Trimble Indoor Mobile Mapping Solution (TIMMS)

THE OPTIMAL FUSION OF TECHNOLOGIES FOR CAPTURING SPATIAL DATA OF INDOOR AND GNSS-DENIED SPACES

TIMMS is a manually operated push-cart designed to accurately model interior spaces without accessing GPS. It consists of 3 core elements: LiDAR and camera systems engineered to work indoors in mobile mode, computers and electronics for completing data acquisition, and data processing workflow for producing final 2D /3D maps and models. The models are "geo-located", meaning the real world position of each area is known.

With TIMMS a walk-through of an interior space delivers full 360 degree coverage. The spatial data is captured and georeferenced in real-time. Thousands of square feet are mapped in minutes, entire buildings in a single day.

TIMMS is ideal for applications such as situational awareness, emergency response, and creating accurate floor plans. All types of infrastructure can be mapped, even those extending over several city blocks:

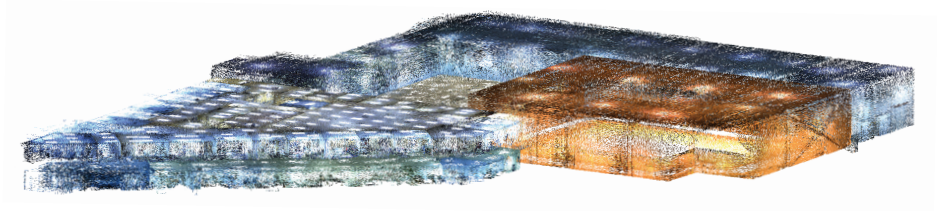
- Plant and factory facilities
- High-rise office, residential, and government buildings
- Airports, train stations and other transportation facilities
- Music halls, theatres, auditoriums and other public event spaces
- Covered pedestrian concourses (above and below ground) with platforms, corridors, stair locations and ramps
- Underground mines and tunnels

YOUR BENEFITS

- High efficiency, accuracy and speed
- Lower data acquisition cost for as-builts
- Reduced infringement on operations

Key Features

- No need for GNSS
- Little or no LiDAR shadowing
- Long-range LiDAR
- Self-contained
- Simple workflow
- Fully customizable
- Use survey control for precise georeferencing



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DATASHEET

Trimble Indoor Mobile Mapping Solution (TIMMS)

TIMMS COMPONENTS

Mobile Unit & Mast
TIMMS aquisition system
- Inertial Measurement Unit (IMU)
- POS Computer System (PCS)
- LiDAR Control Systems (LCS)

One LiDAR
- Maximum range >130m
- Resolution at 10m <5mm
- Resolution at 25m <12mm
- Ranging error ±2mm
- 300° vertical field of view in 0.009° steps
- Max vertical scan speed 97Hz

One spherical camera (6 camera configuration)
- Field of View (FOV) >80% of full sphere
- 2 MegaPixel (MP) per camera
- Six (6) 3.3 mm focal length
- 1 meter/second (Up to 4 FPS)

One operator and logging computer
16 batteries (8 + 8 spare)
2 battery chargers

SOFTWARE COMPONENT

Realtime monitoring and control GUI
Post-processing suite

SYSTEM DELIVERABLE

Georeferenced trajectory in SBET format
Georeferenced point cloud in ASPRS LAS format
Georeferenced spherical imagery in JPEG format
Georeferenced raster 2D floorplan

USER SUPPLIED EQUIPMENT

PC for post processing
- Windows 7 64-Bit OS
- Minimum of 300 GB of disk
- 32 gigabytes of RAM required (64 recommended)

USER SUPPLIED SOFTWARE

Basic LiDAR processing tools: recommended functionality
- LAS import compatible
- Visualization
- Clipping
- Raster to Vector tools (manual and/or automated)

Onboard power
- Up to 4 hours without charge or swap
- Hot swappable for unlimited operational time

Data storage
- 1 TB SSD

Operations
- Nominal data collection speed at 1 meter per second
- Maximum distance between position fix 100 meters

Typical field metrics
- LiDAR point clouds - 1 cm relative to position accuracy*
- Productivity – in excess of 250,000 square feet per day

PHYSICAL DIMENSIONS

Height with mast low.....173 cm
Height with mast high.....221 cm
Distance to wheel with mast low (front to back).....80 cm
Distance to wheel with mast high (front to back).....88 cm
Distance between wheels (outside surface of wheels).....51 cm
Weight.....109 lb or 49.5 kg

*rms derived by comparison of TIMMS with static laser scan, results may vary according to building configuration and trajectory chosen.

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