

AGV - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 120 pages | Mordor Intelligence

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Report description:

The AGV Market size is estimated at USD 5.56 billion in 2024, and is expected to reach USD 8.27 billion by 2029, growing at a CAGR of 8.25% during the forecast period (2024-2029).

Key Highlights

- Rising technological advancements, increased demand for automation in industries, increased demand for robots in manufacturing and warehousing facilities, and growing emerging markets are just a few of the key factors driving the growth of Automated Guided Vehicle.
- The automotive industry is increasingly incorporating automation and AGVs into its manufacturing floors. For instance, the SEAT plant in Martorell, Spain, is transforming into a digitalized and smart factory. The company implemented AGVs with SLAM navigation, 4G connectivity, and induction battery charging. The facility has eight AGVs for outdoor operation and over 200 AGVs that deliver parts inside the assembly workshops at the Martorell and Barcelona factories.
- Several key players in the market are integrating their hardware equipment with navigational software to offer high efficiency. For instance, Toyota, a company offering Wire, RFIS, and Tape AGVs alongside Laser AGVs, introduced two AGVs in partnership with Bastian Solutions that use Autonomous Navigation Technology software from BlueBotics, which acts like an operating system for autonomous mobile robots or automated guided vehicles.
- Moreover, companies providing system interfaces and AGV system components are collaborating for advancement in technology. For instance, in April 2022, Gideon Robotics announced Trey, an autonomous forklift that can load and unload pallets from truck trailers. Gideon Robotics claimed that it could save 80% of a worker's time and operate consistently, safely, and reliably in dynamic environments, working side by side with people.
- Further, in October 2022, Wisconsin-based material handling equipment company Big Joe Forklifts launched an autonomous equipment division focused on providing simple, low-priced robotic AGV forklift solutions.

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- The continuously increasing R&D expenditure and the rising number of production establishments worldwide are driving the demand for automation worldwide in mid-range industries, especially in the healthcare and pharmaceutical sectors.
- Furthermore, with workers quarantined worldwide, large industrial buildings, such as factories or warehouses that transport heavy materials manually, have experienced a halt situation, thus severely impacting the global supply chain. DHL reported that only 5-10% of the fulfillment centers in the United States were using automated picking already. The COVID-19 crisis was another reason to automate warehouses, which might drive quicker adoption in the coming years.

Automated Guided Vehicles Market Trends

Rapid Growth of E-commerce Demanding Higher Efficiency

- Despite growth in the manufacturing industry, considerable demand from the warehousing and logistics sector is dedicated to e-commerce activity. Furthermore, the Canadian warehouse portfolio majorly comprises e-commerce, which is estimated to make up more than 50% of the warehouse business in the country.
- The deployment of AGVs provides an opportunity for different areas in e-commerce. Specifically, the AGVs are suited for fulfillment operations involving large quantities of small orders for large SKU ranges spread across large warehouse areas. Using autonomous robots to perform horizontal traveling can increase order fulfillment efficiency.
- With the introduction of always-on e-commerce, the demand for faster responses, and the need to manage a more significant number of stock-keeping units with fewer errors, warehouses need to scale up and meet the standards of an intelligent, efficient, and automated warehouse. Such increasing globalization and the rise of online retail and bulk retail have increased demand for AGVs in the retail industry.
- The rising demand for e-commerce companies to cater to the increasing number of single-day delivery orders, both in advanced and emerging economies, has resulted in a significant increase in efficiency owing to the commercial viability of these schemes. E-commerce warehouses carry out the single-day delivery method with the aid of AGVs. According to the IBEF, India has significant potential in the e-commerce industry. The market value of India's e-commerce industry is growing at an exponential rate, and it is expected to reach USD 350 billion by 2030.
- According to the U.S. Census Bureau, retail e-commerce sales in the United States totaled nearly USD 269.5 billion from April to June 2023, representing a 6.6 percent increase over the previous quarter. The rapidly changing retail market compels distribution centers to seek out and implement innovative, flexible, and automated approaches to e-commerce order fulfillment. Such a rise in e-commerce purchases will push companies to deploy automated material handling equipment in their operation process to enhance smooth workflow.
- Moreover, supply chains began using AGVs in distribution centers in response to increased e-commerce demand, allowing industries to function at high productivity. AGVs' use has expanded in sectors like pharmaceuticals to keep up with demand and maintain sanitation. AGVs were utilized by hospitals and other healthcare facilities to undertake the contactless transfer of food, trash bins, linens, and sterile supplies.

Asia-Pacific is expected to Witness a Significant Growth

- Asia-Pacific is the world's largest AGV consumer. Because of the fragmented market, it is easy to find affordable automation services. Also, the increased production in the automobile sector is driving up demand for AGVs in this region.
- In China, the market is primarily driven by the proliferating manufacturing industry of the country. China has the largest manufacturing industry in the world, and the sector is also a key contributor to the country's economic growth. As per the State Council Information Office of China, the country accounted for 27.7% of the global manufacturing output in 2022, marking a

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significant increase from 22.5% in 2012, with the industry growing bigger and stronger in recent times.

- Moreover, China is a major adopter of Industry 4.0, and the region is home to some of the most advanced manufacturing facilities in the world, ahead of regions like the European Union, the United States, and Japan. For instance, according to the World Economic Forum, of the 69 factories around the world now considered leaders using Industry 4.0 technologies, China is now home to 20, followed by 19 in the European Union, 7 in the United States, and 5 in Japan. Besides being the foundation for plant-wide automation, the automated storage and retrieval system also serves as a foundation for Industry 4.0.

- Moreover, with the increasing e-commerce demand in emerging countries, such as India, China, and neighboring countries, e-commerce companies have significantly been deploying AGVs at warehouses. According to the IBEF, India's e-commerce market is anticipated to be worth USD 350 billion by 2030. Furthermore, India's e-commerce market is expected to reach USD 220 billion in gross merchandise value (GMV), and there are expected to be about 530 million shoppers by 2025.

- In addition, universities in Thailand are collaborating with manufacturing plants to deliver Automated Guided Vehicles (AGVs). For instance, the Sirindhorn International Thai-German School of Engineering (TGGS) recently collaborated with the BMW Manufacturing plant in Rayong, Thailand. The project began with a vision from BMW for using AGVs that automatically carry heavy parts in the production line. A tailor-made AGV was developed by the university research team that exactly fits into the production process requirements while keeping the investment cost reasonably economical compared to imported solutions.

Automated Guided Vehicles Industry Overview

The global automated guided vehicle is moderately fragmented due to many automatic guided vehicle (AGV) market players. Factors such as digital transformation and the advent of integrated Industry 4.0 with IoT deliver considerable growth prospects to automated guided vehicle industries. Key players are Amerden Inc., Swisslog Holding, SSI Schaefer Systems International DWC LLC, etc.

In May 2023, ResGreen International Inc. introduced a new bidirectional BigBuddy, one of the most robust AGVs in the industry that uses magnetic tape to move loads up to 5,000 pounds. The new product expands the company's portfolio of AMRs and AGVs with its full-reversing capability, high-load capacity, and modular design.

In March 2023, Rocla AGV, a Finland-based company, launched a new, agile AGV, an automated compact truck designed to lift heavy loads in narrow spaces. ACT is handy to operate between warehouse and production or inbound and outbound areas.

In October 2022, Daifuku announced the opening of a new manufacturing plant where the plant will combine the operation of existing facilities in Harbor Springs, Pellston, and Boyne City. In the new factory, all Webb baggage handling equipment was to be manufactured, such as luggage carousels, mobile inspection tables, and automatic screening areas. Moreover, it would produce Webb's entire line of AGVs and SmartCarts. The building, in order to make room for future manufacturing expansion within 65,000 square meters of space, included an AGV testing area and conference rooms.

In September 2022, Addverb Technologies announced the development of a new Center of Excellence for Advanced Robotics Research and Development in California. The center was to focus on developing platforms for autonomous mobile robotics and automated guided vehicles, as well as advanced algorithms for human-machine collaboration and biomedical robotics.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
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