

EnsoMOSAIC Fusion

PHOTOGRAMMETRIC SOFTWARE

Features & technical specifications

WHAT IS ENSOMOSAIC FUSION?

EnsoMOSAIC Fusion is a **complete photogrammetric software** for fully automatic aerial triangulation, point cloud generation and orthomosaic production. EnsoMOSAIC is suitable for UAVs and for middle & large format cameras. It processes images from multiple cameras, oblique camera systems, multispectral and hyperspectral sensors. Different sensors can be **fused**, i.e. processed at one go for optimal results. Orthomosaics and point clouds are state of the art professional quality.

DATA INPUT AND OUTPUT

EnsoMOSAIC Fusion has versatile data input & output options.

Input

- User defined formats for flight log files
- User defined formats for ground control points
- Image formats: small, medium and large format RGB and CIR, thermal, multispectral, hyperspectral
- No image size or image quantity limitations
- Image file formats: JPG, TIFF, ERS, RAW, ENVI
- Image radiometry: 1 – n bands, 8 - 32 bits per pixel
- Camera definition: self-calibration, EnsoMOSAIC text file, Agisoft text file, manual parameters input
- Background images & maps
- Map sheet definitions for output
- EnsoMOSAIC project files: binary
- EnsoMOSAIC flight data: ASCII text (.TRP & .GPS)
- External source block data & parameters: ASCII text (.RSB)
- KML

Output

- Project reports with user defined content: PDF
- External orientations: ASCII text
- Point cloud: LAS, ERS, ASCII text
- Orthomosaic: TIFF, JPG, ERS
- Ortho images: TIFF, JPG, ERS
- Orthomosaics and image footprints: Google Earth KML
- EnsoMOSAIC project files: binary
- EnsoMOSAIC flight data: ASCII text (.TRP & .GPS)
- Complete block data & parameters : ASCII text (.RSB)

USER INTERFACE AND COORDINATE SYSTEMS

EnsoMOSAIC Fusion comes with a powerful map user interface. It supports the standard EPSG coordinate systems and map projections registry.

- Map user interface with adjustable graphics for feature displays
- Powerful browsing, manipulation and analysis functionality for block data
- Data selection & spatial filtering for processing operations from the map
- Complete block modelling options and processing parameter setting
- Powerful semi-automatic manual measurement tool for known point registration
- Bundle adjustment result analysis tool
- Project report generator with user definable content
- Background images and maps
- Basic coordinate measurement and display tools
- Input data coordinate system: WGS84 geographical or map coordinates
- Project data coordinate system: set during data input, conversion input->project on-the-fly

AUTOMATIC AERIAL TRIANGULATION AND BUNDLE BLOCK ADJUSTMENT

The core of EnsoMOSAIC Fusion is its powerful automatic aerial triangulation.

- Very robust core triangulation engine with sub-pixel measurement accuracy
- Fast automatic tie point measurement, based on multi-image matching
- Tie point measurement independently from image pyramid levels (non-incremental operation)
- Handles multiple cameras, including oblique camera systems
- Complete GPS drift modelling options (strip wise, block wise)
- Weight setting for observation types (GPS, gyro, known points, measured points), also for individual observations
- Self-calibration of camera(s)
- Automatic blunder detection and removal
- Automatic avoidance of water areas
- Bundle adjustment result analysis tool
- Visual residual & statistics displays on the map
- Bundle adjustment reports into PDFs

POINT CLOUD GENERATION

An integrated point cloud generation module comes with EnsoMOSAIC Fusion.

- Fast matching engine, based on multi-image matching
- Very high output quality – sharp roof edges, flat road surfaces, individual trees, power lines
- User defined output area
- User defined point cloud resolution
- No image quantity or image size limitations
- No image orientation limitations (oblique images)
- Multi-threaded software architecture
- Spatially distributed computing
- Robust error handling
- Output options: 3D point cloud, top surface raster

ORTHO MOSAIC PRODUCTION

EnsoMOSAIC Fusion generates high quality ortho images and orthomosaics.

- Mosaicking with triangulation tie points, with generated point cloud or with an external DEM
- Mosaicking to a user defined area or to map sheet tiles
- Selectable output image channels
- Ortho rectification of individual images

TOOLS & ACCESSORIES

EnsoMOSAIC Fusion comes with a selection of production support tools & accessories.

- Data handlers: cameras, imaging platforms, coordinate systems, project maintenance, observation weight classes
- Data import tools: ground control points, check points, terrain models, raster maps & mosaics, vector polygons, photogrammetric blocks
- Data export tools: block data, orientation data, point cloud, seam lines
- Map sheet tile definition
- Pyramid images generation
- Project map projection conversion
- Ortho photo colour balancing, vignetting, hot spot and sun spot corrections
- Seam line generation
- Raster file operations: format change, alternative channel combinations, crop, merge, change of bit depth (16bit – 8bit)

CONTACTS

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