

# Wildfire Management

An Executive Summary



GXP Xplorer® Platform

**BAE SYSTEMS**

BAE Systems, Inc. is the U.S. subsidiary of BAE Systems plc, a global defense, security and aerospace company which delivers a full range of products and services for air, land, and naval forces, as well as advanced electronics, security, information technology solutions and customer support services.

The Geospatial eXploitation Products™ (GXP®) business provides licensed software capabilities and geospatial technology R&D. GXP's ability to draw on internal data production and technology expertise has allowed it to deliver superior products to the user community. GXP often finds ways to improve software implementation through user conferences and regional workshops, where important feedback and insight is gathered from customers.

GXP commercial software, including GXP Xplorer®, GXP WebView™, SOCET GXP®, and SOCET SET® provide customers with comprehensive image and video analysis, data management, and geospatial production capabilities. These products serve government and civil customers' needs for photogrammetry, mapping, geographic information systems (GIS), image exploitation, precision targeting, geospatial intelligence, 3-D visualization, simulation, and mission planning.

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### Wildfire management

In the dynamic and unpredictable world of wildland fire response, maintaining geospatial awareness of personnel and equipment on the ground is critical to operational success and the safety of firefighters. BAE Systems' GXP solutions provide a streamlined workflow that enables responders to hit the ground running and coordinate for maximum efficiency and speed when executing relief operations.



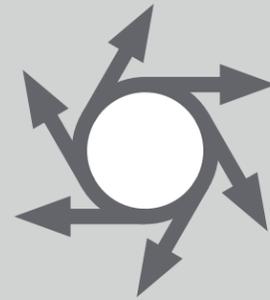
#### Find

Quickly find imagery of an area, regardless of the geographic location of the data store.



#### Analyze

Use powerful, highly accurate analysis tools to exploit the imagery and plan for action.

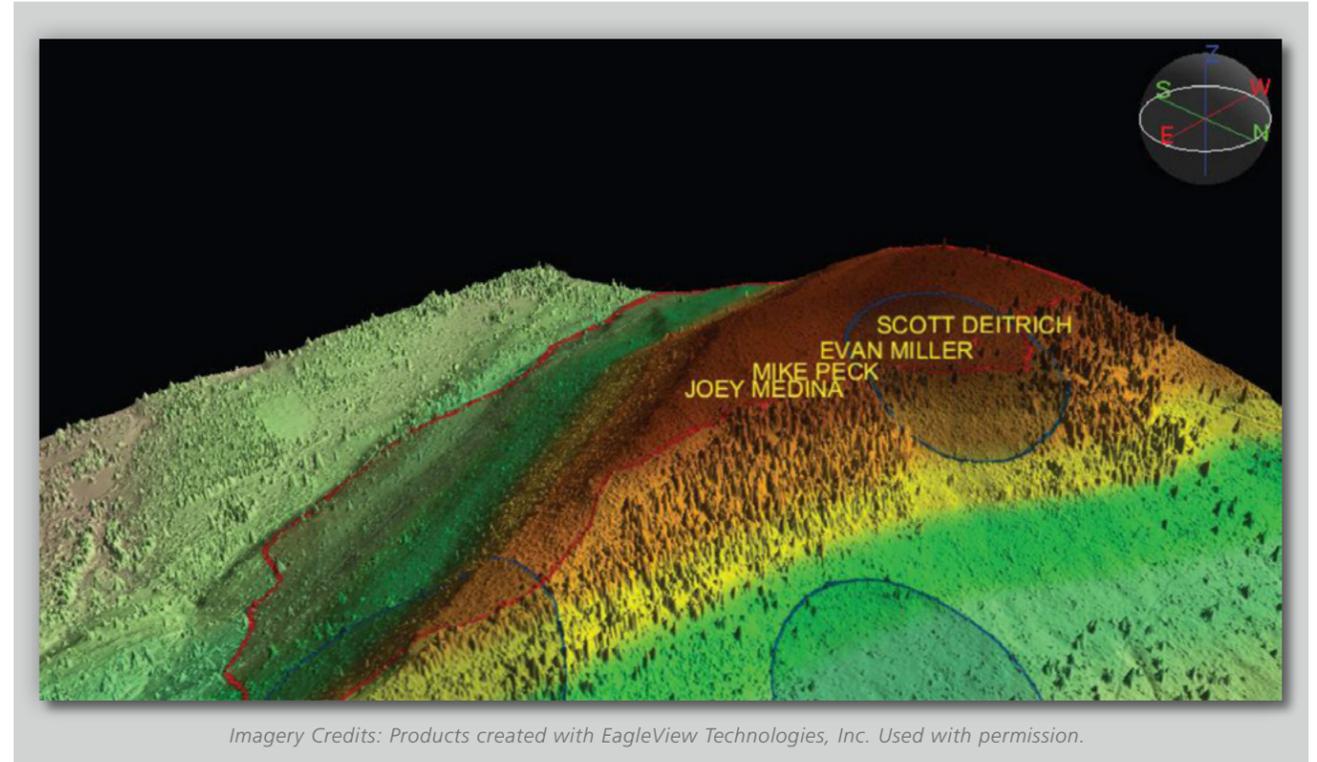


#### Disseminate

Easily publish and disseminate reports for shared situational awareness in the field.

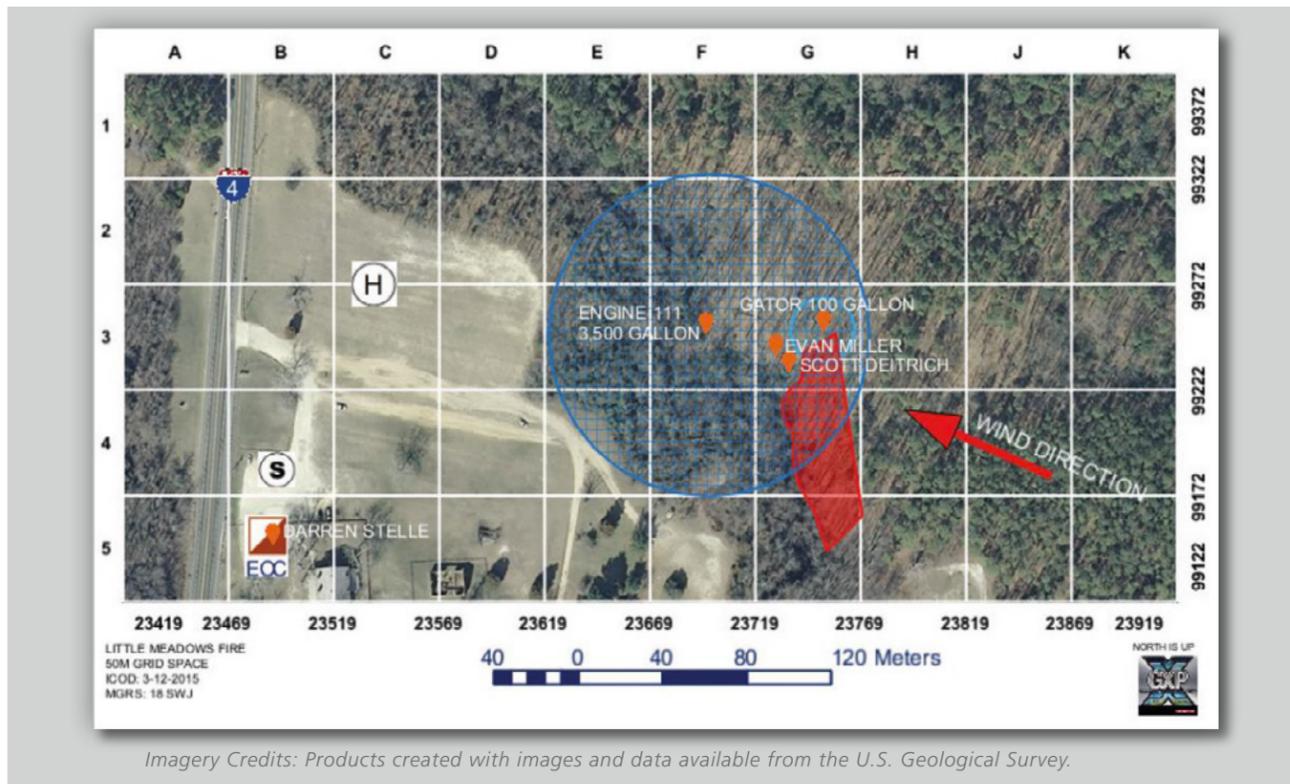
### The information you need when you need it

Quickly locate imagery required for an incident with GXP Xplorer. Share assets, location, and conditions across response units and agencies, regardless of the geographic location. Stream full-resolution imagery in any format instantly from a standard Web browser with GXP WebView. Share wind, topography, and fuel load information in real-time with resources in the field. Seamlessly import select operational assets directly into SOCET GXP to visualize and understand the scope of the incident, assess threats to lives and property, and maintain awareness of escape routes and safety zones. Disseminate geospatial products to command posts and firefighters in the field to provide a common operating picture increasing situational awareness, and maximizing safety and operational success.



## Common Response Graphic (CRG)

SOCET GXP desktop software enables users to create a common response graphic (CRG) that allows responders to systematically operate in a large geographic area while clearly communicating relevant information back to the command staff.



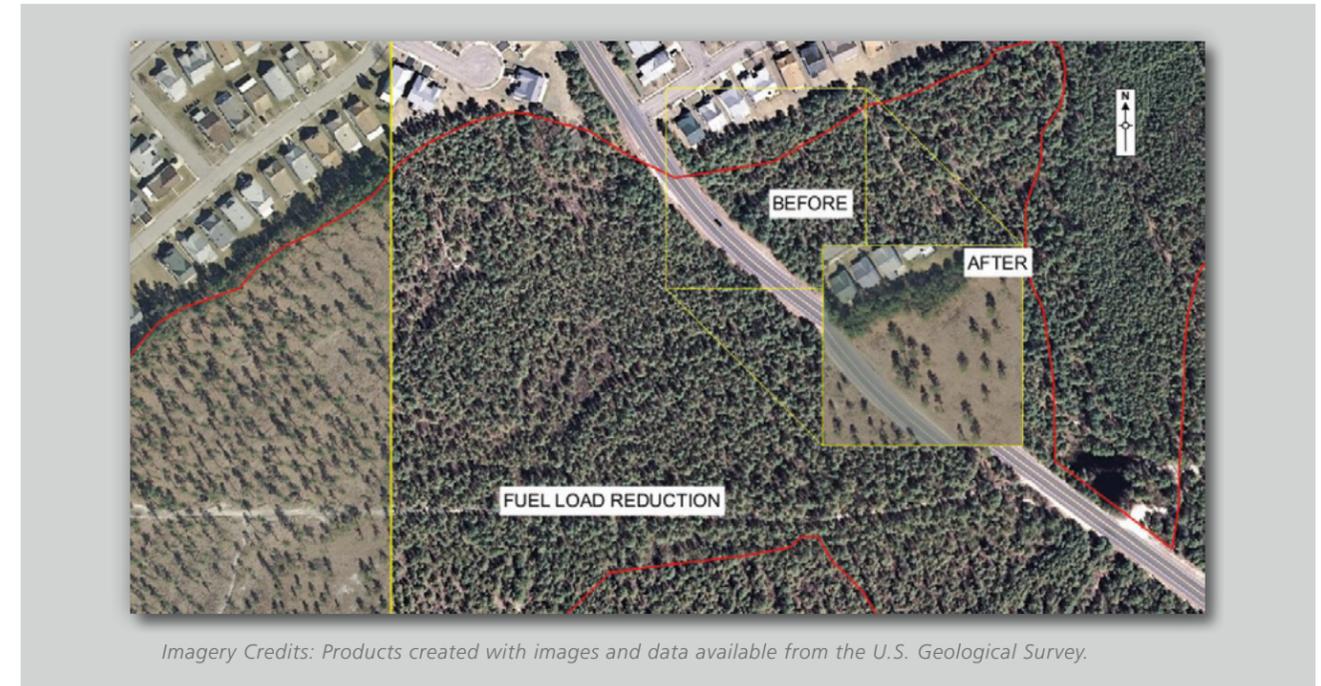
Overlay a grid and essential information such as entry points and resource locations on aerial imagery with SOCET GXP's CRG tool. Quickly snapshot the CRG to an easily distributable format to share situational awareness at all levels of the firefighting effort.

## Overlay essential information

- » Fire line location along with buffers indicating expected fire growth
- » Fire perimeter
- » Operational perimeter
- » Stage resources and key fire attack points or assignments
- » Weather and wind direction
- » Ground truth circles depicting the effective range of specific apparatus
- » National Incident Management System (NIMS) and Incident Command System (ICS) compliant symbology
- » Detailed air operation plans
- » Trails and logging roads that could serve as ingress and egress routes
- » Detailed terrain information such as contours, slope, and terrain aspect
- » Recommended approach angles for air operations
- » Safety zones and emergency escape routes
- » Fuel load estimates and much more

## Change detection

Identify and assess the effectiveness of prescribed burns on known fuel loads. SOCET GXP's advanced image processing algorithms make detecting change in an area fast and easy. Import and overlay "before" and "after" imagery to automatically detect areas of change. Highlight, measure, and store areas of interest to save time when repeatedly performing analysis on the same area.

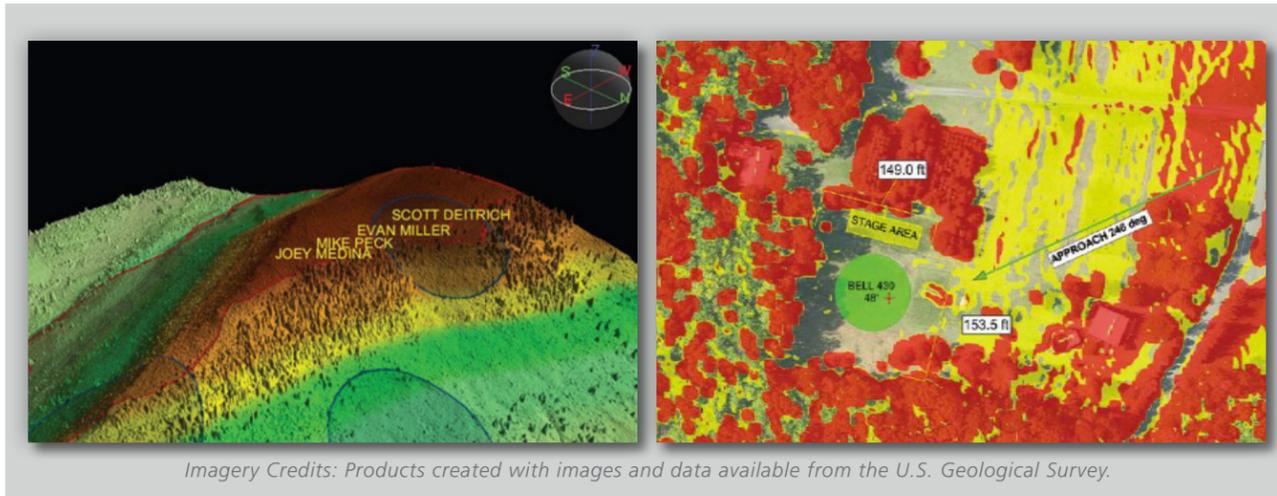


SOCET GXP's image comparison tools make identifying changes in old vs. new imagery simple. In this product, the before and after images allow for a side-by-side assessment of the results of a fuel reduction program. The "after" image shows significant reduction in the amount of fuel load in close proximity to the structures, thereby making the community safer and less susceptible to fire.



## Terrain analysis

Analyze topography and terrain differences to predict fire behavior. Use LiDAR and other high-density terrain files to automatically extract terrain and trees with impressive accuracy.



In this product, high-resolution terrain data has been used to create a 3-D terrain comparison that identifies the fuel load over an area. SOCET GXP's 3-D products can easily be disseminated to users in the field, providing the information needed for educated planning and better decisions on-the-fly.

In this product, high-resolution terrain data has been used to locate a suitable Helicopter Landing Zone (HLZ). SOCET GXP enables users to visualize vertical obstructions that may pose a danger to both rotor and fixed wing air operations.

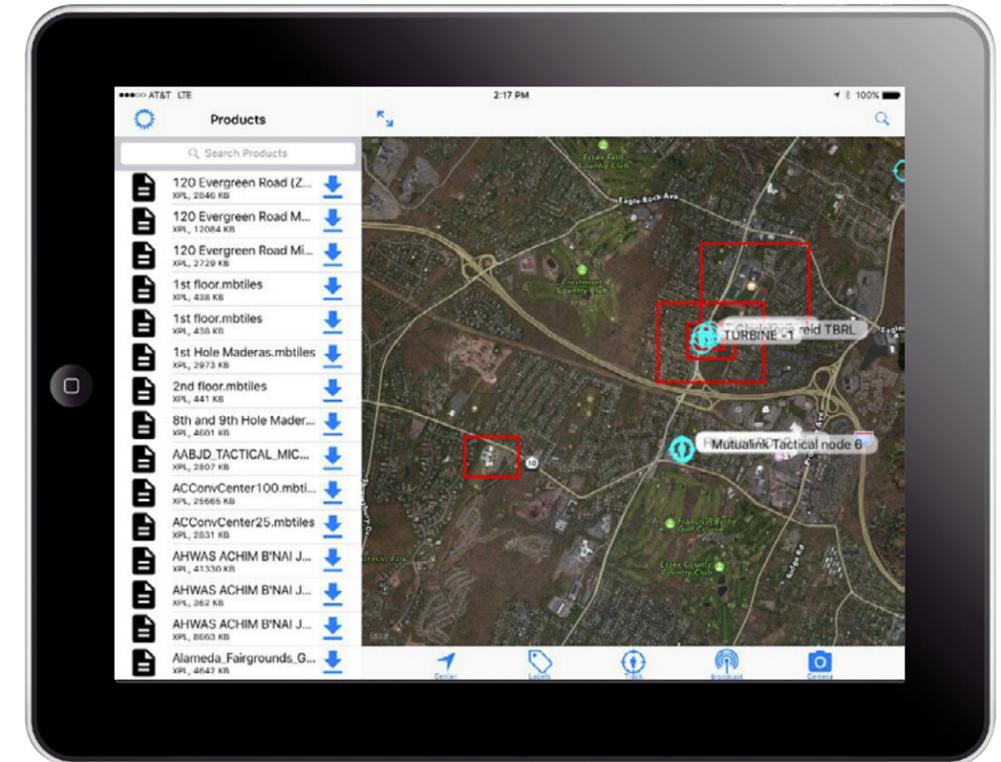
## Interoperability

The GXP Xplorer Platform allows for the creation of precise geospatial intelligence products that can be distributed in many formats for use on a wide variety of platforms, further enhancing situational awareness among firefighters and command staff.

- » GeoPDF® (Easily share PDF documents that can be viewed in any PDF reader)
- » .MbTile (Supports GXP OnScene and other mobile mapping apps)
- » .KMZ / .KML (Google Earth™ / ArcEarth Support)
- » Garmin Compatible .KMZ (Routes and Custom Maps)
- » .GPX Routes (All GPS devices)
- » Esri® Shapefile
- » Esri Geodatabase (SOCET for ArcGIS®)
- » Multiple industry standard formats such as .NTF and Geotiff

## GXP OnScene

Leveraging the power of the GXP Xplorer Platform and SOCET GXP's advanced image exploitation capabilities, GXP OnScene displays a tactical, customizable Common Response Graphic (CRG) overlay on top of up-to-date, personalized maps for ease-of-communication and enhanced interoperability. The location of personnel is displayed on the map using device GPS, providing responders with situational awareness and allowing the command center to coordinate and direct personnel in real-time. GXP OnScene also works directly with SOCET GXP to create reports and products with integrated geospatial reference for use during investigations and for post-incident reports. Products can be stored in the GXP Xplorer catalog and shared or used for further analysis.



## GXP OnScene enables

- » Distribution of preplanned operations and response plans
- » Collection and sharing of data from the field
- » Next generation command and control
- » A unified command staff to make clear decisions
- » Clear and concise direction to firefighters on the ground
- » Publishing and sharing of maps in real-time
- » A clear way to communicate between Ground and Air operations
- » Rapid identification of a firefighter's location
- » Education for the community on importance of defensible space

## It takes a community

The GXP OnScene Hosted Solution and the GXP Xplorer Platform are built from the ground up to provide real-time intelligence in a number of circumstances whether it be a police department, fire department, or critical infrastructure protection. Get started today and learn how GXP products can minimize the cost and enhance the effectiveness of your mission.

## GXP Xplorer Platform applications

- » Law enforcement agencies
  - Emergency action plans
  - Critical infrastructure protection
  - Crime scene investigation
  - SWAT operations
  - Aviation support
- » County prosecutor
  - Special story boards
  - Courtroom presentations
  - Crime scene recreation
  - Map based data management
- » Fire / Rescue department
  - Emergency action plans
  - Wildfire risk assessment
  - Flood plain mapping
  - Riverine operations / water rescue
  - Dive team support
  - Search and rescue operations
- » Office of emergency management
  - Disaster planning
  - Disaster response
  - Disaster recovery
  - Interoperability amongst various agencies
- » City planning and development
  - Survey grade mapping
  - Triangulation of aerial imagery
  - 3-D visualization
  - Field force automation
- » Utilities
  - Assign detailed tasks
  - GPS routing
  - Custom maps
  - Receive real-time updates from the field
  - Map based collaboration
  - Feature extraction and database
- » And many more!

## Contact Us

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