2025 MHI ANNUAL INDUSTRY REPORT

MHI Deloitte.

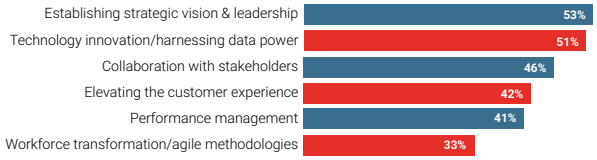


THE DIGITAL SUPPLY CHAIN ECOSYSTEM:
ORCHESTRATING END-TO-END SOLUTIONS

THE DIGITAL SUPPLY CHAIN ECOSYSTEM
ORCHESTRATING END-TO-END SOLUTIONS

2025 MHI Annual Industry Report Key Findings

ACCELERATING DIGITAL TRANSFORMATION
How firms are accelerating digital transformation in their supply chains

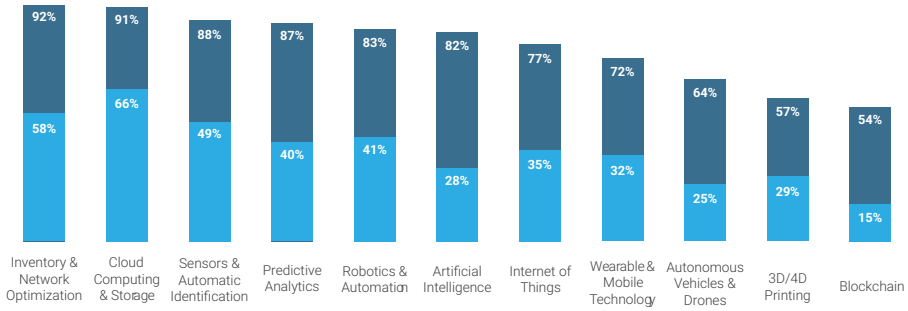


TOP SUPPLY CHAIN TRENDS
Ranked trends based on impact to operations

- Inflation
- Economic uncertainty
- Workforce & talent shortage
- Supply chain agility/resiliency
- Inventory challenges

ADOPTION TRENDS
In-use today | Within 5 years

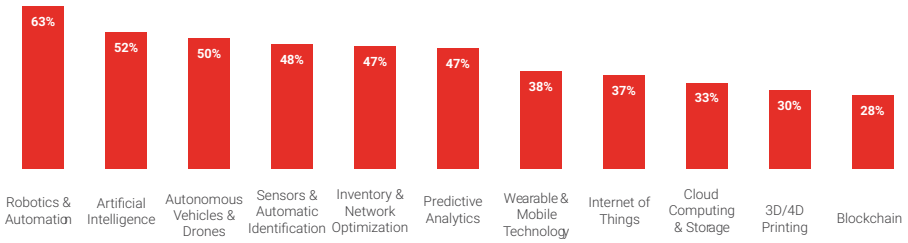
Predicted adoption of technologies within 5 years



ADOPTION BARRIERS
Top 3 company barriers to adopting technologies

- Lack of a budget
- Lack of a clear business case
- Lack of understanding of technology

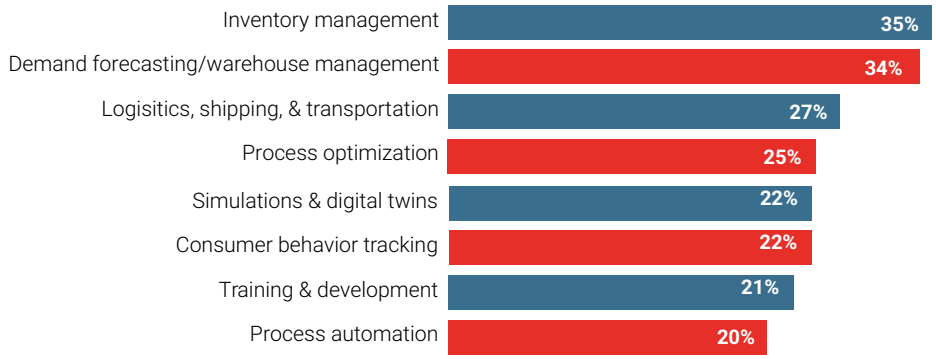
IMPACT OF TECHNOLOGIES
Potential to disrupt the industry or create competitive advantage



TOP SUPPLY CHAIN CHALLENGES
Top 5 company challenges rated extremely or very challenging

- **52%** Hiring & retaining workers
- **45%** Talent shortage
- **44%** Forecasting
- **43%** Customer demands

AI USE IN SUPPLY CHAIN
Current or predicted uses of AI within 2 years



CONTENTS

4 INTRODUCTION

7 THE SUPPLY CHAIN ORCHESTRATION IMPERATIVE

10 DEVELOPING AN END-TO-END STRATEGY AND VISION

13 BUILDING THE FOUNDATION FOR ORCHESTRATION

19 TACKLING ONGOING TALENT CHALLENGES

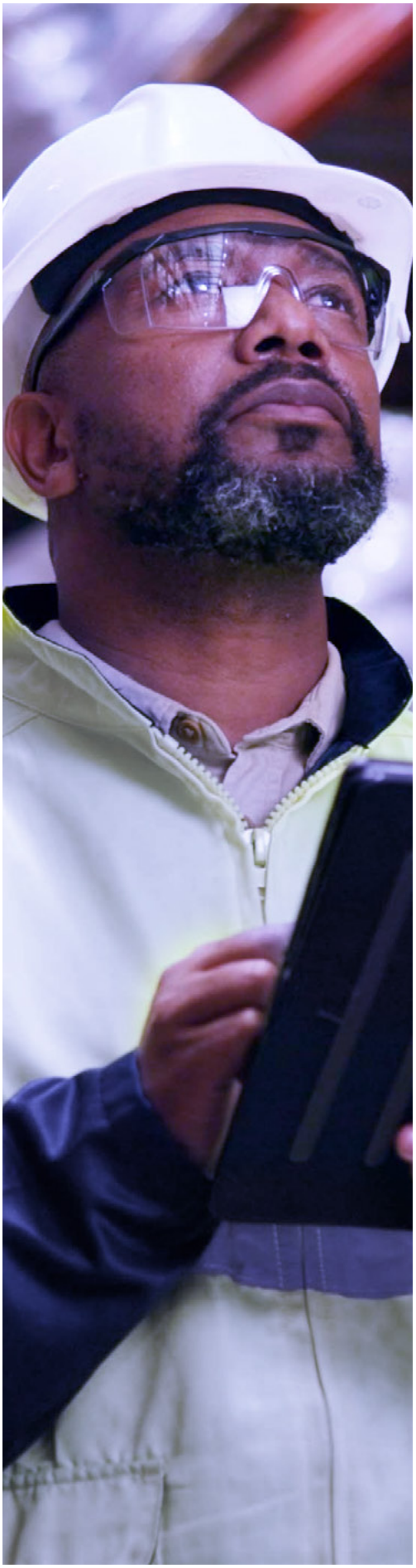
23 KEY TRENDS IMPACTING SUPPLY CHAINS IN 2025

25 ACTIONS FOR SUPPLY CHAIN LEADERS

28 CONCLUSION

29 REFERENCES

30 ABOUT THE REPORT



INTRODUCTION

"These are exciting times for the supply chain industry as we see the orchestration of technology and talent coming to the forefront. The future of supply chains will center around striking the right combination of human talent and technology to enhance efficiency, transparency, and sustainability."

- John Paxton, MHI CEO

Many of the biggest challenges for today's supply chain decision makers revolve around trying to effectively orchestrate the disparate elements of their increasingly complex supply networks and logistics systems. In pursuit of end-to-end (E2E) supply chain orchestration—which provides clear, actionable information to maximize operating efficiency—many organizations have heavily invested in advanced data collection systems that capture large volumes of valuable information on forecasting, planning, talent, and operations. However, they often lack a holistic method to interpret the information and produce high-value, actionable conclusions. This problem is exacerbated if the scope of an organization's E2E orchestration efforts include outside suppliers, which face their own capacity constraints and planning challenges.

Effective E2E supply chain orchestration doesn't just enable better forecasting. It also helps supply chain organizations manage workforce requirements more effectively, retain and upskill talent, and transition from a traditional staffing model to a skills-based approach that is better suited to today's supply chain environment.

This year's survey results show that supply chain decision-makers are embracing new paradigms for scaling and adjusting their labor pools in response to rapidly changing business needs (which can vary by order, season, and logistical constraints). New data collection technologies are enabling this shift, making it easier for employees to demonstrate their most efficient skills and identify areas where they can advance and upskill. More broadly, numerous emerging and maturing technologies are making it easier and more efficient for supply chain organizations to achieve E2E orchestration. These include the latest artificial intelligence (AI) and machine learning (ML) systems, as well as more established technologies such as digital twins and the Internet of Things (IoT)—all of which enable

supply chain leaders to analyze data and make decisions faster and more effectively than ever.

In this report, we explore the need for supply chain organizations to pursue end-to-end orchestration and offer practical insights on how to achieve it. We also highlight some of the emerging and maturing technologies that are likely to have the greatest impact on supply chain organizations in the months and years ahead.

SURVEY HIGHLIGHTS

The results from this year's survey—which include responses from more than 700 supply chain leaders globally—highlight a number of important supply chain challenges and trends and provide valuable insight into how organizations are responding.

AI ADOPTION IS SURGING

Adoption of artificial intelligence is expected to rise dramatically, with 28% reporting that it's in use today, and another 54% reporting that they plan to have it in use

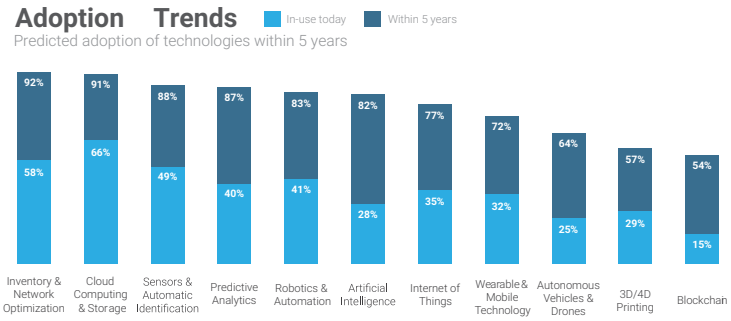


Figure 1: Survey results - adoption trends

within 5 years, making the 5 year total nearly triple that of today at 82% by 2029. (Figure 1).

AI is already adding value in a wide range of supply chain processes, from inventory management to demand planning to logistics. Moving forward, supply chain organizations will be increasingly leveraging AI to enhance all aspects of their operations. In particular, agentic AI—which can operate independently without human guidance or oversight—has the potential to quickly and proactively address disruptions, enhance forecasting precision, and improve overall visibility within the supply chain.

THE SUPPLY CHAIN ORCHESTRATION IMPERATIVE

Today's business environment is increasingly complex and volatile—requiring a more integrated and agile approach to supply chain management. End-to-end (E2E) supply chain orchestration, which seamlessly connects every stage of the supply chain, has emerged as a critical strategy for organizations to remain competitive.

TACKLING ONGOING TALENT CHALLENGES

In a rapidly evolving business landscape constantly disrupted by emerging digital technologies, managing talent is increasingly challenging and important. Integration of key technologies such as artificial intelligence (AI), machine learning (ML), and the Internet of Things (IoT) will require a workforce that is not only proficient with these technologies but also adept at adapting to constant change.

KEY TRENDS IMPACTING SUPPLY CHAINS IN 2025

According to this year's respondents, the top five most impactful supply chain trends are: inflation (38%); economic uncertainty (37%); workforce and talent shortages (35%); supply chain agility and resiliency (28%); and inventory challenges (25%).

As supply chain organizations wrestle with these forces—and work to embrace and integrate new technologies such as agentic AI—they continue to broadly focus on strengthening their operations to withstand future challenges and capitalize on emerging opportunities, both of which are crucial for maintaining a competitive advantage in a dynamic global marketplace.

SUPPLY CHAIN INVESTMENT CONTINUES TO SHIFT

Supply chain spending declined sharply from an annual average of $26 million in 2023 to $13 million in 2024. However, this shift must be viewed in a pre-pandemic context. In 2019, supply chain spending was $14 million, so the 2024 spending levels more or less reflect a return to normal after a period of very aggressive investment to fix critical problems surfaced by the pandemic. Also, 55% of respondents plan to increase their investments in supply chain innovation—with 60% planning to spend over $1 million and 19% planning to spend over $10 million.

As we approach the pandemic's five-year anniversary, the ongoing shifts in supply chain spending are a reminder of the global disruptions that paralyzed traditional supply chain operations and prompted business leaders to prioritize substantial investment in this area.

During the pandemic, organizations nearly doubled their supply chain spending to recover, adapt, and ultimately thrive in the face of unprecedented challenges. What we are seeing now is a normalization of spending as organizations have adapted to their new operating environments. This stabilization gives organizations the opportunity to adopt a more holistic perspective, thoughtfully assessing their current state and planning for future growth.

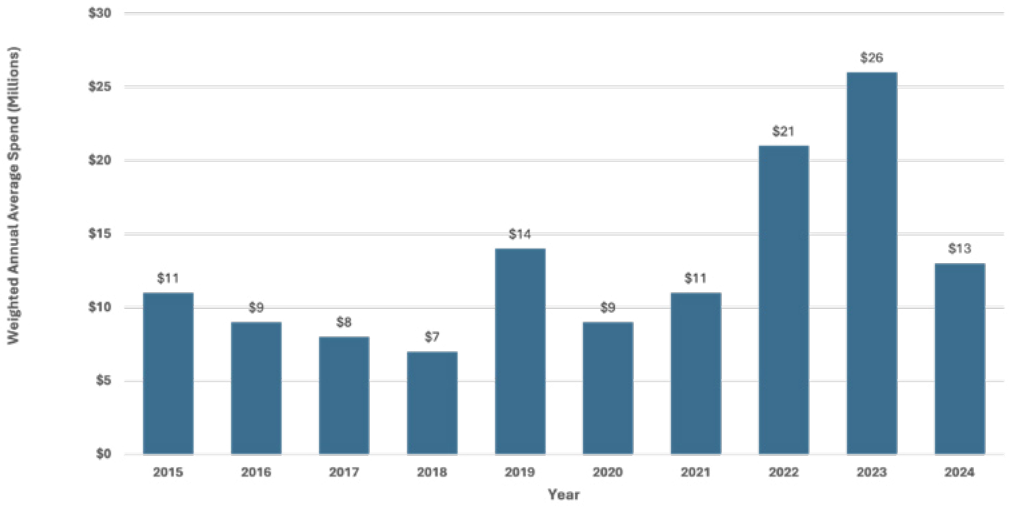


Figure 2: Survey results - weighed supply chain investments year over year

The pandemic exposed many new vulnerabilities but also accelerated the need for innovative solutions to longstanding challenges. Many of these challenges have now been addressed through prior technology investments, enabling organizations to optimize their supply chains and operate more efficiently in the post-pandemic landscape.

During times of economic uncertainty, organizations often cut back on new investment to conserve cash and maintain financial stability. In this year's survey, one in five respondents identified economic uncertainty and inflation as significant challenges impacting their operations and influencing their investment in supply chain technologies.

By understanding these factors, organizations can strategically navigate the current landscape, uncovering opportunities to innovate and optimize their supply chains for long-term success.
Strategic shifts also play a significant role in organizations' technology investments and resource allocations. In 2024, only 25% of organizations were focused on reskilling or retaining their workforce; however, this number increased by 13 percentage points to 38% in 2025. This might indicate a broader shift in focus toward maintaining current operations and leveraging prior technology investments. For example, 45% of respondents plan to purchase automation equipment, and 42% plan to buy forklift trucks and other handling equipment to modernize their hardware and improve daily productivity, unlocking the capabilities of technology in which they have already invested.

Other survey responses show an intriguing correlation with this hypothesis. Several supply chain technologies have seen increased usage over the past year, suggesting organizations are striving for a more stable supply chain ecosystem and moving toward integrating tools and technologies to enable comprehensive, end-to-end supply chain orchestration. For instance, use of cloud computing and storage increased by 28 percentage points from 2024 to 2025. Similarly, use of inventory and network optimization tools rose by 24 percentage points, and use of sensors and automatic identification technologies grew by 18 percentage points.



THE SUPPLY CHAIN ORCHESTRATION IMPERATIVE

"Regardless of your industry, it's crucial to recognize that you don't need to be an expert in every area, but rather have self-awareness of your organization and focus on leveraging others' strengths and collaborating effectively to create comprehensive business solutions."

- Priscilla Burke, Director, Supplier Risk & Compliance, Stanley Black & Decker

Today's business environment is increasingly complex and volatile, requiring a more integrated and agile approach to supply chain management. End-to-end supply chain orchestration, which seamlessly connects every stage of the supply chain, has emerged as a critical strategy for organizations to remain competitive.

One of the primary enablers for holistic, end-to-end supply chain orchestration is the ongoing trend of digital transformation, which has been boosted by rapid advances in artificial intelligence—and most recently the emergence of agentic AI. The vision for agentic AI is that autonomous AI agents will have the ability to execute assigned tasks on their own by acquiring and processing multi-modal data; using available tools to complete tasks; and coordinating with other AI agents. This is the next logical step for AI, giving systems access to more varied types of information and increasing AI's level of responsibility and autonomy. AI agents have the potential to help with a wide range of supply chain activities, such as identifying and implementing new routes for outbound transportation or making supply plan adjustments based on new market data.

Global supply chain disruptions, such as those triggered by the COVID-19 pandemic, natural disasters, and rapid regulatory changes have further emphasized the importance of resilience and flexibility. Research and real-world experience show that traditional linear supply chain models are ill-equipped to handle disruptions in complex global networks.[1] End-to-end orchestration improves supply chain resilience by enabling organizations to rapidly adapt to unforeseen challenges, optimize resource allocation, and maintain service levels during crises. This agility is essential in

an era where supply chain risks are more pervasive, unpredictable, and costly than ever before.

Sustainability is another key factor driving the adoption of end-to-end supply chain orchestration. As long as stakeholders continue to prioritize environmental and social responsibility, companies will face increased pressure to ensure sustainable practices throughout their supply chains. E2E orchestration enables organizations to monitor and measure sustainability metrics—such as carbon emissions and supplier compliance—across the entire value chain.

Proven research shows that integrating sustainability into supply chain management not only reduces an organization's negative environmental impact but also improves its reputation and customer loyalty and can improve efficiency.[2]

Finally, the inefficiencies of siloed supply chain operations further amplify the need for E2E orchestration. Fragmented processes often lead to misaligned goals, poor communication, and suboptimal performance. Conversely, end-to-end integration better aligns supply chain functions, resulting in cost savings, enhanced productivity, and superior customer satisfaction. By adopting a unified approach, an organization can optimize inventory levels, improve demand forecasting, and streamline operations across all nodes of its supply chain.

The convergence of digital transformation, resilience imperatives, and pressure to improve both sustainability and operating efficiency makes end-to-end orchestration an essential strategy for today's supply chains. Academic research and real-world experience both underscore the transformative potential of E2E orchestration to address current supply chain challenges while fostering business innovation and growth. By embracing this comprehensive and integrated approach, organizations can achieve operational excellence, improve resilience, and build a sustainable competitive advantage in an interconnected but increasingly volatile global market.



"The convergence of digital transformation, resilience imperatives, and pressure to improve both sustainability and operating efficiency makes end-to-end orchestration an essential strategy for today's supply chains."

ORDER FULFILLMENT IN MINUTES

Situation: A leading fashion and lifestyle products retailer with annual sales of more than $5 billion was experiencing significant growth and expanding its presence across the United States and internationally. With an expanding customer base, the retailer faced the challenge of efficiently fulfilling orders while maintaining service levels. This required adding a primary fulfillment center to its distribution network, which would minimize the need for additional distribution centers in the future, streamline order processing, reduce lead times, enhance the shopper experience, make it easier to manage multiple brands and changing product assortments, and accommodate the company's rapidly rising sales growth trajectory. Also, the company's warehouse operations needed to be more flexible and scalable to minimize the impact of talent shortages as a bottleneck.

Action: The retailer selected TGW Logistics to design, implement, and maintain a highly automated, end-to-end fulfillment solution in its greenfield facility. They installed a TGW FlashPick system with 18 shuttle aisles, 48 PickCenter One workstations, and advanced KingDrive conveyors. In concert with the shuttle systems and conveyors, they implemented a mix of automated and semi-automated packing solutions to provide individualized packing to match the branding of each of the retailer's brands. Finished orders are sent through a high-speed cross-belt loop sorter to 28 spiral chutes and boom conveyors for outbound delivery.

Result: With this highly automated fulfillment center, the retailer can fully process orders in just 10-15 minutes. The solution was built to handle 324,000 order lines per day (and 340,000 order lines per peak day) and can house over 125,000 SKUs. As the retailer's new primary fulfillment center, the facility handles 100% of its brick-and-mortar orders and 50% of its ecommerce orders within North America.

Looking beyond the numbers, the retailer is able to handle a wider array of SKUs and packing tasks with more flexibility to accommodate changes in branding or packaging requirements and product assortment. Also, by using proven warehouse automation systems, the business benefits from simpler operations and more consistent uptime. The automation has streamlined daily operations and already enabled the retailer to successfully handle two peak seasons—with the most recent holiday season being its most successful to date.



DEVELOPING AN END-TO-END STRATEGY AND VISION

"Realizing the complexity of supply chains and identifying both vulnerabilities and opportunities, along with an end-to-end understanding, provides a competitive advantage by revealing who is in your supply chain, who you do business with, and where you are vulnerable or have opportunities."

-Thomas Goldsby, Dee & Jimmy Haslam Chair of Supply Chain, David P. Perrot Supply Chain Faculty Fellow, University of Tennessee

Supply chains across every industry continue to increase in complexity, creating a challenge for organizations due to larger and more diversified product portfolios, greater need for global raw materials, heightened customer expectations, and shifting regulatory requirements. These trends, coupled with persistently high interest rates and rising risk of trade shocks, increase the pressure on supply chains to be agile and adaptable.

To address these challenges, organizations are increasingly seeking to strengthen communication and coordination across their entire supply chain networks—from manufacturing to last-mile distribution. The goal is to ensure each disparate element within a supply chain is communicating effectively, focusing on shared KPIs, and aligned on key objectives.

DEVELOPING A STRATEGY FOR E2E SUPPLY CHAIN ORCHESTRATION

In this year's survey, 75% of companies view supply chain synchronization as at least somewhat challenging, while more than 25% view it as very challenging or extremely challenging.

What can leaders do to improve synchronization across their supply chains? The first step is to identify and prioritize the most important decisions, risks, and opportunities facing the company and its end-to-

end supply chain organization—both in the near and long term. For example, in an environment dominated by capacity constraints, how should an organization prioritize supply availability in the short term while optimizing inventory to maximize revenue, ensure SLA adherence, and minimize costs? Similarly, how should the organization's internal and external supply bases be planned and managed to ensure they can support demand in the medium and long term?

Having mapped out the organization's key decisions, risks, and opportunities, supply chain leaders can then think through the constraints and enablers for these cross-functional decisions and prioritize them, taking into account all the various factors related to people, processes, technology, and data.

This year's survey cited three key challenges facing supply chain leaders (forecasting; hiring and retaining qualified workers; and pricing pressures), each of which 80% of respondents cited as at least somewhat challenging and 40% or more cited as either very challenging or extremely challenging.

Addressing these challenges requires a holistic and sustained focus on supply chain synchronization. For example, although an advanced planning system can greatly improve both demand and supply planning, it is not a panacea for all forecasting challenges. Success requires not only enhanced data and systems, but also a collaborative approach that spans planning, logistics, and manufacturing to prioritize key decisions on a daily basis.

WHAT DOES BEST-IN-CLASS E2E SUPPLY CHAIN ORCHESTRATION LOOK LIKE?

Improved orchestration and synchronization require continuous iteration, re-prioritization, and sustained investment in new capabilities. Assuming organizations can successfully execute their plans and achieve best-in-class E2E supply chain orchestration, what does the end-result look like—and what benefits and capabilities does it enable?

Seamless supply chain orchestration is characterized by: strong underlying data (both internal and external); a best-in-class and fully integrated digital stack; a workforce that is digital-fluent, collaborative, and agile; and, in recent years, effective use of advanced analytics and generative AI (GenAI) tools. These capabilities combine to enable data-driven decision-making, closer collaboration, and improved handling of exception scenarios across the entire supply chain network.

E2E orchestration can increase customer loyalty by improving communication and collaboration with stakeholders and customers, offering an enhanced customer experience with faster fulfillment.[3] Using predictive analytics, organizations can more proactively resolve issues and use data-driven insights to enable continuous monitoring and improvement of processes, resulting in greater efficiency and effectiveness.[4] By harnessing the power of integrated and accurate data in end-to-end systems, organizations can improve visibility within their operations and make better-informed decisions that boost productivity and efficiency, reduce costs, and improve service levels.

Implementing best-in-class E2E orchestration enables organizations to achieve two crucial outcomes. First, it helps them optimize decision-making to achieve their strategic priorities (such as revenue maximization and cost minimization). Second, it helps them become more agile, which is a key to success in an increasingly volatile and unpredictable macroeconomic and political environment.

REUSABLE INTEGRATIONS TO REDUCE DEPLOYMENT TIME

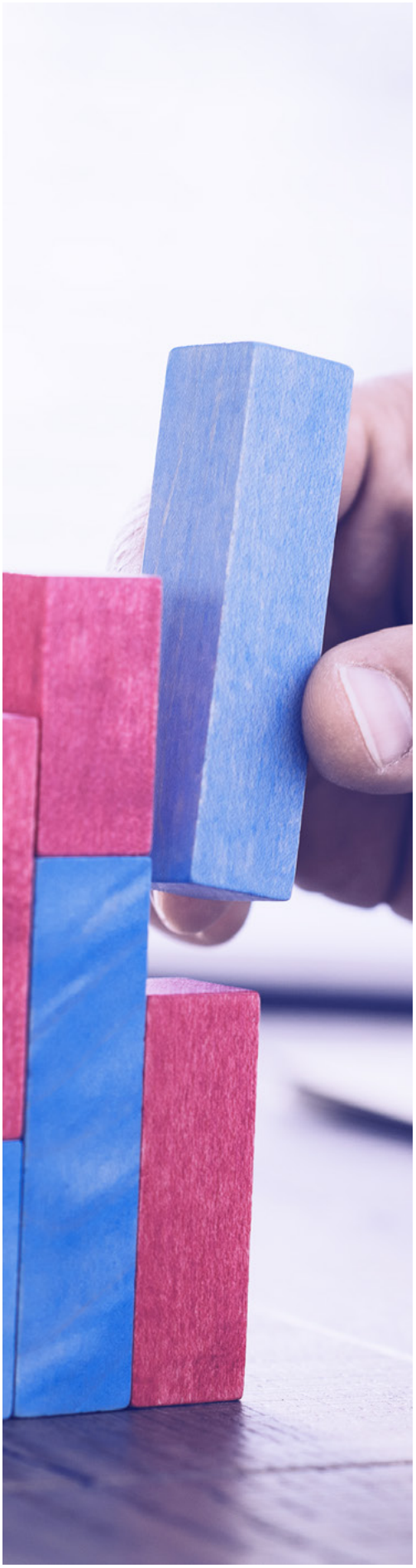
Situation: NRI is a premier third-party logistics (3PL) provider that primarily focuses on the fulfillment of apparel and footwear in the branded space through all verticals (e-commerce, wholesale, and retail). As the company grew, it needed to harness the power of autonomous mobile robots (AMRs) to scale up its operations. However, integrating robotic solutions—which included technology from 6 River Systems (6RS) and Locus Robotics—with NRI's existing warehouse management system was costly both in terms of development and ongoing maintenance. To succeed, it needed a solution that could adapt and scale as its business continued to change.

Action: The company partnered with SVT Robotics to leverage SVT's platform and expertise in connecting technologies using a tech-agnostic approach. The robotics partner provided prebuilt, reusable integrations for the solutions from 6 River Systems and purpose-built autonomous robots, which dramatically reduced deployment time, resource requirements, and cost. Use of pre-built integrations also reduced the need for custom development and support by providing a standard way for the technologies to communicate.

Result: The streamlined process allowed NRI to roll out solutions very quickly, reducing integration and deployment time from six months to just two weeks. "Our last rollout [working with SVT Robotics was within weeks," said Sunny Bagri, NRI VP of Technology "versus our first robot rollout that we did ourselves, which took us over six months of writing to the API and writing out the different test scenarios, etc."

Measurable results included increasing the picking rate by 10 units per hour per associate and reducing DC associate training time from two hours to 20 minutes. "Any way that we can shorten the timeline for our customers improves the market perception of their brand," said Ryan Dale-Johnson, NRI's VP of Business Development. "It honestly really does trickle down, all the way to the consumer experience as far as value-add goes."

Other results included enhancing worker comfort and morale, improving monitoring and troubleshooting capabilities (using SVT's dashboard), and improving agility to quickly adapt to changing business needs. By using proven warehouse automation systems, NRI was able to simplify its operations and achieve more consistent uptime.



BUILDING THE FOUNDATION FOR ORCHESTRATION

"Don't settle for your current circumstances; instead, redefine the business by working with different partners and leveraging both macro and micro agility to introduce growth opportunities and drive change."

-Thomas Goldsby, Dee & Jimmy Haslam Chair of Supply Chain, David P. Perrot Supply Chain Faculty Fellow, University of Tennessee

Historically, organizations have invested in point fulfillment solutions such as a warehouse management system (WMS) or transportation management system (TMS) to enable focused efficiency improvements. However, as organizations look for broader efficiencies across the entire supply chain, end-to-end orchestration becomes paramount.

From both a system and process perspective, organizations can realize multi-faceted benefits from E2E supply chain orchestration. A supply chain that is fully connected end-to-end provides seamless integration of procurement, manufacturing, fulfillment, and distribution processes—eliminating silos and helping to ensure smooth and coordinated operations. Other benefits include reduced lead times and accelerated order fulfillment and delivery.

E2E supply chain orchestration requires three core building blocks: (1) unified, accurate data; (2) fully integrated supply chain systems; and (3) AI and other enabling technologies.

UNIFIED, ACCURATE DATA FOR SEAMLESS INTEGRATION OF SYSTEMS ENABLES IMPROVED VISIBILITY ACROSS OPERATIONS

End-to-end supply chain orchestration requires a single source of truth. This is a crucial capability for organizations aiming to achieve comprehensive visibility into their distribution operations. Yet, it is also a capability that continues to elude many organizations. Unified data through enhanced data integration enables real-time data sharing across

all supply chain nodes, providing comprehensive visibility into inventory levels, order status, and shipment tracking. This helps stakeholders throughout the supply chain network make informed decisions more quickly based on accurate and up-to-date information.[5]

To achieve the required level of data integration and security, organizations are taking several key actions. The top actions identified in this year's survey to ensure data security, data management, and responsible use of data are: investing in data security (61%); integrating data across systems (40%); focusing on recovery planning (34%); and enhancing regulatory compliance (33%). (Figure 3). Data security is essential for achieving unified data and a single source of truth, since an organization is effectively placing all its data eggs in one basket.

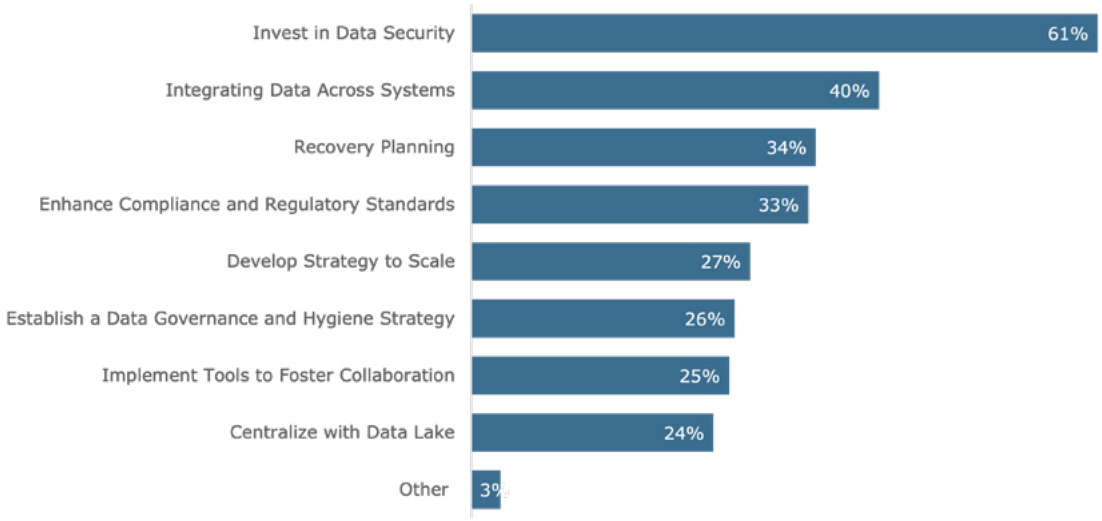


Figure 3: Survey results - actions taken to secure data

As previously noted, organizations have made major investments in supply chain systems and technologies to improve visibility into operations, resulting in significant cost savings and improved service levels. However, once an organization's data is unified and secure, it can seamlessly flow through a multitude of fulfillment solutions and supply chain systems, further improving visibility and transparency throughout the organization.

Fulfillment solutions can improve transportation and logistics operations by optimizing delivery routes and providing real-time shipment tracking. This enables faster delivery times, higher order accuracy, and reduced operational costs, resulting in greater customer satisfaction. Case in point: a major global retailer deployed sophisticated algorithms that analyzed factors such as traffic patterns, weather, and delivery windows for route optimization and scheduling.[6] The algorithms determined the most efficient delivery routes for its fleet, reducing fuel consumption and operational costs and better equipping the company for increased order volumes during peak periods such as Black Friday without compromising delivery speed or accuracy.[7] By implementing solutions like these, other supply chains can also improve their efficiency, accuracy, and overall operational performance.

To establish a solid foundation for end-to-end supply chain orchestration, organizations need to invest in data security, integrate data across systems, and adopt comprehensive fulfillment solutions and technologies. A fully integrated and centralized suite of such systems can recognize changes made upstream and downstream, then effectively communicate those changes throughout the supply chain network to key stakeholders. This integration helps ensure all parties are informed so they can respond promptly, helping to maintain efficiency and alignment throughout the entire supply chain.

AN AUTOMATED AND INTELLIGENT FUTURE

Automating supply chain solutions can boost efficiency and productivity. According to the survey results, over 40% of respondents have already implemented—or

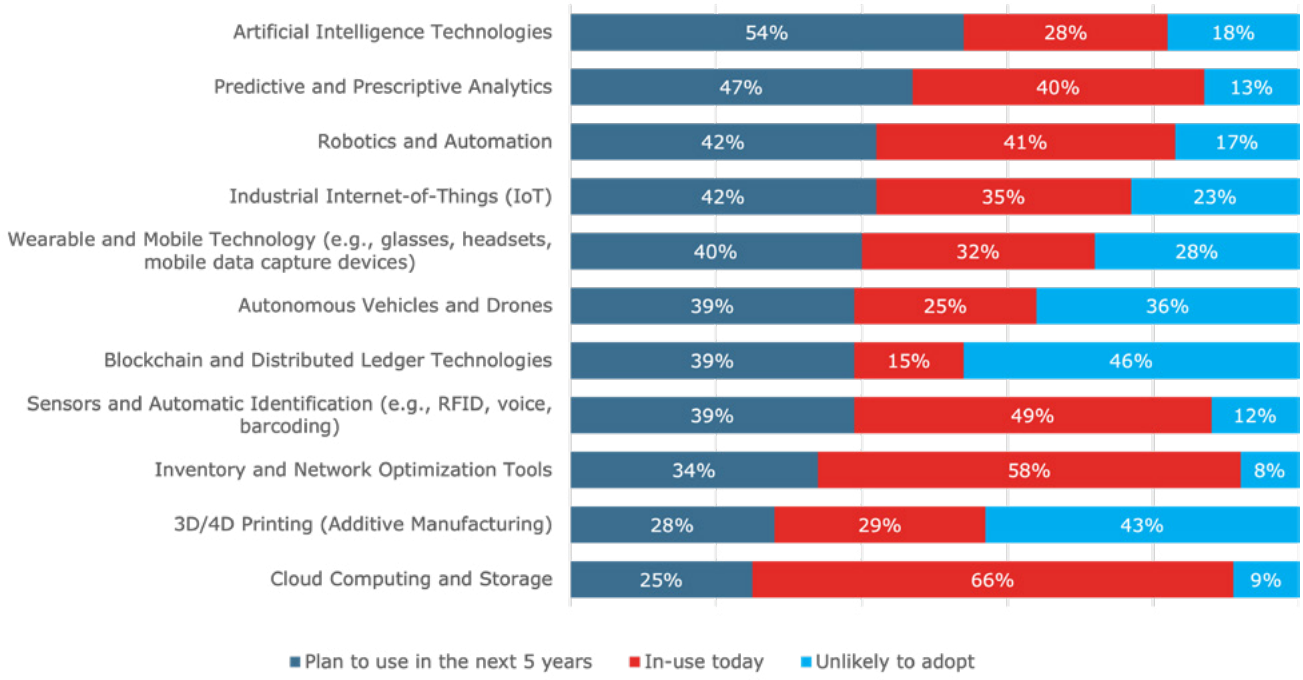


Figure 4: Survey results - adoption of innovations

plan to implement—some type of automation in their operations. (Figure 4).

For example, a North American sport apparel retailer implemented both an automated goods-to-person order picking system and a warehouse execution system (WES) at a new facility. The automated picking system improved picking efficiency by decreasing the amount of time workers spent walking, and by improving order accuracy. The company also applied automation to other operational areas, including automated box cutting, customized packaging, extended conveyors, and auto-bagging equipment. This automation enabled a 25% increase in outbound load density thanks to right-sized boxes that decreased empty space. To implement its new automation technology, the company needed an interface between the automated systems, human operators, and other processes. That's where the WES came into play.

The new automated solution enables seamless integration of warehouse operations for maximum productivity and efficiency gains, including reduced order fulfillment lead times (from 8 days down to 2 days) and increased picking rates.[8] The company's unified data and fully integrated systems provide the foundational building blocks for supply chain orchestration, enabling the future implementation of technologies that are even more cutting-edge, such as artificial intelligence and agentic AI.

According to this year's survey, AI technology is advancing so rapidly that many organizations are struggling to keep pace. In particular, the survey results show that two of the biggest barriers to broader AI adoption in supply chains both relate to lack of understanding—specifically, not understanding the technology itself (22%) and not understanding the business case for investment (19%). That being said, lack of budget is cited most often as the primary barrier to AI adoption (26%). (Figure 5).

An effective way to tackle all three of these barriers is to pursue practical, real-world knowledge and experience through small-scale AI pilots and proofs-of-concept, rather than being deterred by AI's theoretical requirements and impacts, which can seem overwhelming.

The three top areas where supply chain organizations are already using AI—or plan to use it in the next two years—are: inventory management (35%); demand forecasting

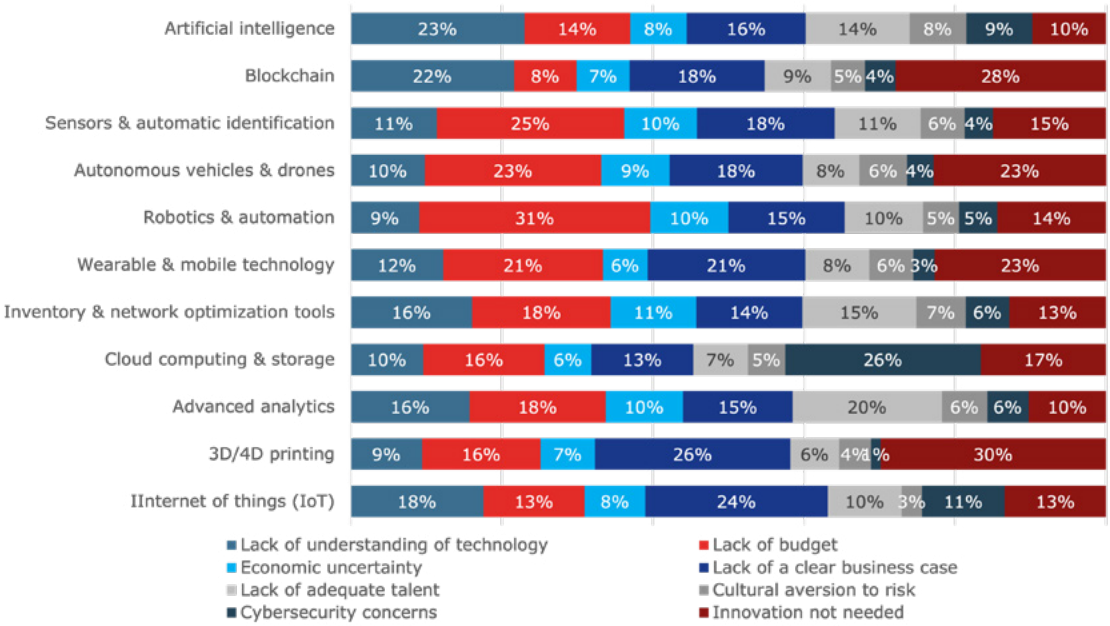


Figure 5: Survey results - barriers to adoption of technologies

and supply chain planning/warehouse management (34%) and logistics, shipping, and transportation (27%). (Figure 6).

However, AI has countless potential applications throughout the supply chain—and the list of promising use cases continues to expand every day. For example,

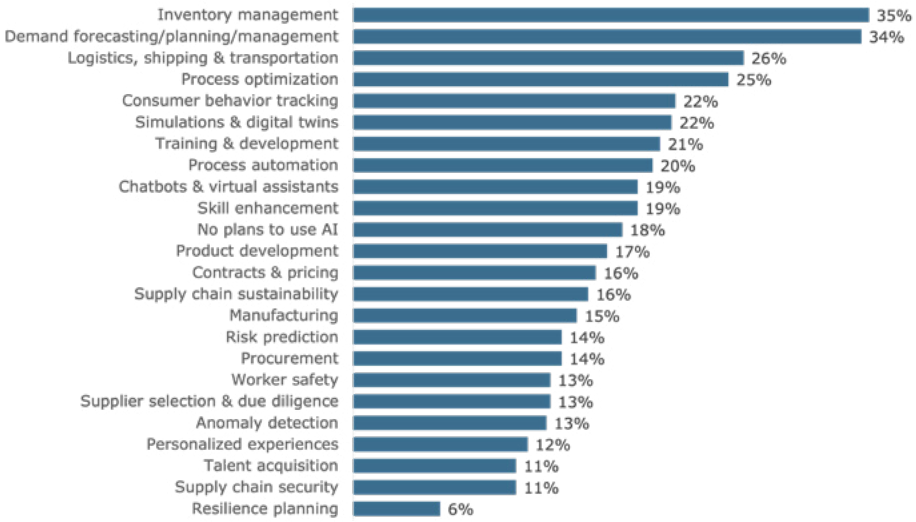
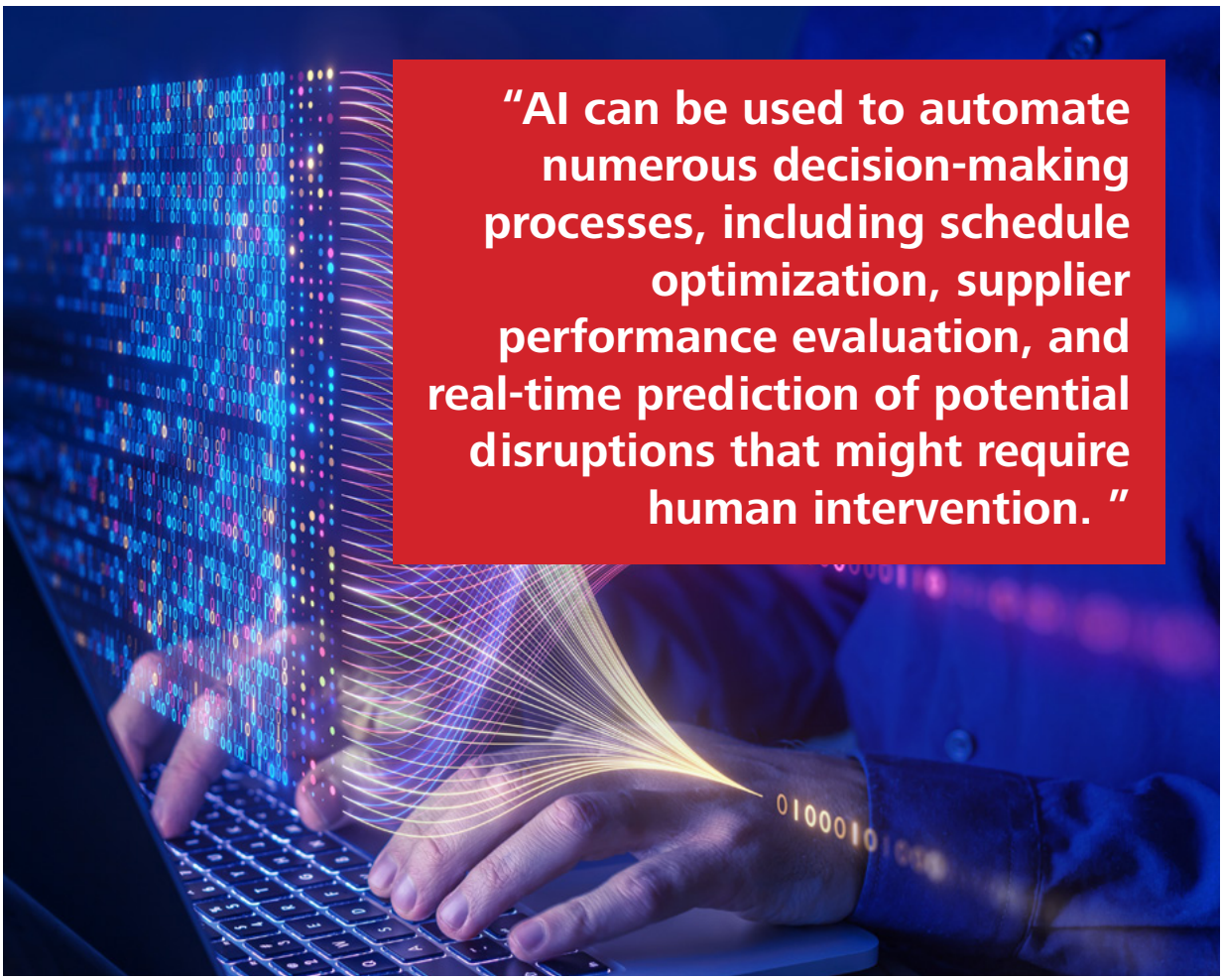


Figure 6: Survey results - current or predicted use of AI

AI can be used to automate numerous decision-making processes, including schedule optimization, supplier performance evaluation, and real-time prediction of potential disruptions that might require human intervention.[9] Also, AI can improve its own predictive capabilities and data-driven insights through machine learning models, which continuously learn from new data.[10]

A significant advancement in the field of AI is agentic AI, which can operate independently and achieve tasks without human involvement. This opens a plethora of potential applications to further enhance and automate supply chain operations. Agentic AI can analyze data, evaluate options, and make informed decisions based on learned patterns—all while improving its own performance over time. Potential application areas include self-driving cars and drones, process automation (e.g., automated data entry), and smart warehousing that requires little or no human intervention.[11]

Companies are using many different technologies to improve their operations, and AI could well be the critical link that ties everything together, enabling full end-to-end orchestration of all supply chain systems and processes. Yet, according to this year's survey, the planned adoption rate for AI is significantly lower than for other emerging supply chain technologies such as cloud, mobile/wearables, inventory/network optimization, and predictive /prescriptive analytics. This is likely because AI is much newer and less familiar than those other technologies (and is evolving much more quickly). However, as business and supply chain leaders become more familiar with AI technology—and as compelling new use cases continue to emerge—AI's role in supply chains is likely to skyrocket.



INTELLIGENT AUTOMATION SYNERGY

Situation: Performance Health has been a trusted rehabilitation partner for industry-leading brands and services for more than 70 years. To keep pace with growing demand, the company's distribution center (DC) needed to become more efficient. The biggest problem was that all of its existing picking processes, label printing, and sorting were done manually. Employees pushed bread carts to locate orders and scanned items with a handheld RF gun. Also, the company had a very limited assortment of just 35 different-sized boxes that were assembled by hand, with oversized boxes needing to be manually stuffed—providing a poor unboxing experience for customers. Their goal was to make its DC processes more efficient through automation, creating value for both the company and its customers.

Action: They partnered with Packsize and an automation vendor for a joint solution to optimize their packaging and picking processes. The solution's advanced packaging technology enables a streamlined, efficient, and sustainable packaging process flow that reduces dimensional weight and shipping costs. The X5 system produces fully assembled, ready-to-pack, right-sized boxes for every order that drops into the DC.

In addition to installing the X5, Performance Health integrated robots from the automated solution into its picking operations. These Autonomous Mobile Robots (AMRs) are loaded with the correct size boxes from the X5 for every order and then navigate the warehouse with an employee—leading the employee to the correct pick location; sharing the aisle number, section, SKU, and a photo of each item to be picked; and then informing the employee which box to pack the item(s) into. Using Packsize to create boxes of the right size enables the DC to induct more orders per mobile robot, making every pick run more efficient. The solutions work together seamlessly from box creation to final pack out, with minimal human touch points and fewer opportunities for error.

Result: The combined solution makes their picking process much more efficient. The X5 can create up to 500 boxes per hour and allows them to choose from 3,000 different box sizes. Boxes are put out faster, and the robots are consistently loaded with the right size boxes. Also, Performance Health is now shipping fewer cartons to customers, which reduces the number of trucks on the road—improving sustainability and significantly reducing transportation costs.

Other benefits include a 97% increase in productivity and a 50% reduction in picking labor since December 2023. This includes a reduction in training time for pickers, from two weeks to just two hours. In addition, the robots eliminate unnecessary movement for human workers, minimizing wasted time and effort and maximizing productivity at the pick location. The result is an improved work environment and higher quality of life for employees, enabling them to better focus on serving their customers.



TACKLING ONGOING TALENT CHALLENGES

"We are shifting from task management to upskilling the workforce to integrate with new technology, aiming to enhance rather than replace workers by building relevant skillsets and educating leaders and the global workforce to stay current and successful in the evolving supply chain landscape."

- Randy Jaunzemis, Vice President of Distribution, Performance Health

In the rapidly evolving landscape of the digital supply chain, managing talent is increasingly recognized as a critical component for effective end-to-end supply chain orchestration. Integration of key technologies such as artificial intelligence, machine learning, and the Internet of Things requires a workforce that is not only proficient with these technologies but also adept at adapting to constant change.

Technologies enhance human capabilities by improving efficiency and performance, while humans enhance technological capabilities through imagination and adaptability. Yet, supply chain organizations continue to face significant challenges in attracting, retaining, and developing people with the skills the business needs.

This section examines the essential role of talent and how to fortify your supply chain by combining the data and analytics of end-to-end orchestration with flexible talent resourcing to create supply chain solutions that maximize the synergy between technology and humans in a digital ecosystem.

TECHNOLOGY-FOCUSED AND HUMAN-CENTRIC

Traditionally, supply chains have been viewed as linear systems driven by the efficient execution of repeatable processes to produce standardized products and services. However, with new and emerging technologies, everything is now more interconnected. As such, simply scaling the efficient execution of existing processes is becoming less important than the ability to adapt to changing market conditions and drive new value. This ability depends less on training workers to have specific technical

skills and more on cultivating curiosity and other human capabilities that help people respond to changing conditions.

Although technology can now replicate many of the functional and technical aspects of work, true competitive advantage comes from focusing on how humans adapt to use the technology. According to Deloitte's 2024 Global Human Capital Trends survey, 73% of companies believe it is important for an organization's human capabilities to keep pace with technological innovation. Yet only 9% are making progress toward achieving that balance. Consequently, many organizations may soon find themselves facing an imagination deficit.[12]

One technology that could have a major impact on talent and the workforce is AI. Investing in AI is more than a technology investment; it's an investment in the development of human capabilities. Already, many companies are using AI in focused ways to help humans operate more efficiently and effectively, boosting their capabilities without replacing them. As the technology improves there is great potential for AI to become a true creative partner for workers, helping with tasks such as planning, customer service, and learning in the flow of work. For example, IKEA recently implemented an AI bot named Billie to handle most routine customer tasks. It then invested in a comprehensive upskilling initiative for its 8,500 call center workers to strengthen their design skills and other uniquely human capabilities. This allows employees to focus on more challenging, creative work in which they can use their special skills and capabilities to collaborate better, accelerate learning, and scale value.[13]

SKILLS-BASED APPROACH

Organizations increasingly depend on non-traditional workers for high-value, strategically significant activities. Yet, many workforce strategies and practices are still focused on traditional employees. To harness the full potential of a diverse workforce—which enables greater business agility, scalability, broader talent access, and improved productivity and performance—it is essential to view your workforce as a borderless, holistic ecosystem. In such an ecosystem, different types of workers, each with unique needs and capabilities, can all make valuable contributions.

The latest MHI survey results highlight the numerous efforts supply chain organizations are making to address workforce challenges. (Figure 7). These investments demonstrate how supply chain organizations are proactively addressing workforce challenges, helping to ensure they have the necessary talent and skills to succeed in a rapidly changing environment.

A vital step in this transformation is to understand the relative strength of human capabilities within your workforce and then identify any capability gaps. Addressing these gaps will require operationalizing the development of human capabilities—for example, by actively seeking to hire individuals who possess capabilities that are both desirable and uniquely human, such as creativity and a willingness to collaborate across disciplines.[14]

In conjunction with focused talent acquisition initiatives, organizations should consider adopting a skills-based

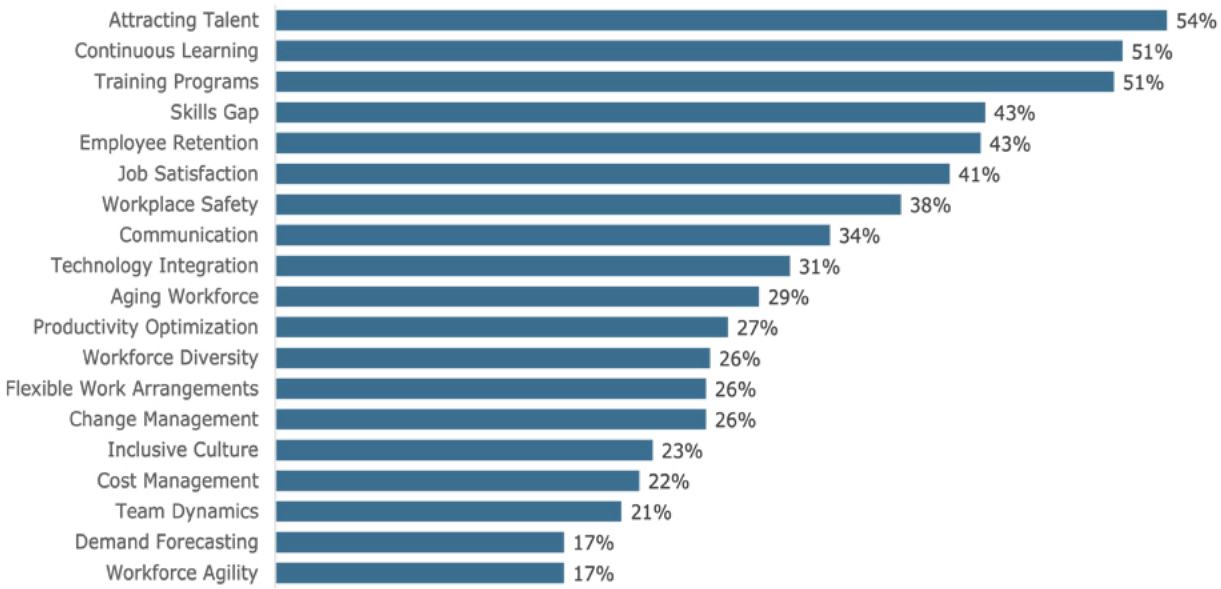


Figure 7: Survey results - investments to address workforce challenges

approach to workforce management. This involves actively aligning workers with tasks that match their unique capabilities, interests, and skills, including technical skills, soft skills, and potential future skills in adjacent areas. This skills focus, combined with better end-to-end visibility from an effectively orchestrated supply chain, enables greater talent flexibility to adapt to rapidly changing conditions. Organizations that successfully implement such an approach can unleash their workers' full potential and drive greater business value—boosting productivity, efficiency, and effectiveness, and making workers 52% more likely to be innovative.[15]

ADDRESSING THE WORKFORCE SKILLS GAP

This year's survey results suggest that supply chain leaders are shifting their focus to address workforce skills gaps. This strategic pivot is critical as organizations strive to align their workforce capabilities with current and future needs. Data from the survey indicates that 63% of respondents are upskilling their current employees, providing them with the training and development opportunities necessary to enhance their existing skills and adapt to new technologies and methodologies. Also, 36% of respondents are proactively recruiting for different skill sets, helping to ensure that new hires possess the competencies required to meet evolving industry demands. This dual approach of recruiting and upskilling highlights the commitment of supply chain leaders to bridge the skills gap within their organizations, helping to ensure their workforces remain competitive and capable of driving future success. (Figure 8).

In light of the compelling benefits, a growing number of organizations are eschewing traditional job titles

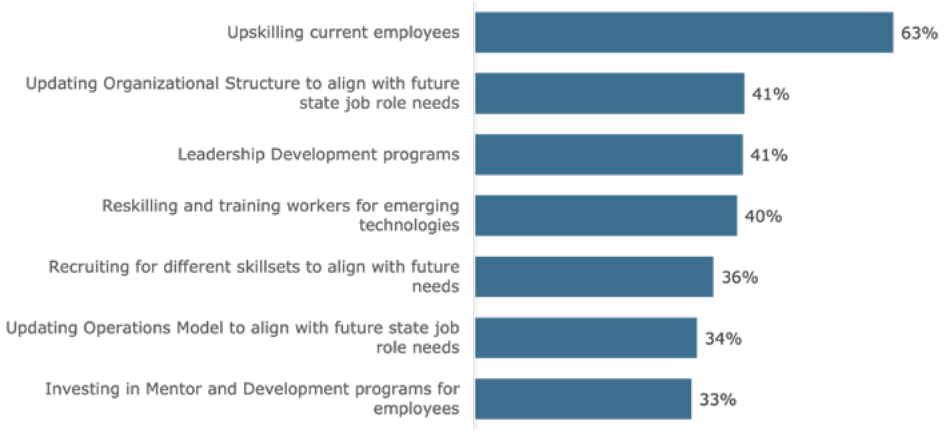


Figure 8: Survey results - actions taken to address skills gap

and reimagining how they manage their workforces, making decisions based on skills rather than conventional job definitions, job titles, or academic credentials. Yet, the percentage of organizations today that have fully embraced a skills-based approach remains relatively low. According to a recent Deloitte survey about skill-based organizations, only 19% of business executives and 23% of workers believe their organization's work is optimally structured.[16]

A notable example of this shift is the US Army Civilian workforce, which is implementing a career-pathing capability for its contracting and logistics professionals. This move toward a skills-based approach provides increased flexibility to meet changing mission needs and empowers employees to better manage their careers, encouraging longer tenures with the Army. The new career-pathing capability allows Army leadership to visualize the skills and preferences of its current talent, align people with future-state roles, and leverage talent data to support a more resilient and sustainable future workforce. By adopting such strategies, organizations can create a more dynamic, adaptable, and productive workforce—ultimately driving greater business success.

THE BENEFITS OF INVESTING IN TALENT

The strategic role of talent within a digital supply chain ecosystem cannot be overstated. By focusing on skills—and viewing the workforce as a holistic ecosystem—a supply chain organization can better adapt to changing demands and unlock the full potential of its diverse talent pool. This strategic shift strengthens the supply chain, improves operational efficiency and agility, and increases the capacity for innovation. It also supports sustainability and growth, positioning the organization to thrive in an increasingly complex and interconnected digital landscape.

ORCHESTRATING EFFICIENCY THROUGH INVENTORY MANAGEMENT TRANSFORMATION

Situation: Intech Athens began to experience inventory management challenges as its business grew. In particular, the transition from manual to Computer Numerical Control (CNC) manufacturing increased the need for a wide variety of tools and supplies, with over 100 different items often required for a single component.

Historically, Intech Athens used traditional management methods such as organized cabinets and manual checkouts, which often resulted in misplaced or poorly maintained tools due to reliance on individual discipline. To address the problem, the organization adopted a smart vending system to track cutting tools. However, despite this improvement, the organization still struggled to know the exact location and condition of many inventory items.

In assessing the situation, the Director of Advanced Manufacturing at Intech Athens highlighted the critical need for precise inventory control, emphasizing the importance of managing not just the tools, but also their readiness and availability for use.

Action: Intech Athens decided to enhance its inventory management capabilities by adopting the ZOLLER tool management system, a move inspired by successful implementation of the system at the Intech Toulon facility in France. However, Intech Athens took things a step further by integrating the ZOLLER TMS with Kardex REMstar's high-density automated storage Vertical Lift Module (VLM).

The combined solution involved replacing traditional racking systems and numerous cabinets with two advanced Kardex Shuttle VLMs. This innovative, integrated approach allowed Intech Athens to catalog over 10,000 different part numbers, significantly improving inventory control and organization.

Result: The introduction of Kardex shuttles has revolutionized Intech Athens inventory management process. By using a tool management system to inventory items and then transferring them to the Kardex shuttles, the operation reclaimed 10,000 square feet of space. Now, 80% of its inventory is managed in just 5% of its overall space. This integration has significantly boosted manufacturing productivity by allowing production jobs to be pre-staged days in advance. What was once a cumbersome and unreliable process is now seamless and efficient, thanks to the combination of shuttles and the tool management system.

Previously, a pre-stage operator manually searched through cabinets and boxes to locate tools for production runs, which was a tedious and error-prone process. Now, the operator simply enters the job number into the ZOLLER tool management system, which directs the Kardex shuttles to retrieve all necessary items. As trays are presented, integrated pick-to-light technology guides the operator to the specified items, indicating their location and quantity. The operator then selects and confirms each item, placing it on a cart. This process continues until all required tools—ranging from two to 70 tools, depending on the job's complexity—are picked. The cart is then delivered to the work cell, ready for the assigned machinist to begin the job.

The integration of shuttles with the tool management system has infused trust and accuracy into Intech Athens inventory system. In the past, information was scattered across spreadsheets and clipboards, and all tracking was based on the honor system. Now, most physical items in the shop—representing millions of dollars of inventory—are systematically stored within the two Vertical Lift Module shuttles and cataloged in the ZOLLER solution. This transformation has significantly improved the speed at which information can be accessed, allowing people to quickly identify the required tools for specific prototypes, determine quantities on hand, and pinpoint exact locations.

KEY TRENDS IMPACTING SUPPLY CHAINS IN 2025

Supply chain leaders recognize they could be facing major headwinds in 2025. According to this year's survey results, the top five most impactful supply chain trends are currently: inflation (38%); economic uncertainty (36%); workforce and talent shortages (35%); supply chain agility and resiliency (28%); and inventory challenges (25%). (Figure 9).

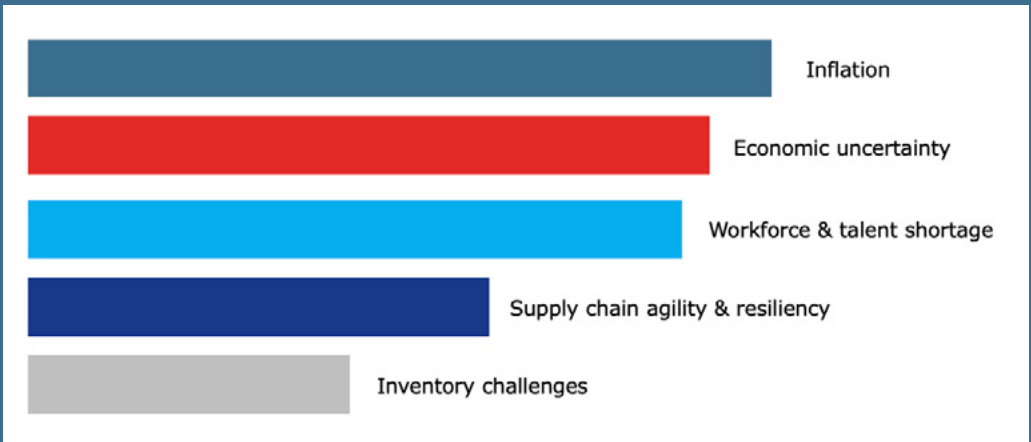


Figure 9: Survey results - top supply chain challenges

These trends are affecting supply chains today, and their impact could persist well into the future.

INFLATION

Despite concerns about inflation, interest rate policies and economic uncertainty, the foundation of the US economy remains robust and current data suggests that year-on-year inflation will ease in 2025, although the evolving tariff policies could alter the outlook. The bottom line is that while inflation is a headwind against investment in new supply chain capabilities, those headwinds will likely be more than offset by the resulting efficiency gains and reducing the reliance on scarce talent.

ECONOMIC UNCERTAINTY

Ongoing geopolitical tensions and recent political shocks, both domestically and globally, have increased uncertainty for global trade. Trade restrictions will require policy revisions that contribute to economic uncertainty and will have an impact on supply chains.

WORKFORCE AND TALENT SHORTAGE

A major impetus for companies to automate and implement AI is the ongoing decline in supply chain labor force participation—a trend that seems likely to continue for the foreseeable future. Also, automated facilities with end-to-end orchestration requires worker reskilling for work in digital supply chain environments.

SUPPLY CHAIN AGILITY AND RESILIENCY

Continued expansion of product portfolios and supplier networks across manufacturers is making supply chains more complex and more vulnerable than ever, creating more potential points of failure and ripple effects across the supply network. This has made supply chain resiliency and agility a top priority that will likely remain for years to come. Technology is driving this resiliency by providing real-time visibility and actionable data for operations.

INVENTORY CHALLENGES

Given all these other challenges, it is not surprising that companies are holding more inventory (and paying more to hold it). Also, economic uncertainty is making demand forecasting even trickier. In fact, a recent study found that 50% of supply chain professionals cite inaccurate demand forecasting as a major challenge that leads to overstocking and understocking.[17]

FIVE TECH-SPECIFIC TRENDS SHAPING SUPPLY CHAINS

In addition to the five trends noted above, there are five additional tech-specific trends that are having a major impact on supply chain strategy and operations.

CYBERSECURITY AND DATA SECURITY

For many businesses, the supply chain is a leading source of cybersecurity risk—and with supply chains' growing reliance on technology and digitization, data security is sure to become an increasingly vital issue. According to IMF estimates, the size of losses due to cyber threats has more than quadrupled since 2017 to $2.5 billion.[18] And, powered by the rise of AI, it seems likely that attacks such as phishing, deepfakes, and ransomware will only grow in volume and sophistication in the years ahead.

DEMAND FOR REAL-TIME DATA

Lack of access to accurate, real-time data is an ongoing barrier to achieving the vision and benefits of supply chain digitization and end-to-end orchestration. Without real-time data visibility, it is difficult or impossible to make informed, data-driven decisions that enable a supply chain to optimize inventory, react to changing demands and risks, and improve efficiency.

DIGITIZATION AND THE PACE OF TECHNOLOGY ADOPTION

The dizzying pace of technological change in supply chains can be daunting for supply chain leaders and professionals alike. Yet, the pace will likely only accelerate as supply chain operations embrace AI in the pursuit of improved visibility, transparency and efficiency. This will make keeping up with the latest developments in digital technology even more challenging, but also even more important.

ECOMMERCE GROWTH

Ecommerce grew by leaps and bounds during the pandemic—eventually accounting for greater than 15% of all retail sales[19]—and that growth is showing no signs of slowing. This is driving companies to find new and better ways to anticipate changes in demand and fulfill orders more quickly and accurately. To that end, supply chains are looking for ways to harness the power of technology— especially AI—to more accurately anticipate customer needs, manage inventories, and accelerate delivery.

SUSTAINABILITY

Although sustainability is not strictly a technical issue, it remains a high priority and strategic differentiator for many firms—with technology being both a critical enabler and potential source of new problems. Technology advances are helping operations around the world become more sustainable; however, many firms are still wrestling with data issues that make it hard for them to accurately report Scope 3 emissions. AI and machine learning algorithms can help; however, the irony is that AI systems use tremendous amounts of energy. Bottom line is that sustainability goals need to be rooted in the overall business plan.



ACTIONS FOR SUPPLY CHAIN LEADERS

"A fully connected supply chain ecosystem with end-to-end visibility offers significant competitive advantages over isolated best-in-breed solutions. By ensuring seamless integration, enhanced collaboration, operational efficiency, and superior customer satisfaction, companies can achieve market leadership and sustained growth."

-Rick McDonald, former Chief Supply Chain Officer, The Clorox Company

As emerging technologies continue to reshape supply chain operations, organizations must adapt to stay competitive. In today's world, effective leadership in supply chain management requires a strategic vision that harnesses the power of technological advancements. Leaders must understand and embrace innovative technologies by sponsoring and implementing strategic initiatives to integrate them effectively. They must also foster a culture of innovation.

The importance of technology and innovation is demonstrated by the actions surveyed organizations are taking now to ensure supply chain success in the future. (Figure 10). Among the top six actions cited, three are technology- or innovation-focused: digital transformation (49%); piloting new technologies (39%); and building a culture of collaboration and innovation (33%). These results highlight the importance of prioritizing and investing in technology as a key pillar of supply chain success.

To move your supply chain in a direction that fully harnesses the power of technology and innovation, the first step is to envision and strategize what a best-in-class end-to-end supply chain looks like for your organization. This vision will be the north star that guides your

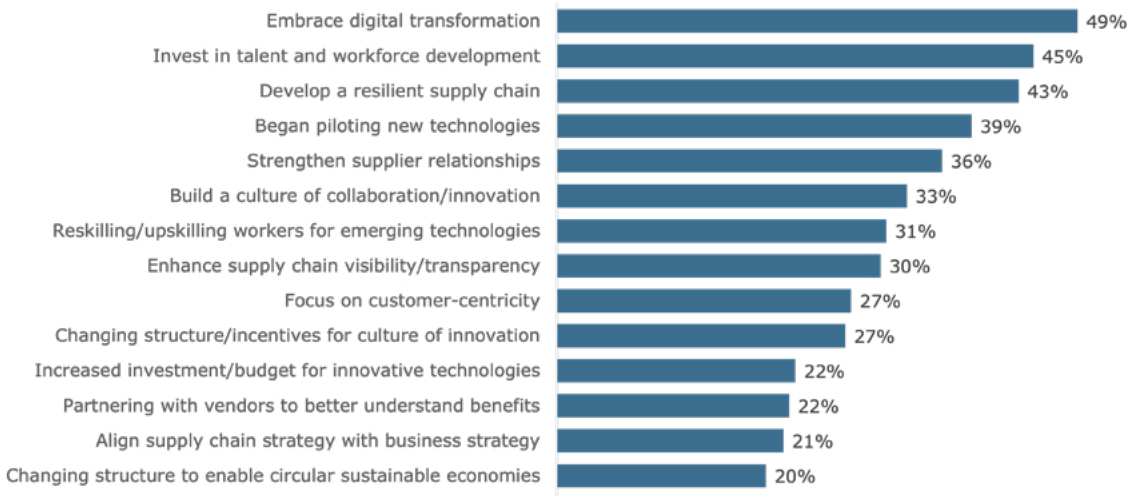


Figure 10: Survey results - actions taken to ensure success

organization into the future, with progress being measured by key operational and financial metrics that help assess if your supply chain is having a positive and meaningful impact on your company's overall business performance.

When considering new technologies for implementation, supply chain leaders need to know what the key operational and financial metrics are so they can avoid wasting capital on solutions that might offer focused benefits but lack the end-to-end orchestration necessary to drive broader value for the supply chain function and business as a whole.

Once your organization's vision for a best-in-class supply chain has been identified and defined by metrics, the next step is to develop a strategic roadmap for implementation. A strategy choice cascade can help your organization develop its transformation agenda and overall supply chain-technology strategy.[20] This useful framework can help you prioritize your overarching supply chain goals to determine which solutions provide the most value for your organization.[21]

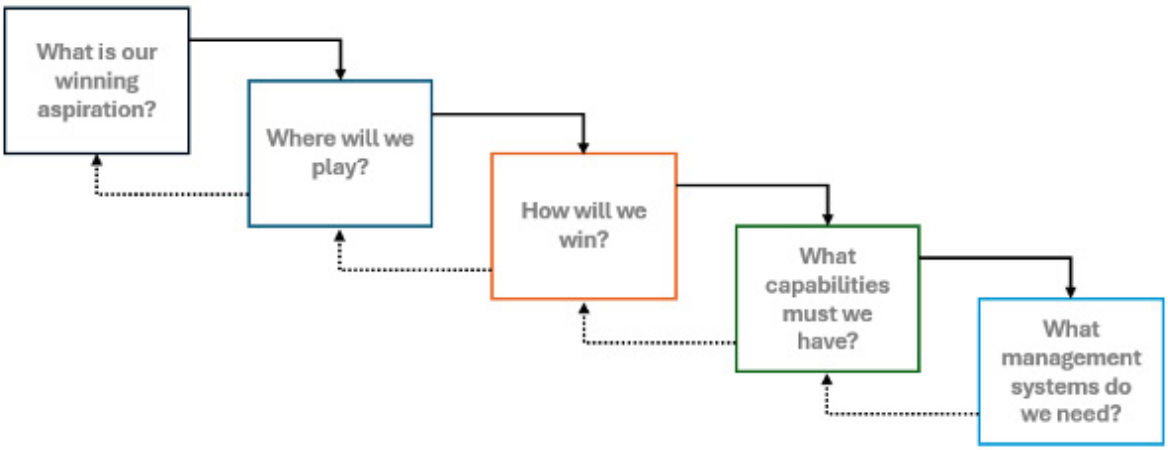


Figure 11: Strategy choice cascade

Figure 11 shows an example of a strategy choice cascade for building a strategic supply chain vision. The next page includes samples of the types of questions to ask for each domain of the framework.[22]

What is our winning aspiration?

- Who do we create value for? (e.g., customers, employees, other nodes in the supply chain, the company itself)
- What is the right level of investment for the organization (balancing operational efficiency and value creation)?
- How does the technology vision relate to the corporate vision, strategy, and goals?

Where will we play?

- What supply chain opportunities exist?
- Where can technology add the most value across the supply chain?
- Which parts of the organization (e.g., planning, procurement, manufacturing, logistics, sales) need to partner to unlock these opportunities?
- How should the opportunities be sequenced?

How will we win?

- What technologies/platforms will we prioritize to unlock these opportunities?
- What solutions can be built or need to be acquired?
- How do the solutions integrate to enable end-to-end orchestration?
- How will we avoid adding to our custom systems, legacy systems, and technical debt?

What capabilities must we have?

- What capabilities are required to win?
- What is the optimal way to configure these capabilities?
- What are the necessary change management actions to ensure adoption across the supply chain?

What management systems do we need?

- How will we measure success?
- What governance processes are required? How will we monitor adoption?
- What must be done to ensure a smooth implementation and transition?

Integrating emerging technologies into your supply chain operations isn't just a fashionable trend; it's a necessity for competing in today's dynamic business environment.

Effective leadership in this domain requires a strategic vision that not only embraces technological advances but also fosters a culture of continuous innovation. After defining a best-in-class supply chain vision for the organization—guided by business-critical metrics—leaders need to create a clear technology implementation roadmap to achieve end-to-end supply chain orchestration.

Frameworks such as the strategy choice cascade can help you systematically identify and prioritize the technologies and processes necessary to achieve your strategic goals. This structured approach helps ensure your investments in technology align with your organization's overarching vision and can deliver tangible value across your entire supply chain and business.

Ultimately, transformation success hinges on your ability as a leader to act as a steward, ensuring that the right resources and capabilities are in place to navigate the complexities of technological adaptation and drive sustainable growth and efficiency in your supply chain operations.



CONCLUSION

"Leaders must ensure seamless integration of all supply chain components to enhance efficiency and meet customer expectations to further drive innovation, reduce redundancies, and deliver superior value."

-Wanda Johnson, Supply Chain Technology Fellow, Deloitte Consulting

The next 10 years will bring significant change in supply chain operations at both a national and global level. Increasing geopolitical shocks, technology adoption, monumental advancements in AI, autonomous operations, and a workforce that is increasingly digitally native will require capabilities that are enabled by end-to-end supply chain orchestration.

Of course, achieving optimized, E2E supply chain orchestration isn't easy. Indeed, the key building blocks—enterprise software, data harmonization, and system integration—often require painful implementation processes characterized by complexity and uncertainty. Also, E2E orchestration isn't a specific end state but rather an ongoing goal for supply chains to drive toward as they continually enrich their data and develop increasingly autonomous systems that can help with E2E supply chain decision-making.

As AI technologies improve, seamless E2E orchestration could become a reality for leading supply chains. Given AI's current capabilities and promising trajectory, it's easy to imagine a not-too-distant future when AI agents can autonomously handle core E2E processes—from demand forecasting to carrier management—with humans only intervening to tackle critical exceptions or high-touch processes. In fact, 28% of our survey respondents say they are already using AI technologies in their supply chain operations, and 55% expect to introduce AI within the next 5 years.

Yet, given their current levels of digital and data maturity, this future vision of an AI-based supply chain remains a distant reality for most firms. Today, many large firms are still investing in the underlying core capabilities to digitally transform their supply chains, with a focus on reducing costs and increasing efficiency. As such, 48% of our survey respondents cite digital transformation as a key path toward future success. However, as AI systems become more efficient and easier to integrate, E2E orchestration will start to become a reality that is easier to touch and feel. When this happens, E2E orchestration could very well become the norm for leading supply chains—not the exception.

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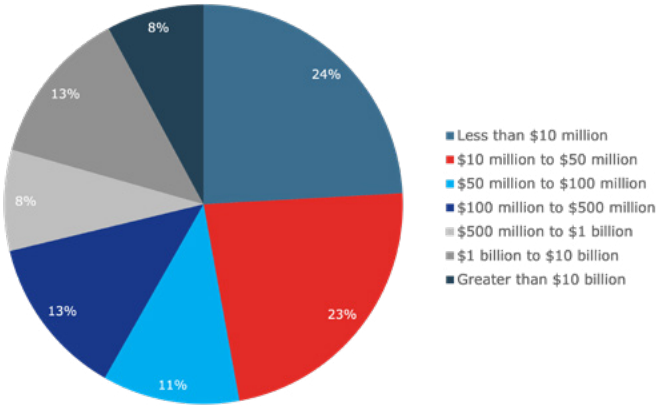
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ABOUT THE REPORT

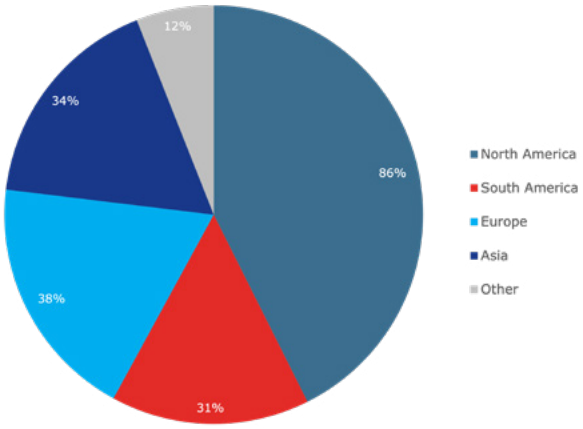
The 2025 MHI Annual Industry Report is our twelfth annual study of emerging disruptive technologies and innovations that are transforming supply chains around the world. The findings are primarily based on an in-depth global survey conducted in late 2024, which involved over 700 supply chain professionals from a wide range of company types and industries.

83% of the participants are executives with the role of CEO, Vice President, General Manager, Manager, or Department Head. Participating companies range in size from small to large, with 53% reporting annual sales in excess of $50 million, and 21% reporting annual sales of $1 billion or more.

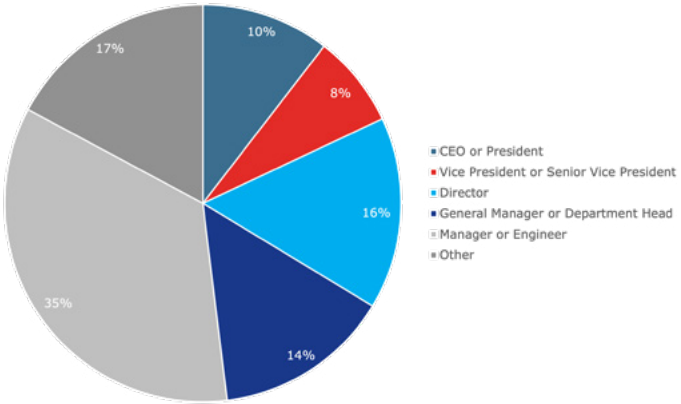
COMPANY SIZE BY REVENUE (USD)



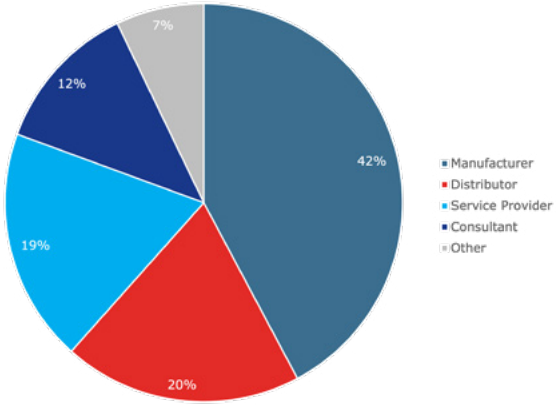
RESPONDER PROFILE BY GEOGRAPHY



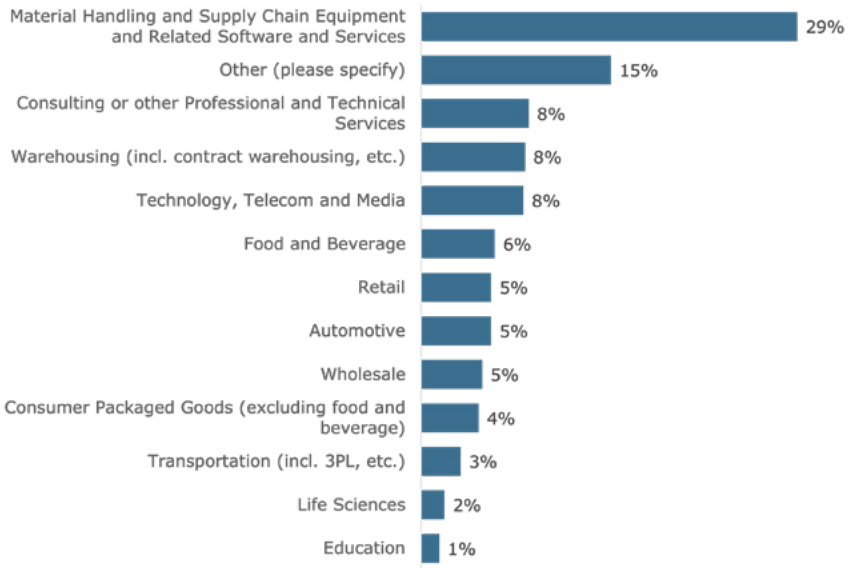
RESPONDER'S ROLE



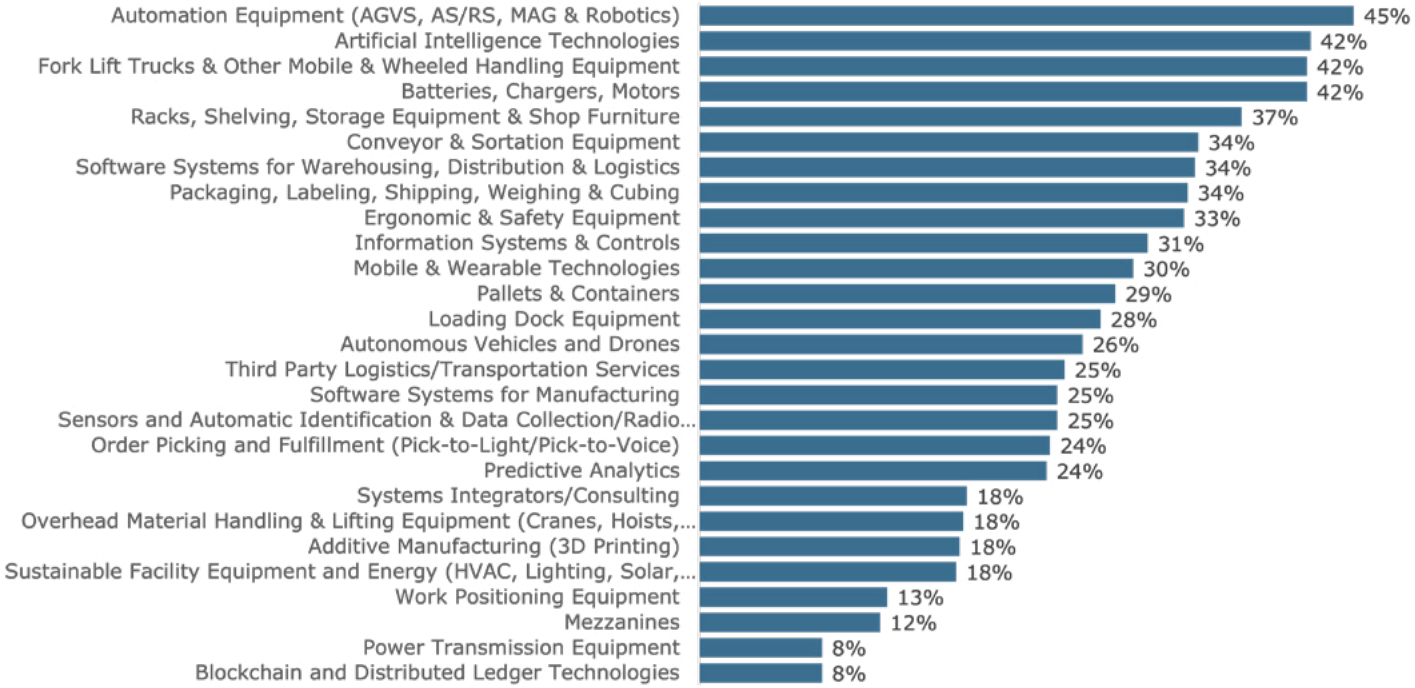
RESPONDER'S COMPANY TYPE



RESPONDER'S INDUSTRY



INVESTMENT IN PRODUCTS AND SERVICES OVER NEXT THREE YEARS



ACKNOWLEDGMENTS

We would like to acknowledge the hundreds of organizations that participated in our survey. We would also like to thank the MHI Board for their contributions to the survey and conclusions.

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MHI is an international trade association that has represented the material handling, logistics and supply chain industry since 1945. MHI members include manufacturers of material handling equipment including warehousing and logistics, systems integrators, third-party logistics providers, consultants and publishers. MHI offers education, networking and solution sourcing for their members, their customers and the industry through programming and events. The association sponsors the ProMat and MODEX exhibitions to showcase the products and services of its member companies and to educate manufacturing and supply chain professionals.

The Warehousing Education and Research Council (WERC) is a division of MHI and is the only professional organization focused on logistics management and its role in the supply chain. Through membership in WERC, seasoned practitioners and those new to the industry master best practices and establish valuable professional relationships. Since being founded in 1977, WERC has maintained a strategic vision to continuously offer resources that help distribution practitioners and suppliers stay on top in our dynamic, variable field. These include national, regional, local and online educational events; performance metrics for benchmarking; practical research; expert insights; and multiple opportunities for peer-to-peer knowledge exchange.

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