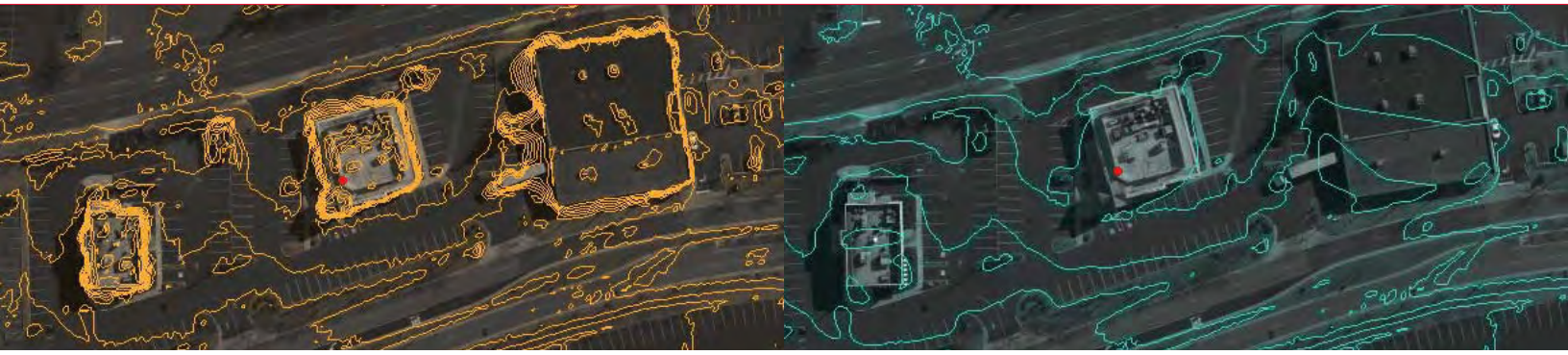
SOCET SET® v5.4.1

Release enhancements



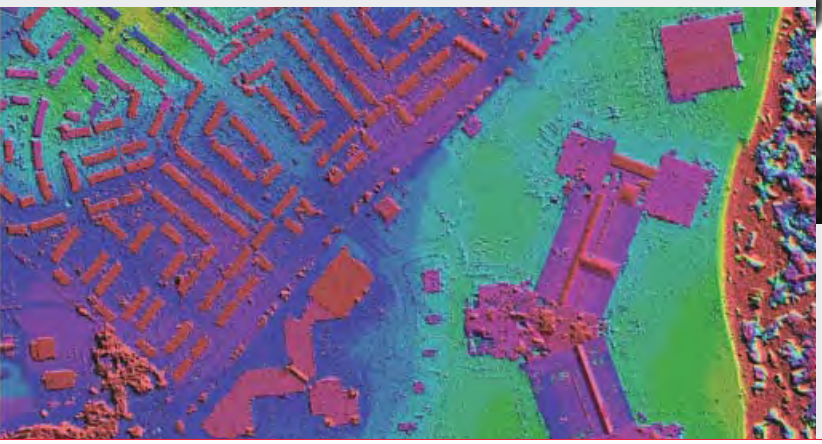
Highly accurate photogrammetry and mapping software for triangulation, terrain extraction, orthophoto production, and 3D-database generation for urban modeling.

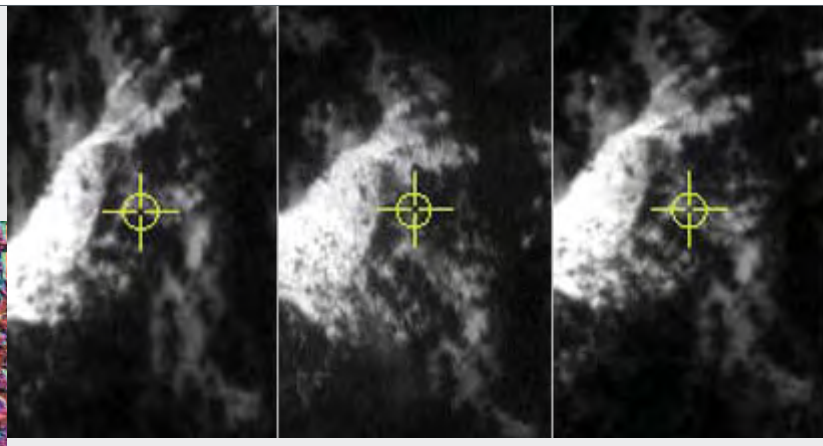
SOCET SET v5.4.1 includes a wealth of productivity enhancements for creating and editing high-resolution terrain and surface models, including improvements to the Next-Generation Automatic Terrain Extraction (NGATE), which was introduced in v5.4.0.

The NGATE module, which produces near LIDAR quality terrain models from optical imagery, has been shown to reduce editing time by more than 30%. Numerous new tools for the Interactive Terrain Editor (ITE) module increase productivity for creating bare-earth terrain models from NGATE and LIDAR data. In addition, enhancements to SOCET SET's Feature Extraction (FE) and SOCET for ArcGIS® (SFA) modules have been implemented based on customer requests. For example, automatic height attribution includes an option to measure a point to set height attributes when terrain data is not available. Moreover, SOCET SET's unrivaled provision of advanced sensor models continues with new models for the NextView satellites, WorldView-1 and GeoEye™-1, as well as ALOS, EROS B, and FORMOSAT-2.

Further productivity improvements have been made throughout the SOCET SET workflow. All of these new capabilities reduce labor hours through optimized, end-to-end workflows, resulting in significant cost savings throughout the mapping process.

NGATE digital surface model collected over a block of 66 Microsoft Vexcel UltraCam$_D$ images in suburban Philadelphia, PA.





Advanced sensor modeling for the ALOS PRISM 3-line sensor

Mosaic

- Intensity filter equalizes hotspots corresponding to large-scale intensity variations, includes vignette filter to equalize radial brightness variations due to lens fall-off in frame images
- New check box allows thinning of terrain within mosaic
- Batch processing outputs seamlines for sheets
- Condor processing†

Feature Extraction (FE) and SOCET for ArcGIS (SFA)

- Auto-attribution for manually measured object height and height attributes, such as height above ellipsoid (Z5F), can have negative values
- Closed polylines for polygonal features can be exported to shapefiles
- Auto-populate feature for attributes ignores text case††
- Preference to control auto-attribution: on/off
- Graphic preferences for drawing vector layers can be set in ArcMap® to improve SFA performance and control SOCET SET viewport

ClearFlite®

- Universal Data Delivery Format (UDDF) export for FAA/NOAA mode††
- Several issues were resolved for the generation of ClearFlite surfaces and their representation as surface models, which restricted workflows from using the surface for terrain tracking and automatic obstruction identification††

Developer's Kit (DevKit)

- Same SOCET SET DevKit for domestic and export purposes†
- New DevKit plug-in sensor models allow third-party developers to integrate multiple custom sensor models with SOCET SET
- Integrators can use enhanced return error codes for DevKit and batch processing functions

†New in SOCET SET v5.4.1
††Corrected

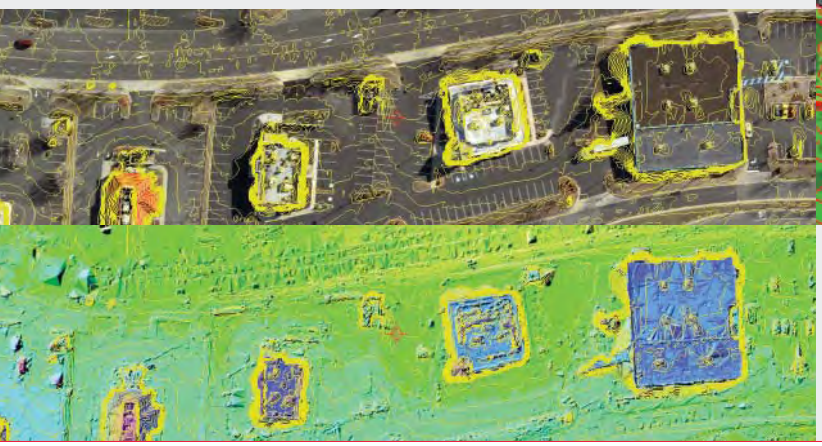
System requirements

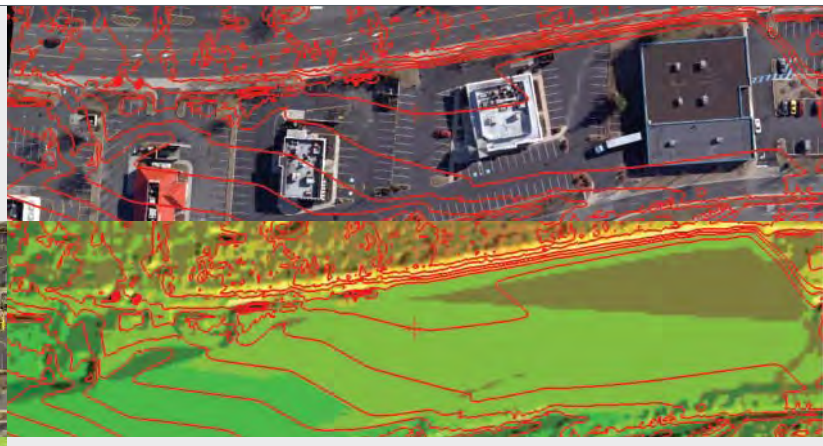
- Microsoft® Windows® XP, Vista**
- Sun Microsystems® Solaris™ 8, 9, 10

* *SOCET SET Digital Point Positioning Data Base (DPPDB) format production module [which uses MIL-PRF-89034, March 1999 format specifications] and SOCET SET Controlled Image Base® (CIB) format production module [which uses MIL-PRF-89041, 15 May 1999 format specifications].*

** *Effective October 2007, there are no video cards with associated video drivers that support stereo for Microsoft Vista. In addition, SOCET for ArcGIS users should be aware that ArcGIS® 9.2 does not formally support Vista.*

NGATE generated surface model at 15 cm spacing displayed as terrain shaded relief superimposed with 30 cm contours. Source imagery is from the Microsoft Vexcel UltraCam$_D$.





Bare-earth terrain model at 15 cm spacing displayed as terrain shaded relief superimposed with 30 cm contours. The NGATE surface on the left was used as input for ITE. The ITE area tools required the placement of a single polygon around the buildings. Three separate tools were run on the polygon. The entire editing process took less than one minute.

Core

- Condor® distributed processing for reduced resolution data set generation, Automatic Terrain Extraction (ATE), NGATE, and Mosaic, as well as specific functions for DPPDB and CIB® generation*†
- Upgrade to Trolltech® Qt® 4 for compatibility with SOCET GXP®
- Works with localized versions of Windows® XP (for example, Spanish)††
- Interactive and batch chipping tool creates NITF RPC00B image for any input image type
- NITF and GeoTIFF information for terrain is preserved during export
- Multiple license servers can be defined for query by SOCET SET applications†
- Reordering of image bands is maintained for display and image export/reformat†
- Validated for Microsoft® Vista with certain restrictions**†

Advanced Sensor Models (ASM)

- ALOS PRISM†
- EROS B†
- FORMOSAT-2†
- SPOT 5 subscene processed imagery†
- GeoEye-1 and WorldView-1 (NextView) in NCDRD format†

Multi-Sensor Triangulation (MST)

- Improvements to sub-block processing and kappa initialization for GPS profiles
- Sensor Model Factory sensor parameters can be edited††
- New satellite models for ASM can be triangulated†

DPPDB and CIB format production*

- Compression blocks are set to one shade of gray for cloud cover
- Condor processing for TFRD decompression to support DPPDB and CIB generation, as well as VQ compression for CIB generation

DataThruWay® (DTW)

- Auto-minify works with NTM import††
- JTW SMF 9.2.5

Terrain

- Terrain precision added to TIN
- Enhanced performance for bare-earth processing in Terrain Merge, ATE, NGATE, and ITE modules
- GeoTIFF terrain can be imported in both RasterPixelIsArea and RasterPixelIsPoint formats†
- Project coordinate system information is included in the terrain header file for compatibility with SOCET GXP

ATE

- Batch processing allows creation of terrain files based on input coordinates in the batch processing settings file
- Condor processing†

NGATE

- Technologically advanced module for automatic terrain generation
- Works with all supported sensor and image types
- Does not assume that terrain is flat within the matching window
- Performs image matching on every pixel, which results in data redundancy, enabling consistency checking and improved blunder detection
- Uses hybrid approach from image correlation (area-matching) and edge-matching methodologies for optimal matching results
- Back matching is on by default
- Options to control performance and accuracy
- Condor processing†

ITE

- New tools for bare-earth processing†
- ITE Post Editor shows elevation, Figure-of-Merit (FOM), and precision
- Optional feathering for the Plane Fill tool†
- Feature codes can be added to breaklines†
- Polygons are maintained for area tools, which allows the user to switch from area editing to geomorphic and/or post editing, and then back to area editing, using the same extracted polygon on the edited data with a new area tool†

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