Geospatial eXploitation Products™

MOVINT Solutions

BAE SYSTEMS

INSPIRED WORK

Introducing MOVINT Solutions from GXP®

Mission-critical defense and security operations demand both timely and accurate intelligence to provide situational awareness and support strategic decision making. Currently, the detection and tracking of key targets and activities (whether from video, radar or other forms of sensor data) require analysts to painstakingly monitor, review, and interpret large volumes of data and imagery from multiple sensors. This manually intensive process compromises the effectiveness of intelligence, surveillance, and reconnaissance (ISR) operations while diverting both time and funding from other key initiatives.

Addressing this challenge, GXP offers a suite of multi-source video and analytic ISR solutions that enable automated processing of video and motion imagery while delivering real-time intelligence on movers (vehicles and people). These solutions are used by defenders worldwide to support such critical missions as:

- Operations overwatch
- Counter-terrorism
- Force protection
- High-Value Target (HVT) localization
- Smuggling interdiction
- Border security
- Development and dissemination of intelligence

As a result of increased operator efficiencies enabled by these solutions, intelligence analysts can focus on exploring and interpreting threat activity and networks, and creating actionable intelligence reporting, instead of simply reviewing data and "connecting the dots."

Mission Applications

Real-time activity monitoring

Visualization of mission-relevant activity and low-bandwidth streaming of track metadata to operators

Mission planning

Develop understanding of traffic flow and patterns of life for route planning

Tactical mission support

Identify high-value targets, monitor high-value locations, and identify closely related individuals and infrastructure

Multi-source Movement Intelligence (MOVINT) correlation

Integrated correlation of MOVINT data sources for track fusion, identification, and confirmation

Cross-cueing

Integrated camera control for detection, confirmation, and persistent field-of-view on targets

Event alerts

Automated, real-time event detection to alert operators to activity in designated watchboxes and tripwires

Forensic analytics

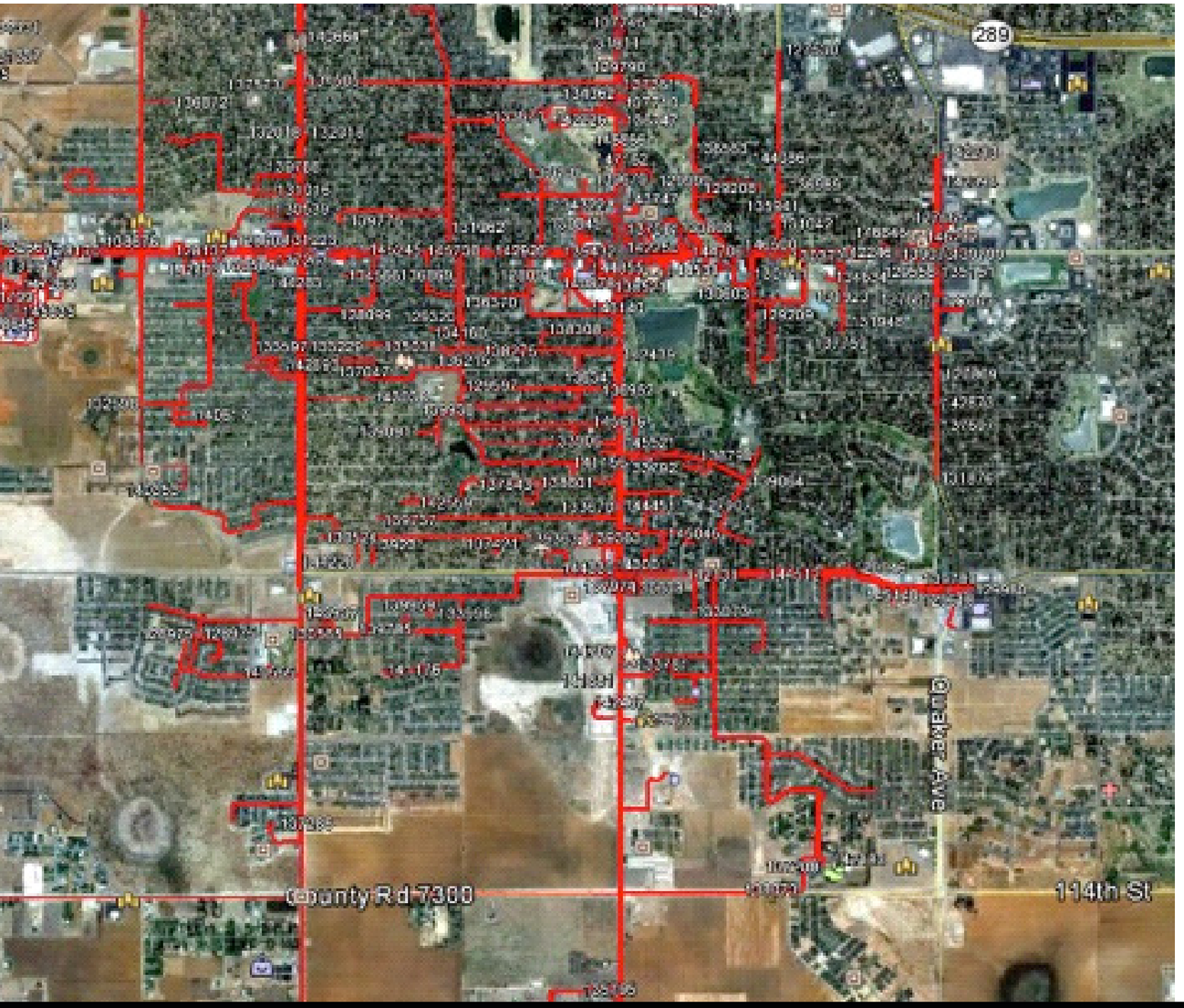
Activity-based indexing enabling rapid retrieval of relevant source data and activity content for target confirmation, enterprise data mining, and analysis

GXP solutions include cross-platform software applications as well as low-size, weight, and power (SWaP) ISR product appliances for rapid integration into both defense and commercial applications.

TASS

Tracking Analytics Software Suite

Enterprise-level solutions for tracking and interpretation of Wide Area Motion Imagery (WAMI) and Full Motion Video (FMV).



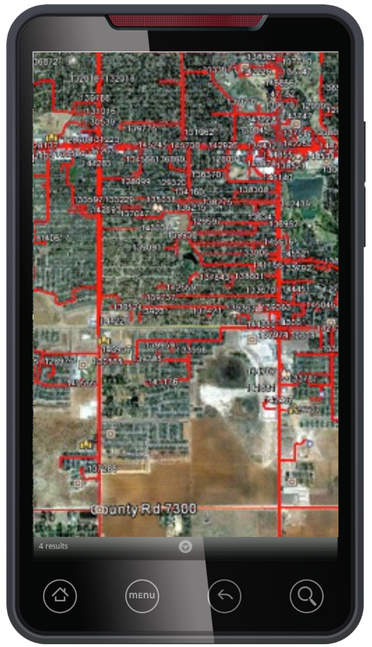
Monitor, Detect, and Track

Enabling interpretation of critical movement and activity data from both FMV and WAMI, TASS provides real-time detection and tracking of both vehicles and people across an entire field-of-view. From simple maneuvers, such as turns and acceleration, to object recognition, time-stamping, and geo-referencing, TASS delivers unmatched intelligence and insight into targeted activities.

Image and video analysts can process more sensor data in less time, maintaining full-scene awareness of high-priority events and target activities through challenging lighting conditions, dense traffic regions, and varying visual dynamics.

TASS improves the efficiency and effectiveness of ground station operators by tracking multiple high-value targets or monitoring multiple regions of interest simultaneously.

The simultaneous tracking and indexing of all movers in the scene (up to several thousand targets) enables analysts and cloud-based analytics to rapidly discover key patterns, anomalies, and emerging threats.



Hydra

Multi-sensor correlation and fusion of disparate tracking data for accurate identification of moving targets.

Ingest Data from Multiple Sensors

Information from multiple sensors must be effectively integrated and combined to deliver the most timely, accurate, and complete picture of a tactical environment. By correlating data from disparate MOVINT sources, Hydra delivers a more accurate and complete estimate of target position, velocity, and heading than from a single data source alone.

Hydra can ingest data formats collected through multiple sensing modalities, providing an opportunity for multi-sensor movement intelligence, cueing, and correlation.

- FMV
- WAMI
- Moving Target Indication (MTI) radar
- Automated Identification System (AIS)
- Signals and communications intelligence
- Unattended Ground Stations (UGS)
- Blue Force Trackers (BFT)
- Global Positioning System (GPS)

Targets can be tracked more consistently, more accurately, and for greater periods of time by combining the observations of multiple sensors into a single-fused track. This automated creation of activity and network metadata through correlation with MOVINT sources allows operators to continuously bring high-level context to tactical operations.

Scout

Real-time airborne target tracking through FMV

Systematic Threat Detection from an Airborne Vessel

Activity monitoring and threat detection through airborne FMV has become a critical asset in support of intelligence-based activities such as border security, counter-terrorism, counter-narcotics, and the protection of high-value infrastructure. However, as events of interest are detected on the ground below, continuous manual camera control is often required to keep the target in the field of view. This manually intensive process limits the ability of a system operator to coordinate activities with appropriate field personnel.

Scout is a compact hardware solution featuring TASS that enables the systematic tracking of moving targets from an airborne vessel. Integrated into your airborne platform's system architecture, Scout automates the pan, tilt, and zoom of the FMV sensor to maintain the field of view on a target, even as the sensor-to-target geometries change with platform motion. This automation ensures accurate tracking while reducing the number of required onboard sensor operators.

Through real-time metadata representation of individuals and vehicles moving through geo-coordinates, Scout enables rapid transmission of scene activity to ground-based operators from airborne platforms typically lacking the necessary bandwidth for this activity.

Scorpion

Real-time ground-based target tracking through FMV

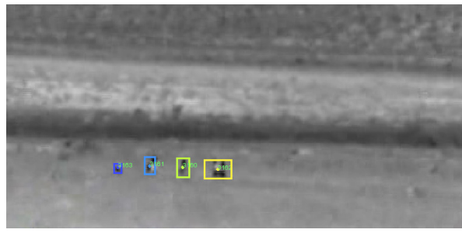
Ruggedized for Harsh Environments

Ground-based FMV remains a core component of effective intelligence-based activity monitoring and threat detection. Whether tasked with securing miles of national border, or monitoring the perimeter of a large industrial facility, human operators alone cannot manually examine live camera feeds and monitor all areas all the time.

Similar to our Scout technology, and ruggedized for harsh environments, Scorpion automates the tracking of key targets while integrated into mobile or fixed ground-based sensor systems. Enabled by TASS, Scorpion offers object recognition capabilities while ensuring real-time dissemination of scene activity to all mission control centers.

Designed with a flexible software architecture supporting industry and government standards, Scorpion is ready for rapid "plug-and-play" integration into both mobile or fixed ground-based systems, such as Integrated Fixed Towers (IFT) and Remote Video Surveillance Systems (RVSS).

Enabled by Scout and Scorpion technologies, sensor operators can monitor multiple regions and targets of interest across multiple sensor feeds, allowing them to more effectively identify critical targets, activities, and emerging threats.



About BAE Systems

BAE Systems is a global defense and security company with approximately 100,000 employees worldwide. The Company delivers a full range of products and services for air, land, and naval forces, as well as advanced electronics, security, information technology solutions, and support services.

BAE Systems is a global provider of software for image analysis, geospatial production, mapping, 3-D visualization, video analysis, and photogrammetry. For more than 40 years, BAE Systems been a trusted supplier of imagery, geospatial products, and services to the defense and intelligence communities, and commercial markets. BAE Systems has experience and depth in managing, implementing, and developing products with a wide variety of other industry-standard applications that support geospatial and related tradecrafts, and experience developing GIS tools. This experience requires knowledge of the scientific underpinning of the technologies, methods, and techniques in use to solve geospatial production challenges.

Geospatial eXploitation Products (GXP®)

GXP develops powerful software tools used to deliver highly accurate geospatial and intelligence data. Based in San Diego, Calif., GXP provides direct worldwide sales and support. In some areas, this is done in conjunction with a select team of distributors to facilitate greater coverage and to provide effective customer service. GXP offers its customers top-quality technical support and training to optimize their return on investment.

More information on BAE Systems and GXP products

Americas

Telephone 800 316 9643 | 703 668 4385
Fax 703 668 4381
gxpsales@baesystems.com

Asia, Australia, and Pacific Rim

Telephone +61 2 6160 4044
Fax +61 2 6160 4001
gxpsales.apac@baesystems.com

Europe, Middle East, and Africa

Telephone +44 1223 370 022
Fax +44 1223 859 651
gxpsales.emea@baesystems.com

India

Telephone +91 11 4341 2345
Fax +91 11 4341 2373
gxpsales.india@baesystems.com

For additional contact information and worldwide distributors, please visit our website:

www.baesystems.com/gxp

Approved for public release as of 3/30/2016. Export ES-GEO-32416-0019