PRODUCT RELEASE UPDATE

IMAGESATION® 6.1 SUITE

Intergraph® ’s ImageStation® is the most comprehensive photogrammetric production software on the market, providing a complete workflow for capturing geospatial data to produce maps, digital terrain models (DTMs), orthophotos, and data for exploitation applications. ImageStation 6.1 adds features and enhancements you need to increase data volumes, reduce costs, and improve the quality of all of your photogrammetry projects.

GEOREFERENCING

Aerial triangulation or georeferencing is the critical first step to a complete photogrammetry workflow, and forms the basis for accuracy of the final photogrammetry output. Early verification of the quality of aerial triangulation or georeferencing results reduces labor and operational costs. Enhancements to ImageStation Automatic Triangulation (ISAT) include Stringent Matching, which increases multi-ray points; Thinning, which filters out redundant measurements; and Weak Area Analysis, which detects problematic areas and weak photo connections.

Stringent ISAT Matching

ISAT uses feature and least squares-based matching algorithms to generate sufficient tie and pass points. It is critical to have redundant measurements and strong photo connection. The new “Stringent Matching” capability revisits difficult-to-match areas and applies more thorough matching processes to measure more rays, reduce weak areas, and increase the number of multi-ray connections.

Thinning and Weak Area Analysis

Thinning filters out unnecessary image points and Weak Area Analysis identifies photos that do not have strong connections to overlapping photos. You can perform Thinning and Weak Area Analysis with or after ISAT point matching.

3D FEATURE EXTRACTION

We offer both GIS- and CAD-based platforms for capturing 3D feature data from stereo aerial and satellite imagery. With ImageStation Stereo for GeoMedia (ISSG), you can display and manipulate stereo imagery, use image enhancement tools, and smoothly roam in stereo with photogrammetrically accurate 3D cursor tracking and stereo vector superimposition. The generated data is stored in open databases, which enables third-party GIS systems to access it for any geospatial application and map revision.

GIS-based Enhancements

• Improved orthogonal digitizing command cuts digitizing time roughly in half for orthogonal features
• New elevation control feature optimizes contour digitizing, enhancing precision
• New ISSG Insert Feature command optimizes the workflow and button clicks required in the stereo environment, and allows you to quickly switch placement modes by pressing a keyboard key
• ISSG automatically toggles the stereo cursor when the Feature Properties dialog is displayed, allowing you to easily accept feature attributes
• Faster digitizing speed prevents missed points, while smoothly roaming through a model
• Automatically switch models while digitizing, and eliminate the need to stop, find the next model, and load it
• Set roof outlines to ground level, aiding feature compilation of building footprints
• Certified on LCD stereo monitors, stereo mirror, and CRT monitors
CAD-based Enhancements
- Additional commands allow you to hide deleted features or portions of features by pushing them to a non-displayed level
- Improved ImageStation Automatic Elevations job submission time by a factor equivalent to the number of models in the project
- Certified on LCD stereo monitors, stereo mirror and CRT monitors

DTM COLLECTION
Our new ImageStation DTMQue (ISDQ) product helps users prepare and validate surfaces for orthophoto production. This includes functions such as DTM coverage check; report of DTM statistics, void areas or spikes; validation of surfaces against check points; edge matching of DTMs (merge surfaces), as well as functions to convert between different formats. ISDQ includes a graphical editor for different workflows and tools for converting data from several elevation formats into Z/I Imaging® DTM format. ISDQ performs coordinate transformations, tiling, merging, and triangulation. It has a workflow editor and supports basic 3D viewing functions.

ORTHOPHOTO PRODUCTION
ImageStation OrthoPro streamlines the complete orthophoto production workflow, including ortho project planning, rectification, tone balancing, mosaicking, and geometric accuracy assessment. OrthoPro automatically inputs data from different projections and datum and incorporates them into one mapping project, integrating the ortho production process into an efficient, streamlined workflow. To reduce wait time, you can start reviewing or editing seamlines as soon as at least two overlapping orthos are available, rather than waiting until all the images are rectified.

OrthoPro
- Ability for multiple users to edit seamlines concurrently reduces project completion time
- Faster queued editing performance using new commands in Review/Edit Seamlines lets you move entire seamline segments at once, display images faster, and save time easily selecting raster view
- Photo selection by product polygon (spatially select only those elements that cover the area boundary) saves time by processing only the data covering the area of interest
- Intelligent rectification ensures orthos are processed in an order that allows manual seamline editing to begin as soon as the first two orthos are processed

PixelQue
ImageStation PixelQue is a unique application designed to shorten the orthophoto quality control and edit process. It addresses three key needs in the orthophoto production pipeline:
- Systematic quality assurance/quality control of images
- Raster editing
- Enhancement of orthophoto images and mosaic tiles

ImageStation PixelQue combines all these finishing tools into one package and tailors them for production, helping you streamline your orthophoto production. PixelQue lets you increase the throughput of orthophoto production by using an efficient, semi-automatic quality assurance/quality control (QA/QC) review and edit process.

- Display thousands of images to make projectwide display and radiometric enhancements easier and more efficient
- Check imagery with image metrics against certain characteristics, such as histogram, contrast, and saturation, and calculate metrics, store them in the images’ headers, and generate a summary report to produce images matching customer requirements
- Enhance the image in small increments for finer adjustments
- Modify images easier with enhanced tools, such as ability to pan about the image, and to right-click to select options such as brush size and opacity
- Select images easier and more precisely with photo center tools
- Edit precise areas using features to create select areas and snap to those features while placing select areas
- Target new markets and applications with support for new 11- and 14-bit sensor imagery

ABOUT INTERGRAPH
Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph’s industry-specific software to organize vast amounts of data into understandable visual representations and actionable intelligence. Intergraph’s software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph provides enterprise engineering software for the design, construction, and operation of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the defense and intelligence, public safety and security, government, transportation, photogrammetry, utilities, and communications industries.

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