Experience the power of eXtreme Analysis (XA)

Image analysis (IA) and geospatial analysis (GA) workflows are becoming more integrated. Image analysts need the capability to extract accurate geospatial information, while geospatial analysts require additional analysis resources and increased ease of use. BAE Systems has listened to users who have been using multiple applications to complete their tasks; SOCET GXP was built to address these issues.

IA + GA = XA

The new SOCET GXP v3.0 release represents the convergence of IA and GA into one cohesive software package that reduces the dependency on multiple tools and increases usability: XA.

The eXtreme Analysis capabilities in SOCET GXP allow software users, from novice to expert, to experience the power of real-time image analysis, automated geospatial production, mapping, and 3D visualization in one product. XA is accomplished with an intuitive application that employs a ground coordinate system to record geospatial data, eliminating the need for manual registration. Automated, user-defined workflows characterize the application, eliminating excessive time spent on laborious tasks. The eXtreme Analyst has direct access to geospatial databases to store and retrieve features, a link to Google Earth for enhanced situational awareness, and the capability to create and distribute geospatial data products quickly. See ***Figure 1***. XA's have the best of both worlds—IA and GA integrated into a single application: SOCET GXP.

SOCET GXP AT-A-GLANCE

SOCET GXP is a geospatial-intelligence software package that uses imagery from commercial, satellite, and tactical sources to identify and analyze ground features faster and more efficiently. Operators can record measurements, analyze terrain, create 3D models with realistic geographic context, and monitor changes over time. Finished products generated from SOCET GXP include expansive maps, PowerPoint slides, geo-enabled PDF files with editable geographic attributes, and GIS data for future geospatial analysis.

SOCET GXP v3.0 allows operators to automatically measure, annotate, catalog, and retrieve ground features in a series of images to expedite geospatial analysis. With

FIGURE 1
SOCET GXP provides seamless integration and dynamic viewing and editing with Google Earth.

FIGURE 2
The Ortho On-the-Fly tool streamlines geospatial production while improving accuracy and reducing geometrical measurement errors associated with sensor and terrain modeling. It orthorectifies (stitches together) raw images in real time to produce a continuous, highly accurate image of an expansive area, allowing first responders and analysts in the field to view and analyze imagery without delay.

the click of a button, new functionality, such as automated triangulation and the Ortho On-the-Fly tool, can streamline geospatial production, while improving accuracy and reducing geometrical measurement errors associated with sensor and terrain modeling. See ***Figures 2-3***.

Additionally, imagery, terrain, vector, and mapping data are processed in their raw form within SOCET GXP whenever possible, a capability that simplifies workflows. The data can be used to build maps, develop transportation infrastructure, manage utilities and communications networks, coordinate operational missions, and designate troop maneuvers.

The software is used for applications as diverse as finding beach landing sites for combat troops, and helping to land the Mars Rover. See www.baesystems.com/gxp. ≪

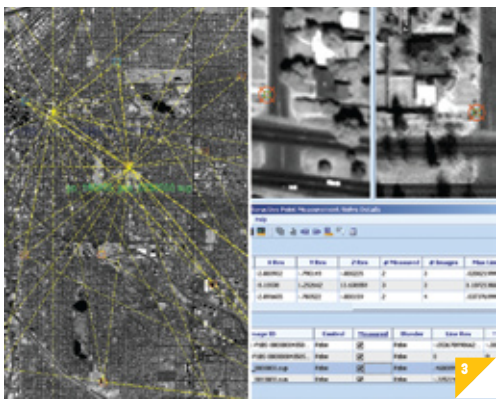
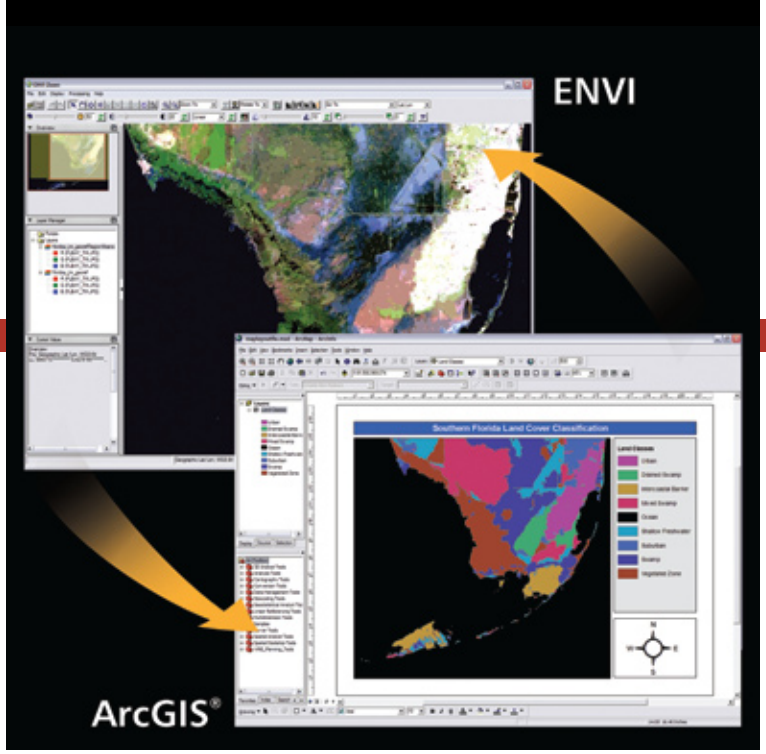


FIGURE 3
The automated triangulation process adjusts satellite or airborne sensor models to improve the accuracy of coordinates and measurements derived from imagery. It simplifies the triangulation process so that users who are not familiar with photogrammetry can be assured that all objects in an image, such as buildings, bridges, roads and other features, are represented accurately.



ENVI and ArcGIS users can now easily exchange data between the two applications via the geodatabase, including raw imagery, vector layers, and processed geospatial products.

ENVI Integrates Image Processing with GIS

In recent years, GIS professionals across industries such as urban planning, forestry, agriculture, and defense and intelligence have begun to realize the potential of geospatial imagery and the information it can provide. Information from imagery allows GIS professionals to make important decisions more quickly and greatly reduces the extensive fieldwork necessary to gather critical data.

Traditionally used as a simple backdrop to GIS to create visual context, geospatial imagery is now being used in GIS for countless applications. Common applications include finding similar features in an overall image scene, assessing damage from natural disasters, planning urban developments, and determining crop health in rural settings.

ENVI 4.5 (from ITT Visual Information Solutions, Boulder, Colo.) recently introduced new capabilities to facilitate the integration of imagery into existing GIS workflows. ENVI 4.5 provides seamless data exchange with ArcGIS Desktop from ESRI. Now GIS professionals using both ENVI and ArcGIS can easily exchange data between the applications and also generate maps using the full suite of map composition tools available in ArcGIS.

This innovative development is a significant advance in streamlining imagery and GIS workflows, a vast improvement over previous processes that required importing and exporting imagery among multiple software packages to achieve results. Now, GIS professionals have access to high performance image processing capabilities, allowing them to add rich geographic information to the geodatabase for a host of applications. See www.ittvis.com/ENVI. ≪