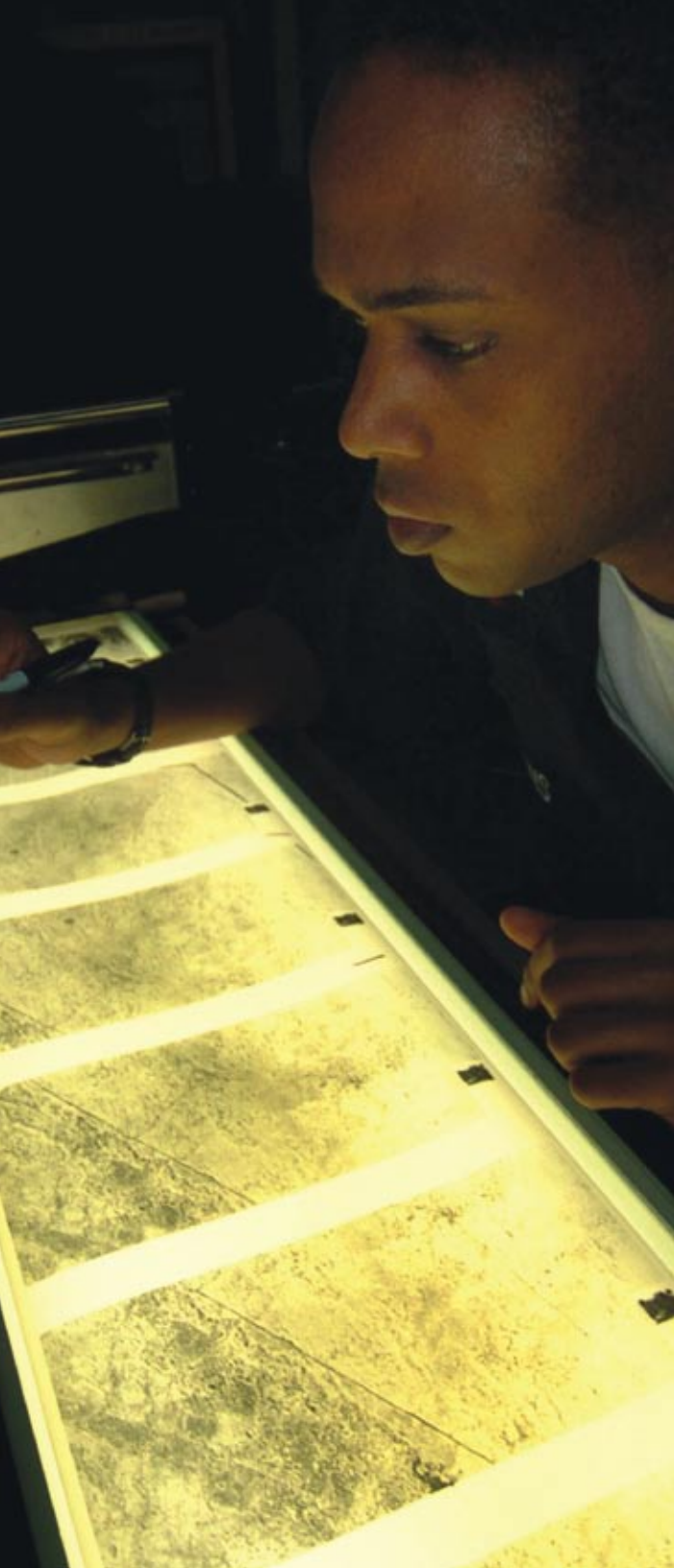
 **OVERWATCH**
GEO SPATIAL
TEXTRON Systems

 **REMOTEVIEW™**





RemoteView™ - Comprehensive Capability

Overwatch Geospatial Systems™ has been leading the industry's evolution with advanced solutions that have helped automate and revolutionize electronic light table applications.

As changes in the remote sensing landscape have broadened the scope of imagery analysis to include Geospatial Information Systems (GIS), more complex analytical requirements and multi-source data integration have emerged as requirements to support ever expanding applications.

RemoteView is a preferred solution among imagery and GIS users for the import, viewing, analysis and reporting of commercial remote sensing data. RemoteView combines high-speed processing chain technology with a carefully refined user interface to enhance mission workflow and boost productivity on the largest images, videos and data sets.

RemoteView continues to evolve with the most innovative and comprehensive capabilities to meet the ever expanding needs of its growing client base.

Modular Approach

RemoteView is a flexible solution comprised of a powerful core product and supporting power modules. Using this modular approach, RemoteView enables users to cost-effectively and seamlessly scale their capabilities to meet their specific and evolving needs.

RemoteView provides users with an intuitive graphical user interface for easy-to-use control across all capability levels, minimizing both procurement costs and training requirements as their requirements for new functionality change.

Innovative Technology

RemoteView employs innovative technologies to combine rich imagery analysis functionality with advanced geospatial exploitation capabilities. RemoteView Professional is available on Windows 2000® and XP platforms, as well as in a UNIX® edition.

RemoteView provides on-demand image processing and advanced geospatial accuracy throughout its innovative processing chain technology. RemoteView also provides interfaces to the Community Sensor Model (CSM), Replacement Sensor Model (RSM), Landsat, SPOT, IRS, Ikonos, QuickBird, OrbView and rigorous commercial sensor models like WorldView and GeoEye-1. An automatic terrain elevation service runs in the background to ensure that all data is referenced "to the ground".

RemoteView is unique in its ability to process extremely large images and data sets. This enables users to create real-time, multi-terabyte mosaics and perform complex geospatial processing such as orthorectification, multispectral classification, epipolar resampling and pan sharpening "on the fly".

A Total Solution

RemoteView's core functionality provides powerful capabilities to GIS users, and offers extension modules to expand the scope and depth of analytical capabilities based on users' specific needs.

A Comprehensive GIS Analysis and Exploitation Solution

Imagery Analysis

Numerous Image formats

- Supports numerous geospatial enabled image formats

Image Quality and Enhancement

- Contrast, Brightness, ICA Sharpening and Haze controls
- Dynamic Range Adjustment
- ICA Tonal Transfer Curves, Bicubic & Lagrange Resampling
- Dual head support Stereo viewing

Image Mosaic and Search

- Automatic Mosaic Creation
- Virtual Mosaics
- Map Projected, processed Mosaics
- Virtual Mosaic Editor
- Broad Area Searching
- Directed Area Searching
- Geo-Jump location finding
- Overview window

Change Detection

- Side-by-side comparison
- Color multiview
- Flicker Colorized difference
- Blend

Image Anaglyph

- Synthesize and view anaglyph/pseudo stereo pair

Geospatial Analysis

Terrain Visualization

- Elevation and Volume Calculation
- Real-time, interactive 3D fly-through perspective creation
- Flight Path Creation
- Stereo support
- Colorized elevation
- Line of Sight
- Field of View

GIS & Vector Integration

- Vector Import, Display, Creation and Editing
- Display, edit, and create in Shape file format
- Vector query capabilities –spatial and attribute based
- Vector cleaning tool – snap and clip to user-specified tolerance
- Attribute table auto-populate tool
- Polygon joining/splitting tools
- Union, Intersect, XOR, Subtraction, Partition, Convex Hull
- OGC Web Map Server interface

Multi-spectral Analysis

- Multispectral Classification Wizard
- Supervised classification
- Import training sets from vector files
- Unsupervised classification
- Thresholding, multiple-rules
- Signature Editor
- Statistics, Histograms
- Image Calculator NDVI, TSI, Tasseled Cap
- Edge Detection, Filtering, Sharpening, Smoothing
- Pan-sharpening with auto-registration
- Compose individual images into multispectral images.

Mapping, Charting, Geodesy

- OGC Web Map Server interface
- Georeferencing
- Scale bar
- Grid lines
- Robust symbology pallet
- Graphics and Text Annotation
- Mensuration via Mensuration ToolKit
- North Arrow Design Tool
- Datum conversions
- Full set of USGS Map projections

Common Functionality

Complete Work Folder Architecture

Photogrammetry

- Orthorectification and Orthocalibration
- Block Adjustment (Triangulation)
- Rigorous Orbview and QuickBird sensor models
- Image-to-Image and Image-to-Reference calibration
- Stereo Viewing
- On-the-fly epipolar resampling
- Complete end-to-end processing and production tools
- Mensuration ToolKit

Production & Productivity Support

- Templates for report generation
- Hyperlinks to images, maps, websites
- Softcopy georeferencing support
- Comprehensive graphics support
- Diagnostic Tools
- Geographical graphics layers
- Individual and batch R-set generation
- Image chipping
- Counting tool
- Dimensioned graphics

Database Access, and Management

- Catalog-based image storage and retrieval
- Microsoft™ SQL Server-based
- Oracle option

Enhanced vector support

Google Earth Collaboration

Oracle 11g Catalog Support

JavaScript API Integration

FLEXnet 11.5 Licensing Upgrade

Power Modules

Virtual Mosaic

- Supports 100+ GB mosaics
- Wizard-based mosaic creation
- Virtual, ortho-mosaic and map projection options
- CADRG, ADRG, CIB or DTED background options
- Drag-and-Drop mosaic building from RemoteView Folder
- Dynamic Range controls (e.g., Sharpen, Brightness, Contrast)
- Auto or manual image alignment options
- Rapid virtual mosaic creation
- Rapid mosaic navigation
- Create search patterns either in Overview or Main Viewer windows
- Apply pre-defined search patterns as shape files
- Overlay image data on mosaic option
- Hide individual images or outlines
- Create broad or directed area search patterns
- Start, pause, stop searches
- Adjustable search speed
- Snail trail on/off option
- Save, apply snail trails as Shape files

RV 3D Pro

- Building Extrusions from Shapefiles
- 3D Domes
- 3D View Shed/LOS Analysis
- 3D Text Annotations

Map Composer

- Save and Reload Map Compositions
- Save and Reuse Standardized Map Layouts
- Orthorectify to precise map scales
- Precise placement of composition elements
- Automatic map elements: scale bars, scale text, etc.
- Advanced graphical alignment
- Precise element placing
- Large and small hardcopy output
- Multi-Page Output
- Save as Image: TIFF, JPEG, NITF, BMP, PNG
- Multiple geo-locked images

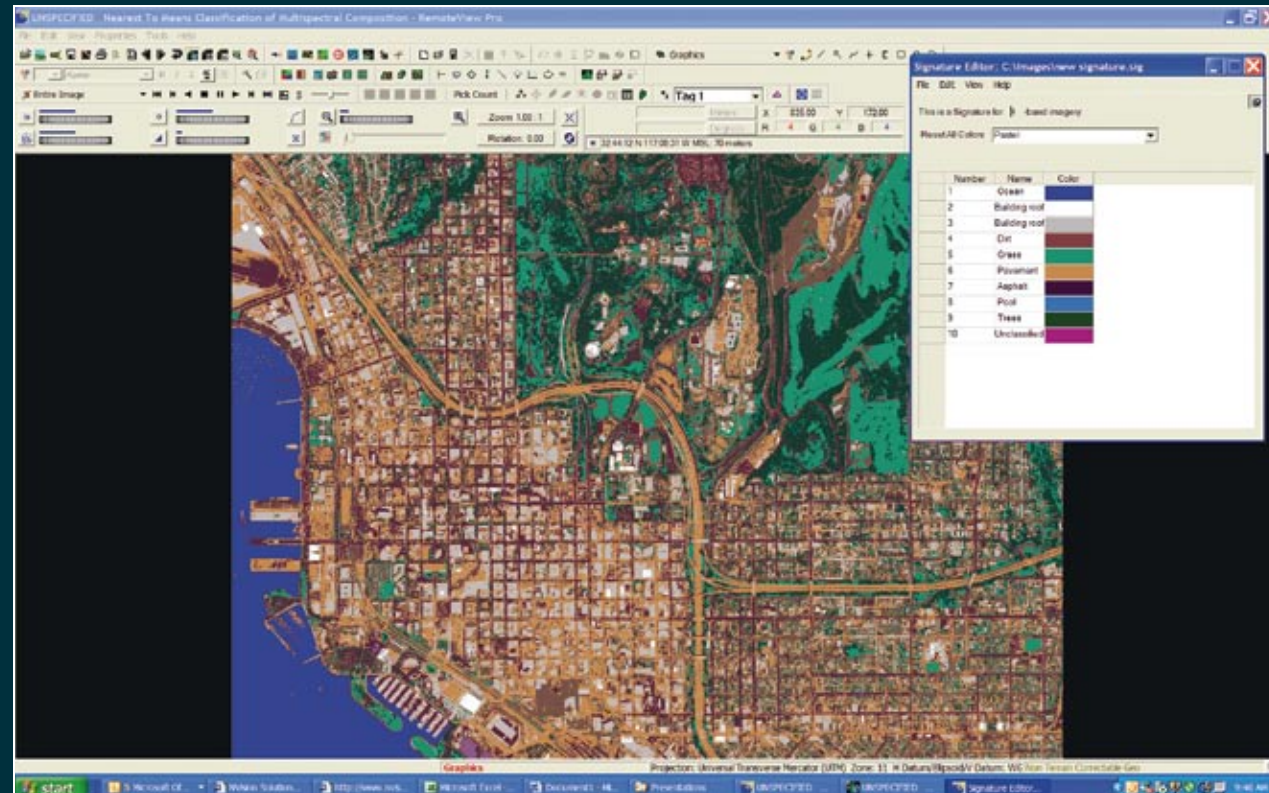
Feature Analyst

- Multi- and single-class feature collection with spatial context
- Multi-Page Output
- Change Detection
- Hierarchical Learning for Clutter Removal

GeoCatalog

- Rapid access to and management of geospatial data
- SQL Server and Oracle support within its own datastore
- Federated access to additional external data sources
- Rapid video segmenting, cataloging, and retrieval
- Single query access to diverse collections of geospatial data
- Highly configurable and flexible
- Customized query templates
- Dynamic database modification
- Customized query templates

Multi-Spectral and Hyper-Spectral Processing



Modern sensors collect data from wide ranging spectra, including panchromatic, color, infrared, multi-spectral, hyper-spectral and radar. Users need tools to fully process this data, not just display a few bands on the screen. RemoteView fills the need with both supervised and unsupervised image classification wizards. This allows users to find certain signatures in an image, such as heat from an engine, special chemicals, or camouflage, without having to undergo months of training. Our pan sharpening feature allows users to select one of several algorithms to add natural appearing color to high-resolution panchromatic images. Of course, we have classic algorithms for vegetation analysis and delineation of land and water boundaries.



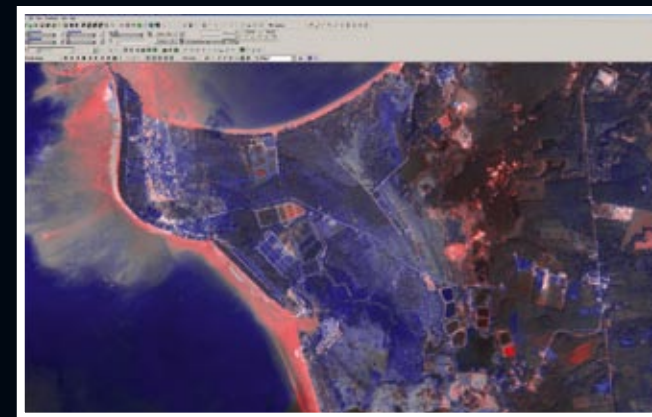
Change Detection



Before Tsunami



After Tsunami



Automatic Change Detection

RemoteView contains a powerful tool for automated change detection. By color coding differences between images, RemoteView provides the user with quick visual cues to aid in the decision making process.



RemoteView's adaptive filters remove noise and haze with minimal blurring of the image. In this SAR image, noise reduction processing enhances visible detail.

Traditional Image Processing

RemoteView built its name by maintaining the highest image quality standards. That will never change. Throughout the processing of single band or multi-spectral imagery RemoteView maintains the full dynamic range of the data source. RemoteView offers selectable sharpening filters, sophisticated resampling algorithms, tonal transfer curves for optimal contrast display, automatic and manual dynamic range adjustment (DRA), and haze removal. Monitor and printer calibration capabilities ensure that data quality remains through the entire analysis process. None of these capabilities require special computer hardware. RemoteView's powerful image processing and visualization environment makes it ideal for applications that require speed, precision, and clarity.



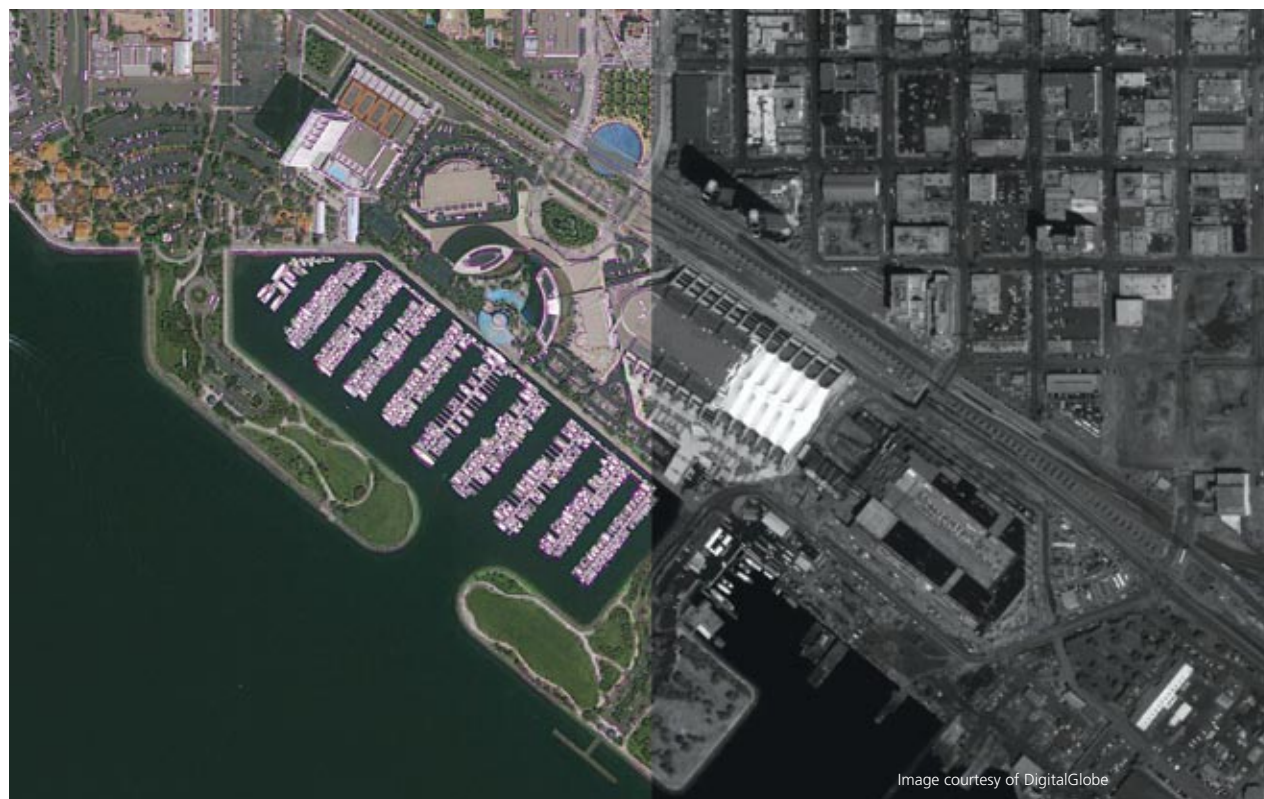
RemoteView reads and plots GIS shape files. Red vectors were created in RemoteView to update the GIS data to show new bridges and roads.

GIS Integration

Attributed vector graphics, such as ESRI Shape Files, and VPF files, are just as important in understanding the "big picture" as the image itself. RemoteView lets you plot and manage multiple GIS layers, create and export new vectors, and set colors, graphics, and attributes. Vector layer attributes can be customized with pull-down menus and scripts. Drop-down lists aid in assigning attributes to vector records. RemoteView is not just an image processing tool; it's a robust GIS solution.

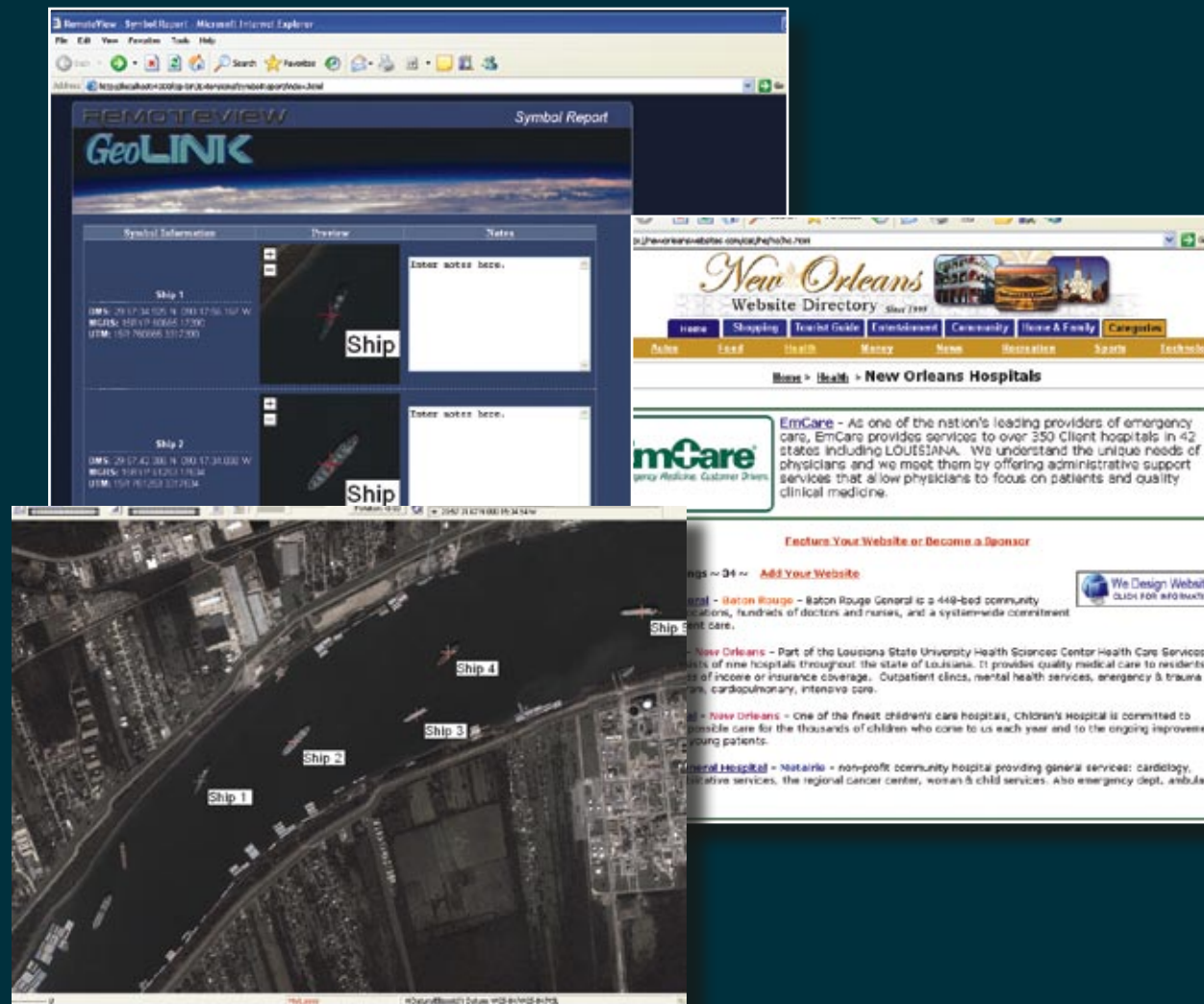


We've added the projective pan-sharpening algorithm to our list of available pan-sharpening algorithms. The projective algorithm offers more natural-appearing color.



Advanced AutoReview and Search

Using RemoteView, users can search imagery by following geospatial references, not just graphical drawings. The user can search lines of communications such as roads, waterways, pipelines, etc.; automatically jump from one point feature to another; or automatically limit the search by an areal feature boundary. This automatic feature vector search mode offers the most sophisticated softcopy search tools ever available.



RemoteView GeoLINK

RemoteView GeoLINK is a revolutionary new way to connect directly to the internet and external databases using automated metadata driven search functions. GeoLINK rapidly acquires relevant data, and automatically displays geocoded information from these web pages and databases directly to the RemoteView viewer. These data sources can be place name databases, traffic incident reports, spreadsheets, weather tracking information, address location services, or any other site or service with geocoded data. Links to external sources are maintained and can be updated dynamically to maintain information currency. GeoLINK also generates web documents directly from image metadata. This allows users, with a single click of the mouse, to further investigate topics related to the imagery.

GeoCatalog

POWER MODULE

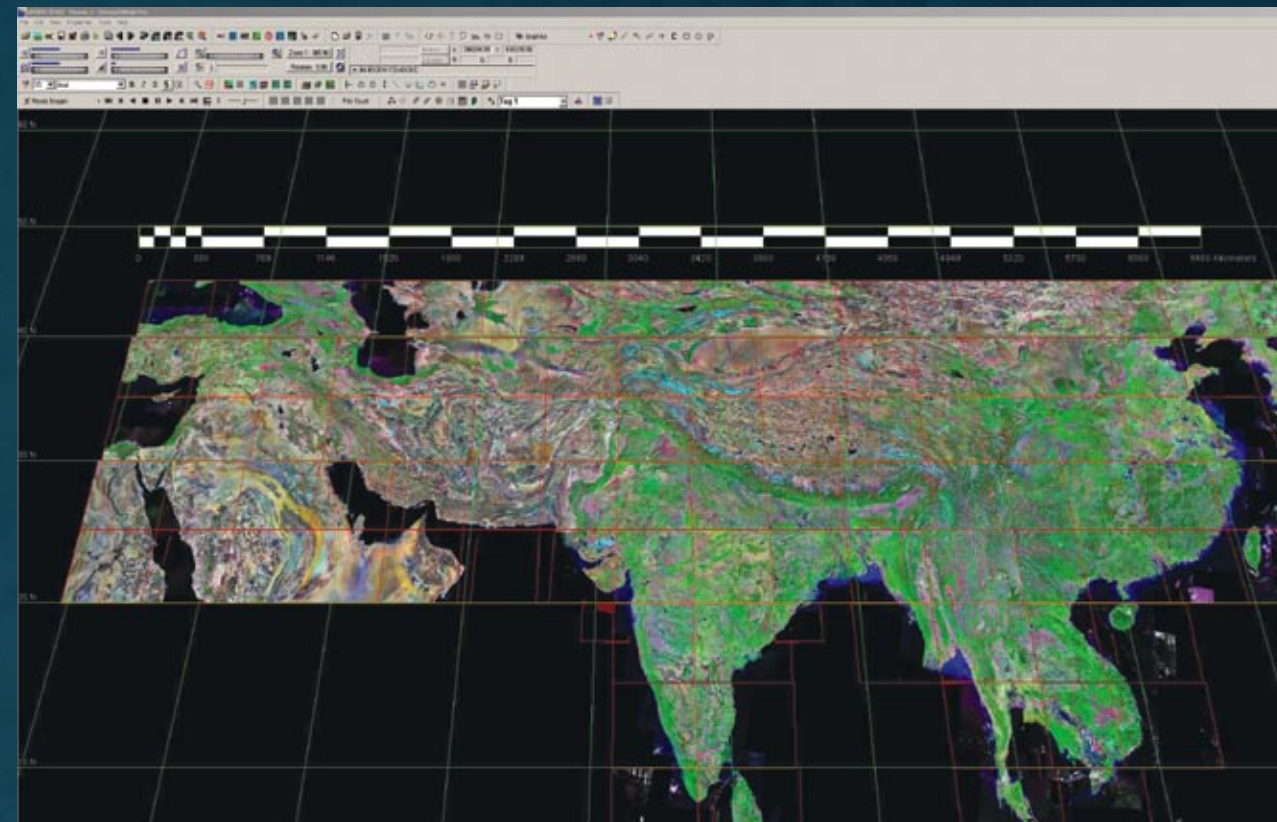


GeoCatalog is a module enabling users to easily create searchable database libraries for the organization and management of geospatial data. Ideal for either individual users or large work groups, GeoCatalog helps analysts locate and manage relevant geospatial data quickly and efficiently, resulting in streamlined workflow.

Key features include:

- Rapid access to and management of geospatial data within RemoteView
- SQL Server and Oracle support within its own datastore
- Federated access to additional external data sources
- Rapid video segmenting, cataloging, and retrieval
- Single query access to diverse collections of geospatial data
- Highly configurable and flexible
- Customized query templates
- Dynamic database modification
- Customized query templates

Virtual Mosaic POWER MODULE

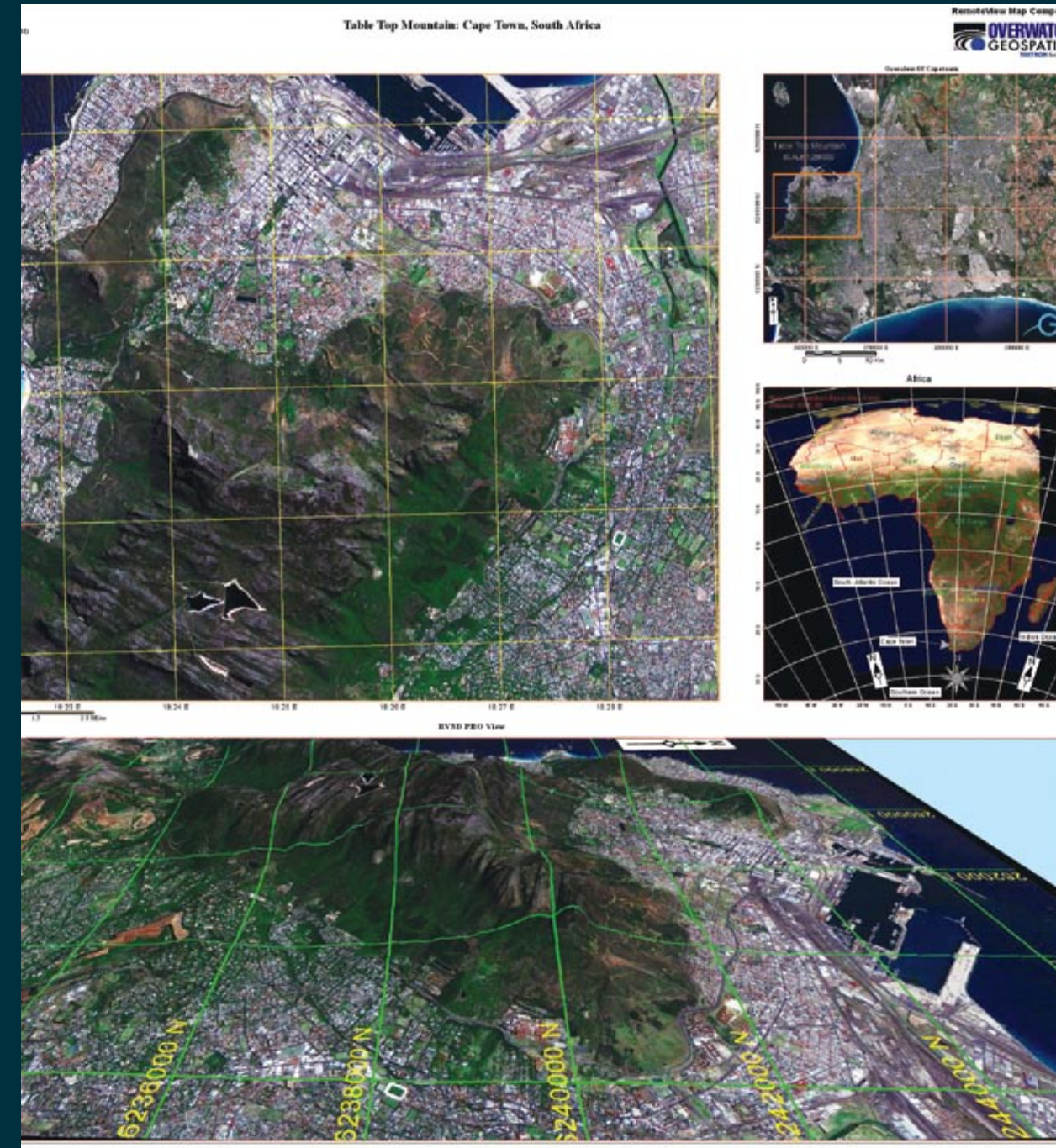


RemoteView's Virtual Mosaic module streamlines the process of building extremely large-scale virtual mosaics from high-resolution commercial imagery. Virtual Mosaic is ideal for broad area search applications or anytime a large area context is required for imagery analysis. Virtual mosaics require no preprocessing steps or conversion of images to proprietary formats.

An intuitive GUI that works with a sophisticated catalog application is included as a new standard feature in RemoteView Professional. The catalog allows users to search for relevant imagery and apply filters to limit the selected files by geographic area, cloud coverage, data type, date acquired, and a host of other selection criteria.

In addition to making virtual mosaics the wizard also allows the creation of processed products, which are finished orthorectified mosaics that can be saved and printed. These finished mosaics also make an ideal backdrop for larger Shape files.

Map Composer POWER MODULE



RemoteView Map Composer is a module used to create hardcopy image-based map products. It provides composition tools such as map grids, scale bars, north arrows, annotation, map projection, map scale graphics for formatting, and printing to any supported printer or plotter on a network. Map Composer creates professional and accurate professional map products, which can be used for displaying, training, briefings, situational awareness, and mission planning. Precision map accuracy is achieved through "on-the-fly" orthorectification and map projection at user-defined map scales.

RemoteView Map Composer uses the same interactive image processing chain that is available in the RemoteView main viewers and is accessed while composing maps. Map Composer layouts can be "saved to" files, providing a customized template for a map series that can store standard features. When new imagery is available, it can quickly be placed into the templates with maintained formatting, thereby saving hours of duplication effort.

Feature Analyst

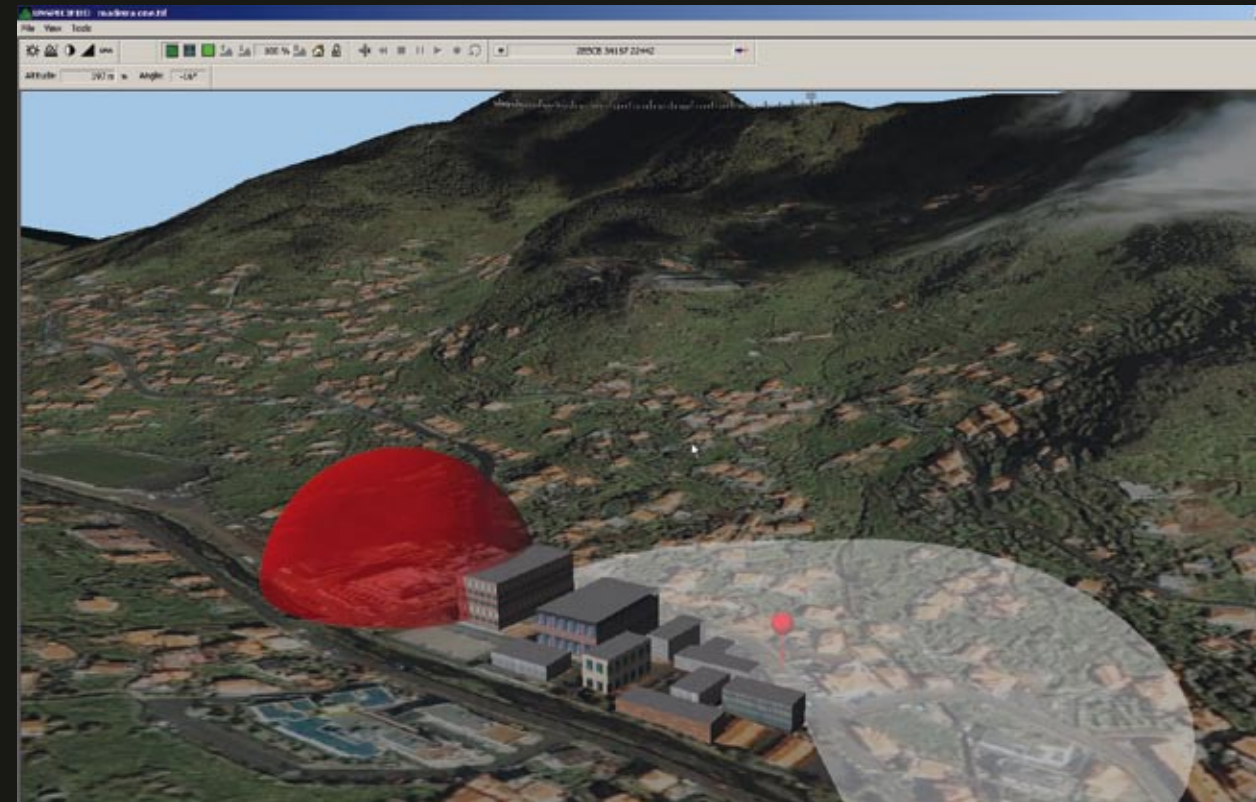
POWER MODULE



Feature Analyst is a module providing users with a powerful, yet easy to use set of tools to assist in the process of feature extraction. Designed to increase production and streamline workflows, Feature Analyst enables users to quickly and accurately identify and extract features of interest such as roads, land cover, various forms of vegetation and water features from imagery and maps, saving valuable time.

3D PRO

POWER MODULE



RV3D PRO™ is a RemoteView module which functions as an enhanced 3D graphics visualization tool. The RV3D Pro module allows users to create scenes and models to help decision makers to understand and visualize real world conditions.

RV3D Pro provides users with the ability to generate small-scale 3D terrain and urban models while working in RemoteView. The terrain generation tool allows users to define an area of interest and build a 3D environment from selected digital terrain elevation data, image layers, and point or polygonal feature layers. RV3D PRO files retain geodetic information while in the perspective view, reporting geo-coordinates as well as elevation data for any point on the image. All toolsets from RV3D Fly-Thru are included with the RV3D Pro module.

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