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February 2025

E-COMMERCE LOGISTICS

Market will Triple in Size by 2033

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SUPPLY CHAIN connect™

By SUPPLY CHAIN CONNECT STAFF

E-Commerce Logistics Market will Triple in Size by 2033

The industry that serves as the support structure for global e-commerce market growth is on track to triple in size over the next seven years.

Global e-commerce sales exceeded $6 trillion last year—up from $5.62 trillion in 2023—and are expected to continue growing at a steady pace over the next three years. China and the U.S. are the two biggest contributors to this expansion, with sales from both countries totaling more than $2.32 trillion in 2023.

Moving all of these goods around the world takes some effort, and the e-commerce logistics sector has stepped up to the plate to make this happen. As a result, this sector is also benefitting from the impressive uptick in global online sales, both business to consumer (B2C) and business to business (B2B).

According to Business Research Insights' latest estimate, the e-commerce logistics market will grow to about $1.5 billion by 2033—more than triple its current value of $493 billion. This thriving sector is posting a compound annual growth rate (CAGR) of nearly 13% right now thanks to the growth of online buying and increased customer demand for fast shipping.

What is E-Commerce Logistics?

In the e-commerce space, logistics providers handle the transport, storage and distribution of products that are purchased online and delivered to businesses, offices and individual residences. Business Research Insights says the market's growth is supported by factors such as the upward push of e-commerce giants like Amazon, demand for home delivery and advancements in logistics processes.

"Key players within the market are adopting techniques like ultimate-mile delivery optimization, computerized warehouses, and the usage of drones and [autonomous vehicles]," the research firm says. Demand for third-party logistics companies (3PLs) and the services they provide is also on the rise as organizations seek out new ways to outsource non-core logistics functions.

Emerging markets are also playing a role in the e-commerce logistics market's growth. "The fast growth of e-commerce trade in growing regions is similarly boosting the call for advanced logistics infrastructure," the company says, "ensuring the seamless motion of goods to purchasers across diverse regions."

Key E-Commerce Logistics Trends

Some of the other key trends that are currently impacting the global e-commerce logistics market include:

Last-mile shipping innovation. This is a key driver of e-commerce logistics market growth. As customer demand for quicker shipping increases, for example, organizations are making an investment in drones, autonomous vehicles and electric delivery vans that help reduce delivery times, decrease costs and enhance environmental sustainability.

No end in sight to the e-commerce boom. As more consumers turn to digital platforms to place orders, logistics carriers are being called upon to deliver faster shipping solutions. This growth is being seen across most industry sectors and includes both B2C and B2B orders.

Automation, artificial intelligence (AI) and robotics are transforming the market. AI-driven answers help optimize stock control, improve forecasting and streamline transportation routes. Automation improves warehouse performance and other advanced tools help logistics corporations lower costs, minimize mistakes and speed up the delivery process.

North America dominates the e-commerce logistics market. Its superior infrastructure, high demand for e-commerce services and technological innovations make North America the hotbed for e-commerce logistics. Companies like Amazon, FedEx and UPS have all invested in automation, robotics and AI to optimize delivery chains and shorten delivery times. In 2023, for example, Amazon expanded its use of robotics software and AI for improving warehouse performance and decreasing delivery times. This has helped the company streamline operations, reduce errors and improve scalability.

A Dynamic, Diverse Market

Looking ahead, Mordor Intelligence expects the e-commerce logistics industry to continue ranking as one of the fastest-growing industries in the U.S. Its growth will be driven by the continuous advancement of logistics technologies like automation, robots, wearables, drones, self-driving vehicles, cloud computing and the Internet of Things (IoT).

The research firm also expects companies to continue investing in their regional logistics networks by building new distribution centers and smart warehouses. "While some regions or cities may have more e-commerce activities or infrastructure," it says, "the overall market is dynamic and diverse."

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SAM KRAFT | Contributor

The Role of Advanced Transportation Management Systems in Supply Chain Management

Advanced Transportation Management Systems can allow companies to streamline processes, enhance efficiencies, reduce costs and improve customer service.

In the intricate network of global trade and commerce, efficiency transcends a mere goal; it is an imperative. Supply chain management forms the core of this system, facilitating the transfer of goods from point A to point B in the most efficient and cost-effective manner possible. The dynamic nature of this field has paved the way for numerous technological innovations, profoundly impacting how companies manage their logistics and transportation needs.

Among these innovations, Advanced Transportation Management Systems (ATMS) stand out as pivotal in redefining supply chain operations. Below, we'll explore what ATMS are and their impact on the efficiency, reliability and adaptability of modern logistics networks.

The Evolution of Transportation Management Systems

Looking back, transportation management systems (TMS) have undergone a significant transformation over the decades, evolving from rudimentary tools to sophisticated solutions equipped with cutting-edge technology. Initially, TMS were simple, manual systems primarily focused on basic tasks like routing and dispatch. These early systems relied heavily on human intervention. Dispatchers manually plotted routes using paper maps and managed logistics via phone and fax.

The introduction of computers and software in logistics marked the first major leap, enabling more systematic approaches to route planning and fleet management. However, these systems were still limited in scope and flexibility. The real transformation began with the advent of GPS technology in the 1990s, which allowed for real-time vehicle tracking and improved routing capabilities.

As the internet became ubiquitous, TMS solutions expanded to incorporate more comprehensive features, including integration with other supply chain systems and extensive data analysis. Now, advanced transportation management systems represent the pinnacle of this evolution.

Meeting the Demand for Efficiency

Today's supply chain landscape is characterized by its need for speed, efficiency and reliability. Companies are under constant pressure to cut costs, enhance service levels and uphold transparency across all operations. In this high-stakes environment, any delay or inefficiency can propagate throughout the system, escalating costs and diminishing customer satisfaction.

The pursuit of efficiency starts with the optimization of transportation, which is often the most complex and costly component of the supply chain. Managing a diverse array of vehicles, routes and cargo necessitates a robust system capable of handling convoluted changes and faster decision-making, which is precisely where ATMS come into play.

Integrated Technologies Enhancing ATMS

ATMS are sophisticated platforms that incorporate technology, software and control mechanisms to streamline all phases of transportation planning and execution. They're powered by a suite of sophisticated technologies that dramatically enhance their capabilities, including:

- **Artificial Intelligence (AI) and Machine Learning:** At the heart of modern ATMS, these technologies enable systems to learn from historical data and improve decision-making processes. This includes optimizing delivery routes, managing unforeseen disruptions in the supply chain and applying predictive analytics for traffic conditions.
- **Internet of Things (IoT):** IoT technology allows for the seamless integration of various sensors and tracking devices on vehicles, cargo and even roads. This connectivity provides a wealth of real-time data, enhancing operational efficiency and monitoring the integrity of goods in transit.
- **Big Data Analytics:** The ability to process and analyze vast amounts of data is fundamental in logistics. Big data analytics helps extract actionable insights from complex datasets, enabling more informed decision-making. This might include analyzing weather patterns to anticipate delays or optimizing fuel usage.

How ATMS are Transforming Operations

ATMS provide a unified solution for managing the movement of goods across various modes of transport—be it road, rail, air or sea. Here are a few ways they are revolutionizing transportation and other aspects of supply chain management.

Vehicle Fleet Management

Comprehensive tools within these systems manage a fleet of vehicles efficiently. This includes scheduling maintenance, monitoring fuel consumption and tracking vehicle locations. For example, a logistics company might use vehicle fleet management software to deploy its trucks most efficiently based on actual traffic data, weather conditions and driver availability.

Route Optimization

These systems leverage numerous data points to recommend the most efficient routes, significantly reducing travel time and decreasing vehicle wear and tear. By utilizing historical data and predictive analytics, they can effectively bypass traffic hotspots and construction zones, significantly reducing delays.

Load Planning

Sophisticated algorithms within these systems enhance the loading efficiencies of vehicles, suggesting the optimal way to stack different products in a trailer. This maximizes space utilization and minimizes the risk of damage during transit, crucial for maintaining product integrity and reducing costs associated with damaged goods.

Compliance and Safety Monitoring

These systems are instrumental in maintaining compliance with transportation regulations and safety standards. They automate the logging of driver hours to adhere to labor laws and monitor vehicle speeds to comply with road safety rules, playing a pivotal part in mitigating the risk of accidents and noncompliance penalties.

Integrated Communication Systems

Enhanced communication features deliver seamless interaction among dispatchers, drivers and logistics managers. By integrating with mobile devices and onboard systems, they provide immediate updates and alerts, boosting coordination and responsiveness. This unified communication streamlines operations and helps improve the ability to respond swiftly to any logistical challenges.

The Multifaceted Benefits of ATMS

The deployment of ATMS offers numerous benefits that directly contribute to a leaner, more responsive supply chain.

- Cost Reduction: By optimizing routes and improving vehicle management, ATMS significantly lower fuel costs and other related expenses. This reduction in overhead is key for maintaining competitive pricing in the market.
- Increased Delivery Visibility: Real-time tracking features provide all stakeholders with up-to-date information on the whereabouts of their goods. This visibility is essential for managing expectations and planning for receiving operations.
- Enhanced Customer Satisfaction: With faster and more reliable delivery services, businesses can meet customer expectations better, leading to improved service ratings and customer loyalty.
- Strategic Decision Making: The analytical capabilities of ATMS allow companies to make informed decisions based on data-driven insights. This strategic advantage is critical in a rapidly changing market landscape.

Embracing the Future With ATMS

As we have explored, ATMS are vital tools in the arsenal of modern supply chain and transport professionals. By integrating ATMS, companies not only streamline their transportation processes but also gain a substantial competitive edge through enhanced efficiency, reduced costs and improved customer service.

Going forward, the role of ATMS is set to expand as more companies recognize the value of real-time data and analytics in logistics. The future of supply chain management lies in the adoption of these advanced systems, which will continue to evolve with the introduction of AI, machine learning and other emerging technologies. Businesses that stay ahead of this curve will likely lead the pack, setting new standards for efficiency and responsiveness in the supply chain sector.

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EMILY NEWTON | Contributor

Tackling Communication Challenges in Today's Supply Chains

Technology-driven strategies may be able to resolve today's rampant supply chain communication challenges.

Timely, accurate information exchanges are essential for promptly addressing market uncertainty, responding to disruptions and collaborating to develop solutions. However, supply chain communication challenges are common in today's business-to-business (B2B) supply networks. Can industry professionals use technology to overcome them?

The State of Communication in Supply Chains

The state of communication between parties within B2B supply chains is substandard. A recent KPMG report revealed many are not on the same page. While 87% of business executives considered transparency critical, 43% reported they had little to no visibility into their tier-one suppliers—much less their extended supply network.

Minor and avoidable issues compound without timely, accurate information exchanges, leading to disorder, miscommunication and poor decision-making. Realistically, this isn't the type of issue that resolves itself given enough time.

Disruptors are intensifying in frequency and impact. A McKinsey & Company report revealed supply chain disruptions lasting at least one month now happen every 3.7 years, costing 45% of the average organization's annual profits. With such losses occurring more frequently, prompt action becomes even more pressing.

These communication breakdowns may not wholly be the fault of stakeholders within B2B supply chains. Sometimes, supply chain communication challenges stem from faulty infrastructure. Industry professionals must understand these underlying engineering issues if they ever want to fix this core pain point.

The Science Behind Communication Issues

Delays in information exchanges cannot always be attributed to poor management or stakeholder contention. Non-line-of-sight (NLOS) challenges—typically obstacles and reflections—alter signal trajectory and integrity. For instance, multipath effects can scatter and attenuate the signal, making maintaining consistent communications challenging.

For this reason, the Fresnel Zone—the three-dimensional elliptical region between the transmit and receive antennas—is often compromised in dense urban environments. These obstructions are quantified as a 6dB signal loss, which is the equivalent of halving the distance of signal range in free space.

System compatibility is another common supply chain communication challenge. It is particularly apparent within large networks because integrating new applications or overhauling underlying infrastructure at scale is challenging. Legacy technology and custom-built systems can also exacerbate this issue. Platform incompatibility results in delays and various technical problems.

With incompatibility, the most pressing concern is disparate data flow. Differences in information type, quality or format between stakeholders can result in miscommunications. Discrepancies in transmission and storage also play significant roles. What happens when a misunderstanding leads to silo creation?

The average organization has an estimated 2,000 data silos, each containing information that is inaccessible to other departments or vendors. They hinder the free flow of information, increasing the likelihood of miscommunications, delayed responses and poor decision-making. Since B2B supply chains are time-sensitive, restricting real-time access and analysis may contribute to financial or reputational losses.

How Can B2B Firms Tackle These Challenges?

There are several technological solutions B2B companies can leverage to tackle the supply chain communication challenges plaguing them. While cloud computing may introduce its own challenges, it is less vulnerable to disruption than on-premises storage systems. It also offers greater scalability, enabling firms to respond to rapidly changing market conditions.

The blockchain offers similar benefits but also has the unique advantage of immutability. The consensus mechanism allows no participant to alter data without unanimous agreement. Also, smart contracts can accelerate decision-making and message transmission by automatically executing based on predefined triggers.

For B2B firms relying on a mobile ad-hoc network (MANET)—a decentralized, self-configuring wireless network made up of mobile nodes—understanding NLOS propagation is essential. Procurement professionals will not always have a direct, unobstructed path between the transmitter and receiver. Even moving vehicles can disrupt signal propagation.

In MANET networks, nodes transmit, receive and relay information simultaneously, enabling data to automatically find the optimal route toward its destination. Navigating NLOS challenges expands coverage and improves connectivity, even in highly complex, dynamic environments, helping resolve supply chain communication challenges.

Multiple-input multiple-output (MIMO) waveform technology uses multiple transmission and receiving antennas and techniques like spatial multiplexing to improve throughput without increasing bandwidth or transmit power. This enables seamless transmissions, even in NLOS.

The Role of Compromised Communications

Due to the cybersecurity landscape's ever-evolving nature, almost all B2B supply chains are prone to cyberthreats. Those who have embraced digitalization are especially vulnerable. Having high-risk information and communication technology systems embedded within fleets improves data collection and sharing but introduces security weaknesses.

Hardware that gathers, processes, transmits, retrieves or stores data—including telematics devices, infotainment systems and internet-enabled nodes—is both an entry point and a target for cybercriminals. Communication can be compromised, deleted or tampered with unless it is properly secured.

In large B2B supply chains, the risk of a breach becomes all too real. One multiparty infiltration causes 26 times the financial damage of the worst single-party breach—the ripple effects last over one year, impacting 75% of downstream victims.

Adopting more efficient platforms to resolve supply chain communication challenges is not enough—B2B business leaders and supply chain professionals must also secure their solutions against would-be hackers. While this observation may seem obvious, many neglect these duties.

One PWC survey revealed that just 23% of business executives report that their cybersecurity teams usually collaborate with other parts of the organization that affect safety. Consistent cooperation between stakeholders is a critical element of meaningful progress.

Tackling Supply Chain Communication Challenges

Supply chain communications are about more than exchanging messages. B2B professionals must be able to share insights and forward newly generated information to evade emerging disruptions and stay on top of rapidly evolving market conditions.

Reliability, availability and responsiveness are essential. Firms must deliver actionable insights to relevant stakeholders at the right time and cost. With the right strategies, they can enable peer-to-peer connections and accelerate information exchanges, ultimately overcoming supply chain communication challenges and enhancing visibility into their supply network.

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The Podcast Channel for Supply Chain Professionals

Supply Chain Connect provides supply chain and purchasing professionals with essential news, information and analysis about the technology and business trends that impact the global supply chain industry.

5 Trends that Will Shape Manufacturing in 2025

As we step into 2025, the manufacturing industry faces a landscape filled with both challenges and opportunities. From persistent labor shortages and supply chain disruptions to the rise of AI and clean technology, major shifts are reshaping the sector. In this episode, we break down Deloitte's 2025 Manufacturing Industry Outlook and explore the five key trends set to define the year ahead.

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Tariffs and the Semiconductor Supply Chain

The semiconductor supply chain is facing unprecedented disruption from shifting global trade policies and tariffs. Hear from industry leader Frank Cavallaro, CEO of A2 Global Electronics + Solutions, on the challenges companies are navigating and the strategies they must employ to stay ahead.

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AI-Powered Procurement: Enhancing Supplier Relationships, Mitigating Risk and Managing Spend

AI is transforming the procurement function, from automating tasks to strengthening supplier relationships and more. Hear from Seth Catalli of Globality on the strategic advantages of AI-powered procurement and how to integrate the technology into your enterprise.

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Tariff Whiplash Leaves U.S. Companies Wondering What Lies Ahead

As the new presidential administration see-saws on its tariff plans, companies continue to deal with an uncertain supply chain environment.

The threat of new tariffs emerged early during President Trump's campaign, hibernated for a spell while the details were worked out, reemerged last week as double-digit tariffs on China, Mexico and Canada, and then retreated when two of the countries conceded to the new administration's requests.

The Chinese tariffs are still in effect—and have in fact since been countered—but the other two will stay in the background, at least for now. All of this back-and-forth has given supply chain operators whiplash as they try to 1) make sense of new rules that actually go into place; and 2) figure out what to do about it.

Even the U.S. Postal Service (USPS) got caught up in the action when it stopped accepting packages from China and Hong Kong in response to the elimination of the de minimis rule (which allowed goods worth less than $800 to enter the U.S. tariff-free). Within hours the USPS was back to accepting packages from both countries.

By the time those on the West Coast woke up, the suspension had been lifted. "The whiplash from the roughly 12-hour pause raised new questions about how exactly the world's sprawling shipping apparatus would navigate two major changes: the implementation of President Donald Trump's new tariffs against China and the end of a policy long used by Shein and Temu to avoid US import fees," *Business Insider* reports.

Neck Brace Anyone?

A neck brace may be in order right about now for supply chain managers, procurement professionals and logistics professionals who entered 2025 not knowing exactly how Trump's tariff strategy would play out.

For now, at least, the 10% tariff on all Chinese imports seems to be sticking. In response, China announced an import tax on a very targeted list of U.S. imports, including a 15% tariff on coal and natural gas and a 10% duty on a longer list of products.

According to *AP,* the impact of China's measures on U.S. exports may be limited. "Though the U.S. is the biggest exporter of liquid natural gas globally, it does not export much to China," it reports, noting that in 2023, the U.S. exported 173,247 million cubic feet of LNG to China, about 2.3% of its total natural gas exports.

Addressing Ongoing Uncertainty

As companies work to make sense of fast-moving changes to tariff policy that threaten to reshape global supply chains, *WSJ* says the machinery of tariffs is complicated and how the levies will play out isn't known, largely because the White House appears to be using them partly as a negotiating tool.

"It isn't yet clear if Trump's ultimate goal in a trade fight with China is to negotiate a deal with Beijing or to use tariffs and other tools to engineer a more decisive economic break," the publication adds.

With the one constant being uncertainty in this environment, supply chain operators appear to be preparing for the worst but hoping for the best, so to speak. For example, *gCaptain* says automotive manufacturers may face particular challenges as tariffs on foreign-made auto parts are expected to increase manufacturing costs and could trigger production delays.

"Uncertainty in global trade underscores the need for businesses to reassess their supply chain strategies and reduce dependency on high-risk regions," Moody's John Donigian tells *gCaptain*. "Businesses must act swiftly to navigate rising costs and supply chain disruptions from potential tariffs and retaliatory measures."

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Companies Tackle Global Supply Chain Complexities

A new report paints a picture of an increasingly complex global trade environment that's being influenced by numerous factors in 2025.

As the global supply chain becomes increasingly complex—and with an assortment of rising tariffs and other trade barriers being discussed right now—companies are always looking for new ways to both overcome current issues and get out in front of new roadblocks. Geopolitical instability, evolving regulations and ongoing supply disruptions are all putting unprecedented pressures on global supply chains.

Maintaining a competitive edge and ensuring continued growth in this uncertain environment requires a fundamental shift in strategy. To determine how companies are approaching their most pressing supply chain challenges and help others tackle their own issues, Descartes recently commissioned a *Supply Chain Intelligence Benchmark Survey* of nearly 1,000 global supply chain leaders.

"Keeping supply chains agile and ready for rapid change is now more important than ever before," the company says in its report. "The imposition of higher tariffs in one country, labor strife in another or widening regional geopolitical instability are examples of why organizations engaged in international trade need to have contingency plans to be able to quickly find suppliers and customers in alternative markets, spot supply and demand shifts, and optimize trade lanes."

Technology Helps Quell the Complexity

Companies are increasingly turning to technology and advanced options like artificial intelligence (AI) to help address supply chain and global trade complexities. Here are some of the key findings from the Descartes report:

- Nearly 40% of respondents plan to invest in technology and 19% aim to invest in internal resources to ensure continued growth. Fast-growing companies emphasize technology investments because they place great importance in first mover advantage when responding to market challenges or competitive pressures. "Speed is key when it comes to the complex research required for accurately strategizing alternative international trade plans," Descartes says. "This is where technology, and artificial intelligence in particular, can help with number crunching, automation and visibility."

- 74% of the supply chain and logistics leaders surveyed view technology as fundamental or highly important to their organization's growth strategy in the face of rising global trade challenges, such as tariffs and trade barriers, supply chain disruptions and geopolitical instability. This number jumps to 88% for companies expecting greater than 15% growth over the next two years.

- Among supply chain intelligence decision-makers, 27% rated enhanced supply chain flexibility/resilience as the main business return used to measure the success of technology investments. Revenue growth came in a close second (25%).

- Most supply chain leaders view global trade intelligence as the "main capability" they need today to deliver the greatest business value in the next two years, Descartes reports. Just over a third, or 36%, said that this was crucial to rapidly identify new suppliers and customers to overcome setbacks in existing markets.

Global Trade Complexities aren't Going Away

Descartes' survey findings paint a picture of an international trade environment that's become much more complex with the advent of new challenges over and above business operations issues. The key issues include rising tariffs and trade barriers; growing geopolitical instability; increasing concerns about new supply chain disruptions; and emerging compliance issues. In light of that, the company says, organizations must be able to effectively tackle these challenges head-on to ensure continued growth.

"For companies in diverse industries, global trade has become much more complex, with many new challenges to traditional business operations," Descartes' Jackson Wood said in a press release. "As businesses contend with tariffs and trade barriers, geopolitical instability, supply chain disruptions and compliance requirements, technology tools can help them build greater agility and resilience into their supply chains to compete more effectively."

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Transportation Software Is Crucial for Streamlining Logistics Operations

Are you thinking about bringing trucking software into your logistics workflow? Read about some of the many benefits here.

Trucking software utilization is becoming increasingly popular among logistics leaders who know they must continually reduce inefficiencies, keep costs down and boost productivity wherever possible. Many decision-makers interact with trucking software features as part of larger transportation management systems (TMS). Those platforms assist users with planning, execution and freight-related needs.

Prioritizing Safety with Trucking Software

The most streamlined logistics operations are often the safest ones. Amazon executives adopted that perspective when they implemented various technologies to make the e-commerce brand's trucks among the world's most innovative. Leaders partnered with industry stakeholders to install various enhancements on vehicles used for middle and last-mile deliveries. The changes encompassed a $200 million plan to pursue safety upgrades.

For example, the trailers used for middle-mile deliveries have sensors to monitor doors, cargo, braking systems and more. Those upgrades accompany the driver-facing tractor cameras that can identify distracted operators and other risks, which Amazon has used since 2017.

Since appropriate workloads are important for keeping drivers safe, the e-commerce company also invested significantly in its route-planning and predictive analytics software. The associated data feeds into a mobile technology system that Amazon's carriers and drivers use. Those parties can then access safety tips, real-time alerts, performance summaries and navigation assistance.

These safety improvements also included expanding the number of cameras used within last-mile delivery trucks to identify safety incidents and provide drivers with immediate information about their surroundings. For example, the 360-degree backup detection shows obstacles as drivers reverse their vehicles. Additionally, drivers use routing software that accommodates transportation obstacles such as roadside construction. It also aids vehicle operators in making safer lane changes.

Thanks to the advanced software in Amazon's fleet, drivers, managers and others can see what happens during every journey. The wealth of associated data allows decision-makers to act quickly and make up-to-the-minute changes in response to fluctuating environmental conditions or other factors that could make deliveries arrive late or result in other unwanted effects.

Satisfying Customers with Speedier Deliveries

The online shopping boom has challenged logistics professionals to be increasingly efficient in delivering parcels to the right places within the expected time frames. Falling short can have costly consequences. A 2024 study showed 45% of customers would be unlikely to make a purchase if the delivery speed was too slow.

Additionally, 14% of deliveries were scheduled to occur within two hours of the order confirmation, but only 26% of brands provided such speed. Similarly, 18% of customers got same-day delivery for their items, but just 34% of brands offered it. These takeaways show that fast deliveries are important for significant percentages of customers, and companies might attract more consumers by handling them.

However, as delivery time frames shorten, logistics professionals must find inefficiencies in their current processes and work diligently to solve them. Trucking software features can help them do so, especially if their chosen platforms have route optimization capabilities. In one case, logistics professionals at a company providing sawn timber for various industries faced challenges because they used a manual route-planning strategy that did not allow for visibility across teams.

Since the logistics network consisted of multiple distribution centers, seven sawmills and hundreds of trucks, decision-makers knew it was time for strategic changes. They achieved them with routing and scheduling software. Managers said the software allowed them to spend significantly less time handling delivery planning and gave them per-depot visibility of what each truck carried. Additionally, people could use the trucking software features to study various loading and delivery scenarios and choose the most appropriate ones. Some vehicles deliver directly to customers, making logistics operations more efficient.

Addressing Maintenance Needs with Trucking Software Features

Truck breakdowns can be prohibitively costly for logistics firms due to the ripple effects they often cause. The associated issues include delivery delays, unplanned costs for urgent repairs and additional risks to drivers if the problems that made their vehicles inoperable are life-threatening.

However, many trucking software providers have addressed that need with specialized products that help users stay on top of maintenance needs and substantially reduce the chances of such incidents. One inspection-based tool generates condition reports in seconds, letting users determine if trucks need servicing to return them to the road. Options also exist that compile sensor data in user-friendly dashboards, showing if specific vehicles suddenly show reduced fuel economy or develop unusual vibrations.

Keeping all the information within a cloud-based platform is an ideal way to improve recordkeeping and eliminate the chances of people losing or damaging physical paperwork. People also do not need to keep track of mileage-based maintenance steps because platforms automatically deliver notifications to users' phones or inboxes to remind them what to do and when.

Streamlining logistics operations this way allows people to verify how much they typically spend on maintenance needs per month or year. It is then easier to identify abnormalities. For example, if a specific vehicle's brakes need servicing far more often than its counterparts, that could mean the person operating it needs coaching to reduce the harsh driving activities that result in the brakes not lasting as long as they should.

Remaining Competitive in the Digital Age

Many logistics leaders realize trucking software is essential to help them stay profitable and in demand while retaining current customers and attracting new ones. Making calculations manually is too time-consuming and error-prone, but software fills a well-defined need by helping people work more productively and respond to changing conditions.

Statistics indicate less than 0.3% of carriers have at least 200 trucks in their fleets. That confirms how most operators work outside of the world's biggest brands, but they still play essential roles in keeping goods flowing through the modern economy.

Anyone who has helped run a smaller business knows it often involves fulfilling many duties, including those not mentioned in official job descriptions. However, trucking software is convenient because it lets people spend more money and time on the specific tasks that directly support their companies' success.

There is no need to continue using spreadsheets or other inadequate tools to plan routes, schedule loads and ensure that no driver works longer than the legally permissible hours. Research also confirms how logistic professionals increasingly choose digital tools to support their workflows. A 2023 study of global logistics providers and shippers showed that companies utilizing such tools for logistics operations have experienced short-term performance improvements of 10%-20% and enhancements of 20%-40% within 2-4 years.

Start Benefiting from Trucking Software Features Today

Streamlining logistics workflows is an excellent way to impress customers and keep operational costs low. Succeeding can also allow leaders to ensure their offerings are on par with peers. Trucking software can help people achieve many of these goals, strengthening their businesses over the short and long term.

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7 Qualities to Look for in a Logistics Provider

Shopping around for a new logistics provider in 2025? Here are seven must-haves to add to your shopping list.

In our global marketplace, a reliable logistics partner is no longer a luxury—its a necessity. The right partner can streamline your supply chain, reduce costs, boost your bottom line and keep your customers happy (and coming back for more). The wrong one can impact your operations, leading to costly delays, damaged goods, unhappy customers and even a tarnished reputation.

Choosing wisely is paramount to your business success. Here are seven qualities to look for as you evaluate logistics providers and choose the right one for your organization:

1. **A full suite of capabilities.** Some providers go beyond transportation and logistics. If you need more, look for one that assists with navigating complex customs requirements; connects you with key partners; and collaborates closely to understand your business needs and support your company's growth, DHL's Greg Hewitt recommends in *Forbes*.

2. **Solutions that will scale with you.** Prioritize adaptability over long-term commitments, says SmartOSC's Thai Son Nguyen, and look for a vendor who understands your short-term needs and thinks like your business. "A partner who offers solutions that evolve with your business can save time and, ultimately, have a greater impact on your bottom line," he adds.

3. **A proven track record.** When choosing a transportation and logistics provider, prioritize reliability and flexibility. Look for a company with a proven track record and a commitment to meeting deadlines. "Flexibility is also crucial, as your business needs may change over time," Novae's Reco McCambry says. "A provider that can adapt to your evolving requirements will be a valuable partner."

4. **Top-notch service and good problem-solving.** "Most anyone would agree that service is needed when you get into stressful logistics problems," ATS Logistics points out in "What to Look for in a Logistics Company." Whether you have freight damage, delayed shipments, packaging issues or misclassifications, you need a partner to have your back in those situations. "Choosing the right logistics company can be hard and there are a lot of factors to consider," the company adds, "but service should be one of the most important."

5. **Access to expansive carrier and supplier networks.** Logistics providers with reliable networks can ensure that your cargo gets where it needs to go, when it needs to. "In many cases, finding a third-party logistics (3PL) company that has a massive network of regional and national suppliers and carriers means the difference between success and failure of your shipments," ATS Logistics says. "As much as companies try to plan for the unexpected, there will always be situations where freight needs to be expedited or recovered (sometimes more often than we would like)."

6. **Able to handle your company's present and future needs.** As you go through the evaluation process, be sure to consider your present needs and what you might need in the future. What kind of capabilities do these companies have that can take care of your short-term and long-term requirements? Ask yourself questions like:

- Do the logistics providers have the kind of trucks and/or vehicles that we need to move our freight?
- Can they offer hazmat, oversized options or maybe a drop trailer?
- Is the provider's carrier and supplier network big enough to give us the best option to move our shipments?
- Can the company move freight across borders and oceans?
- Do we have extra needs that a 3PL can help with?
- And what sort of technology does the company offer?

7. **Ample warehousing space (or, access to the space on demand).** One of the first and most common struggles that growing companies encounter is finding the right warehousing space in the right location to store their products. By collaborating with a logistics partner that has ample warehouse space—or at least fast access to the space—you'll gain access to a network of facilities to meet your needs. "These warehouses often feature high-tech inventory management systems, which in turn reduces your risk of overstocking or facing stockouts, security systems and personnel to safeguard your products," Sheer Logistics says, "and if needed, temperature-controlled space to ensure the freshness of perishable items."

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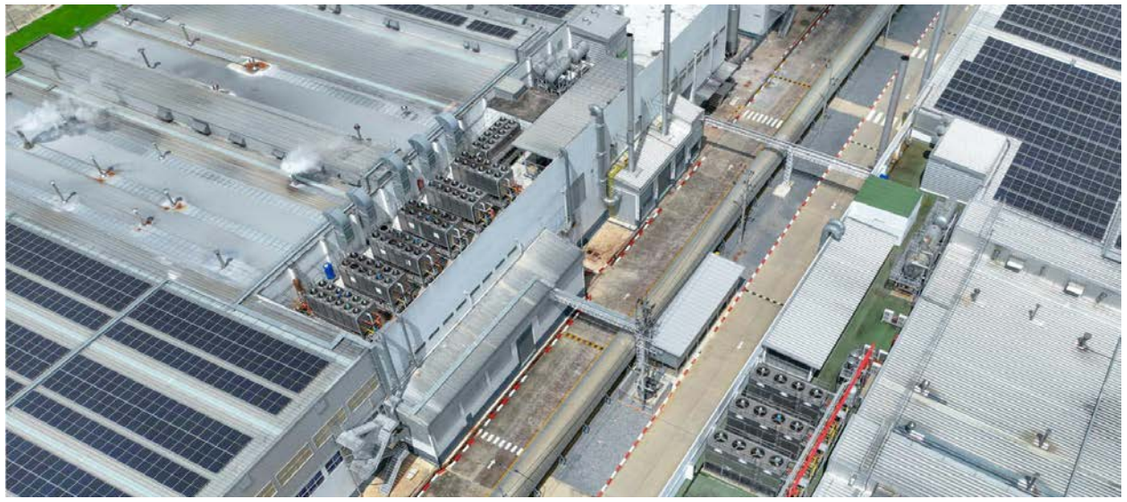
EMILY NEWTON | Contributor



Are Wasteful Warehouses Coming to an End? The Rise of Net-Zero Logistics

The world's supply chains prepared not only for a new year, but also for a new U.S. presidential administration that promised changes in 2025.

Logistics is an essential industry, but one with a significant impact on the environment. As attention to climate issues has grown, so have strategies to reduce the sector's waste and greenhouse gas (GHG) emissions. While the world has yet to achieve the goal of net-zero logistics, organizations have made significant progress.

The Need for Net-Zero Logistics

Transport accounts for over a third of CO_2 emissions, and cargo accounts for much of this impact. More worryingly, transportation-related emissions are growing faster than any other sector. Slowing shipping itself is not an option—the world needs functioning supply chains to sustain itself—so transitioning to high-efficiency workflows and renewable energy is a must.

Electricity is another prominent climate concern in the industry. Most power today comes from fossil fuels, and warehouses use a lot of it to drive equipment, maintain optimal temperatures and keep lights on. As these facilities grow amid rising production, energy-related emissions become a larger problem.

Businesses must address these issues to protect the environment, but the consequences go beyond long-term sustainability. Today's customers are increasingly skeptical of wasteful companies, so efficiency is becoming a matter of client loyalty.

There are legal implications to consider, too. Climate laws are rising, with some jurisdictions requiring steps like reducing heavy-duty vehicle pollution by 15% by 2025. Failing to comply with environmental regulations could lead to fines, depending on where a business operates.

What Technologies Enable a Net-Zero Warehouse Today?

Building a net-zero warehouse is not easy, but it's a more accessible goal today than it has been in the past. Several technological improvements have paved the way for greater efficiency, and logistics providers must consider how they can use these to lower the sector's emissions.

Newer, more efficient utility systems like lighting and heating make a considerable difference. Swapping incandescent or halogen lights for LEDs can reduce electrical usage by 80%, resulting in far fewer lighting-related electricity emissions.

The Internet of Things (IoT) is another key innovation. Smart lighting and HVAC systems can adjust automatically to changing real-time conditions, maintaining optimal temperatures and lighting while using as little power as possible. While the effects may seem minimal initially, this efficiency leads to significant emissions reductions over time.

Adopting electric vehicles (EVs) in company fleets is imperative. The manufacturing and electricity consumption of EVs do entail some emissions, but they still emit over 70% less than gas and diesel alternatives. Long-range EVs are not yet widely available, but organizations can use electric vans for last-mile deliveries.

Of course, renewable energy also plays a key role in net-zero warehouses. Facility roofs provide an ideal space for on-site solar generation. Even if companies cannot generate enough solar power for their whole operation, they can reduce how much fossil fuel energy they must purchase from the grid. Carbon offsets—which involve investing in renewable electricity elsewhere—can compensate for a lack of clean power in areas where it's less feasible.

How Close Are We to Net-Zero Logistics?

The potential of these technologies is more than just theoretical. Several logistics businesses have already seen marked improvements in their journey toward net-zero emissions.

Some warehouses have been able to reduce their annual power consumption by up to 60% through a single upgrade. By using high-efficiency cooling technology, a refrigerated production line eliminated 655.7 tons of CO_2 from its carbon footprint.

A study from the National Renewable Energy Lab found four out of six companies have implemented emissions reduction goals. Many use LED lighting and solar power to achieve such targets. At least one organization is on track to eliminate transportation emissions through EVs by 2025.

Cases like these highlight a promising trend—facilities across the globe are making substantial progress toward a net-zero future. Some have even succeeded in that ultimate goal.

In 2020, a warehouse in the Netherlands became the first certified zero-carbon industrial building, consuming just 1.7 megawatt-hours (MWh) of electricity while producing 3.5 MWh of solar energy annually. The remaining renewable electricity can power roughly 700 households, leading to even broader sustainability improvements.

What's Next for Green Logistics?

Despite such impressive strides, global net-zero logistics is still far from becoming a reality. The industry must grapple with several remaining issues and stay on top of technological advancements to become truly green.

One of the biggest barriers is the unavailability of EVs for longer routes. While it's entirely possible to electrify all last-mile fleets, diesel and gas remain the only viable options for long-haul trucking, air transport and ocean freight for now. However, this will change in the future.

Hydrogen fuel cells could support longer drives where battery-powered EVs struggle. Early tests of hydrogen-powered trains achieved ranges of 1,000 kilometers, as the element is more energy-dense than any other fuel. There are not many hydrogen trucks available in today's market, but businesses could invest in their research and development to accelerate their timeline.

Upfront costs are another leading concern. Renewable energy, EVs and IoT infrastructure all introduce significant expenses. However, their resulting efficiency lowers ongoing spending over time, so they eventually make up for this investment. Slowly upgrading systems one by one to spread out the financial burden could help organizations manage the costs.

Carbon offsets may be necessary as the industry waits on technologies to enable more dramatic sustainable upgrades. While credits are not a perfect solution, they buy time by reducing global emissions, allowing a slower rollout for other innovations.

The Warehouses of Tomorrow Must Be More Efficient

Net-zero logistics is a lofty but necessary goal. The industry must reach it one way or another, and doing so may improve business in the short term as it paves the way for longer-term benefits.

Warehouses and their supporting organizations have a long way to go before they can claim to be truly sustainable. Still, many are making considerable progress, and the way forward will get easier with additional technological advancement. Staying on top of these trends is key as companies look to the future.

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LOGISTICS COMPANIES AND SERVICES

alvys - **Supercharge Your Logistics Company**

Alvys offers TMS software, which is a digital platform that helps businesses plan, execute, and optimize the movement of goods from one location to another, essentially managing the logistics of shipping and delivery by streamlining the processes. This includes logistics workflows in freight tendering, carrier procurement, dispatch, fleet management, accounting and relationship management. www.alvys.com

ARKIEVA - **Optimize Your Supply Chain**

For close to 30-yrs, Arkieva has been focused on solving complex planning challenges, and creating cutting-edge technology that enables you to run your business at peak performance. From supply and demand to inventory planning we are here for your business transformation. www.arkieva.com

AVERITT - **he Power of One Provider for Port Logistics**

At Averitt, we recognize that sustainability isn't simply a goal – it's an ongoing responsibility. Particularly for those of us in the transportation industry. Averitt's network of 100+ facilities is the strongest in the South. With a team of dedicated associates (15% of whom have been with Averitt for 20+ years), and a fleet of safety-focused equipment, we have the resources and experience to provide you the best service in our network and beyond. www.averitt.com

BarTender - **Digital Intelligence for a Smarter Supply**

BarTender provides intelligent label design and printing solutions that empower you to reduce friction, optimize productivity, and ensure regulatory compliance across your supply chain. www.bartendersoftware.com

Breakthrough - **Sustainable Fuel and Freight Solutions for Shippers**

Breakthrough provides innovative transportation technology and market insights to the world's most reputable household brands. Using cutting-edge technology and industry expertise, we deliver sustainable fuel and freight solutions that reduce cost, create fair partnerships, and decarbonize transportation networks. www.breakthroughfuel.com

C.H. Robinson - **Logistics Like No One Else**

C.H. Robinson delivers logistics like no one else. We work with a network of more than 110,000+ carriers to create greater supply chain efficiencies for our customers. This network, combined with our industry leading technology and unmatched service, has been the key to our growth, plain and simple. www.chrobinson.com

DAT Freight & Analytics - **We Take The Uncertainty Out of Freight**

DAT Freight & Analytics operates both the largest truckload freight marketplace and truckload freight data analytics service in North America. Shippers, transportation brokers, carriers, news organizations, and industry analysts rely on DAT for market trends and data insights. Taking the uncertainty out of freight since 1978. www.dat.com

DSV - **Connect Your Business with the World**

DSV provides optimized transportation and logistics solutions designed by our supply chain experts, ensuring the right balance between costs, CO2 compensation, service levels, lead times and risk. Our global network and strong partnerships provide you with a carrier mix tailored to your needs. We ensure optimization across all modes of transport through the insights of our local experts. In our Customer Success Program we are mapping how customers experience our services to helps us identify our strengths as well as areas for improvement. www.dsv.com

Echo - **Voted Your #1 3PL for 8 Years in a Row**

Founded in 2005, Echo strives to simplify transportation management as a leading provider of technology-enabled transportation and supply chain management services. www.echo.com

Exotec - **Solving Complex Challenges for the Total Warehouse**

Exotec offers an automated storage and retrieval system that simplifies warehouse processes by reducing the need for extra equipment, saving space, time and costs. Founded in 2015 in Lille, France, Exotec has grown into a global leader in warehouse automation. www.exotec.com

Gains - **Powering Rapid Results, and Innovating for the New Immediacy of Supply Chain**

At Gains, our platform is designed to help businesses keep factories running and shelves stocked while minimizing carrying costs, transportation expenses, and carbon emissions. Hundreds of manufacturers, distributors and retailers around the world are using GAINS to optimize their supply chain, free up working capital, and fulfill every customer promise. www.gainsystems.com

generix - **Turn each Digital Connection into Digital Value**

Our team at Generix has been pioneering supply chain, invoicing, commerce, integration, collaboration… software and many more breakthrough innovations for more than three decades. Thousands of companies across the globe rely on us each day to best serve their customers and grow sustainably. And we are just getting started on this innovation journey with and for our clients. www.generixgroup.com

GXO - **Discover logistics at full potential**

At GXO we design, manage, and optimize supply chains. We help customers get the most out of their supply chains by improving the flow of goods, from ecommerce fulfilment and flexible distribution to warehouse automation and reverse logistics. www.gxo.com

its logistics - **Supply Chain Excellence**

Founded in 1999, ITS Logistics has everything you need to maximize your supply chain from container management to network transportation to distribution + fulfillment driven by operational excellence, technology and the best people in the industry. www.its4logistics.com

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LOGISTICS COMPANIES AND SERVICES

J.B. Hunt - Driven for You

J.B. Hunt is a transportation and logistics company that provides a variety of services, including truckload, intermodal, less-than-truckload shipping, and has over 60 years of experience in moving freight forward. www.jbhunt.com

PathGuide

Contact PathGuide if your company is challenged with workflow efficiency. We know the importance of having a warehouse that runs smoothly. If you want your warehouse to work for you, check out what makes Latitude the best warehouse management system solution for almost any operation. Maybe you're looking for faster and more accurate order fulfillment strategies. Whatever your challenge, let PathGuide assist you. www.pathguide.com

Pegasus Logistics Group - Crush Supply Chain Complexity

Pegasus, since 1994 we redefine the standards for time-definite transportation. We provide custom solutions and outstanding experiences by investing resources into team members, technology, and a superior transportation network. This approach frees us from an asset-heavy environment beholden to the push-pull mentality of multi-location facilities with large footprints in every market. www.pegasuslogistics.com

Penske Logistics - Supply Chain Solutions for Every Business

For decades, Penske has been investing in sustainable solutions that improve energy efficiency and reduce the transportation sector's environmental impacts. Through dedicated research, strategic pilot projects and partnerships, Penske remains committed to advancing initiatives that add value to our operations and enable customers to harness the benefits of conserving resources. www.penskelogistics.com

QAD - Thinking tariffs are unavoidable? Think again.

In 1979, QAD was founded to solve a manufacturing problem. Today, we serve customers in over 100 countries around the world. To create the best full-featured manufacturing ERP software and supply chain solutions for our customers we need to work together. We pride ourselves on our customer engagement and our commitment to deliver manufacturing and supply chain solutions that enable our customers to rapidly respond to change and innovate for competitive advantage in a disruptive and turbulent world. It's in our DNA. www.qad.com

RXO - Smart Solutions to Move Your Freight

For more than a decade, RXO has been a leader in brokered transportation. We're the original disruptors in our industry, bringing seasoned transportation professionals and master technologists together to help shippers and carriers move freight efficiently. Solutions including managed transportation, freight forwarding and last mile delivery. www.rxo.com

SAP - Connect everything. Achieve anything.

SAP empowers Supply Chain professionals to master information and processes across their extended ecosystems, to gain critical visibility, supply chain agility and resilient supply chains. www.sap.com

Sensitech - A faster route to end-to-end supply chain visibility

Since the beginning, Sensitech has led the industry in technology innovation. Our expansive range of time, temperature, environmental, and location monitors combine advanced capabilities with proven performance under the harshest, real-world conditions. Our strict adherence to globally recognized standards, including ISO 9001:2015, enables us to serve industries where quality is paramount. www.sensitech.com

STG Logistics - North America's Premier Port-to-Door Solution Provider

STG Logistics is North America's largest provider of port-to-door services and supply chain solutions. We excel through the strategic synergy of people, technology and an extensive network of assets and facilities across North America. From order placement to final mile delivery, we support our clients at every stage. www.stgusa.com

Surgere - AI-Powered, Frictionless Supply Chains for Every Industry

Surgere is an industry pioneer leveraging IoT technology to revolutionize the supply chain. We know the challenges and have engineered innovative secure technology, patented software, and certified hardware to consistently deliver 99.9% data fidelity. We're expanding visibility into the physical supply chain to many of the world's leading industries. www.surgere.com

TQL

TQL connects customers with shipping needs with carriers that have the available capacity and service offerings. We work with a network of more than 110,000+ carriers to create greater supply chain efficiencies for our customers. This network, combined with our industry leading technology and unmatched service, has been the key to our growth, plain and simple. www.tql.com

Uber Freight - Powering Intelligent Logistics

Uber Freight delivers an end-to-end enterprise suite of Relational Logistics to advance supply chains and move the world's goods. Only Uber Freight offers the industry-leading combination of technology, capacity, and partnership. Our proprietary AI-Optimized Network surfaces deep insights to supercharge and streamline operations. www.uberfreight.com

YMX - Integrated Yard Logistics Operations for Enterprise Shippers

Excellence driven since 1982. YMX enables your yard to operate in sync with the warehouse, transportation, and across your network. YMX Logistics is a trusted national provider of end-to-end outsourced yard logistics. YMX specializes in sustainable, optimized enterprise yard and transportation services and solutions for all sized yards across retail, manufacturing, and distribution sectors. www.ymxlogistics.com

ZIMARK - Revolutionize the Logistics World With Flying Colors!

Simpler is better and ZIMARK's goal is to make everything simpler. Thanks to our revolutionary, innovative game-changing approach to logistics and our superior patented scanning technology, ZIMARK can confidently make the entire logistics and supply chain process smarter & so much more efficient. www.zimark.io

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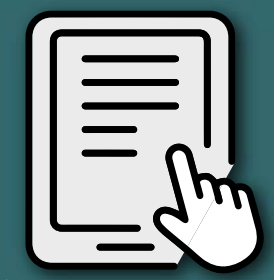
This Annual Report will provide forecasts, perspectives and analysis through interviews from a wide variety of distributors.



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