

EnsoMOSAIC 3D

Software specifications

WHAT IS ENSOMOSAIC 3D?

EnsoMOSAIC 3D is a software for stereoscopic 3D data acquisition from EnsoMOSAIC aerial images and for processing large XYZ point clouds collected e.g. with airborne LiDARs. It completes EnsoMOSAIC software chain to cover all aerial imaging tasks from flight planning through automated image processing to data extraction for accurate topographic mapping.

EnsoMOSAIC 3D is used for stereoscopic 3D mapping of spatial objects like buildings, roads and terrain forms from digital aerial imagery. It classifies automatically and interactively geo-referenced point data, and by stereoscopic viewing checks and edits existing point data and measures new 3D points. Points are computed into elevation models, which can be visualized with image data. It automatically transfers 3D objects into the user's GIS database classifying the objects by the settings of the receiving system. The database connections are available for all major GIS products.

HARDWARE SET-UP

Recommended computer specifications

- Intel-compatible processor
- Microsoft Windows XP / 7 / 8 / 10
- Microsoft Vista (only for devices with interlaced stereoscopic viewing)
- Min. 2 GB of RAM
- Windows compatible pointing device, e.g. trackball
- USB-port
- Stereo-ready graphics card, e.g. NVIDIA Quadro series (OpenGL quad-buffer stereo)

Recommended and tested devices for stereoscopic viewing

- Zalman ZM-M220W
- Hyundai, Arisawa / XPol virtual 3D
- Planar's SD Stereo LCD display product line
- REAL D StereoGraphics CrystalEyes Eyewear with Emitter
- REAL D StereoGraphics Monitor ZScreen
- LG displays with Cinema 3D
- Asus 3D monitors

STEREOSCOPIC 3D DATA EXTRACTION

The core functions and features for 3D processing and viewing:

- Compute y-parallax free epipolar images on-line
- Adjust tones automatically
- Superimpose 2D or 3D vector data on stereo images
- Select object type from various alternative geometry types with or without attribute information
- Use layer techniques to separate vector data sets (active, hidden, 2D, background)
- Use Object Edit to work in 3D
- Use Trail Edit to work in 3D
- Find height level automatically
- Control height level continuously
- Compute point data automatically for digital elevation model (DEM)
- Check and classify point data stereoscopically on digital aerial images
- Check and classify point data manually
- Compute and edit large continuous grid elevation models
- Visualise grid elevation models and point data in free viewing angles with various techniques
- Classify georeferenced point data automatically
- Compute smooth contour lines
- Utilise pre-defined feature models for 3D modeling of spatial objects

DATA MANAGEMENT AND SUPPORT

In addition to the core 3D functions there is a wide selection of core and support functions available for data management:

- Manage and process huge point data sets i.e. point clouds
- Create and manage image sets and frames
- Combine image data and orientations
- Create tiled images
- Rotate, flip and swap images
- Sharpen images
- Create image pyramids
- Create block overview mosaics
- Create combined images from separate channels
- Split image into separate channels
- Define stereo pairs
- Compute epipolar images
- Create artificial points for orientation transfer
- Calculate volumes within and between elevation models.

DATA EXCHANGE

Use data exchange functions for transferring data between your GIS environment and EnsoMOSAIC 3D. Save 3D features into a database and read existing spatial data from the database for stereoscopic overlays and editing:

- Transfer EnsoMOSAIC orientations
- Data transfer from/to
 - ArcGIS
 - AutoCAD
 - MicroStation
 - Smallworld
 - Tekla Xcity
- Import and export spatial objects using shape files
- Develop your own application using a API library written with C++
- Read and write LAS format files
- Read and write XYZ format files
- Read and write RAW images
- Read and write TIFF images with geocoding in TFW file
- JPEG image compression
- GZIP image compression

CONTACTS

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