Logistics Automation Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Logistics Automation Market is expected to register a CAGR of 11.7% during the forecast period. Automation in logistics is called the use of machinery, control systems, and software to enhance the efficiency of operations. It usually applies to the processes performed in a warehouse or distribution center, which requires minimal human intervention. Some of the benefits of automation logistics include improved customer service, scalability and speed, organizational control, and reduction of mistakes.

Key Highlights
The growth in the e-commerce industry and the need for efficient warehousing and inventory management worldwide are driving the market. For instance, The U.S. retail e-commerce sales for the second quarter of 2022 were USD 257.3 billion, up 2.7% from the first quarter of 2022, according to the Census Bureau of the Department of Commerce. Moreover, according to IBEF, the Indian e-commerce market is expected to flourish from USD 38.5 billion in 2017 to USD 200 billion by 2026.
Automation for warehouses offers superior convenience regarding cost-cutting for the overall business and helps minimize minute errors in product deliveries. According to Dalsey, Hillblom, and Lynn, a prominent 3PL company and a significant end-user of warehouse automation solutions, about 80% of warehouses "still ma "usually operate with no supporting automation" despite "the advantages. Furthermore, warehouses that use sorters, conveyors, and pick and place solutions, among other equipment (not necessarily automated), account for 15% of the total warehouses. In contrast, only 5% of the current warehouses are automated.
According to the Bank of America, by 2025, 45% of all manufacturing is likely to be performed by robotic technology. Following this trend, large firms, such as Raymond Limited (an Indian textile major) and Foxconn Technology (a China-based supplier for large technology manufacturers like Samsung), have replaced (or plan to replace) 10,000 and 60,000 workers, respectively, by incorporating automated technology into their factories. These factors have directly impacted the increasing adoption of warehouse robotics.
With high upfront costs, the long duration to achieve an ROI has been limiting the mass adoption of automation solutions.

Developing economies such as China and India have been representative of labor-intensive formats. With low costs , an investment of a million dollars for a single system with additional staff training has been restraining the same. The issues pertaining to cost and return on investment (ROI) also affect the investments from multiple small and medium-sized businesses (SMBs). These have been slow to adopt robotics, as per Nancey Green Leigh, who is a Georgia Tech professor at a National Science Foundation-funded project called "Workers, Firms, and Industries in Robotics.
The COVID-19 pandemic led warehouse operators to consider accelerating their timelines to adopt automation and robotics. Those who have successfully deployed also depicted the creation of safer workplaces by reducing interactions among workers by simultaneously enhancing productivity to meet increasing demands for e-commerce.

Logistics Automation Market Trends

Mobile Robots Segment to Witness Significant Growth

The primary usage of logistics robots is the usage of mobile AGVs (automated guided vehicles) in warehouses and storage facilities to transport goods. These robots operate in predefined pathways by moving products for shipping and storage. AGVs play an essential role in decreasing the cost of logistics and streamlining the supply chain.
AGVs are also used in inbound and outbound handling for replenishment and picking. For example, AGVs transport inventory from receiving or long-term storage locations to forward-picking locations to replenish stock. Moving inventory from long-term storage to forward-picking locations ensures that adequate inventory is accessible to pickers, making the order-picking process more efficient.
Autonomous mobile robots (AMRs) differ from AGVs by their degree of autonomy. Robotics for distribution centers (DCs), such as autonomous mobile robots (AMRs) and collaborative picking arms, are increasing rapidly, with well over a dozen robotics vendors aiming at the needs of distribution center operators.
According to Kion Group, Over 2.3 million orders for material handling equipment were placed globally in 2021, an increase of more than 42%. Asia-Pacific was the area to report rising orders in 2021, with little over one million units. Between 2018 and 2021, demand in the area increased by more than 66%. Such a rise in material handling equipment orders will significantly drive the studied market.
In addition to warehouse management software, mobile robots utilize blueprints, sensors, AI, and vision algorithms to adapt to the warehouse environment and work with diverse totes and shelves. One of the most famous instances is mobile robots manufactured by the United States-based Vecna Robotics. The robots may take input from many different sensors and fuse it to understand where they are and how they may execute their tasking: this is also known as autonomy stack.

Asia Pacific Expected to Witness Significant Growth

The warehouse automation sector in Asia Pacific's developing economies poses a key advantage in implementing automation since they are not troubled with rebuilding legacy automation systems and machine investments, further helping the logistic automation market grow.
Manufacturing serves as a major industry in the Asia Pacific. With China's economy being a significant contributor, it is undergoing a rapid transformation as labor costs have risen and the conventional model of migrant workers has lost sustainability. Further, the Chinese government's ambitious 'Made in China 2025' initiative, partially inspired by Germany, for Industry 4.0 aims to boost the country's competitiveness in the manufacturing sector.
Moreover, an increase in infrastructure investment by the government and investments from industries coupled with the 'Make in India' initiative is expected to drive AMH systems' demand. The Government of India aims to increase the manufacturing sector's

share of the gross domestic product (GDP) to 25% by 2022, from 17% in 2018. Thus, manufacturers are expected to incorporate Industry 4.0 and other digital technologies to achieve this target.
Additionally, the shortage of labor in Japan further drives the adoption of robotics in the manufacturing sector. Within the manufacturing sector, the food industry is also starting to adopt robots in response to labor shortages, and logistics is a very promising sector and one that has already started to automate through robots.
Furthermore, the growing e-commerce in Australia may continue to drive the industry and boost sales. Australian warehouses are already getting used to the influx of orders. The industry will likely face more individual orders than conventional bulk orders. Owing to the increase in sales and business growth, warehouses are expected to expand and hire more people. The country is adopting modern technology and implementing more automated processes to help fulfill orders more quickly. According to the International Trade Association, Australia is the world's eleventh-largest e-commerce market, with revenue expected to reach USD 25.7 billion in 2020 and USD 32.3 billion by 2024.

Logistics Automation Market Competitor Analysis

The Logistics Automation Market is moderately competitive, with many regional and global players. Players in the market adopt strategies such as product innovation, partnerships, mergers, and acquisitions to increase their market share.

In October 2022 - Vanderlande debuted Auto Induct, a new robot picking solution, at the Parcel+Post Expo 2022 in Frankfurt, Germany. Auto Induct, created in collaboration with machine builder and robotics expert AWL, enables the robotic picking of small items from a large flow of parcels.

In July 2022 - BEUMER launched the BG Line Sorter and BG Pouch System to the North American region, which uses next-generation technology to deliver unparalleled flexibility and scalability for mid-size-volume operations and to mitigate rising demand for e-commerce organizations. The BG Line Sorter solution broadens the handling mix of the parcel and material handling operations by allowing them to sort the broadest range of items possible while utilizing a modular design to ensure flexibility and optimize space use.

In April 2022 - Dematic announced plans to boost warehouse automation for Fonterra, New Zealand's leading dairy cooperative, at its critical manufacturing facility in Edendale, with the delivery of unique automated guided vehicles (AGVs). The latest AGVs feature Dematic software that enhances useability and will allow Fonterra to better control operations throughout the facility.

Additional Benefits:

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

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