Automated Guided Vehicle (Agv) Market - Growth, Trends, Covid-19 Impact and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License $4750.00
- Team License (1-7 Users) $5250.00
- Site License $6500.00
- Corporate License $8750.00

Report description:

Key Highlights
The automated guided vehicle market is expected to register a CAGR of 31.4% during the forecast period. 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 studied 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. Furthermore, in February 2021, SafeLog launched warehouse robots in Europe that can operate individually or in a "swarm". It also offers automated guided vehicle solutions that do not need a control station connection. The company adds that the latest model of the SafeLog AGV L1 lifts loads of up to 1500 kg.
In December 2021, GWC, Qatar's logistics, and supply chain solutions provider, and GAUSSIN, a significant company in clean and smart freight transport, formed a partnership to test Gaussin's zero-emission electric tractors and yard automation solutions in several GWC warehouses, including GWC Al WukairLogistic Park in Qatar.
Moreover, companies providing system interfaces and AGV system components are collaborating for advancement in technology. For instance, in August 2021, Quanergy Systems Inc. partnered with industrial automation distributor Power Motion, a provider of OPA-based solid-state LiDAR sensors and smart 3D solutions for automotive and IoT. This partnership enables the delivery of 2D

and 3D LiDAR solutions applicable for industrial automation applications such as automated guided vehicles (AGV), mobile robots, and forklifts throughout the South-Central United States.
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. In November 2021, as a trial project for Swissport's new air cargo terminal in Frankfurt, LodigeIndustries, a prominent supplier of air cargo terminal equipment, is supplying its first Automated Guided Vehicle (AGV). The 10ft AGV is designed to transport a range of ULDs, including 15ft containers, and can replace human transport of ULDs by Slave Pallet Mover or other ground handling equipment, with a load capacity of 6,800 kg.
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. It also noted that the COVID-19 crisis is another reason to automate warehouses, which may drive quicker adoption in the coming years.

Automated Guided Vehicle (AGV) Market Trends

Rapid Growth of E-commerce Demanding Higher Efficency

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 seem 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 was approximately USD 84 billion in 2021, 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 250 billion from January to March 2022, representing a 2.4% 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.
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. 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. Such a rise in e-commerce purchases will push companies to deploy automated material handling equipment in their operation process to enhance smooth workflow.

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, and also, the increased production in the automobile sector is driving up demand for AGVs in this region.
In December 2021, the KION Group established a new forklift truck manufacturing in Jinan, China. Jinan is the fifth-largest production site in China for the KION Group. Industrial vehicles from KION's Linde Material Handling and Baolibrands are likely to be constructed in the future on a 2,400,000-square-foot site, which is roughly comparable to over 31 soccer fields.
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 carries 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.
Furthermore, in October 2021, BlueBotics, a provider of natural navigation technology for automated guided vehicles (AGVs) and autonomous mobile robots (AMRs), signed a distribution agreement with Thailand'sThailand's Planet T & S Co. Ltd. to expand its Asian reach. Planet T & S was a BlueBoticsnavigation customer before embarking on this distribution arrangement. As a result, the company has assembled several ANT-driven AGVs that it presently offers in Thailand.

Automated Guided Vehicle (AGV) Market Competitor Analysis

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 December 2021, Lotus Cars Ltd introduced AGVs, robots, and other cutting-edge automation, such as assembly lines, to increase flexibility and productivity. It combined manufacturing aluminum chassis and steel subassemblies into a single facility to reduce production downtime and improve operational efficiency.

In April 2021, JBT introduced the Warehouse Freezer AGV, which can operate from -10?F to 110?F. The automated guided vehicle (AGV) can lift 2,500 pounds and has a three-stage hydraulic mast with integrated side shift and tilt. It also has a variety of lift heights ranging from 357 inches (or less) to 422 inches (or more) to the top of its forks. The Warehouse Freezer AGV can even travel bidirectionally at up to 5.9 feet per second and has an 11.5-foot minimum aisle width. It also has a 48 VDC battery and two lift rates of 10 and 11 inches per second for lowering and expanding. The freezer is the 'last frontier' for Automated Guided Vehicle as a food machinery company element.

Additional Benefits:

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

Table of Contents:

1 INTRODUCTION

1.1 Study Assumptions and Market Definition
1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET INSIGHT?
4.1 Market Overview
4.2 Industry Value Chain Analysis
4.3 Industry Attractiveness - Porter's Five Forces Analysis
4.3.1 Bargaining Power of Suppliers
4.3.2 Bargaining Power of Consumers
4.3.3 Threat of New Entrants
4.3.4 Intensity of Competitive Rivalry
4.3.5 Impact of COVID-19 on the Market

5 MARKET DYNAMICS

6 Market Drivers
6.1 Rapid Growth of E-commerce Demanding Higher Efficiency
6.2 Increasing Investments in Technology and Robotics

7 Market Restraints
7.1 Limitation of Real-Time Wireless Control Due to Communication Delays

8 MARKET SEGMENTATION
8.1 By Product Type
8.1.1 Automated Fork Lift
8.1.2 Automated Tow/Tractor/Tugs
8.1.3 Unit Load
8.1.4 Assembly Line
8.1.5 Special Purpose
8.2 By End User Industry
8.2.1 Food & Beverage
8.2.2 Automotive
8.2.3 Retail
8.2.4 Electronics & Electrical
8.2.5 General Manufacturing
8.2.6 Pharmaceuticals
8.2.7 Other End User Industries
8.3 By Geography
8.3.1 North America
8.3.2 Europe
8.3.3 Asia Pacific
8.3.4 Latin America
8.3.5 Middle East & Africa

9 COMPETITIVE LANDSCAPE
9.1 Company Profiles
9.1.1 KUKA AG
9.1.2 Jungheinrich AG
9.1.3 Murata Machinery Ltd
9.1.4 Daifuku Co. Ltd
9.1.5 SSI Schaefer Systems International DWC LLC
9.1.6 Swisslog Holding
9.1.7 Dematic Corp.
9.1.8 Toyota Material Handling
9.1.9 Scott Technology Limited
9.1.10 John Bean Technologies (JBT) Corporation
9.1.11 Systems Logistics SPA
9.1.12 Seegrid Corporation

10 INVESTMENT ANALYSIS

11 FUTURE OF THE MARKET

Automated Guided Vehicle (Agv) Market - Growth, Trends, Covid-19 Impact and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$4750.00
	Team License (1-7 Users)	$5250.00
	Site License	$6500.00
	Corporate License	$8750.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-03-05
		Signature