Geomatica 2013 has been designed to increase productivity for all Geospatial professionals. This release of Geomatica is based on Geomatica 2012, which put the product at the top of the geospatial software industry for performance and flexibility.

Geomatica 2013 will allow you to streamline your workflows and become more profitable.

## PLATFORM SUPPORT

Geomatica 2013 will continue to support both Windows and Linux platforms. Installations will be provided for the following:

- 64-bit and 32-bit Windows systems
- Red Hat Linux
- Ubuntu Linux
- SUSE Linux

## GEOMATICA FOCUS

For Geomatica 2013 there have been many updates made to the technology inside Geomatica Focus. These include:

- *NEW* industry-leading atmospheric correction tools, with an all new wizard interface including workflows for:
  o Haze detection and removal
  o Cloud detection and masking
  o Ground reflectance map generation
  o Surface temperature mapping

  These tools are available from the *Analysis->Radiometric Correction* pull-down menu item.
- Updated 2D DEM editing toolkit
- Improved bulk layer manipulation tools
  o Users will be able to select multiple layers in the Focus environment and manipulate their view in the interface. This includes the ability to ability to change the RGB combination for multiple layers.
- Added ability to set up the default colour composite selection (Tools-Options menu)
- Clipping/Tiling (Tools->Clipping/Subsetting panel)
  o Ability to output separate files for each shape in clip layer
- Focus Profile tool
  o Improved for multiple channels
- Metadata tab
  o Improved editing/handling of file/image metadata
- Rotated raster support
  o Improved area controls for rotated raster layers

- Easier access to Overview Manager tool

## ORTHOENGINE

OrthoEngine has two main types of changes in this version; interface changes and underlying function changes.

**Interface Changes**
- Image Summary Table
  - Optional summary table of all the images in the project, including the number of GCPs, TPs, Check Points, Residuals, connectivity. This will act as a tool permitting operators to focus their attention quickly and appropriately and more accurately utilize resources to bring their projects to the required accuracy.
- Layout / Overview Panel Redesign
  - Redesign of Overview panel which is used to view footprints for all images in the current OrthoEngine project file, as well as viewing overlapping footprints, GCPs, TPs, and CPs for user-selected images.
- GCP / TP Collection Viewer Improvements
  - Implementation of more capabilities in the collection viewers in OrthoEngine, including the ability to toggle points on and off and also the ability to delete existing points.
  - Implementation of ability to see which images are candidates (overlapping) when collecting Tie Points
- Residual Report Panel Updates
  - Upgrades to the reports mean that residuals will be displayed even when there are changes to the project.
- OrthoEngine Manual Mosaic Improvements
  - Addition of an OPTIONS panel in Manual mosaicking tool
  - Addition of 'Image Status'
    - Images can be "Verified" or "Not Verified" in the main mosaic viewer
- DEM Extraction productivity improvements:
  - New simplified workflow in OrthoEngine
  - Inclusion of new parameters for Terrain type, DEM detail, filtering, clipping

**Updated Functionality**
- Improvements in the functionality for Ortho-correction have been made, including better performance. The following areas are updated in Geomatica 2013:
  - Orthocorrection – updated to higher performance function.
  - Automatic Ground Control Point Collection
  - Automatic Tie Point Collection
  - Tie point refinement
  - Automatic Chip Matching
  - Epipolar Generation for DEM Extraction
  - Automatic DEM Extraction
  - Geocoding of epipolar DEMs
- OrthoEngine Manual Mosaic Improvements
  - Seamline generation – Improved seamline generation with fewer vertices per line.
- Upgraded performance for Air photo model calculations

- DEM Extraction now includes:
  - Higher Accuracy, better results
  - New filtering, terrain selection options
  - Better handling of large elevation jumps
  - Automatically work with 100's or 1000's of stereo pairs

## DATA INTERCHANGE

Geomatica 2013 includes improved data support, including the following format changes:

- Esri Arc Geodatabase Vector support
- Panorama SXF format
- ENVI format improvements
- NGA High-resolution DEM import support
- Sensor support updates:
  - Deimos
  - ZY3
  - CBERS02C
  - UAVSAR
  - Sentinel-1
- Metadata handling
  - Improved metadata reading when importing satellite date
  - Critical for new Atmospheric Correction workflows
- Complex Data
  - Pyramid creation for complex data now supported
- GOSAT Improvements
  - Improved data support, including reading of provided GCPs

## NEW FUNCTIONS

- ***NEW*** industry-leading atmospheric correction tools:
  - MASKING2 – Create cloud, haze and water masks
  - HAZEREM – Haze removal without full reflectance generation
  - ATCOR – Atmospheric correction
  - ATCOR_T – Atmospheric correction for thermal imagery
- TERSETUP – Generate terrain derivatives
- SLASP – Generate slop and aspect from elevation data
- SKYVIEW – Generate sky visibility from elevation data
- ILLUMCAST – Illumination mask and case shadow mask
- Improved ability to generate DSM from existing vector data, including points, contours and breaklines
  - VDEMSETUP – Set up output DEM files for VDEMINT
  - VDEMINGEST – Ingest vector files for DEM generation
- SPOTBLUE function to generate synthetic blue band
- PSWATEXT - Automatic Water body delineation functionality from SAR imagery
  - New Capability based on CCRS (Brisco et. al) algorithm
- BURNMASK – Function for burning a mask into raster imagery

- DSM2DTM – Convert digital surface model to digital terrain model.  Replaces DEM2DTM function from Geomatica 2012.
- PNT2CHIP – Converts geocoded points into image chips

## UPGRADED FUNCTIONS

- Improvements to Ortho productivity tools, including enabling OpenMP and improving workflow elements
    - AUTOGCP2 – Automatically match GCPs
    - AUTOTIE2 – Automatically match tie points
    - AUTOCHIP2 – Automatic image chip matching
    - TPREFN2 – Tie point refinement
- Improvements to automatic DEM extraction tools, including enabling OpenMP and improving workflow elements
    - EPIPOLAR2 – Generate epipolar images from stereo pair
    - AUTODEM2 – Generate DEM from epipolar images
    - GEOCODEDEM2  - Geocode epipolar DEMs
    - TPREFN2 – Tie point refinement
- SCALE2 – Improved output control for image scaling
- VECSEL2 – Improved output handling
- CLIP - Ability to output separate files for each shape in clip layer
- MOSPREP – Algorithm for seamline generation improved
- RAS2POLY – Addition of option for vector smoothing

## FLY!

- FLY! Improvements
    - OpenMP enabled, making it 4x faster
    - Better support for large datasets
    - Better reprojection making it easier to mix DEM & imagery

## SAR POLARIMETRY TARGET ANALYSIS

- User experience simpler and much improved:
    - Editable Text (target id, comments to report etc.)
    - Static or Interactive 2D, and 3D Graphic Output
    - On-Line Help Available
- Support for Single, Dual, and Quad SAR input
- Import / Export  Geocoded Target Analysis Regions of Interest
- User Selectable Preferences (display, units, angles, graphs)
- Intuitive Processing (only available options are selectable)
- Sensor support
    - UAVSAR
    - Sentinel-1