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1.866.726.2676

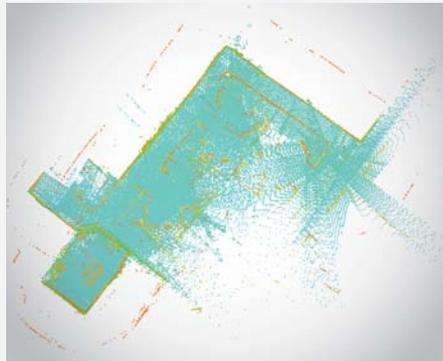
Sanborn Platform for Indoor Mapping

Semi-Autonomous Mobile Robotic Platform for Indoor Mapping Applications.

The Sanborn Platform for Indoor Mapping (SPIN) is a semi-autonomous mobile robotic platform designed exclusively for indoor mapping applications. By utilizing the recent advances made in a variety of 3D technologies including laser scanning, photogrammetry and computer vision, and the state-of-the-art approaches used in robotics, SPIN is a leap forward in accurately mapping the building interiors. SPIN is a compact, easy-to-operate and self-navigating system which generates pre-registered spatial data almost in real-time.

Features:

- Generates 2D floor plans and 3D models of unknown environments
- Requires no pre-planned trajectory
- Can avoid obstacles (including people) in real time without human intervention
- No targets required in the scene
- Processing time for 2D floor layout: approximately 1x scanning time
- Processing time for 3D point cloud processing: approximately 2.5x scanning time
- Combines two LiDAR sensors with onboard 3-axis digital gyroscope, odometer and an integrated depth camera to provide highly accurate 3D models of the scene.



Why SPIN Mapping?

Indoor office/residential environments pose unique challenges for laser scanning using traditional static (tripod-based) systems, owing to the problems of occlusion and added survey times, leading to increased costs. SPIN, however, uses state-of-the-art LiDAR-based simultaneous localization and mapping (SLAM) algorithms for real-time mapping of the environment and keeping track of the pose and position of the system in a local coordinate system. This then can be exported to global coordinates by using triangulation surveying approaches.

The SPIN survey solution is designed to collect engineering/survey grade LiDAR data in indoor building environments that are time- and resource-consuming with static LiDAR sensor platforms, but require an accuracy and resolution that meets the deliverables available through current scanning technologies.

► For more information about SPIN Products and Services, contact us by email at: information@sanborn.com and a Sanborn representative will be in touch.



Safety—Collection at speeds slower than average human walking speeds and real time detection of obstacles (humans and environment features) while maintaining a Class 1 Eye Safety Rating makes it safe for indoor environments. Human joystick override available for emergency situations.

Collection Efficiency—The system navigates in interior and close quarter environments autonomously and is faster by up to 20x than static scanning platforms.



Accurate Positional Processing—The system integrates survey control, IMU data and positional information from LiDAR-based SLAM approaches.

3D Visualization Excellence—On board LiDAR scanners provide more accurate, detailed 3D capture of structures and interior features than comparable integrated depth camera-based approaches.

End-to-end Mapping Solution—The indoor mapping platform product complements Sanborn's outdoor aerial and mobile scanner solutions seamlessly to provide a comprehensive 3D model for any project site.

Product Delivery—SPIN leverages the latest in LiDAR-based SLAM innovation to collect survey-grade LiDAR data at more than 43,200 measurements per second with a 270° FOV. Deliverable in standard formats (LAS, ASCII and BIN), SPIN data provides better than 3cm accuracy and resolutions of up to 1cm offering unprecedented 3D detail from a platform moving at speeds up to 50 cm/s.

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A History of Innovation

The Sanborn name is synonymous with high quality mapping and GIS services. Our team of mapping and GIS professionals has decades of experience in all facets of the industry, proven project management skills, and expertise with many data collection and processing technologies, database systems and GIS platforms. In all aspects, Sanborn provides innovative solutions and quality service to customers worldwide.

Sanborn is a pioneer in mobile mapping technology with experience dating back to 2001. Using the video inertial satellite (VISAT) video capture and GPS/IMU technology, Sanborn has created maps that capture both visually and positionally accurate roads, infrastructure, and other assets. Sanborn is an industry leader in aerial mapping, LiDAR collection and processing, and continues to move forward with mobile mapping technologies for both indoor and outdoor environments.

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