GeoMedia® Image Professional

GeoMedia Image Professional from Hexagon's Geospatial division enables quick and accurate broad area search operations of vast landscapes of digital imagery. Based on the GeoMedia® Desktop geospatial platform, GeoMedia Image Professional's ability to fuse geospatial vector and imagery data in one seamless environment enriches the analysis process by allowing you to visualize, query, and analyze information from various sources directly in GeoMedia. GeoMedia Image Professional streamlines this multi-source data fusion, allowing you to work more quickly and confidently with increased effectiveness. Data servers and OGC® (Open Geospatial Consortium) interfaces let you tap into a rich and varied set of available geospatial intelligence sources. Using these interfaces, you can identify and exploit geospatially-related images using high-performance 64-bit electronic light table functionality to enhance, chip, mensurate, and annotate image elements.

Key Features

- Directly connect to and process a variety of imagery and geospatial feature data sources, all in their original formats

- Geofuse geospatial vector, image, and geospatial tabular data in one seamless environment

- Directly connect to web-based sources of geospatial content for live data feeds of weather, vehicle traffic, and other types of data using OGC Web Services

- Visualize, query, and analyze information from various data sources

- Perform integrated terrain and spatial analysis (requires GeoMedia Advantage or Professional tier)

- Search broad areas using virtual mosaics

- Use geospatial feature data such as points of interest, road networks, convoy routes, flight paths, and blast zones to automatically constrain imagery searches to paths and areas defined by these features.

- Exploit imagery using robust electronic light table tools

- Chip out and annotate image sections for reports and documentation

Geospatial Fusion Powered by GeoMedia®

With more sensor data available, it is crucial to have tools that process data more efficiently. Geospatial fusion helps you maintain focus by expertly selecting the imagery you need to complete an assigned task. Raster backdrops consisting of scanned maps and orthorectified imagery provide broad area context. Elevation data allows the restriction of search areas based on terrain characteristics and supports viewshed analysis. Vector data enables the use of named, real-world features as guides in the search process – all fused within GeoMedia's geospatial map window.

Use footprints and metadata to help you select the appropriate imagery data. GeoMedia's powerful spatial filters let you limit information to a specific area, and attribute-based queries allow you to further reduce the result set, improving your efficiency when working with large volumes of geospatial information. Sophisticated spatial queries and operations can also provide further dynamic refinement.
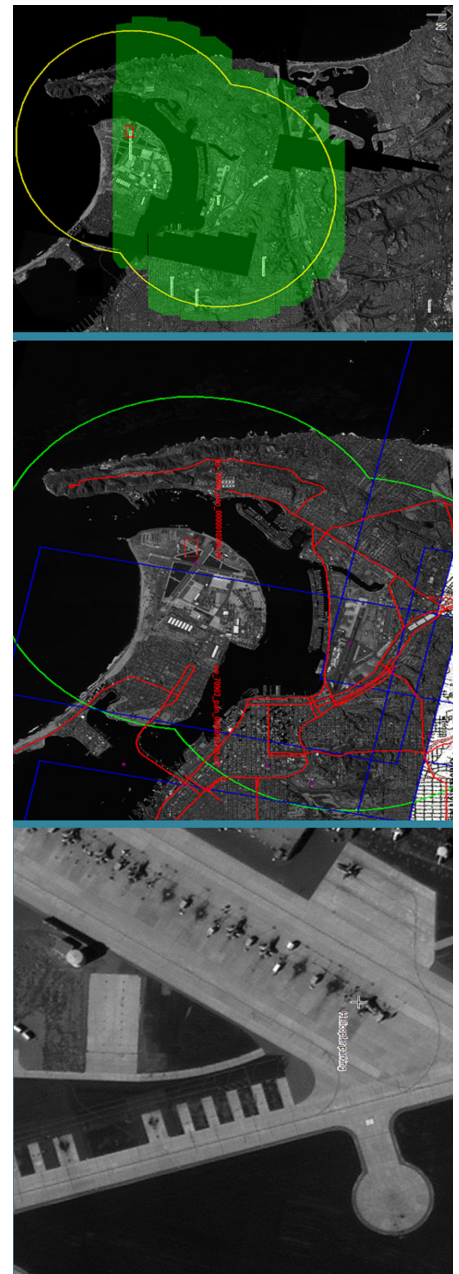
Virtual Mosaic Searches

A key differentiator of this application is the virtual mosaic dynamically constructed from standard format image files, such as GeoTIFF and NITF. Similar to the way producers of orthorectified images and imagery products manually create large mosaics from several source images, GeoMedia Image Professional creates a virtual mosaic of the selected imagery on-the-fly for immediate analysis. Once you've created a virtual mosaic, GeoMedia Image Professional provides efficient tools for searching the mosaic, including a smooth, jitter-free roam. Not only can you perform a complete search of the virtual mosaic, but you can also use linear or area features to help guide the search. While navigating the virtual mosaic, the location is tracked in the GeoMedia map window to provide geographic orientation and context. The progress of one or more search tasks are also tracked by the snail trail, which provides visual confirmation of the area searched and orients multiple analysts during a coordinated imagery search activity.

Electronic Light Table Capabilities

A full complement of electronic light table tools makes GeoMedia Image Professional a truly integrated solution.

Image Exploitation – Send a set of point features to virtual mosaics or images. Known as "points of interest", these points allow you to jump to and review specific locations to quickly determine if any significant changes are present. You can interactively create additional points of interest and save these as geospatial data you can use for future reference.

Image Chip Extraction – Extract selected sections of images and save them to new files. These image chips include the georeferencing information derived from the source file, enabling you to easily place these new files in the correct geographic context. A rich set of annotation tools lets you explicitly document items of interest within the image.

Image Enhancement – Included are a large number of image enhancement operations that can be applied to improve image appearance. For example, Image Sampler instantly provides a preview so you can view the effects of these operations without processing the entire image. Once you've determined the desired operation, you can apply it to the entire image, or a selected region of interest, with a simple click of the mouse.

Mensuration Tools – These tools, based on imagery acquisition data or relative measurements, allow you to specify the relationship of visual elements. These measurements, along with text and vector annotations, enable communication of knowledge to future users of the image products. Templates provide you with reports in predefined layouts so information is communicated in a clear, concise, and consistent manner.

Image Comparison – When you need to compare a current image to previous images to detect changes over time, GeoMedia Image Professional's versatile image comparison functions help determine the historical context of the data. Blending, flickering, and vertical and horizontal wiping accentuate changes in the most apparent manner.