Trimble Spatial Imaging: Bringing Geospatial Information Down to Earth

SPATIAL IMAGING

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To be competitive in capturing Spatial Imaging opportunities, time is critical. Today's projects, require knowledgable staff and efficient pre and post processing. Trimble Spatial Imaging solutions help surveyors build core expertise and deliver results fast.

While geospatial imaging captures data from overhead using airborne or satellite sensors, Trimble Spatial Imaging provides views and positioning measurements captured at eye-level. Spatial Imaging extends the functionality of geospatial information and opens the door to powerful new applications and opportunities.





Trimble's Spatial Imaging solutions enhance geospatial information with accurate terrestrial positioning information.

Using advanced positioning and imaging technologies, Trimble Spatial Imaging solutions deliver highly accurate measurements for geospatial markets:

- Transportation and Civil Engineering
- Natural Resources Management
- Urban Planning
- Facility Refurbishment
- Forensics and Accident Reconstruction

Trimble Spatial Imaging comprises three stages: data capture, extraction/analysis and delivery.

TRIMBLE VISION TECHNOLOGY

Trimble Spatial Imaging solutions include the powerful visualization tools of Trimble VISION[™] technology. Designed to improve data collection and the clarity of deliverables, Trimble VISION impacts the complete flow of work—from the field all the way to the boardroom.

Using live video on the controller screen, users quickly and easily identify and capture relevant data with point-and-click efficiency. Trimble VISION provides a real-time reference, displaying work completed and work required. The visual documentation tools of Trimble VISION also aid businesses and clients by providing a real-world, visual context for data.

ADD TRIMBLE POSITIONING ACCURACY TO GEOSPATIAL INFORMATION

CAPTURE

Trimble's Spatial Imaging instruments, the Trimble GX[™] 3D Scanner and Trimble VX[™] Spatial Station, use 3D scanning and traditional surveying techniques to capture accurate positioning data. The resulting datasets capture a target's shape, size and position with survey-grade precision.



Trimble Spatial Imaging provides the rich data required for 3D modeling.



Capture the shape and position of any scene to augment geospatial images and data.



Monitor change in real-time with volume and surface computations.

EXTRACT/ANALYZE



A set of attributes is applied to each point captured, so that point clouds become intelligent images for interpreting data.

Specialized tools automate the interpretation of raw data into information you can see and use. Continuous assets such as pipe lines, power lines or walls are easily identified. Volume measurements are completely automated. Comparison between as-designed and as-built are streamlined. In addition, scenes captured before and after provide precise measurement of change—a key benefit for applications such as stockpile management and urban planning.

DELIVER

Recipients of visual data produced via a Trimble Spatial Imaging solution whether colleague or client—can easily see what the data represents. Information can be shared directly or exported to CAD software for extensive analysis and integration into design specifications.

With such powerful deliverables, the review and approval of jobs is more streamlined, as is decision-making.



Trimble Spatial Imaging solutions communicate complex information in the form of easy-tounderstand visuals.



Whatever your application, Trimble's Spatial Imaging solutions produce traditional and enhanced deliverables such as 2D drawings, 3D as-builts, inspection monitoring, clash detection, and volume/ surface calculations.

SOFTWARE SOLUTIONS FOR SPATIAL IMAGING

In many Spatial Imaging applications, the sheer volume of data can appear overwhelming. Surveyors accustomed to collecting and analyzing hundreds of points now review work with millions of measurements, each with supporting attribute data.

Trimble has designed Spatial Imaging workflows to simplify and speed both data collection and data analysis.

TRIMBLE REALWORKS SURVEY SOFTWARE: COMPREHENSIVE ANALYSIS AND REPORT GENERATION

Trimble RealWorks[®] Survey is the central information processing and analysis application of Trimble Spatial Imaging solutions. Comprehensive and intuitive, Trimble RealWorks Survey combines a powerful set of analytical tools to interpret complex Spatial Imaging data to quickly produce a wide range of reports and calculations.

Trimble RealWorks Survey provides comprehensive software tools to simplify:

- Advanced inspection tools to compare design versus build
- Pre-defined tools for volume and surface calculation
- User-definable profiles for inspection and monitoring
- Fast connection and conversion to industry-standard CAD
- Review, share and communicate your results





DELIVER VISUAL, VALUABLE RESULTS

- 2D Plans and Elevation Drawings Add image overlays or job site photos
- 3D Surface Models Create additional value with image overlays
- 3D Models Provide 3D models in a variety of standard CAD formats
- 2D and 3D Analysis Output Generate 2D cross-section comparisons and 3D as-built analyses
- High-Fidelity 3D Point Clouds Deliver comprehensive 3D data directly to your client
- Share Data with Clients Use collaborative online tools such as Google Earth



Perform multiple inspection tasks with RealWorks Survey's powerful tools: twin surface, surface-to-model, and surface-to-curve. Generate and visualize inspection maps in 2D or 3D using the customizable color bar.

DELIVER DATA IN THE LANGUAGE OF PICTURES

TRIMBLE ACCESS FOR SPATIAL IMAGING

DESIGNED FOR FAST RESULTS

With little or no formal training, surveyors can be up and running in minutes. Trimble Access[™] software streamlines data collection workflows for scanning and 3D calculations. Now, every surveyor can easily operate and manage the workflows and sensors required for precise Spatial Imaging deliverables.

Trimble Access for Spatial Imaging:

- Control data collection with powerful, General Scanning base module
- Connect with optional Streamlined Workflows to further simplify field work
- Export to Trimble RealWorks Survey for comprehensive analysis
- Know the scan is right before you leave the job site and create in-field deliverables

DELIVERABLE-BASED WORKFLOWS

Trimble Access is designed for rapid results in the field for faster deliverable times. Workflows guide crews through the project step-by-step – allowing surveyors to shift focus from managing the field software to executing the job at hand.

With the power to review, edit and create deliverables at the job site, you can even deliver final results to customers from the field.

IN-FIELD QUALITY ASSURANCE

The Trimble Tablet[™] rugged PC is a field controller with a large screen and procesing power to manage large datasets out in the field. Computations such as volumes calculations are possible without a trip back to the office. You can even deliver to the client from on site.

STREAMLINED WORKFLOWS

Trimble Access offers Streamlined Workflows that guide crews through common project types such as Volume Calculations and Digital Terrain Models. These optional modules make data collection fast and simple. And they allow you to focus entirely on the deliverables, not on the software commands for each task along the way.







The rise in demand for geospatial information is driving a world of opportunity. Trimble provides specialized instruments for Spatial Imaging success.

Trimble Spatial Imaging sensors are field-ready instruments designed to capture highly accurate data. Rich collections of geospatial information allow users to identify areas of interest and extract exactly the information they need.

Capture comprehensive imaging and survey-accurate positioning data using one integrated sensor.

Extract the relevant details of complex scenes quickly and easily.

Create ortho-rectified images for fast, accurate measurements.

Deliver compelling results from RealWorks Survey or export to Google Earth (kml format).







TRIMBLE VX SPATIAL STATION

Designed to capture shapes, details, and coordinates, the Trimble VX Spatial Station is an ideal gateway into Spatial Imaging. The instrument is optimized for the acquisition of information using integrated video, scanning and positioning technologies.

The Trimble VX Spatial Station combines standard-resolution 3D scans and digital imaging with survey-precise coordinate measurements and 2D deliverables:

- Intuitive video overlay provides visual cues on screen to speed data collection
- Spinning 115 degrees per second, MagDrive[™] servo movement ensures fast, efficient measuring
- Trimble VISION technology, enhances data deliverables with images captured at the jobsite
- Trimble VX measurements can be complemented with GNSS positioning for more flexibility in the field



CHOICE OF SYSTEMS. A SINGLE VISION

TRIMBLE GX 3D SCANNER



Capable of photo-realistic point-cloud resolution, the Trimble GX 3D Scanner captures detail at the sub-centimeter level, giving you clear visibility into every nuance of a scene. Unsurpassed in applications such as monitoring the evolution of a work site, as-built diagnostics, historic restorations, and crime scene forensics, the Trimble GX provides sophisticated features for total efficiency.

- Trimble SureScan[™] technology allows you to customize the scan density to reduce data collection and analysis time
- Onboard video provides a full panorama of the scene for comparison with the scan itself.
- Real-time true color provides
 realism and accuracy
- When range is a priority, data acquisition can be extended up to 350 m



BUILT FOR SPEED AND ACCURACY

The Trimble GX 3D Scanner provides visual precision in diverse applications such as civil infrastructure, architectural restoration, urban topography, tunneling, quarrying and forensics. The Trimble GX is the high-performance choice for any situation where large amounts of detailed data are required in a short amount of time.



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