INPHO SOFTWARE

MATCH-T DSM

AUTOMATICALLY GENERATE DENSE POINT CLOUDS AND DIGITAL TERRAIN AND SURFACE MODELS (DTM/DSM) FROM AERIAL AND SATELLITE IMAGE BLOCKS.

KEY FEATURES

MATCH-T DSM generates regular grids or extremely dense point clouds, and guarantees for reliable and accurate results:

High speed batch processing and optimized hardware utilization for excellent productivity

Extensive automation features for minimal user interaction

Advanced dense matching techniques with internal quality control deliver a high standard of project quality

Point cloud coloring from aerial image blocks or orthophotos

Easy integration into any third-party workflow

Create exact colorized surface models and terrain models from imagery:

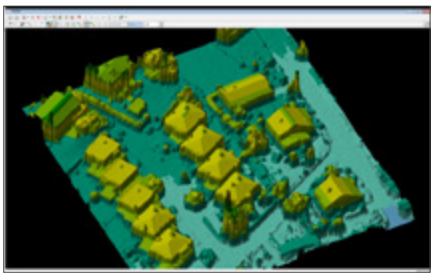
- Acquire very dense point clouds and high quality surface models directly from stereo imagery using image matching techniques
- Advanced multi-image matching creates point clouds as dense as one point per pixel at a lower cost than aerial laser scanning
- Point clouds from image matching provide excellent results for orthophoto generation and city modeling applications
- Remove non-ground objects and achieve bare earth digital terrain models (DTMs) using robust filter methods
- Expand production capabilities using state-of-the-art multi-threading and distributed processing

Multi-layered matching takes all locally overlapping images into account, achieving dense point clouds – even in urban and forested areas.

In DSM mode, even narrow urban streets can be detected with image overlap of at least 60/60 percent. Surface models from MATCH-T DSM with their LiDAR-like characteristics are well-suited for applications like city modeling.

FEATURE CAPABILITIES

- DTM and DSM generation from aerial images (frame and pushbroom sensors), and from various types of satellite imagery
- Seamless DTM or DSM generated for user definable areas, which can be any sub-block or polygon area, or the entire image block
- Dense matching technique produces point cloud density up to 1 point per pixel, providing rich detail and sharp edges with sub-pixel accuracy
- Specialized noise filtering strategies
- Different filter techniques for DTM and DSM extraction for obtaining optimized point clouds



FEATURES OVERVIEW

- Consideration of pre-measured morphological data (breaklines, 2D and 3D exclusion areas, borderlines)
- DTM generation with elimination of outliers, e. g. trees, buildings, by robust finite element interpolation
- Subdivide the project area into polygonal areas with appropriate parameter settings for the terrain type and coverage
- Optimized point extraction using dynamic sensor noise filtering
- Regular point distribution in poorly textured image areas through auto-optimization of local parameters
- Adaptive parallax bound strategy for high quality terrain representation near breaklines
- Extensive internal quality control functions
- Parallel processing with up to 8 cores per license using highthroughput multi-core architecture
- Integrated DTM Toolkit provides flexible DTM postprocessing with functions like merging, splitting or tiling of DTMs
- Filtering methods to thin-out DTM or DSM data
- Output into grid files or irregular point clouds Optional distributed processing in combination with DPMaster

OUTPUT FORMATS

- SCOP DTM
- LAS
- And others

VERSIONS

- MATCH-T DSM Lite:
  - Restricted to projects up to 250 images
  - No sub-block support
  - Only one output area per process
  - No multithreading
  - Restricted to12 satellite scenes
  - Restricted to 12 ADS images

OPTIONS

- MATCH-T DSM (DPL):
  - High-volume extension using distributed processing technology
  - Efficiency increase by using MATCH-T DSM in a multi-core and multi-computer setup Requires DPMaster for organizing the additional computer pool and one full license of MATCH-T DSM
- Monthly rental and upgrades from lite versions or competitive products available
- Maintenance includes support and version updates

SYSTEM REQUIREMENTS

- Multi-core PC workstation
- 8 GB RAM
- High-capacity disk system
- Windows 7, 64 bit

BUNDLE

DTM Box:

- Bundle of MATCH-T DSM, DTMaster editing and DTM extension for a complete workflow from point cloud generation through visualization and editing to postprocessing (quick filtering, classification, gap-filling and mapping grade contour generation)

For prices and distribution partner information please contact: sales@inpho.de

Trimble