Logistics Automation

Market Scenario and Competitive Landscape

A CURA DI

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Disclaimer

Introduction and Methodology

"Market Scenario" is a customized and organized analysis to gather information about target markets and competitive landscape in a particular sector.

"Market Scenario" provides relevant information to identify and analyze market needs, market size and competition in the fields of interest of the customer. A technology or a product developed by the customer can be characterized according to the sectors and potentiality of application, target market, competitive advantages and potential partners of the technology. The analysis is performed with the application of technology and business intelligence tools. The research in the information providers is usually based on the use of keywords or by thematic area, according to the specific topic of interest.

The results of the assessment are data about the target or global market potential, market value and applicability of the technologies or products developed by the customer, the trends of the market of interest, the segmentation of the market (e.g., by application, geography or indication), the supply chain and the competitive advantages of products or technologies, the key players active in the market of interest and the possible direct or indirect competitors of the customer.

Context

This report provides an overview of the **logistics automation market**, with reference to the trend and dynamics in the period 2024 – 2029, to the market segmentations by offering, by technology, by end user and by region and to the competitive landscape in the field, especially at the European level.

1   Logistics Automation

Logistics automation is the application of automated machinery to improve the efficiency of logistics operations. The various functions of logistics automation include integrating information, transportation, inventory, and warehouse management, as well as material handling and packaging of goods.

Logistics automation is an essential part of **supply chain management**; it helps plan, implement, and control the forward and reverse flow of goods, services, and related information between the point of origin and the point of consumption. Global supply chain issues have disrupted the pace of change in logistics in recent years. Although cost control and maximizing revenue are often the primary goals for implementing a logistics automation system, businesses are adopting logistics automation solutions and services to reduce operational costs by ensuring the most efficient decisions are made throughout a process, from efficient courier routing to choosing the most cost-effective carrier. Organizations also adopt logistics automation solutions and services to increase productivity and operational performance.

The **logistics industry** is transforming rapidly, and organizations are exploring new ways to automate logistics functions to improve operational efficiency. Companies in the e-commerce sector adopt logistics automation solutions to enhance order fulfillment, ensure efficient management of supply chain operations, reduce costs, and improve customer experience. With advancements in **Internet of Things** (IoT) technology, a huge amount of data is generated, collected, processed, and shared with other connected systems through various networking devices, such as gateways, Radio Frequency Identification (RFID), and sensors. Similarly, **robotics** represents the next level of technology in distribution warehouses working beyond the material handling automation solutions, such as conveyors, sorters, goods-to-picker solutions, and other mechanized equipment to improve productivity.

1.1 Global Market and Market Dynamics
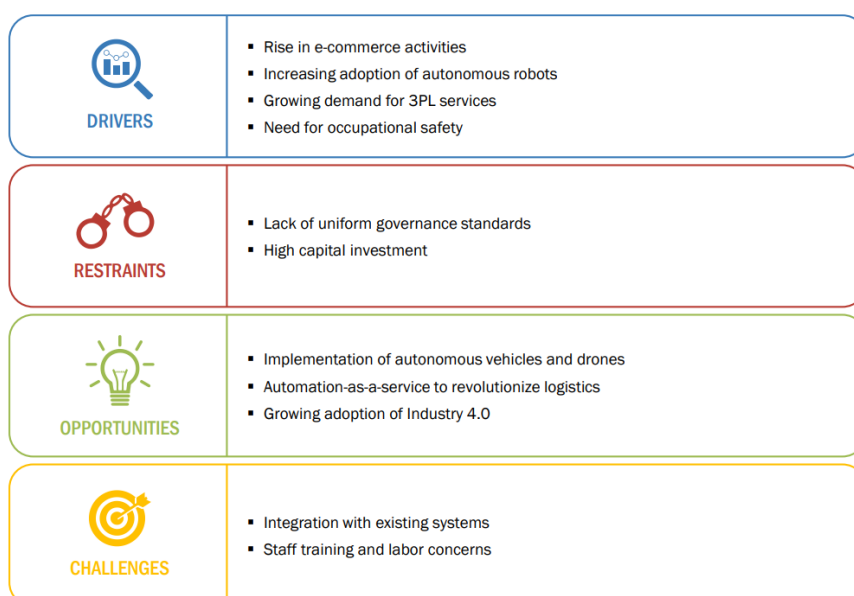
The **global logistics automation market** is expected to reach the value of USD 52,525.9 million by 2029, growing at a Compound Annual Growth Rate (CAGR) of 8.4% in the period 2024 – 2029 (Figure 1).

Figure 1. Global Logistics Automation Market, in the Period 2024 - 2029

35,139.0 USD MILLION 2024

52,525.9 USD MILLION 2029

CAGR of 8.4%

The global logistics automation market size is expected to be USD 52,525.9 million by 2029, growing at a CAGR of 8.4% during the forecast period.

The growth of the logistics automation market can be attributed to the exponential growth in the e-commerce industry, emergence of IoT, advancements in robotics, and need to ensure workforce safety.

The adoption of autonomous vehicles and drones and the increasing adoption of Industry 4.0 are expected to offer growth opportunities for the market during the forecast period.

The surge in e-commerce, accelerated by consumer expectations for fast, reliable deliveries, has led to increased pressure on supply chains to automate and optimize processes.

Agreements, collaborations, partnerships, and product launches would offer lucrative opportunities for market players in the next five years.

The highest CAGR of the Asia Pacific logistics automation market can be attributed to the rising construction and industrial activities supported by various government initiatives.

The logistics automation market is projected to witness significant **growth** during the forecast period, primarily driven by the exponential growth of the e-commerce industry, advancements in robotics, growing demand for 3PL services, and the emergence of IoT (Figure 2). However, the high capital investment required to deploy logistics solutions and the lack of uniform governance standards are **restraining** the growth of the logistics automation market. The emergence of driverless vehicles and drones also plays a vital role in automating logistics processes and providing lucrative growth **opportunities** to logistics automation solutions vendors.

Figure 2. Logistics Automation Market: Drivers, Restraints, Opportunities and Challenges

DRIVERS
- Rise in e-commerce activities
- Increasing adoption of autonomous robots
- Growing demand for 3PL services
- Need for occupational safety

RESTRAINTS
- Lack of uniform governance standards
- High capital investment

OPPORTUNITIES
- Implementation of autonomous vehicles and drones
- Automation-as-a-service to revolutionize logistics
- Growing adoption of Industry 4.0

CHALLENGES
- Integration with existing systems
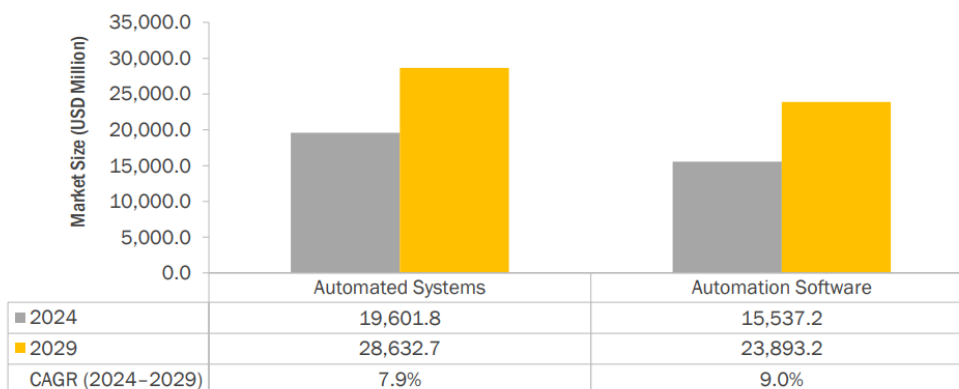- Staff training and labor concerns

1.2   Market Segmentation by Offering

The logistics automation industry is rapidly developing due to the growing demand for effectiveness and precision in supply chain functions. This market can be divided into segments based on various offerings that improve operational abilities, specifically grouped into: **automated systems** and **automation software** (Figure 3). Every one of these options is vital in converting conventional logistics procedures into efficient, automated resolutions that can adjust to the changing requirements of contemporary business.

Automated systems comprise various hardware solutions created to make handling and transporting goods easier in logistics settings. Some of these systems consist of autonomous mobile robots (AMRs), automated guided vehicles (AGVs), and automated storage and retrieval systems (AS/RS). By combining these cutting-edge technologies, businesses can greatly decrease the need for manual work, improve productivity, and streamline inventory control.

Automation software focuses on the digital aspects of logistics, offering tools for managing and analyzing inventory, orders, and transportation data. This software is vital for allowing immediate decision-making and enhancing general operational visibility. The deployment mode of software relates to how these solutions are implemented, with choices such as cloud-based systems for flexibility and scalability, or on-premises solutions for more control over data and processes. These services provide a complete strategy for automating logistics and tackling the different operational hurdles businesses currently encounter.

**Figure 3. Logistics Automation Market, by Offering, in the Period 2024 - 2029**

	Automated Systems	Automation Software
■ 2024	19,601.8	15,537.2
■ 2029	28,632.7	23,893.2
CAGR (2024–2029)	7.9%	9.0%

1.2.1   Automated Systems

Automated systems are crucial in improving efficiency and maintaining smooth supply chain management in the logistics automation industry. This segment can be further segmented into: **conveyors & sorters, automatic identification & data collection, storage solutions, robotic systems and drones** (Figure 4).

The **conveyors and sorters** segment is crucial for enhancing operational efficiency and accuracy in material handling. These systems facilitate the seamless movement and sorting of goods throughout warehouses and distribution centers. By automating these processes, businesses can significantly reduce manual labor, minimize errors, and improve throughput. Integrating advanced technologies, such as intelligent sortation algorithms and real-time tracking, allows for a more streamlined workflow, ensuring that products are delivered to the right location at the right time. This is particularly important in environments where rapid order fulfillment is essential, such as e-commerce and omni-channel retail.

Figure 4. Automated Systems Market Segment, in the Period 2024 - 2029
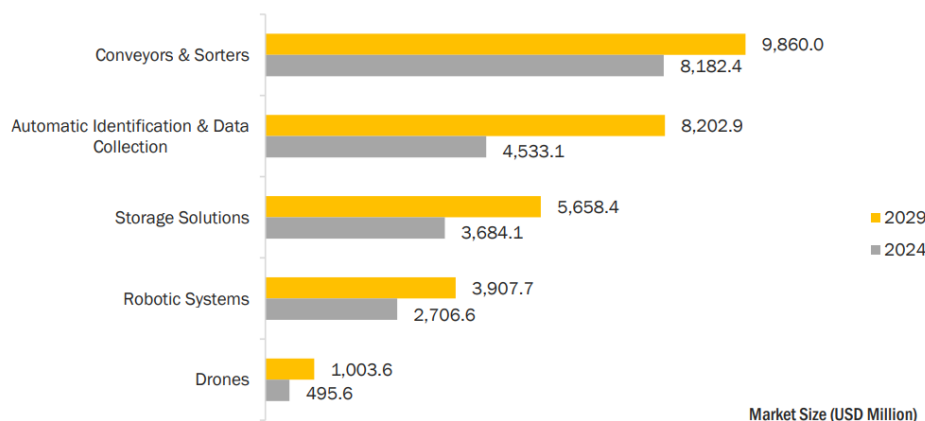
Automatic Identification & data collection (AIDC) encompasses various methods, including barcode scanning, Radio Frequency Identification (RFID), and mobile computing technologies, which facilitate the seamless collection and processing of data across supply chain operations. These technologies enable businesses to accurately track inventory levels, manage assets, and streamline warehouse processes. By automating data collection, AIDC reduces human error and enhances operational efficiency, allowing organizations to maintain real-time stock visibility and improve decision-making capabilities. This systematic approach is critical for optimizing warehouse management, ensuring that businesses can respond swiftly to fluctuations in demand while minimizing excess inventory or stockouts. T

The **storage solutions** segment encompasses automated storage and retrieval systems (AS/RS), automatic identification and data capture (AIDC), and other innovative solutions like drones and inspection systems. These technologies collectively contribute to streamlining operations by optimizing space utilization, improving inventory accuracy, and reducing retrieval times. These systems utilize advanced robotics to automate the movement and management of goods, thus transforming traditional warehousing practices. Integrating robotics allows for greater flexibility and scalability in warehouse operations, enabling organizations to adapt quickly to changing demands.

The **robotics systems** segment within the logistics automation market is transforming how businesses manage their supply chains and warehouse operations. This segment encompasses various technologies to enhance logistics efficiency, accuracy, and flexibility. By integrating robotics into logistics, companies can automate repetitive tasks, reducing reliance on manual labor and minimizing human error. The deployment of robotics systems allows for faster processing of goods, which is crucial in meeting the increasing demands for quick order fulfillment in today's fast-paced market environment. As a result, organizations can significantly improve productivity and operational efficiency.

Drones are utilized for inventory management and monitoring large storage areas, providing real-time data on stock levels and locations. Their ability to swiftly navigate through complex warehouse layouts allows for rapid audits and reduces the time spent on manual inventory checks. Furthermore, drones can be equipped with various sensors and cameras to conduct inspections, ensuring that goods are in optimal condition and that safety protocols are followed without requiring extensive human oversight. Drones are also used in intra-warehouse transport of lightweight items, efficiently moving materials across sections within large facilities. For last-mile delivery, drones offer a highly efficient option, especially in remote or hard-to-reach locations, bypassing road congestion and cutting delivery times. Additionally, drones enhance warehouse safety and security by monitoring activities and tracking assets.
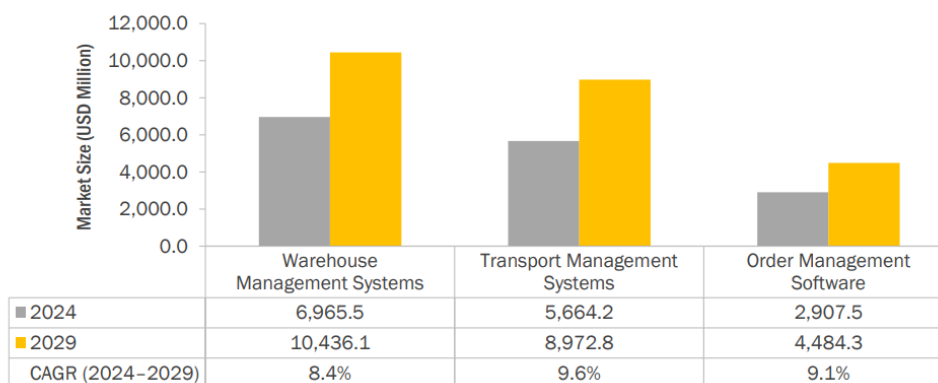
1.2.2 Automation Software

Automation software in the logistics automation market helps improve operational efficiency by simplifying processes in supply chain management. Automation software utilize cutting-edge technologies to automate tasks that previously necessitated manual work, reducing human error by reducing intervention and boosting productivity. Organizations can see major enhancements in order processing, inventory management, and fulfillment strategies by incorporating automation software into logistics operations. This change is especially important in today's rapidly moving online shopping environment, where customer demands for quick and precise service are at an all-time high.

Automation software's functionality covers various areas of logistics management. For instance, these systems make it easier to track inventory in real-time, enabling businesses to keep stock levels accurate and automate reordering procedures. This ability not only guarantees products are accessible when required but also aids in predicting demand more efficiently. Automation software improves the efficiency of shipping routes and warehouse operations, potentially decreasing shipping times and expenses. Logistics providers can improve order accuracy and reduce labor expenses by utilizing algorithms for automatically selecting and sorting boxes. Incorporating automation software into logistics processes makes operations more efficient and improves the customer experience by guaranteeing punctual deliveries and dependable service.

This segment can be further segmented into: **warehouse management systems, transport management systems and order management software** (Figure 5).

Figure 5. Automation Software Market Segment, in the Period 2024 - 2029

	Warehouse Management Systems	Transport Management Systems	Order Management Software
■ 2024	6,965.5	5,664.2	2,907.5
■ 2029	10,436.1	8,972.8	4,484.3
CAGR (2024–2029)	8.4%	9.6%	9.1%

A **warehouse management system** (WMS) facilitates inventory management from when goods enter a warehouse until they are shipped out. This software provides real-time visibility into inventory levels, enabling businesses to track items throughout their journey within the warehouse and beyond. WMS significantly reduces manual errors and improves operational efficiency by automating receiving, put-away, picking, packing, and shipping processes. The integration of technologies like barcoding, RFID tagging, and advanced analytics further enhances the capabilities of WMS, allowing for better resource utilization and data-driven decision-making.

Transport management systems (TMS) play a pivotal role in the logistics automation market by providing comprehensive solutions for managing the movement of goods across various transportation modes. These systems are designed to optimize freight operations, enhance visibility, and streamline workflows, ultimately improving efficiency and cost-effectiveness. A TMS integrates various functionalities, including real-time visibility and tracking, route optimization, fleet management, freight audit and payment solutions, and load optimization. This integration allows businesses to automate critical processes such as carrier selection, rate comparison, and shipment tracking, significantly reducing the time and

effort required for manual management. By leveraging advanced technologies like artificial intelligence and machine learning, TMS can analyze historical data to predict demand trends and optimize routing decisions based on real-time conditions.

Order management software plays a crucial role in the logistics automation market, serving as a pivotal component that integrates various aspects of order processing and fulfillment. These systems streamline the entire order lifecycle, from initial capture to final delivery, enhancing operational efficiency and customer satisfaction. By automating key processes, such as scheduling deliveries and managing cancellations, order management software allows businesses to optimize resource utilization while adhering to service level agreements (SLAs). This automation reduces the time spent on manual tasks and minimizes errors associated with human intervention. Tracking orders in real-time provides stakeholders with enhanced visibility into the supply chain, facilitating better decision-making and quicker resolutions to issues that may arise during fulfillment.

1.3 Market Segmentation by Technology

The logistics automation industry boosts operational efficiency and enhances service delivery. Important sectors include: **robotic process automation (RPA), AI & analytics, IoT platforms, blockchain and big data** (Figure 6). Every one of these technologies has a crucial impact on changing logistics procedures, making operations more efficient, and allowing companies to quickly adapt to market requests.

RPA streamlines repetitive tasks, minimizing human mistakes and allocating resources toward more strategic tasks. The logistics automation market for the robotic process automation (RPA) is projected to be valued at USD 7,033.2 million in 2024 and reach USD 10,802.1 million by 2029, registering a CAGR of 9.0% during the forecast period.
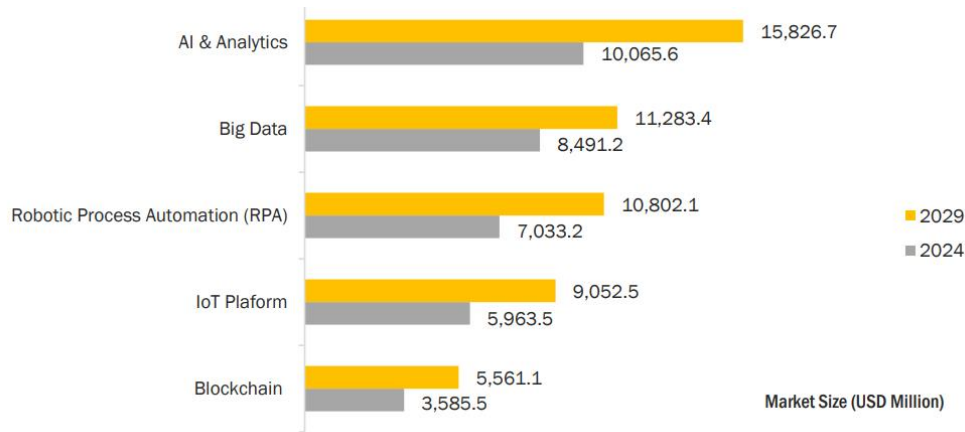
AI & analytics offer insights that influence decision-making processes, enabling predictive analytics to predict demand and efficiently allocate resources. The AI & analytics segment is expected to register a higher CAGR of 9.5% during the forecast period. AI algorithms improve personalization in logistics services, leading to better customer satisfaction through timely deliveries.

At the same time, **IoT** platforms enable assets and inventory to be tracked in real-time, improving visibility throughout the supply chain. IoT generates vast amounts of data that can be analyzed for insights into operational performance and areas for improvement.

Blockchain technology brings a decentralized method of handling data, guaranteeing transparency and security during transactions. This is especially advantageous for monitoring deliveries and confirming the legitimacy of products along the entire supply chain. Blockchain provides a secure and transparent ledger of transactions, enhancing trust among supply chain participants.

Big data enhances these technologies by utilizing large quantities of data produced throughout logistics activities. It allows businesses to examine patterns, improve routes, efficiently handle inventory, and boost customer satisfaction with customized services. Together, these advancements boost effectiveness and stimulate creativity in logistical automation, enabling businesses to succeed in a more cutthroat environment.
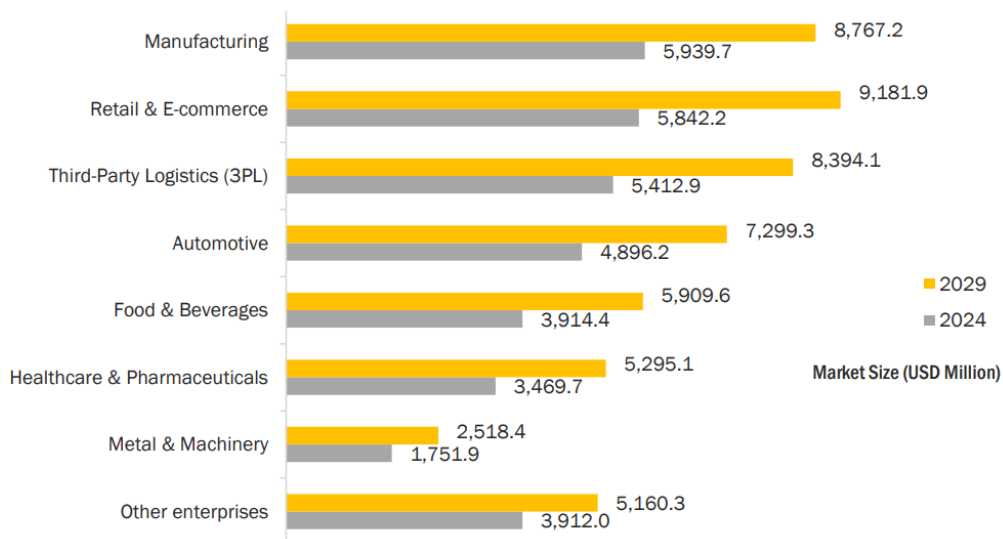
Figure 6. Logistics Automation Market, by technology, in the Period 2024 – 2029

AI & Analytics: 2029 = 15,826.7; 2024 = 10,065.6
Big Data: 2029 = 11,283.4; 2024 = 8,491.2
Robotic Process Automation (RPA): 2029 = 10,802.1; 2024 = 7,033.2
IoT Plaform: 2029 = 9,052.5; 2024 = 5,963.5
Blockchain: 2029 = 5,561.1; 2024 = 3,585.5

Market Size (USD Million)

1.4 Market Segmentation by End User

The logistics automation market is quickly changing and is segmented by end user into various enterprise categories. This segmentation enables a detailed comprehension of how different sectors use automation to increase effectiveness, lower expenses, and fulfill the requirements of a more competitive environment. The market by end user can be segmented into: **manufacturing, retail & e-commerce, automotive, healthcare & pharmaceuticals, food & beverage, third-party logistics** (3PL), **metal and machinery and others** (Figure 7). In the business sector, **manufacturing and healthcare** companies are implementing advanced automation solutions to improve efficiency and comply with regulations. The **food & beverage** industry also profits from automation by enhancing inventory management and controlling the temperature of perishable items. Based on enterprise type, the **retail & e-commerce** sector is projected to grow at the highest CAGR 9.5% in 2024. The **3PL** segment is projected to grow from USD 4,927.4 million in 2024 to USD 7,637.7 million by 2029, registering a CAGR of 9.2%during the forecast period.

Figure 7. Logistics Automation, by End User, in the Period 2024 - 2029

Manufacturing: 2029 = 8,767.2; 2024 = 5,939.7
Retail & E-commerce: 2029 = 9,181.9; 2024 = 5,842.2
Third-Party Logistics (3PL): 2029 = 8,394.1; 2024 = 5,412.9
Automotive: 2029 = 7,299.3; 2024 = 4,896.2
Food & Beverages: 2029 = 5,909.6; 2024 = 3,914.4
Healthcare & Pharmaceuticals: 2029 = 5,295.1; 2024 = 3,469.7
Metal & Machinery: 2029 = 2,518.4; 2024 = 1,751.9
Other enterprises: 2029 = 5,160.3; 2024 = 3,912.0

Market Size (USD Million)

The need for rapid, accurate, and flexible order fulfillment processes increasingly characterizes the **retail and e-commerce** sector within the logistics automation market. As online shopping grows, retailers face mounting pressure to meet

consumer expectations for fast delivery and high service levels. This necessitates the adoption of advanced automation technologies that streamline operations from inventory management to last-mile delivery. Automated systems are designed to efficiently handle a diverse range of products, accommodating varying order sizes and complexities. Businesses can significantly enhance their operational capabilities by integrating robotics, artificial intelligence, and sophisticated warehouse management systems. Such technologies not only improve the speed of order processing but also reduce errors, ensuring that customers receive the correct items in a timely manner.

The logistics landscape for retail & e-commerce is evolving to address challenges such as returns management and customer service excellence. An effective logistics strategy must incorporate seamless returns processing, which is critical in maintaining customer satisfaction in an online shopping environment. Automation plays a crucial role in managing returns efficiently by enabling quick restocking and accurate tracking of returned items. Additionally, integrating data analytics allows retailers to gain insights into consumer behavior and inventory trends, facilitating better decision-making and resource allocation. As competition intensifies in the e-commerce space, implementing a well-coordinated logistics automation strategy becomes essential for retailers aiming to differentiate themselves through superior service and operational efficiency.

The **healthcare & pharmaceuticals** sector within the logistics automation market is increasingly focused on enhancing operational efficiency while adhering to stringent regulatory requirements. This segment faces unique challenges, including precise inventory management, temperature control for sensitive products, and compliance with the Drug Supply Chain Security Act (DSCSA) laws in the US and the Falsified Medicines Directive (FMD) in Europe. Automation technologies are essential in addressing these challenges by providing solutions that ensure product accuracy and traceability throughout the supply chain. Automated systems enable real-time monitoring of inventory levels and conditions, facilitating timely responses to any discrepancies or potential issues. Furthermore, integrating advanced robotics and artificial intelligence allows for streamlined processes such as picking, packing, and distribution, which are critical for maintaining the integrity of pharmaceutical products.

As demand for healthcare services continues to rise due to aging populations and increased disease prevalence, logistics automation becomes vital for maintaining service levels. The complexity of managing diverse product types, from pharmaceuticals to medical devices, requires sophisticated solutions that can adapt to varying operational needs. AS/RS enhances space utilization and efficiency in warehousing, allowing healthcare providers to maximize their storage capacity while minimizing labor costs. Additionally, the ability to implement goods-to-person picking systems significantly reduces picking errors and enhances throughput.

The **manufacturing** sector within the logistics automation market plays a critical role in enhancing operational efficiency and productivity. Integrating automated logistics solutions becomes essential as manufacturers strive to meet increasing demand while managing costs. Automation technologies, such as advanced robotics, conveyor systems, and AGVs, facilitate the movement of materials and products throughout manufacturing. These technologies streamline workflows and minimize manual handling, reducing the risk of errors and injuries. Furthermore, real-time data analytics enable manufacturers to closely monitor production lines and inventory levels, allowing for more informed decision-making and proactive equipment maintenance. This level of operational visibility is crucial for optimizing supply chain performance and ensuring that production schedules are met without delays.

The logistics automation landscape in manufacturing is evolving to incorporate smart technologies that enhance flexibility and responsiveness. The adoption of IoT devices allows for seamless communication between machines and systems, enabling manufacturers to respond swiftly to changes in demand or production requirements. This interconnectedness supports just-in-time manufacturing practices, which are vital for reducing excess inventory and improving cash flow. Moreover, automated systems can adapt to varying product specifications and production volumes, allowing

manufacturers to compete in fastpaced markets. As sustainability becomes a growing concern, logistics automation contributes to more efficient resource utilization and waste reduction, aligning manufacturing operations with environmental goals.

The **automotive** sector within the logistics automation market is increasingly focused on optimizing supply chain operations to enhance efficiency and responsiveness. This industry faces unique challenges, including the need for precise coordination of parts delivery, inventory management, and compliance with stringent quality standards. Automation technologies such as AMRs, AGVs, and advanced warehouse management systems are being deployed to streamline these processes. By automating material handling and transportation within manufacturing facilities, automotive companies can significantly improve throughput and reduce the manual labor required for repetitive tasks. This enhances productivity and mitigates ergonomic risks for workers, allowing them to focus on more complex and value-added activities.

Integrating digital tools and data analytics is transforming the logistics landscape in the automotive industry. With the increasing complexity of global supply chains, manufacturers are leveraging real-time data to optimize inventory levels and improve order accuracy. Technologies such as blockchain enhance transparency throughout the supply chain by providing a secure and immutable record of transactions, which is crucial for tracking parts from suppliers to assembly lines. Additionally, implementing flexible automation solutions enables manufacturers to adapt quickly to changing production requirements and consumer demands. As companies navigate labor shortages and rising costs, logistics automation emerges as a critical driver for maintaining competitiveness in a rapidly evolving market.

The **food & beverage** sector within the logistics automation market is increasingly focused on enhancing operational efficiency while adhering to strict regulatory standards. Given the perishable nature of products in this industry, maintaining optimal conditions throughout the supply chain is paramount. Automated systems are crucial for managing temperature-sensitive items, ensuring that cold chains are preserved from storage to delivery. Technologies such as AGVs and sophisticated WMS facilitate the seamless movement of goods while monitoring environmental conditions. This level of automation reduces the risk of spoilage and enhances inventory accuracy, enabling companies to manage stock levels effectively and respond swiftly to fluctuations in demand.

Integrating advanced automation solutions is essential for addressing the complexities of modern distribution channels, including e-commerce and omnichannel retailing. As consumer preferences shift towards greater variety and immediacy, logistics systems must be agile enough to accommodate diverse orders, from bulk shipments to individual consumer orders. Automated order-picking systems, such as goods-to-person solutions, streamline fulfillment processes by reducing workers' travel time and increasing picking accuracy. Additionally, real-time data analytics are vital in optimizing operations by providing insights into inventory turnover and demand forecasting.

The **metal & machinery** sector within the logistics automation market is increasingly focused on enhancing operational efficiency and precision in supply chain management. This industry is characterized by the complexity of handling heavy and often bulky components, which necessitates specialized logistics solutions to ensure safe and effective transportation and storage. Automation technologies such as robotic systems, AGVs, and advanced warehouse management systems are pivotal in optimizing material handling processes. These technologies facilitate the movement of parts throughout manufacturing facilities, reducing manual labor while improving accuracy and speed in order fulfillment. Additionally, automated inventory management systems allow companies to maintain optimal stock levels, ensuring that necessary components are readily available for production without overstocking, which can lead to increased carrying costs.

Integrating digital tools and data analytics is transforming logistics operations within the metal and machinery sector. Collecting and analyzing real-time data enhances visibility across the supply chain, enabling manufacturers to make

informed decisions regarding production schedules and resource allocation. Predictive analytics can forecast demand trends, allowing companies to adjust their logistics strategies proactively. Furthermore, implementing IoT devices facilitates seamless communication between equipment and systems, enhancing operational coordination. This interconnectedness supports just-in-time manufacturing practices, which are essential for maintaining efficiency in a competitive market.

The **third-party logistics** (3PL) sector within the logistics automation market is increasingly becoming a cornerstone for companies seeking to enhance their operational efficiency and service offerings. As demand for faster and more reliable logistics services grows, 3PL providers are turning to automation technologies to streamline their operations. Automated storage and retrieval systems (AS/RS), robotic arms, and AMRs are among the key solutions being implemented to improve order fulfillment processes. These technologies increase productivity by enabling 24/7 operations and minimizing human error in tasks such as picking and packing. Enhanced inventory management capabilities allow 3PL providers to track stock levels in real-time, ensuring they can promptly meet client demands while optimizing warehouse space utilization.

Integrating advanced data analytics and digital tools is transforming how 3PL providers manage their logistics operations. By leveraging real-time data, these companies can gain insights into inventory turnover, customer preferences, and operational bottlenecks, enabling them to make informed decisions that enhance service delivery. Using technologies like the Internet of Things facilitates seamless communication between various supply chain components, improving coordination and responsiveness. As sustainability becomes critical for many businesses, 3PL providers also explore eco-friendly automation solutions that reduce energy consumption and waste.

The logistics automation market for the **paper, printing, and textile industries** increasingly focuses on optimizing supply chain processes to enhance efficiency and responsiveness. In the paper and printing sector, logistics automation addresses the unique challenges of handling large rolls and sensitive materials. AGVs are commonly employed to transport heavy rolls within warehouses, ensuring safe and efficient movement while minimizing manual labor. These systems are integrated with advanced WMS that track inventory levels in real-time, allowing for precise control over stock management. This level of automation reduces the risk of damage during transport. It streamlines the workflow from raw material handling to finished product distribution, ensuring that production schedules are met without delays. In the textile industry, logistics automation is crucial in managing the complex flow of materials from raw inputs to finished goods. The intricacies of production logistics require automated solutions that facilitate just-in-time manufacturing, where materials are delivered to production lines as needed. Technologies such as automated sorting systems and real-time tracking tools enhance visibility throughout the supply chain, enabling manufacturers to respond swiftly to changes in demand and optimize inventory levels. Integrating IoT devices allows seamless communication between various supply chain components, improving coordination and efficiency. As sustainability becomes a key concern, both sectors explore eco-friendly automation solutions that reduce waste and energy consumption. By leveraging these advanced technologies, companies in the paper, printing, and textile industries can enhance their operational capabilities while meeting increasing customer expectations for speed and quality.

1.5 Market Segmentation by Region

The logistics automation market has been segmented into five regions: **North America, Europe, Asia Pacific, the Middle East & Africa and Latin America** (Figure 8). **North America** is estimated to account for the largest share of the logistics automation market in 2024. The region leads in AI, robotics, and IoT innovations, which are increasingly integrated into automated logistics systems. The market in this region is projected to reach USD 15,946.4 million by 2024, indicating a lucrative market opportunity for key players.
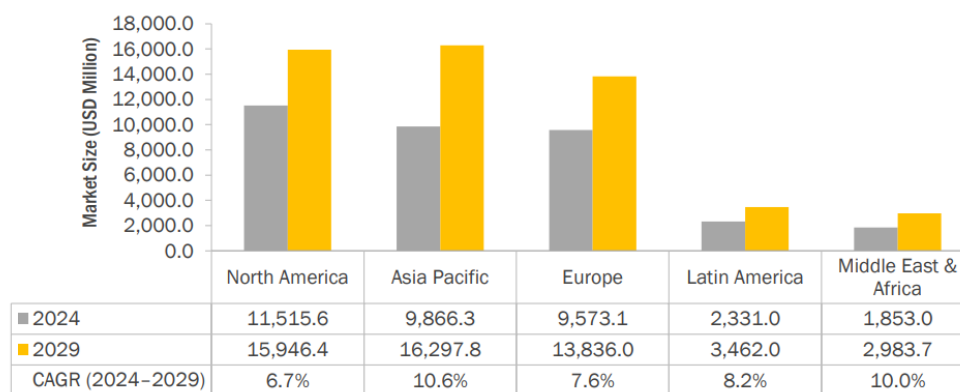
The **Asia Pacific** market is projected to register the highest CAGR of 10.6% during the forecast period Asia-Pacific's rapidly expanding e-commerce market, particularly in China, India, and Southeast Asia, increases demand for logistics automation.

The market in **Europe** is anticipated to grow steadily during the forecast period and reach USD 13,836.0 million by 2029. Europe's multi-national structure creates a need for automation to manage complex cross-border logistics.

The logistics automation market in **Latin America** is projected to reach USD 3,462.0 million by 2029. Investment in logistics infrastructure encourages the adoption of modern automated solutions to keep up with improved transport networks.

The **Middle East & African** logistics automation market is projected to register a CAGR of 10.0% between 2024 and 2029. MEA's central location for global trade routes promotes the need for advanced logistics automation to manage large volumes efficiently. Countries like the UAE and Saudi Arabia are investing in infrastructure and smart cities, fostering automation in logistics.

Figure 8. Logistics Automation Market, by Region, in the Period 2024 - 2029

	North America	Asia Pacific	Europe	Latin America	Middle East & Africa
2024	11,515.6	9,866.3	9,573.1	2,331.0	1,853.0
2029	15,946.4	16,297.8	13,836.0	3,462.0	2,983.7
CAGR (2024–2029)	6.7%	10.6%	7.6%	8.2%	10.0%

1.5.1 Focus on: Europe

The **European** logistics automation market, which includes nations such as the UK, Spain, Germany, and Italy, is going through major changes due to advancements in digital technology and evolving consumer trends. Recent developments strongly support incorporating technologies like robotics and artificial intelligence in logistics activities. The high concentration of industrial robots in Germany has resulted in greater efficiency in material handling processes, positioning it as a frontrunner in adopting automation. The increase in e-commerce has accelerated this shift even more, as stores aim to simplify processes to keep up with the increasing need for quicker customer delivery times. Countries like the UK are experiencing a rise in online shopping, leading logistics firms to invest significantly in automated technologies to improve efficiency and precision.

Government efforts throughout Europe are crucial in creating a favorable environment for logistics automation. For example, different countries are funding the development of smart logistics solutions as part of wider digital transformation plans. In Italy and Spain, efforts to improve digital infrastructure create opportunities for advanced logistics systems utilizing data analytics and IoT technologies. Expectations for the logistics automation market in Europe look positive as companies continue to embrace autonomous vehicles and advanced warehouse management systems, indicating ongoing growth. This transformation is anticipated to enhance efficiency and greatly cut operational expenses, establishing Europe as a strong global logistics industry contender.

The **European market segmentations by automated systems, by automation software, by technology, by enterprise type and by country** are reported in the following Tables.

Table 1. Europe: Logistics Automation Market, by Automated System, 2024–2029 (USD Million)

Automated System	2024	2025	2026	2027	2028	2029	CAGR (2024–2029)
Robotic Systems	737.4	789.8	845.3	903.8	965.5	1,029.3	6.9%
Storage Solutions	996.6	1,081.0	1,171.4	1,268.1	1,371.3	1,479.9	8.2%
Automatic Identification & Data Collection	1,235.6	1,392.9	1,565.4	1,754.0	1,959.7	2,162.0	11.8%
Drones	134.0	150.9	169.4	189.7	211.7	262.5	14.4%
Conveyors & Sorters	2,217.3	2,297.9	2,376.4	2,452.1	2,523.8	2,581.1	3.1%
Total	**5,320.9**	**5,712.6**	**6,127.9**	**6,567.7**	**7,032.0**	**7,514.8**	**7.1%**

Table 2. Europe: Logistics Automation Market, by Automation Software, 2024–2029 (USD Million)

Automation Software	2024	2025	2026	2027	2028	2029	CAGR (2024–2029)
Warehouse Management Systems	1,912.3	2,062.7	2,222.9	2,393.4	2,574.2	2,769.7	7.7%
Transport Management Systems	1,555.9	1,697.8	1,851.1	2,016.3	2,194.0	2,382.7	8.9%
Order Management Software	784.0	851.8	924.7	1,002.9	1,086.6	1,168.7	8.3%
Total	**4,252.1**	**4,612.3**	**4,998.6**	**5,412.6**	**5,854.9**	**6,321.2**	**8.3%**

Table 3. Europe: Logistics Automation Market, by Technology, 2024–2029 (USD Million)

Technology	2024	2025	2026	2027	2028	2029	CAGR (2024–2029)
Robotic Process Automation (RPA)	1,919.5	2,081.3	2,254.7	2,440.4	2,638.8	2,872.4	8.4%
AI & Analytics	2,758.4	3,006.8	3,274.6	3,562.8	3,872.2	4,200.0	8.8%
IoT Platforms	1,627.7	1,762.6	1,907.0	2,061.5	2,226.3	2,399.7	8.1%
Blockchain	981.8	1,067.8	1,160.3	1,259.7	1,366.1	1,478.7	8.5%
Big Data	2,285.7	2,406.4	2,530.0	2,655.9	2,783.6	2,885.2	4.8%
Total	**9,573.1**	**10,324.9**	**11,126.6**	**11,980.3**	**12,886.9**	**13,836.0**	**7.6%**

Table 4. Europe: Logistics Automation Market, by Enterprise Type, 2024–2029 (USD Million)

Enterprise Type	2024	2025	2026	2027	2028	2029	CAGR (2024–2029)
Retail & E-commerce	1,601.5	1,744.9	1,899.3	2,065.4	2,243.7	2,432.5	8.7%
Healthcare & Pharmaceuticals	951.5	1,030.4	1,114.9	1,205.3	1,301.8	1,403.3	8.1%
Manufacturing	1,628.7	1,752.0	1,883.1	2,022.3	2,169.7	2,323.3	7.4%
Automotive	1,343.0	1,447.6	1,559.0	1,677.5	1,803.4	1,935.0	7.6%
Food & Beverage	1,073.4	1,159.9	1,252.4	1,351.0	1,456.0	1,566.1	7.8%
Metal & Machinery	480.2	513.9	549.5	587.0	626.4	667.2	6.8%
Third-party Logistics (3PL)	1,484.3	1,612.7	1,750.7	1,898.7	2,057.2	2,224.6	8.4%
Other Enterprise Types	1,010.4	1,063.4	1,117.6	1,172.9	1,228.8	1,284.0	4.9%
Total	**9,573.1**	**10,324.9**	**11,126.6**	**11,980.3**	**12,886.9**	**13,836.0**	**7.6%**

Table 5. Europe: Logistics Automation Market, by Country, 2024–2029 (USD Million)

Country	2024	2025	2026	2027	2028	2029	CAGR (2024–2029)
UK	1,589.1	1,579.7	1,880.4	1,988.7	2,090.2	2,309.4	7.8%
France	1,914.6	2,116.6	2,325.5	2,420.0	2,732.0	2,827.2	8.1%
Germany	1,455.1	1,796.5	1,880.4	1,809.0	2,011.3	2,193.0	8.5%
Italy	1,244.5	1,352.6	1,401.9	1,485.6	1,472.3	1,713.2	6.6%
Spain	947.7	1,011.8	968.0	994.4	1,249.5	1,363.8	7.5%
Rest of Europe	2,422.0	2,467.6	2,670.4	3,282.6	3,331.5	3,429.5	7.2%
Total	**9,573.1**	**10,324.9**	**11,126.6**	**11,980.3**	**12,886.9**	**13,836.0**	**7.6%**

*The Rest of Europe includes the Netherlands Switzerland, Denmark and Sweden

1.6 Competitive Landscape

The **logistics automation ecosystem** is a dynamic network of interconnected solutions and stakeholders that work together to optimize supply chain operations (Figure 9). It includes **Warehouse Management Systems** (WMS) and **Transportation Management Systems** (TMS) that streamline inventory and delivery processes, **Automated Identification and Data Capture** (AIDC) technologies for tracking and scanning, and **Automated Storage and Retrieval System** (AS/RS) providers that enhance warehouse efficiency. **Technology partners** offer advanced tools like AI and robotics. At the same time, **end users** from enterprises such as retail & ecommerce, manufacturing, automotive, healthcare & pharmaceuticals, and others leverage these systems to improve operational efficiency, reduce costs, and meet the growing demand for faster and more accurate logistics solutions.

Figure 9. Key Players in Logistics Automation Market Ecosystem

The **top five market players** include: KION Group (Germany), Samsung SDS (South Korea), Toyota Industries (Japan), ABB (Switzerland) and Daifuku (Japan). The main **European players** active in the market are further described in the following Table.

Table 6. European Players in the Logistics Automation Market

Company	Location	Description	Website
ABB	Switzerland	The company develops and supplies various products and services for operational efficiency enhancement, including robotics systems, industrial automatic control systems, and digital solutions	ABB Group | Helping industries outrun – leaner and cleaner — ABB Group
BEUMER Group	Germany	Provides comprehensive intralogistic solutions, focusing on conveying, loading, palletizing, packaging, sortation, and baggage handling. BEUMER emphasizes a single-source approach, ensuring seamless integration and lifecycle support for its systems through a global network of service centers	BEUMER Group - International Quality Leader in Intralogistics
Hardis Group	France	Specializes in providing innovative logistics and supply chain management solutions, focusing on optimizing operational efficiency through advanced technology. The company offers a comprehensive suite of services, including consulting, software development, and systems integration	Page d'accueil | Hardis Group

Company	Location	Description	Website
Jungheinrich	Germany	Operates as an intralogistic solution provider specializing in logistics automation. Jungheinrich has a range of products, including forklift trucks, automated guided vehicles, automated storage and retrieval systems, and wholesale logistical channel solutions for retail, construction,and other industries	Jungheinrich: weltweit führend in der Intralogistik
Kardex	Switzerland	Kardex offers the AutoStore™ solution, a modular and flexible automated storage and retrieval system designed to enhance order fulfillment and optimize warehouse operations. This system allows for significant space efficiency, providing four times the storage capacity compared to conventional systems without requiring additional floor space	Official Site of Kardex	Kardex Remstar	Kardex Mlog
KNAPP	Austria	Specializes in providing innovative solutions for global procurement, focusing on optimizing supply chain processes. KNAPP's procurement approach integrates advanced technologies and data analytics to streamline purchasing decisions and improve supplier relationships	Logistics Automation for Your Value Chain	KNAPP
Körber	Germany	International technology group that excels in the logistics automation market. The company develops tailored solutions integrating advanced technologies to optimize supply chain processes for various industries	Körber AG
KUKA Group	Germany	KUKA Group is among the leaders in automation solutions and is well-known for advanced robotics and automation technologies. Their sophisticated robotic technologies include both automated industrial robots and cobots, enhancing the efficiency of manufacturing and logistics processes	industrial intelligence 4.0 beyond automation	KUKA AG
Mecalux	Spain	Leading intralogistics technology company known for its advanced warehouse automation and software development solutions. Mecalux focuses on intelligent space management to enhance warehouse efficiency	Mecalux International	Warehouse Storage Solutions
SAP	Germany	SAP is known for its leading-edge solutions in logistics automation. The flagship product is known for the intelligent ERP suite - SAP S/4HANA. It has the integration of advanced analytics and ML capabilities that help optimize business processes	SAP Software Solutions	Business Applications and Technology
SSI SCHAEFER	Germany	One of the leading global providers of modular warehouse and logistics systems company specializes in developing innovative solutions tailored to various industries, enhancing intralogistics through automation and digitalization. Its offerings include various systems, from manual to fully automated solutions, designed to optimize warehouse processes and improve operational efficiency	SSI SCHAEFER - A Global Leader in Intralogistics - Cutting-Edge Technologies Around the Globe!	SSI SCHAEFER

Company	Location	Description	Website
System Logistics	Italy	Specializes in intralogistics solutions, focusing on optimizing warehouse operations through advanced automation technologies. The company offers a range of products, including Automated Storage and Retrieval Systems (AS/RS), picking solutions, and Automated Guided Vehicles (AGVs) designed to enhance material handling efficiency	Intralogistics and material handling solutions | System Logistics
TGW Logistics Group	Austria	TGW specializes in providing highly automated intralogistics systems tailored to meet the specific needs of various industries. TGW's approach encompasses the entire process, from planning and implementation to lifetime services, ensuring that solutions are future-proof and adaptable	Intralogistics solutions & logistics automation | TGW

2 Sources

MarketsandMarkets Knowledge Store - Multisectoral database that collects market research reports in various technological fields and designed to process some information interactively. More than 1,200 market reports are published each year (https://www.mnmks.com/). The information presented are contained in the report "*Logistics Automation Market – Forecast to 2029*", published in November 2024.