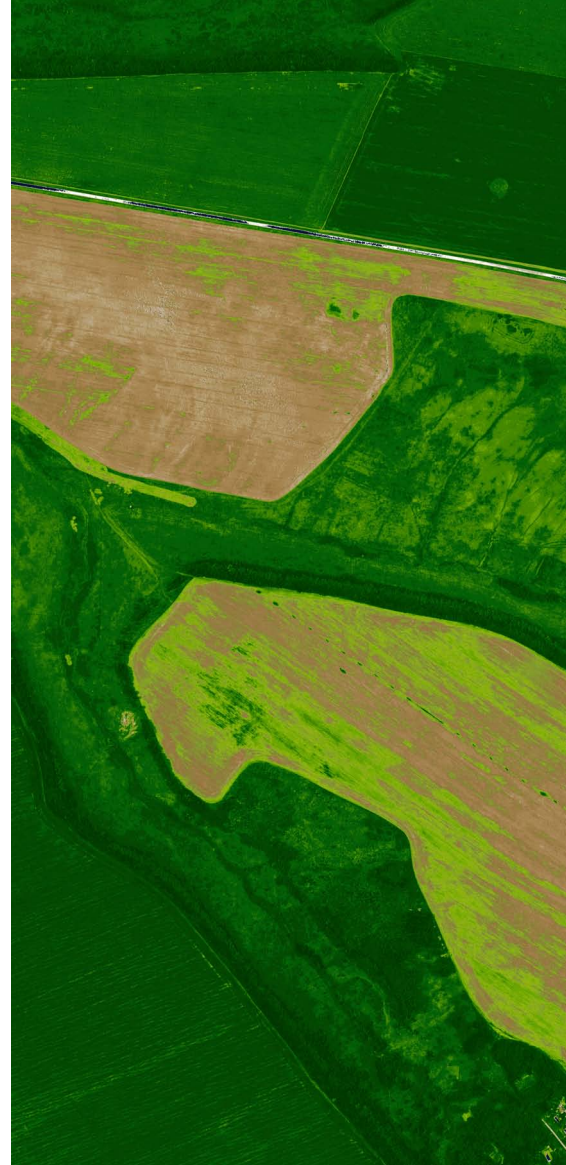
Consumer camera support
for Archaeology & Documentation

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 a greenery pattern study to find ancient ruins under the ground or a rock art documentation and analysis project.

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
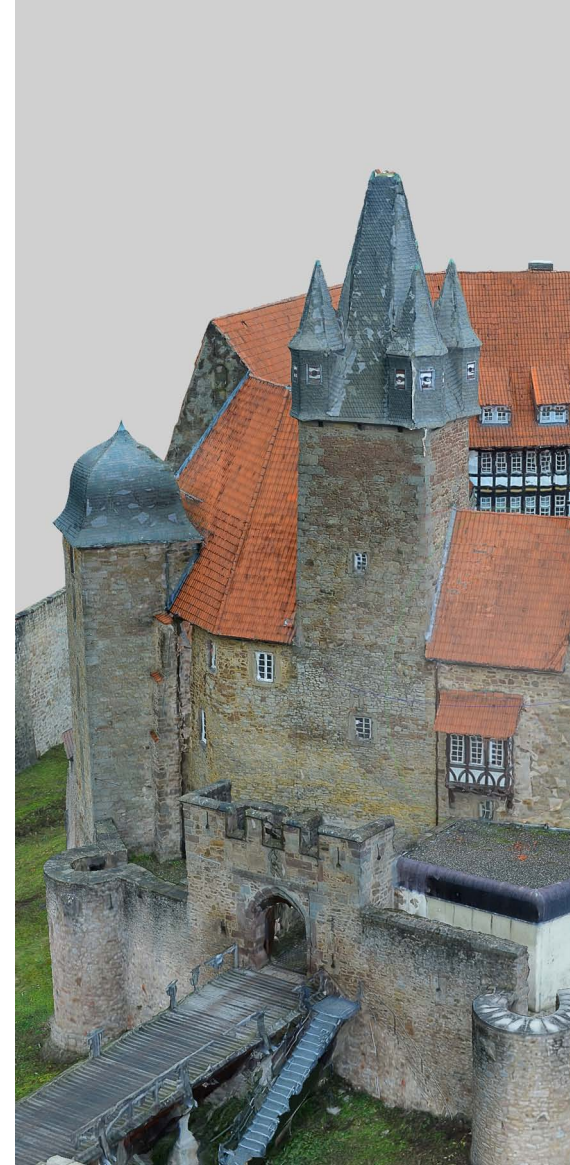
Photorealistic textures
for Visual Effects & Game Design

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. Cloud processing to save up on infrastructure

06. Reasonably powerful Standard edition for art projects

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

08. Stereoscopic measurements for precise feature extraction

🧩 Compatibility

01. Supports digital/film/video cameras and multi-camera systems

02. Processes images from frame/fisheye/spherical/cylindrical cameras

03. Works well with most UAVs

04. Integrates with 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. Aerial and close-range triangulation

02. Incremental image alignment

03. Dense point cloud generation and automatic classification

04. DSM/DTM generation

05. True orthomosaic generation in user defined projections

06. Automatic seamline refinement for traditional DTM-based orthomosaics

07. Manual seamline editing

08. Elevation contour lines generation

09. Georeferencing using flight log and/or GCPs

10. Coded and non-coded targets auto detection

11. Coordinate/distance/area/ volume measurements

12. Multispectral imagery processing and vegetation index calculation

13. Texture generation with delighting and deghosting filters

14. 4D reconstruction for dynamic scenes

15. Hierarchical tiled model gene- ration and visualization

16. Polygonal model reconstruction

17. Spherical panorama stitching

18. Built-in Python scripting for job automation

19. Headless operation support

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Want to try?

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— available on request at www.agisoft.com

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and get personal account to test
cloud processing of your projects

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