



SATMaster



INPHO SOFTWARE

A complete processing workflow for geospatial information collection in one product.

EXPERIENCE EXCEPTIONAL PERFORMANCE AND PRECISE SATELLITE IMAGE PROCESSING WITH INPHO SATMASTER

Satellite imagery offers a perfect alternative for geospatial data collection for very large areas or areas that are impossible to be surveyed with airborne sensors. Modern high-resolution imaging satellites provide input for a variety of applications like: environmental monitoring, cadastral surveying, urban planning, agriculture, oil/gas/mining and engineering applications.

Full Workflow Automation

Refine accuracy in geospatial positioning of satellite imagery by factors up to 10 times with the help of ground control points. Create point clouds from stereo coverage. Derive exact surface models or true ground DTM. Orthorectify, color-balance and mosaic all satellite imagery into homogeneous, seamless, colorgraded, orthophoto mosaics.

Pointcloud Editing and Mapping

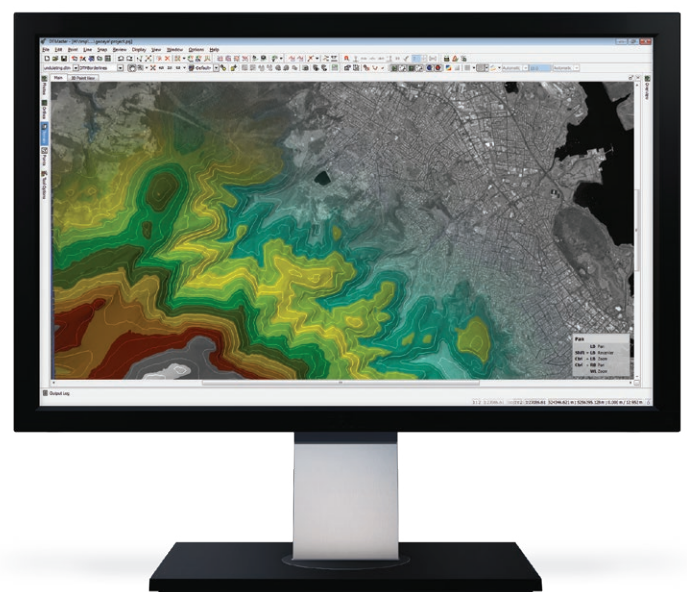
Use interactive and automated editing and mapping tools in order to refine precision and details of all deliverables. Benefit from powerful point cloud editing, filtering and classification workflows, monoscopic and stereoscopic visualization and create basic multi-layer GIS ready vector maps.

Everything Remote Sensing Professionals need in one Product

- ▶ User interfaces, specialized for satellite workflows
- ▶ Tools tailored to remote sensing workflows
- ▶ Seamless data exchange between workflow steps
- ▶ Robust quality assessment and data checks
- ▶ No need for 3rd party applications
- ▶ Support for 3rd party data imports (e.g. orientations, height models, orthophotos)
- ▶ Flexible workflows depending on entry point (e.g. using existing height models on geo-referenced imagery to generate ortho mosaics for later feature analysis).
- ▶ Fully automated processing with excellent interactive refinement tools
- ▶ Stereoscopic as well as monoscopic data support and visualization
- ▶ Seamless transition from SATMaster to eCognition available (Send results directly to eCognition)

Key Features

- ▶ Seamless complete satellite-specialized workflow from geo-referencing, point cloud matching, ortho mosaic generation and feature analysis with full automation.
- ▶ Monoscopic and stereoscopic editing, refinement and basic multi-layer/multi-file mapping.
- ▶ Support for different workflows on different input data – monoscopic/stereoscopic coverage, raw or rectified scenes, RPC or TFW/Geotiff, blocks or single scenes. Step into the complete workflow at any task level.
- ▶ High accuracy and reliability, refine absolute positioning by factors up to 10x.



TECHNICAL SPECIFICATIONS

FEATURES OVERVIEW

Highly accurate geo-referencing for satellite scenes

- Satellite triangulation for automatic bulk-orientation including automatic tie point extraction
- Single image orientation tools for monoscopic scenes without overlap, optional referencing to ortho-imagery combined with height models
- Project-wide photo display with correct topology, and auto image-selection for interactive and automated, guided control point measurement.
- Multi-view stereoscopic display for easiest stereoscopic manual point measurement
- Rigorous quality assessment tools and visualizations as well as numerical statistics

Creation of dense point clouds for stereoscopic coverage

- Density up to 1 pixel
- Irregular colorized pointcloud or grid
- Surface model or bare earth DTM
- Speed-optimized parameter set
- Batch processing on multiple areas of interest
- Optional tiling of deliverables for huge volumes

Point cloud editing and basic mapping

- CAD-like multi-layer/multi-file environment
- Automated and interactive guided mapping and editing tools for vectors and points including project-wide or local brush-type filtering and classification.
- 3D stereo mapping tools as well as monoplotting capability (xyz from ortho & height model)
- Multi-view high performance visualizations (shadings, online-contouring, height coding, profiles...)
- Mapping-grade contour map generation and grid interpolation
- Sophisticated tile management

Rigorous true-ortho / classic ortho rectification

- Based on geo-referenced imagery and height model (SATMaster generated or imported)
- Homogeneous color-balanced mosaicking with feature-based automatic seam generation
- Combine, merge, resample, color-grade orthos
- Adaptive mosaic blending through image texture analysis
- Flexible mapsheet definition
- Intuitive mosaic (seam-)editing workflow

Flexible connections to 3rd party

- Exports to various 3rd party software packages
- Support for a manifold of data formats
- Transform projects between different datums and projections, grid-based transformations, 7-parameters transformations and geoid application available

BENEFITS

- Specialized workflows, tools, user interfaces and visualizations for satellite processing
- One seamless process from A to Z in one package, no loss of quality or information because of unnecessary data conversions and exports
- Reliable and proven technology from inpho
- Ease of use through full automation, repeatable quality
- Perfect mapping quality through stereoscopic measurements along with monoplotting capability (3D points/vectors derived from orthos & height models)
- Speed-optimized processing parameters without compromising quality
- Multichannel support for specific applications (e.g. RGBI)
- Exports, imports and file format flexibility provide seamless workflows into 3rd party tools

OPTIONS

- Monthly rental and upgrades for SATMaster versions available
- Maintenance (1st year included in software price) includes support and version updates
- Update of previous versions
- Network licensing available
- Optional connection to distributed processing licenses to MATCH-T DSM or OrthoMaster for high performance cluster computations

SYSTEM REQUIREMENTS

- Multicore PC workstation (1 license supports up to 24 cores)
- 8 GB RAM
- High-capacity disk system
- Windows® 10, 64 bit
- Recommended: hardware for state of the art stereoscopic point measurement:
 - Stereo-capable graphics card(s) supporting OpenGL quad-buffered stereo (e.g. Nvidia quadro series)
 - Stereo viewing system
 - Optional color anaglyphs for systems without stereoscopic hardware

SUPPORTED SENSOR TYPES

- Imaging sensors:
 - Satellite sensors (including SPOT, Plejades, Quickbird, IKONOS, ALOS, ASTER, CARTOSAT, IRS, GeoEye, Landsat, OrbView, RapidEye, WorldView, Resurs-P, Ziyuan...)
 - Multichannel and panchromatic

SUPPORTED FORMATS

- Supported image formats:
 - Geo-referenced orthos: GeoTIFF, TiffWorld (tfw), ADS+tif/tfw
 - TIFF, JPG, BigTiff
 - JPEG2000, TIFFjpeg
 - EXIF
 - 8/12/16 bit
- Height model / morphology data formats
 - Grid-operations:
 - *dtm *.rdh *.bil *.fit *.tol *.grd *.tif *.tiff *.smti *.tpix.shp, BIL, BWNP, BXYZ, DTM, DXF, DXF_TIN, FLT, GRD, LAS, LASZip, SHP_TIN, TIFF16, TIFF32, VRML, VRML_TIN, WNP, XYZ
 - Point-cloud operations:
 - LAS, LASZip, XYZ, BXYZ

Contact your local Trimble Authorized Distribution Partner for more information

NORTH AMERICA

Trimble Inc.
10368 Westmoor Dr
Westminster CO 80021
USA

EUROPE

Trimble Germany GmbH
Am Prime Parc 11
65479 Raunheim
GERMANY

ASIA-PACIFIC

Trimble Navigation
Singapore PTE Limited
3 HarbourFront Place
#13-02 HarbourFront Tower Two
Singapore 099254
SINGAPORE