Key Features

- Automatic data checking at each step
- Footprint selection lets the user graphically select footprints of photos and models of a selected block
- Unlimited project size via division into sub-blocks
- Semi-automatic and manual tie point measurement in a multi-photo environment
- Qualitative automatic tie point generation using efficient and robust image matching algorithms
- Well-connected image block by high-quality multi-ray points
- High-performance using efficient algorithms and restricting tie points to a reasonable limit
- Automatic detection of "Weak Areas" – ISAT checks if sufficient number of image points were available for each "Von Gruber" area, overlapping between models along the strip, and overlapping models across strips
- Auto Stretch (on-the-fly) option in ISAT to change the image contrast for tie/point generation (ISAT)
- Comprehensive bundle block adjustment
- Bundle adjustment in Relative (without control points) and Absolute modes
- Robust estimator option for blunder detection
- GPS/INS data processing – tightly integrated with the Applanix POSEO system
- Camera and self-calibration capability
- Variance-covariance (precision) estimation
- Display of vector residuals (image/object) to facilitate the error analysis process
- Ability to adjust several blocks simultaneously on a multi-processor computer or several computers
- Merge and edit sub-blocks allows users to merge multiple blocks into a new block
- Automatic control point extraction with the use of Map Photos and the Elevation Files
- Automatic control point extraction from orthos and correlate them with photos (Second Generation Orthos)
- Automatically reducing shadow points

ImageStation Automatic Triangulation

About ImageStation Automatic Triangulation

ImageStation® Automatic Triangulation (ISAT) is an automatic image point extraction and triangulation package that delivers the best-matched multi-ray tie points by using robust built-in bundle adjustment during all phases of the image matching operation. ISAT provides footprint selection that lets you graphically select footprints of photos/models/blocks, unlimited project size using sub-blocks, GPS/INS data processing, seamless Applanix POSEO support, camera calibration, automatic parameter selection and analysis for self calibration, graphical vector analysis, and more. ISAT provides fully automated aerial triangulation from interior orientation to the determination of tie points to the final block adjustment analysis with delivery of orientation parameters.

ISAT is a very flexible and powerful product for today's high throughput aerial triangulation applications. This product is built on top of the ImageStation Digital Mensuration (ISDM) product. All ISDM features are accessible in this product.

Why is ImageStation Automatic Triangulation right for your image-matching operations?

- Automatic data checking allows the user to be notified if something is missing
- High reliability by
  - Coarse-to-fine processing
  - Global block formation
  - Local multi-ray fine matching
  - Efficient blunder detection
  - Efficient weak area handling
- High quality by
  - Highly accurate LSM algorithms
  - Qualitative multi-ray tie points
- High performance by
  - Efficient algorithms
  - Well-distributed and appropriate number of tie points
  - Executing multiple sub-blocks on multiprocessors computers or on several computers
  - Weak Area detection allows users to quickly find the areas and measure additional image points, if necessary
  - Auto tie/pass generation can be started without any control point
  - EO Analysis tool allow verifying the quality of provided EO parameters (GPS/INS data)
  - QCQA option allows a fast method to generate sufficient tie/pass points for a quick aerial triangulation
- Convenient Operation
  - Absolutely autonomous system without any parameters that are adjustable for users
  - Minimal input requirements
  - Full use of optional information
  - Comprehensive message system
  - All ISDM options/features/benefits are available
  - EO Analysis tool allow verifying the quality of provided EO parameters (GPS/INS data)