

# BAE SYSTEMS capabilities: our vision for a safer world

BAE Systems has been a trusted supplier of imagery, geospatial products and services to the defense and intelligence community and commercial markets for almost 40 years, with a reputation for technical excellence and delivery of performance as promised. Our software, services and innovations improve operations and long-term planning to ensure that decision-makers have the information they need in time to make a difference.

These capabilities are used for a range of activities, from disaster relief and mission planning to change detection and other projects that require superior visual intelligence. Our customized and off-the-shelf products aid in image analysis and archiving, mapping, photogrammetry and data fusion. Through innovative research and development, BAE Systems is developing transformational solutions designed to address future needs, today.

## Software

SOCET SET®, BAE Systems market-leading software for digital photogrammetry, enables customers worldwide to make digital terrain models, orthophotos, image maps, GIS databases, visualizations, and more from a wide range of airborne and satellite imagery, all with a single tool. The November 2004 enhancements set trends in photogrammetry. SOCET SET works with the newest airborne digital sensors, and includes novel point matching algorithms for aerial triangulation. The VCT Batch module offers totally automatic triangulation, DTM generation, orthorectification and mosaicking—an unattended workflow previously available only for defense applications. And ClearFlite®, the digital mapping tool designed to help users identify

and map airfield and runway obstructions, is now integrated into SOCET SET. This functionality gives operators the ability to export data to third-party GIS and 3D visualization applications; automatically generate models for single and multiple runways; and view 3D stereo images of airfields. Furthermore, commercial users benefit from the increasingly close integration between SOCET SET and the VrOne® and BINGO packages, which are add-on modules for high performance triangulation and feature collection respectively, designed specifically with production photogrammetry in mind. Another add-on module, SOCET for ArcGIS®, is used for stereo feature collection and editing in the ESRI® environment, and is attracting enormous interest from GIS professionals.

BAE Systems vision is that the Image Analyst and Geospatial Analyst/photogrammetry communities are merging into an integrated market requiring a single software package. Until now, these needs have been satisfied by the VITec® and SOCET SET product lines respectively. SOCET GXP™, BAE Systems newest software offering, brings together the functions and capabilities of the existing VITec and SOCET SET products to serve this market with one comprehensive,

easy-to-use package. SOCET GXP v1.3.1 has already superseded VITec PC for IA users. SOCET GXP v2.0, released in Spring 2005, offers additional geospatial functionality and a common Windows® and UNIX® user interface, providing the next generation upgrade for VITec ELT. Longer-term plans include porting SOCET SET functionality to SOCET GXP v3.0.



## Services

As one of the leading providers of technology services to the U.S. government, BAE Systems Information Technology group delivers a full range of capabilities, including consulting, managed services, systems integration, network security and work flow automation. They are a Lotus® Premium Partner and Lotus Authorized Education Center, as well as a Microsoft® Solutions Provider and Microsoft Authorized Technical Education Center, offering a broad-range of computer-based and instructor-lead training to the intelligence analysis workforce.

The IT group partners with Solid Terrain Modeling and Zebra Imaging to deliver unique 3D modeling and visualization capabilities to the defense and intelligence communities.

ADR is BAE Systems commercial line of business offering photogrammetric services and geospatial data production. ADR specializes in developing workflow designs, photogrammetric mapping, GIS development, land base compilation, digital orthophotography and data conversion solutions to improve operations and long-term planning. For the second consecutive year, ADR received an ESRI Business

Partner award for innovative applications of ESRI's latest technology. This recognition underscores their dedication to introducing new technologies to the GIS community.

## Innovations

The Advanced Information Technologies and Transformational Solutions groups collaborate to provide world-class technologies and research capabilities. Some recent developments include the following:

### VXN Mosaic

A real-time video mosaicking application used by operators to combine all of the individual frames from a real-time video sequence into a single image. The software generates a mosaicked scene of the streaming video frames, at full resolution.

### Get3D®

An optimized suite of 3D-feature extraction and editing tools that allows photogrammetrists to construct site models and create 3D-visualizations in a fully integrated virtual environment.

### VESPER

With Visualization Environment Supporting Photogrammetry and Exploitation Research

(VESPER), the data collection process is reversed; the system is based on sensor projectors that project image pixels from the sensor plane onto a 3D scene. This permits the introduction of new sensor data in real time, allows multi-source data fusion and encourages the reuse of geometric model data for terrain and features.

### ASPIS

A Windows-based application used by novice GIS users and experienced image analysts for near real-time spectral data exploitation and generation of geospatial product layers. It has automated tools for rapid anomaly detection, material and target identification, scene classification, image data compression, orthorectification and mosaicking. The ASPIS processing engine contains functionality to convert raw electro-optical, multispectral and hyperspectral image data to information products.

## BAE Systems Partners

ESRI

MacNaughton

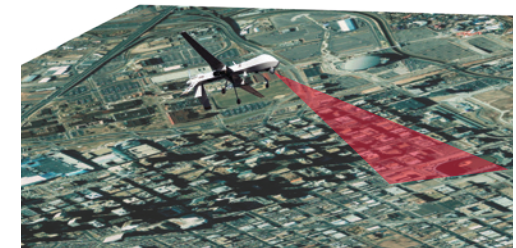
Planar Systems

Solid Terrain Modeling

Zebra Imaging



3D terrain model offers 3D visualization capabilities



VXN provides the best of both worlds—high resolution and wide field-of-view

## FOR MORE INFORMATION CONTACT:

BAE SYSTEMS  
Telephone (800) 316-9643 or (703) 668-4385  
Fax (703) 668-4381  
Email capabilities@baesystems.com

© 2005 BAE Systems. All trademarks used are the property of their respective owners. BAE Systems products are subject to the export control laws and associated regulations of the United States, including but not necessarily limited to the International Traffic in Arms Regulations and Export Administration Regulations. As such, parts of the functionality described herein may be available to certain customers only.  
AC 11/05