HOLISTIC IMAGING
Reconstruct the world

UnlimitedAerial™

**HOLISTIC IMAGING**

UNMATCHED ACCURACY

ABOUT UNLIMITED**AERIAL**™

Holistic Imaging and Euclideon Teams associate vision and cutting edge technology for our new product **UnlimitedAerial**™, a software solution developed to produce automatically high resolution **digital surface models** and **true orthophotos**.

Our True-MV® multi-view processing pipeline uses all available camera views in one go to generate groundbreaking DSM models and True-Orthophotos. Our award-winning matching pipeline combines the robustness of global smoothing with the crispness of local pattern matching to minimize post-processing editing effort.

- AWARDWINING TECHNOLOGY
- FULLY AUTOMATIC
- < 5 MIN PER FRAME
- COSTEFFECTIVE
- HIGH SCALABILITY

UnlimitedAerial™ is our State of the Art Solution for refining camera orientations and camera self- calibration. Compatible with a wide range of digital aerial camera systems, it incorporates GPS, INS, Ground-Control Point and Digital Image Information to align camera poses with highest accuracy.
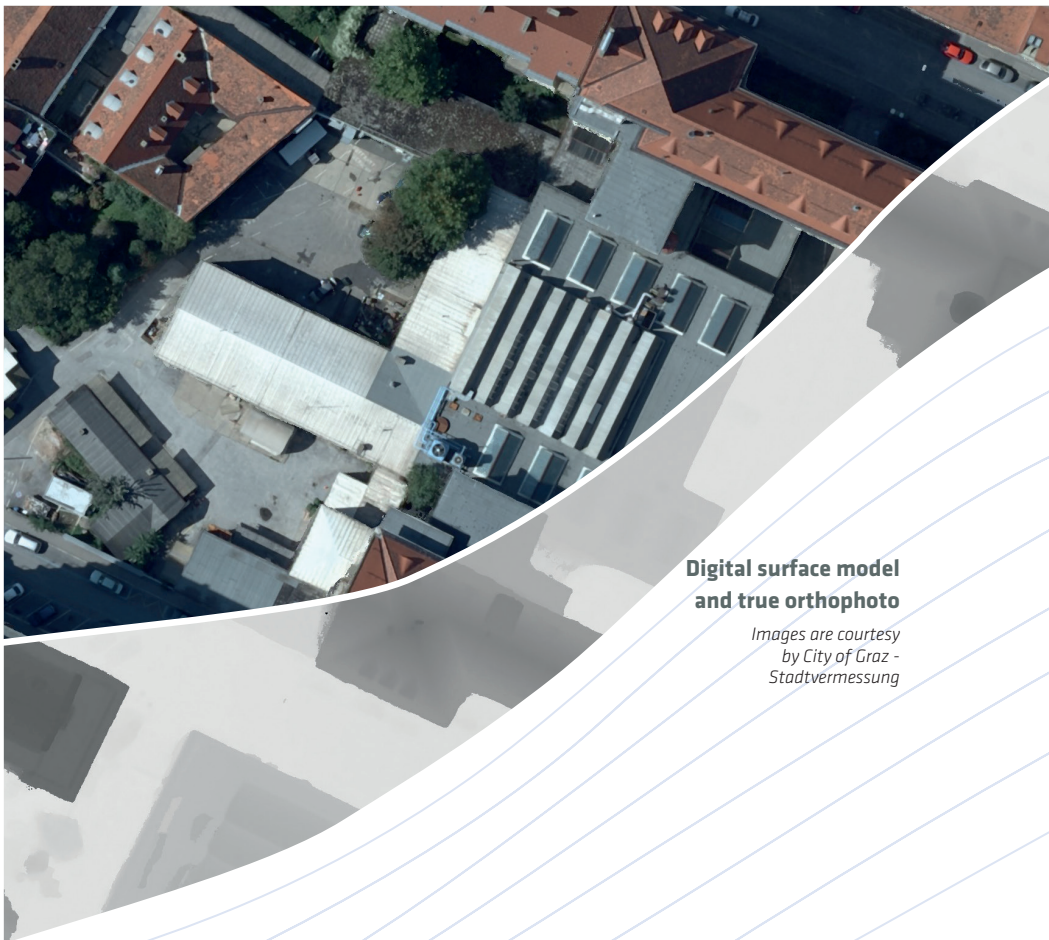
**Digital surface model
and true orthophoto**

*Images are courtesy
by City of Graz -
Stadtvermessung*

COMPLETE SYSTEM
HARDWARE & SOFTWARE

ADVANTAGES

⟨ᖲ⟩ Create DSMs and True Ortho-
photos in unmatched accuracy

⟨ᖲ⟩ Handling of thousands of images
in a highly optimzed way

⟨ᖲ⟩ No need to look for best
hardware – package includes
hardware and software

⟨ᖲ⟩ Modular design allows to adapt
our package to the specific needs
of our clients

⟨ᖲ⟩ Visualize and share your
data around the globe using
Euclideons UnlimitedDetail®
Technology

SCALABLE AND COST-EFFECTIVE

AERIAL TRIANGULATION

- Support of a wide range of digital aerial cameras.
- Arbitrary flight patterns are supported.
- Automated Tie-Point generation and matching
- Self-Calibration supports a variety of intrinsic camera models (5 Parameter Standard Model, 12 Parameter Model, 44 Parameter Model)
- Supports GPS, IMU, Ground-Control-Point information, GPS shift and drift correction
- Advanced inspection of results: error analysis, connectivity analysis, 3D inspection, camera footprint inspection
- High-performance, multi-threaded bundle block optimization
- **Accuracy: up to 0.1 pixels**
- With a wide range of supported input formats, Unlimited Aerial easily reads information from your existing AT solution, or generates its own AT solution by large-scale bundle-block adjustment.

TRUE ORTHOPHOTO GENERATION

- Fast production of True Ortho-photos - **processing times below 5min per frame**
- Fully automated mosaicking of True Orthophotos
- Newest mosaicking methods for seamless transitions between adjacent images
- Fully automated overlap identification and True Ortho-photo processing
- Award-winning True-MV® multi-view processing method
- Optimized to handle shadow areas and moving objects
- Supports additional DTM models for improved performance

DSM GENERATION

- Dense digital surface models (DSM) using all available camera views
- Award-winning matching pipeline combines the robust-ness of global smoothing with the crispness of local pattern matching to minimize post-processing editing effort
- Fully automated production of DSMs
- 10 years of research in advanced computer vision algorithms
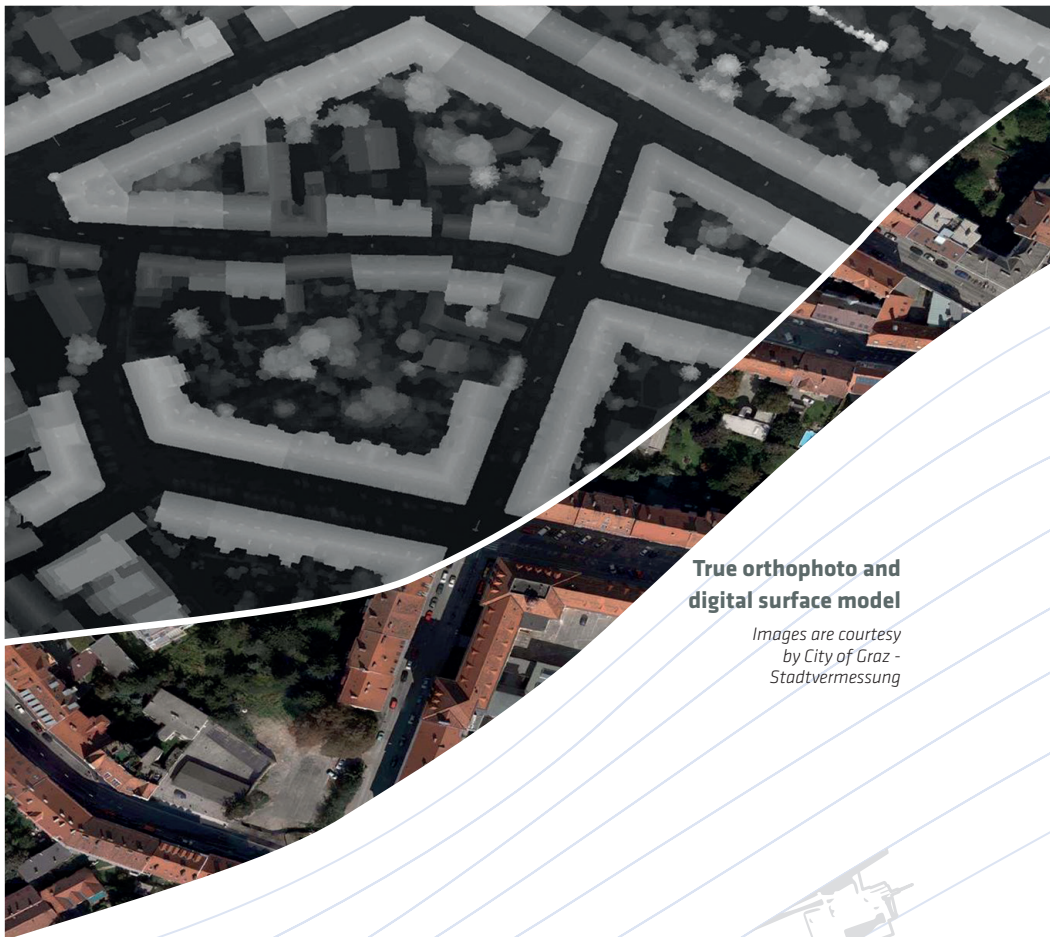
**True orthophoto and
digital surface model**

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Reconstruct the world
using Unlimited**Aerial**™

AWARD WINNING TECHNOLOGY

INPUT FORMATS
- Support of wide range of aerial cameras
- Supports a wide range of image formats: TIFF, JPG, JPEG2000
- Supports a wide range of orientation file formats:
  Bluh, Patb, Bingo, CSV, TIFF header info
- Supports GPS, IMU, Ground-Control-Point information, GPS shift and drift correction
- Supports DTM data for guided matching:
  GeoTIFF Supports DTM models for improved performance
- Supports local and global coordinate reference systems

KEY FEATURES
- Arbitrary flight patterns are supported.
- Automated Tie-Point generation and matching
- Self-Calibration supports a variety of intrinsic camera models
  (5 Parameter Standard Model, 12 Parameter Model, 44 Parameter Model)
- Calibration of camera orientations and intrinsics
  (focal length, principal point, lens distortion).
- Image display, 3D scene display, image footprint display
- Advanced analysis features:
  3D scene inspection, including tie-point analysis,
  connectivity analysis, GPS deviations, camera orientations
- Quality Reports
- Automated production of geo-referenced DSM data (GeoTIFF)
  and TOP images (GeoTIFF)
- Interactive 3D planning of processing project
- Mobile monitoring of processing progress
- Hassle-free system, consisting of processing device and software.
  Seamless integration into existing intranet architectures
- International 3-day replacement warranty on processing hardware.
- Optional large-volume data storage solution available

OUPUT RESULTS

- ⟨ᶘ⟩ Geo-referenced True Orthophotos in GeoTIFF output format
- ⟨ᶘ⟩ Geo-referenced DSMs in GeoTIFF output format
- ⟨ᶘ⟩ Point cloud in LAS output format
- ⟨ᶘ⟩ Optimized camera position, external orientation and internal parameters, undistorted images
- ⟨ᶘ⟩ Accuracy: up to 0.1 pixels
- ⟨ᶘ⟩ Processing time: 5 seconds per frame

HOLISTIC IMAGING

BOOK A FREE DEMONSTRATION:

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