Trimble Indoor Mobile Mapping Solution
Enabling high productivity for indoor mapping

The Indoor Mobile Mapping Solution delivers ease-of-use and affordability to mapping of interior spaces. Combined technologies produce fast and accurate maps, enabling users to translate their environments into visual 2D & 3D layouts of structured interiors.
With the Trimble Indoor Mobile Mapping Solution, a simple walk-through of interior space is all that is required to capture indoor spatial data. Indoor maps and models covering thousands of square feet of indoor space can be mapped in minutes, entire buildings can be mapped in a day.

The result is a map – an accurate, real-life representation of the building interior. The map and all its content are geo-located. Their real position in the world is known. Interior maps become an integrated part of more widely acquired regional GIS data bases.

The high productivity of TIMMS makes the indoor map affordable. It enables their use in a multitude of scenarios and applications. The value of building assets on a city, state or country level approaches billions of dollars. The availability of indoor map data on a large scale will change the way the assets are managed. It enables building managers, construction personnel, planners and people with stakes in building assets to more efficiently plan and manage those properties.

**BENEFITS**

- High accuracy with mobility that allows for thorough mapping of interior spaces
- Drastically reduced mapping time, thereby lowering cost
- Optimized management of building resources for multitude of applications
- Complete interior space mapping available for Situational Awareness
- Work flow and complete data processing suite for quick and accurate map production
- Proven Trimble technology
INTERIOR MAPS - 2D and 3D Building Models

Trimble Indoor Mobile Mapping Solution creates an excellent 2D floor plan which contains a level of detail previously unavailable. Every chair, every object in the interior will appear in the floor plan. The floor plan contains exactly what is in the space as compared with conventional floor plans which are drawn by hand. The concept of “as is” takes on a new meaning, because TIMMS derived floor plans are exactly the layout of the interior space. They show exactly the layout of interior space. The 2D floor plans are accurate; precise measurements can be made, distances, angles, areas, and volumes can be exactly computed. Indoor Mobile Mapping 2D floor plans are a snapshot of interior space at a given time. The concept of change detection can be enabled by revisiting the space to see if things have changed. Planners, architects, construction personnel, and building managers will find high value in TIMMS produced floor plans. The Trimble Indoor Mobile Mapping Solution has been specially designed to capture all interior spaces, allowing floor plans to be as complete as possible.

The Trimble Indoor Mobile Mapping Solution is more than a 2D system. All data is acquired for 3D representation and modeling. Data can be rendered in a 3D viewer and the user can be immersed in the interior space. The user can zoom and pan as desired; rotation and perspective changes can be made with mouse clicks and movements. A user can literally fly through interior space.

INDOOR GEO-REFERENCED SPHERICAL CAMERA DATA

The Trimble Indoor Mobile Mapping Solution is optionally equipped with a spherical camera. The camera system cycles once per meter, thereby immersing a building in photographic images. All 360 degree image data is geo-referenced. Situational awareness for building security and event planning is greatly enhanced when the spherical camera data is made available to regional GIS data bases. 360 degree views of any interior space can be controlled by the user, enabling any perspective desired. The user can be immersed in a room and take in the surrounding area much the same way as if they were really there.
WIDE AREA INDOOR MAPPING

The Trimble Indoor Mapping Solution provides the optimal method for obtaining detailed and comprehensive, georeferenced map data for private and public facilities with wide spatial extent.

With the Trimble Indoor Mapping solution it is possible to effectively collect and visualize large indoor spaces which extend over several city blocks. This provides federal, state, city, and private stakeholders a holistic, 3D indoor geospatial view of busy urban areas such as:

- Airports, train stations and other transportation facilities.
- Music halls, theaters, auditoriums and other public event spaces.
- Government buildings.
- High rise office and residential buildings.
- Plant and factory facilities.
- Above and below ground covered pedestrian concourses with platforms, corridors, stair locations and ramps.
- Ingress and egress points.
- Emergency accesses.
- Connections between buildings and building levels.
- Millions of square feet of interior space extending over entire cities.

Deliverables from TIMMS for urban mapping include:

- A 3D LIDAR point cloud that is dimensionally accurate in real-world coordinates.
- A 3D geo-referenced spherical camera data set for the entire captured area.
- A set of in-building floor maps of the captured areas.
- Easy intuitive map access for individual buildings and building spaces.

The result is a comprehensive ‘common operational view’ that enables increased effectiveness in the areas of facility management, public safety and real property issues in and around a complex infrastructure of buildings and surrounding areas. Never before has it been possible to aggregate so much interior urban data in a single view with drill-down capability.

Urban mapping for critical infrastructure such as airports, train stations, government buildings or other or public facilities can be created quickly and cost effectively; enabling managers across organizational departments from capital planning to emergency management personnel, as well as stakeholders such as transportation authorities, to leverage existing enterprise GIS systems and to make more effective decisions.

TRIMBLE, INDUSTRY LEADER

Trimble is a leading provider of advanced positioning and mapping solutions that maximize productivity and enhance profitability.

Though best known for GPS technology, Trimble integrates a wide range of positioning technologies including GPS, laser, optical and inertial technologies with application software, wireless communications, and services to provide complete commercial solutions. Its integrated solutions allow customers to collect, manage and analyze complex information faster and easier, making them more productive, efficient and profitable. Trimble products are used in over 100 countries around the world. Employees in more than 18 countries, coupled with a highly capable network of dealers and distribution partners serve and support our customers.

For over 30 years, Trimble has created unique positioning products that help customers grow their business. Our portfolio includes over 850 patents and serves as the basis for the broadest positioning offerings in the industry. Trimble augments its organic product development with strategic acquisitions to bring the latest positioning technologies to a wider market.
WHO CAN USE INDOOR MAPPING

Owners
Planners
Realtors
Appraisers
Mortgage Bankers
Designers

Engineers
Cost & Quantity Estimators
Specifiers
Contracts & Lawyers

Construction Contractors
Sub-Contractors
Fabricators
Code Officials

Facility Managers
Maintenance & Sustainment
Renovation & Restoration
Disposal & Recycling

Safety & Occupational Health
Environmental & NEPA
Plant Operations
Energy, LEED

Security and Law Enforcement
Network Managers
CIO’s

Military/Special Forces
Risk Management
Occupant Support
First Responders

The Trimble Indoor Mobile Mapping Solution is a highly productive and reliable method to map all interior environments such as public venues (transportation, sporting, etc.), public buildings (hospitals, libraries, police stations, etc.) and all private buildings. Indoor Mapping can enable valuable asset management and targeted use of resources for facilities during all phases of their life cycle. Indoor Mapping can be invaluable for security and event planning to help protect people and property. Accurate information on building layout and physical surroundings enable first responders to react quickly and effectively in emergencies.

Above and Below Ground City Models
photos courtesy of Penbay Solutions
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