

IDENTIFYING THE PRIMARY LOGISTICS TRENDS FOR 2023

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Abstract. *The study considers current trends in the field of logistics in 2023, which include the use of automation technologies, digitalization, and robotization of processes. Technological innovation plays a key role in shaping the future logistics landscape and increasing industry productivity and competitiveness.*

As technology advances, more and more new trends and logistical requirements emerge. Robotics, digitization, and process automation are all being used more and more in the global logistics sector. These developments are clearly visible in Ukraine thanks to the digitalization of the system and automation of warehouse operations, which provide integrated solutions. According to the logistics projection for 2023, automated and digital warehouses will be increasingly important, giving businesses the chance to save time, resources, money, and personnel. Logistics operations are becoming more flexible, dependable, and safe as a result of technological advancements like cloud computing and digital twins.

A crucial component is simulating composition. By generating virtual replicas of things or processes that behave like their physical counterparts, digital twin technology boosts a company's ability to compete. This virtual representation allows the simulation of warehouse layouts and the movement of people and commodities in the field of logistics. You can assess promising logistics procedures by visualizing logistics operations in a virtual 3D environment. Simulations also assist in identifying inefficiencies and potentially unwanted events once the warehouse is operational. Additionally, it creates possibilities for strategic decision-making to be enhanced and optimized.

Logistics flexibility is still a significant concern in 2023, just as it was in 2022. Flexible logistics are necessary to sustain competitiveness in areas like multi-channel consolidation, seasonal product variations, and efficient returns management. For the whole supply chain, flexibility is crucial. Flexible manufacturing and logistics procedures guarantee inventory availability for end users while lowering production, storage, and transportation costs. Businesses with adaptable logistics are better able to deal with supply chain interruptions because they may change course when necessary without sacrificing productivity. By allowing goods to be

supplied from various distribution centers, warehouses, or physical storefronts and tailoring order picking to complex requirements, flexibility also gives businesses a competitive edge in the difficult work of order fulfillment.

In 2023, the heart of corporate operations will still remain robotic process automation, especially robotic process automation (RPA). RPA employs software robots to automate repetitive operations, including file and directory management, connecting with web services, copying and pasting data, and more. RPA technology enhances order shipment tracking and product tracking at the logistics level. It enables prompt delivery schedule communication, alerts clients to potential delays, and generates electronic delivery documentation with automated alerts. RPA also makes buy order fulfillment more efficient by using standards like price, quantity, and regularity. Additionally, it has the ability to independently assess past sales data and market indicators to estimate supply and demand. By doing this, it can make sure that there are enough goods on hand to fulfill requests in the future and keep the proper inventory levels.

In recent years, green logistics has become an increasingly popular trend. It is a business idea that encourages businesses to minimize their pollution to the environment and, at the same time, improve their operational efficiency. Transportation route optimization is one of the essential elements of green logistics. The carbon footprint of transportation and fuel usage can be decreased by shortening the distance that commodities must travel. Another meaningful way green logistics can conserve the environment is by using electric and alternative fuel vehicles. The environmental effect of storage and handling operations can be minimized using energy-efficient facilities, recycling, trash reduction initiatives, and sustainable packaging techniques.

Leading logistics companies, in order to achieve and maintain competitive advantages in the market, constantly introduce innovations, which become a strategy for the sustainable development of companies. Many companies create Innovation Centers that drive global innovation efforts by tracking trends and technologies and prioritizing what to learn. Working with internal and external stakeholders, these teams test ideas, develop financial business cases, and implement projects across a global network of logistics companies. Table 1 provides examples of companies that continually monitor the latest trends and implement new technologies that benefit their business and customers by optimizing their logistics processes.

Table 1 - Logistic trends

Trend	Company	Opportunities for business development	Impact on logistics industry
Simulating composition	Amazon	Optimization of logistics processes; Cost reduction; Possibility of launching new services	Improved routing efficiency, inventory management, reduced labor costs
Logistics flexibility	FedEx	Increasing customer satisfaction; Delivery efficiency; The possibility of entering new markets and customer segments	Allows to implement adaptability to changes in demand, optimization of routes and deliveries, individual solutions for customers
Robotic Process Automation (RPA)	UPS	Faster processing of cargo and orders; Increasing competitiveness; Increased productivity and efficiency	Processing of data and documents, planning of routes and deliveries has been accelerated, accuracy and efficiency of processes have increased
Robotic Process Automation (RPA)	DHL	EffiBOT is an integrated and specialized solution that is able to move independently in various large and dynamic environments, or work in cooperation mode with DHL employees to transport heavy loads, both in the moment and on the street.	Autonomous robots such as EffiBOT can significantly increase productivity in logistics by allowing workers to spend less time physically moving goods. The use of autonomous robots can help reduce labor and support costs for employees, as well as reduce the risk of injury when moving large loads manually.
Green logistics	Walmart	Optimization of transportation routes, using energy-efficient trucking; Investments in the renewable technologies to reduce their carbon footprint.	Consolidate shipments, reducing the number of vehicles on the road; Encourage suppliers to adopt sustainable and green logistics practices

The logistics industry is constantly changing and adapting to the rapid growth of technology and the need to conserve the environment. For any business to stay ahead of the curve and remain competitive in these times, it must be flexible enough to accommodate the latest technological advancements, new processes, and strategies to succeed. The examples of businesses in Table 1 illustrate this need to embrace logistics trends. Amazon uses simulating composition in exchange for improved routing efficiency and the possibility of launching new services. FedEx makes its delivery process more efficient and implements adaptability to respond to demand shifts by using logistics flexibility, and Walmart invests in energy-efficient trucking and renewable energy through green logistics. RPA helps UPS and DHL speed up their processing of cargo, orders, and transportation.

Conclusion

Flexibility, competitiveness, and on-time task completion will continue to be the major objectives of logistics organizations in 2023. Logistical businesses are using cutting-edge strategies to address these issues, including warehouse modeling and robotic process automation, as well as enhancing tried-and-true techniques, including logistical flexibility. Green logistics make sustainability a crucial part of the companies' corporate culture by educating employees about the importance of environmental preservation. Additionally, automating robotic data collection methods for air waybill numbers from external web portals has greatly improved efficiency, decreased processing time, eliminated human mistakes, and removed subjectivity. The industry will continue to lead the way in efficiency and sustainability thanks to the ongoing evolution of logistics technologies and tactics.

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