

## **Simultaneous Localization and Mapping - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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### **Report description:**

The Simultaneous Localization and Mapping Market is expected to register a CAGR of 26.78% during the forecast period.

#### Key Highlights

- SLAM Technology has been used in mobile robots and terrestrial vehicles, but it has the potential to be extended to spacecraft. AstroSLAM, a SLAM-based algorithm, was recently developed by the Georgia Institute of Technology (Georgia Tech) and the NASA Goddard Space Flight Center. Applying this algorithm will boost the autonomy of the spacecraft's navigation.
- SLAM estimates sequential movement and leaves scope for marginal errors that may distort the map data, making subsequent searches difficult. Executing computationally intensive processing on embedded microcomputers involves high computational costs. Such challenges are restraining the growth of this market.
- Covid-19 impacted different business sectors worldwide, and software development was no exception. Burgeoning inflation and cost-cutting enabled various industries to hold on to any non-essential investment. Despite these challenges, companies realized the necessity of AI to fight against extreme conditions. The epidemic accelerated digital transformation, and robotic equipment demand increased afterward. The dog-like robot was trending on social media, patrolling a Shanghai community and making health announcements. Service robots with similar functions and features are being used in different sectors to replace expensive or lack of labor.

Simultaneous Localization and Mapping Market Trends

UAVs and Robots Will Experience Significant Growth in the Market

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- Commercial drone technology is increasingly used to address long-standing business issues that most people have never considered. SLAM is a potential technique for object detection and scene perception to enable UAV navigation. According to a report by Drone Industry Insights, the drone market is estimated to reach 55.8 billion USD by 2030.
- December 2022 - FFRobotics gave the twelve telescopic arms of each harvester a flexible "wrist" to let the three-fingered grippers fit each apple more evenly. The business asserts that it can pick eight to ten times more effectively than a person. FFRobotics will eventually use the same machine for thinning, pruning, and pollination, but with different end effects.
- July 2022 - Microsoft has introduced a platform for artificial intelligence (AI) training in autonomous aircraft. Project AirSim is a drone flight simulator companies can use for training and software development. It permits test flights over areas that would be too risky in real life, like those close to power lines.

#### North America is Expected to Experience Significant Growth

- According to an Association for Advancing Automation report, North American companies ordered 44,196 robots valued at USD 2.38 billion in 2022. The automotive industry was the highest contributor to the robotic sales market, with a 50% share. There were approximately 23807 orders for robots from Automotive Sector. Auto manufacturers' aggressive planning to switch to electric vehicles (EVs) has sparked a spike in demand for robots in this market.
- To stay up with the evolving ecology, grocery stores in North America dramatically boosted their capital expenditures. To improve user experience, grocery stores invest in e-commerce capabilities and sign contracts with software firms. Google and Albertsons have collaborated to provide in-store shoppable maps with dynamic hyperlocal features, conversational commerce driven by AI, and predictive grocery list-making.
- Nextech AR, a leader in Metaverse, announced the adoption of LiDAR technology to produce incredibly precise meshes for the company's metaverse spatial mapping software. By switching to LiDAR technology, ARway, the no-code spatial computing platform, will provide high-quality meshes and spatial mapping solutions, paving the way for ARway to assume the top spot in the market for wayfinding and spatial computing, which is quickly expanding.

#### Simultaneous Localization and Mapping Industry Overview

Due to numerous companies, Simultaneous Localization & Mapping Market is highly competitive. To diversify their product offerings, broaden their geographic reach, and ultimately maintain their competitiveness in the market, the businesses are implementing methods including product innovation, mergers, and acquisitions. Amazon Robotics, Google LLC, Microsoft Inc, and Clear Path Robotics are some of the leaders in this market.

- February 2023 - Microsoft develops OpenAI's new AI language model called ChatGPT. A skilled technician is required to operate a robot as robots follow complex programming applications. Users won't need to learn complex programming languages or specifics about robotic systems while using ChatGPT for instructing robots.
- September 2022 - Cloostermans, a technology manufacturer for warehouses based in Belgium, was acquired by Amazon. Compared to facilities without automation, Amazon's warehouses with robots have higher injury rates. Cloostermans, which take care of or repair services for industrial machines, can help Amazon with its repair skills. About 200 employees from Cloostermans will join the Amazon team.
- July 2022 - Asensus Surgical signed a deal with Google Cloud. The Asensus surgical robot platform will incorporate machine learning and secure cloud data architecture from Google Cloud through this deal. Asensus has always remained at the forefront of developing digital surgical capabilities to give surgeons cutting-edge, clinically intelligent intraoperative digital tools. This

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collaboration will improve clinical performance data collection and apply augmented intelligence capabilities to provide clinical insight resulting in consistently better patient outcomes.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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