HEXAGON
GEOSPATIAL

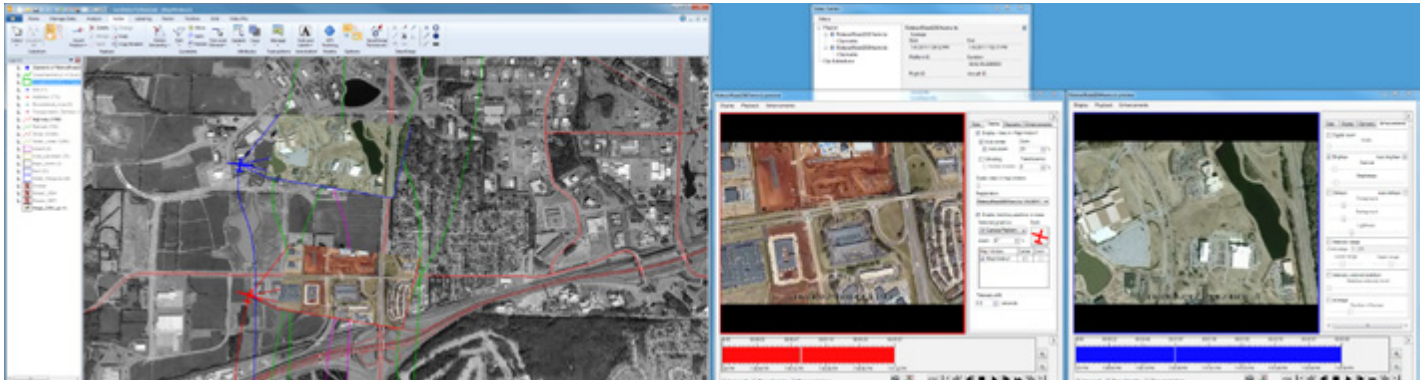# GEOMEDIA® MOTION VIDEO ANALYST PROFESSIONAL

GEOMEDIA® MOTION VIDEO ANALYST PROFESSIONAL

Hexagon Geospatial's GeoMedia® Motion Video Analyst Professional provides a high-productivity environment for analysis of full motion video (FMV) taken from unmanned aerial vehicles (UAVs). Agencies, military, and commercial organizations can use it to exploit and analyze the video for near real-time decision making. GeoMedia Motion Video Analyst Professional provides a seamless multi-source environment for the analysis of all types of geospatial data: raster maps, vector data, full motion video, satellite imagery, and signals intelligence. It is well suited for conducting advanced analysis on all sources of geospatial data by integrating motion video with geospatial data to generate a complete operational picture (COP).

Graphic displays of full motion video and its associated tracking graphics are geofused with other forms of geospatial information to provide an instant view of the common operating picture

SUPERIOR MANAGEMENT OF GEOSPATIAL CONTENT

A critical factor in video analysis is the ability to easily query through vast archives of video to find specific clips. GeoMedia Motion Video Analyst Professional stores all tracking information associated with the video, including aircraft trackline, camera angle, video trackline, and video path polygon, so you can easily locate the exact video you need for pattern-of-life analysis or change detection. GeoMedia Motion Video Analyst Professional even handles multiple live video feeds[1] simultaneously, which lets you leverage video from drones that support that capability, and fuse the imagery with other geospatial data. The result is a scenario in which you can quickly zoom to any part of the world – possibly even down to a street corner – and instantly queue up segments from collected video from the last ten days that pertains to that location. You can then fuse those results with satellite images and other data, and effectively plan your action.

INSTANT AND ACCURATE REAL-TIME ENHANCEMENTS INFORMATION

In some cases, even with superior content management and powerful data integration and visualization tools, poor quality video can hamper your analysis. For example, the original captured video may be of poor quality – or even unusable – due to flight path, altitude, buffeting of aircraft, and other factors. To mitigate this problem, Hexagon Geospatial's technology works in a modular, pipelined fashion to perform real-time enhancements and corrections on the video, such as removing atmospheric distortion, correcting for shadows that affect brightness and contrast, and stabilizing jittery video. This state-of-the-art technology increases the usefulness of UAV video in a real-time and forensic capacity. Setting thresholds, tolerances, and other parameters, and

performing tasks in batch mode or interactively, helps you handle the ever-increasing volume of video that must be processed for analysis.

CREATE, STORE, AND RETRIEVE ANNOTATIONS

Knowing when an event occurred is often as important as knowing where it occurred. The ability to place annotations and clipmarks within a video stream and save them is essential to intelligence analysis. Annotations are searchable by both geospatial and temporal location, which is key to strategic and tactical planning.

VIDEO INGEST

You can import video into GeoMedia Motion Video Analyst Professional for real-time analysis and exploitation. When you need video for trend awareness, analysis, and change detection, the motion video connection interface allows you to geospatially query in multiple ways: by a geographic minimum bounding rectangle in which you key in or draw in the map window, from a center point and radius in which you can also key in or draw in the map window, or by entering a Military Grid Reference System (MGRS) location. Additionally, you can specify a temporal filter to find video from a certain day and time. Other attributes, such as camera angle, clipmarks, or annotations, can help you locate only the videos that apply to a specific area, item, or event of interest.

VIDEO ENHANCEMENT AND STABILIZATION

Often, when you receive video, it needs to be stabilized and enhanced before analysis is possible. GeoMedia Video Motion Analyst Professional includes patented enhancement and stabilization algorithms proven effective over many years in the public safety and security markets. The application allows

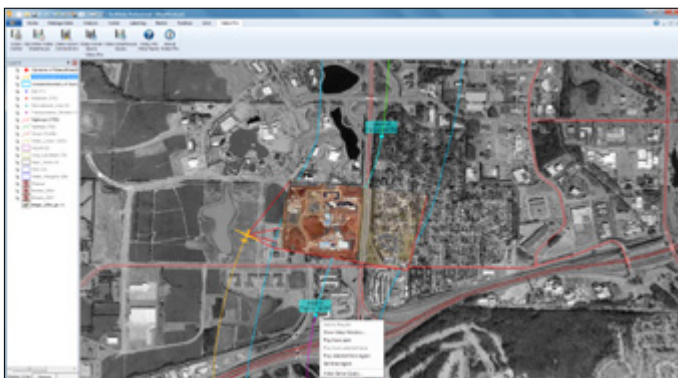[1] Catalina Media Server is required for support of live video feeds

analysts to remove shaky motion and atmospheric distortion, as well as enhance poor quality motion imagery with tools such as brightening, dehaze, frame averaging, and intensity centroid stabilization in real-time as the video is played. Automatic enhancements, zooming, and centering allow the operator to focus on video analysis and let the

CLIPMARKING AND ANNOTATION

GeoMedia Motion Video Analyst Professional provides initial review capability for incoming video, such as placing clipmarks and extracting single- frame images and clips. Once the video is ready for analysis, the ability to place clipmarks to identify items or events of interest is important. The software provides user-definable pre-defined clipmarks and associated hot keys for common items of interest. The use of hot keys eliminates the need for mouse clicks and typing, and enables quick reaction to items of interest. You can also create custom clipmark names and associated text. Clipmarks, as well as their associated annotations, are geographically located along the video centerline, which makes them searchable by geographic location and time in addition to textual content. Send clipped and annotated video for further analysis and reporting. You can also treat the clipmarks and annotations as permanent intelligence data and store them in a Geospatial Content Management application for enterprise-wide access and historical research.

FUSING VIDEO WITH OTHER INTELLIGENCE SOURCES

GeoMedia Motion Video Analyst Professional gives you the ability to fuse video with other types of geospatial data, including raster maps, vector data, and satellite imagery. With the unique ability to display motion video, both as raw frames in a video window and as georeferenced frames fused with other data in a map window, you can gain an understanding of the video's geospatial context. GeoMedia Motion Video

Geospatial vector representations are stored with each full motion video and available for query. You can use the centerline feature to specify what segments of the video to play, as shown here.

Analyst Professional integrates seamlessly with the high-performance Electronic Light Table (ELT) of GeoMedia Image Professional for producing reports from snapshots extracted from video and annotated with video intelligence and map information. This allows you to create reports and actionable intelligence in minutes rather than hours, with a few button clicks in a single integrated environment without having to manually switch between different applications.

ARCHIVING AND MANAGING VIDEO

Once you have stabilized, enhanced, geofused, analyzed, clipped, and annotated the video, you can catalog and store the files, footprints, frame centerlines, sensor centerlines, and/or frame centroids and associated data. Annotations, clipmarks, and frame-specific telemetry will be stored with the video file so you can easily query the video for further analysis.

INSTANT AND ACCURATE REAL-TIME INFORMATION

- Fully exploit video and imagery data in one seamless, geofused environment
- Leverage Hexagon Geospatial's advanced video enhancement and stabilization capabilities
- Discover a new geospatial context in which to review incoming video data from files or live streams
- Geographically track the movement of your aircraft, the camera angle, and other relevant geospatial information, in a single homogeneous environment
- Geofuse your video over vector data, raster maps, or other still imagery and watch it play across your map in context with other geospatial data
- Capture relevant snapshots and clips of imagery and video for additional analysis and reporting
- Query your video data by attribute, annotation, or geospatial location
- Automatically enhance your motion video for superior analytical results
- Visualize and archive all geographic data relevant to your video
- Watch your video simultaneously in a video window and a map window
- Control your motion video with familiar DVR-like controls
- Mark your video for further analysis and historical query capabilities
- Extract image mosaics from your video data segments (requires stable telemetry)
- Annotate your item or event of interest with a searchable geospatial definition

ABOUT POWER PORTFOLIO

The Power Portfolio from Hexagon Geospatial combines the best photogrammetry, remote sensing, GIS and cartography technologies available. Flowing seamlessly from the desktop to server-based solutions, these technologies specialize in data organization, automated geoprocessing, spatial data infrastructure, workflow optimization, web editing, and web mapping.

The Producer Suite enables you to intelligently author, analyze, process, and map multiple sources of data.

Producer Suite

POWER PORTFOLIO™

ABOUT HEXAGON GEOSPATIAL

Hexagon Geospatial helps you make sense of the dynamically changing world. Known globally as a maker of leading-edge technology, we enable our customers to easily transform their data into actionable information, shortening the lifecycle from the moment of change to action. Hexagon Geospatial provides the software products and platforms to a large variety of customers through direct sales, channel partners, and Hexagon businesses. For more information, visit www.hexagongeospatial.com or contact us at marketing@hexagongeospatial.com.

Hexagon Geospatial is part of Hexagon, a leading global provider of information technologies that drive quality and productivity improvements across geospatial and industrial enterprise applications. Hexagon's solutions integrate sensors, software, domain knowledge and customer workflows into intelligent information ecosystems that deliver actionable information, automate business processes and improve productivity. They are used in a broad range of vital industries. Hexagon (Nasdaq Stockholm: HEXA B) has more than 18,000 employees in 50 countries and net sales of approximately 3.3bn USD. Learn more at hexagon.com.