

SOCET GXP® Video Analysis

Real-time situational awareness for active operations and historical data analysis

The SOCET GXP® Video Analysis tool reads and displays live video feeds or saved video files from airborne sensors. It uses the image metadata and a video sensor model to establish accurate geopositioning for detailed analysis and intelligence reporting.



BAE Systems developed the Video Analysis capability to give analysts a convenient way to work with video and transmit critical data and reports to decision-makers. The latest innovations in video compression provide remarkable quality from the smallest amount of video data. Analysts see crisp, clear, high-definition video in much smaller files, saving bandwidth and storage costs.

The user-friendly interface has a customizable toolbar with standard video controls for play, pause, stop, fast-forward, reverse and frame-by-frame. Advanced controls are provided for slow-motion or frame-by-frame metadata search and review, and video bookmarks are used for playback and analysis. Image enhancements can be applied on-the-fly for brightness, contrast, saturation, hue, sharpness, smoothing, and edge detection. Additional object-tracking tools manage real-time coordinates, speed, and bearing.

Video metadata can be viewed graphically or in text format, with a heads-up display (HUD) superimposed on the video. With a single click, users capture still frames into the SOCET GXP Multiport™ analysis window. SOCET GXP provides geopositioning to allow fusion with other geospatial data types such as terrain, features, and other images. All functionality available for images can be applied to video still frames in SOCET GXP.

The Video Analysis tool is integrated with Google Earth™ to provide sensor position, field of view, and situational awareness for video footprints.

The HUD display offers graphics and text information over the video, such as: AV heading and position; target location and width (height above target); slant range; sensor type, bearing, and elevation; date and time; compass rose; pitch; fuel level; and weapon load.



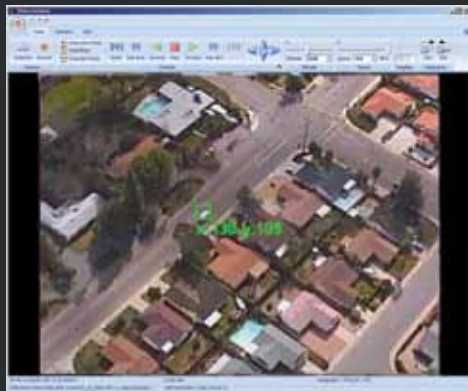
IN THE FIELD: UNMANNED AIRCRAFT SYSTEMS

Unmanned aircraft systems (UAS) collect video and image data for geospatial analysis and intelligence reporting. The systems are used for targeting, surveillance and reconnaissance, border patrol, rescue and recovery, wildfire monitoring, and other natural disasters. The Video Analysis tool is geospatially enabled to provide a highly accurate resource for analyzing video. It uses the real-world geographic information embedded in many UAS and UAV streams — country, region, city, postal code, latitude, longitude and time zone — to provide up-to-date intelligence data.

BAE Systems' Common Geopositioning Services (CGS) program is the Department of Defense standard for precision targeting, geopositioning services, and photogrammetric applications. CGS and SOCET GXP provide an all-source precision geolocation capability with reliable and accurate 3-D coordinates and statistically valid error estimates.

A vast majority of U.S. Air Force and Navy targeting analysts who use CGS also use SOCET GXP for surveillance operations.

Video analysis is included as part of the GeoAnalysis™ license tier. An MPEG video decoder and the SOCET GXP Video Analysis license module must be installed. At this time, the functionality is compatible only with the Microsoft® Windows® platform.



Tracking a vehicle.

Features

Video formats supported and ingest methods

- H.264 (MPEG-2), Microsoft® Windows® (.wmv, .asf), and Apple® QuickTime®
- 104.5, 601.1 metadata
- User datagram protocol (UDP) streaming video via URL; and video from a video capture device (USB, PCI)

Video frame export and video clipping

- Sensor modeling from KLV metadata
- Export still frames in common image formats including NITF
- Select regions of a video to play for further analysis
- Record video from a UDP stream
- Film Roll – a menu of recent frames for export to SOCET GXP®
- SnapShot – save a video frame as seen on screen, including overlays
- Export video frames with the frame-advanced sensor model to a SOCET GXP Multiport™ for further analysis such as: registration, annotation, mensuration, feature extraction, image comparisons, Ortho On-the-Fly™, and mosaics

Video analysis

- Overlay metadata information directly on the screen
- Compass rose capability and graphic representation of telemetry data
- Selectable coordinate system
- Buffer video and interpolate KLV for improved sensor model
- One dimensional time-shift correction to align KLV with video (+/- 2 seconds)

SOCET GXP and Google Earth integration

- Draw ground footprint and platform location to Google Earth™
- Looks at Google Earth from video sensor perspective
- Draw ground footprint and platform location in SOCET GXP Multiport using the Snail Trail feature
- Center the SOCET GXP Multiport on a ground footprint or platform location using the Multiport Linking feature

Tracking

- Track selected object; determine coordinates, establish speed and heading
- Draw object location to the SOCET GXP Multiport or Google Earth

Benefits

- Compliments BAE Systems' UAS global offering — a full-service solution integrating the air vehicle system, mission control system and control infrastructure, focused on reducing cost and operator risk
- Offers access to video files from within the SOCET GXP application
- Reads standard encoding data derived from streaming video and makes the information available to the user
- Converts video to image file formats that support international standards
- Uses advanced-motion imagery technology to create, annotate, and transmit digital image data
- Supports emerging imagery intelligence operational requirements
- Works with Google Earth to enhance situational awareness

FOR MORE INFORMATION, CONTACT:

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