
Capgemini
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Resilient by design
Reinventing supply chains with human-agent operations
Make it real.

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Executive summary

Global disruptions are accelerating supply chain transformation – Supply chain disruption is now accepted as part of doing business on a global scale. Geopolitical instability, trade restrictions, inflation, shortages of materials, cyber threats, climate disruption, and evolving consumer expectations are changing both supply chain operation and design. Our research reveals that these dynamics have confirmed transformation as a strategic priority. Three-quarters of executives say their supply chains have changed significantly in recent years. Seven in 10 have established dedicated transformation teams. Most (68%) organizations plan to increase supply chain transformation spending over the next 12–18 months, and 65% have allocated funding to deploying supply chain AI agents.

Agentic AI will redefine supply chains – Agentic AI supports the active management and orchestration of supply chains. AI agents in supply chain can monitor signals, evaluate scenarios, identify risks, coordinate responses, and initiate corrective action within defined boundaries. Our research reveals that in 2026, 22% of organizations globally have piloted or implemented AI agents, up from 16% in 2025. The share of organizations without plans to explore AI agents has fallen from 32% to 21%.

But organizations are tempering full automation expectations – While over half (56%) of executives believe agentic AI will make most supply chain decisions within 3–5 years, this is down from two-thirds (66%) in 2025. Only 25% expect to establish fully automated supply chains within that period, down from 37% in 2025. The shift reflects improved understanding of the interconnected systems, uneven data quality, regulatory constraints, exceptions, and supply chain decision making, all of which require contextual judgment.

Human oversight will remain essential – Our research reveals that eight in 10 organizations believe inadequate oversight increases operational and reputational risk. Even more (84%) say humans must retain authority to validate AI-generated decisions, and 80% say trust must be balanced with the ability to intervene. Across the supply chain use cases explored in our research, organizations are more likely to expect AI to execute with human oversight than to operate largely or fully autonomously in 2-3 years. In a human-AI teaming model, AI could execute operational workflows such as monitoring, analysis, coordination, and routine execution, while people retain authority over decisions that require judgment, accountability, or intervention, such as guardrails, exceptions/escalations, trade-offs, and high-impact decisions.

Resilience is a dominant supply chain transformation objective – Seventy-eight percent of organizations view geopolitical instability as a significant supply chain challenge, up from 52% in 2025. Six in 10 are concerned about maintaining seamless operations, and 54% say they can respond quickly to short-term disruptions. Accordingly, 73% identify supply chain resilience as a top priority, and one that is being discussed in supply chain sovereignty

Executive summary

strategies. But there is a persistent gap between levels of intent and readiness. Less than half regularly assess supply chain dependencies or define key performance indicators (KPIs) for reducing high-risk exposure, while visibility often weakens beyond tier-1 suppliers.

Sustainability and supply chain resilience are increasingly interconnected – Investments in sustainability initiatives have knock-on benefits for operational efficiency. Over six in 10 (63%) of executives agree that investments in sustainability initiatives have improved the operational efficiency of their organization's supply chain. In addition, 51% say these investments have strengthened their organization's ability to anticipate and respond effectively to supply chain disruptions.

Overall, these findings highlight that organizations must strengthen resilience and agility across the supply chain ecosystem as disruption is a continuous and never-ending risk. The transformation of supply chains with agentic AI enables organizations to sense deviations early, evaluate their impact across functions, and activate coordinated responses, with continuous learning loop refining how AI agents' reasons over time. To navigate this transformation effectively, organizations should:

- Build the data and digital foundation for supply chain
- Accelerate transformation through AI-powered intelligent operations
- Establish the semantic layer as the enterprise context for agentic supply chains
- Build agentic orchestration for connected decisions across the supply chain ecosystem
- Deploy an agentic control plane for governance and monitoring
- Operate supply chain resilience and agility as a continuously monitored capability

Industries have additional considerations based on their unique supply chains:

- **Aerospace and defense** – Use AI agents to anticipate multi-tier supplier and critical-material risks, supported by a digital backbone that connects engineering, manufacturing, supply chain, defense logistics, and sustainment.
- **Consumer products –** Organize AI agents around end-to-end business outcomes, such as fulfillment, pricing, and disruption management to accelerate coordinated decisions across fast-moving value chains.
- **Industrial manufacturing –** Build on mature automation by deploying AI agents first in standardized, data-rich processes, then progressively connecting decisions across operations and supplier networks.
- **Life sciences –** Build shared data and intelligence across the biopharma supply chain ecosystem, using AI agents for orchestrated decision support while retaining human accountability for quality, compliance, patient safety, and supply assurance.

Who should read this report and why?

In this report, we chart organizations' progress in building AI-powered supply chains. We assess the extent to which they are transforming and investing in their supply chains. We evaluate the maturity of their adoption of AI agents and agentic AI to drive automation and decision-making capabilities and build supply chain resilience. This report will provide value for business leaders across the organization, with insights that will be particularly relevant to supply chain leaders in four key industries: aerospace and defense, industrial manufacturing, consumer products, and life sciences.

The report offers a detailed roadmap to help organizations achieve their supply chain goals. It draws on comprehensive research, our internal expertise, and a survey of 1,000 senior executives (director level and above) from organizations with annual revenue exceeding $1 billion. These organizations are based across 13 countries: Australia, Canada, China, France, Germany, India, Italy, Japan, the Netherlands, Spain, Sweden, the UK, and the US, spanning the four focus industries. The report also incorporates qualitative insights from senior industry leaders.

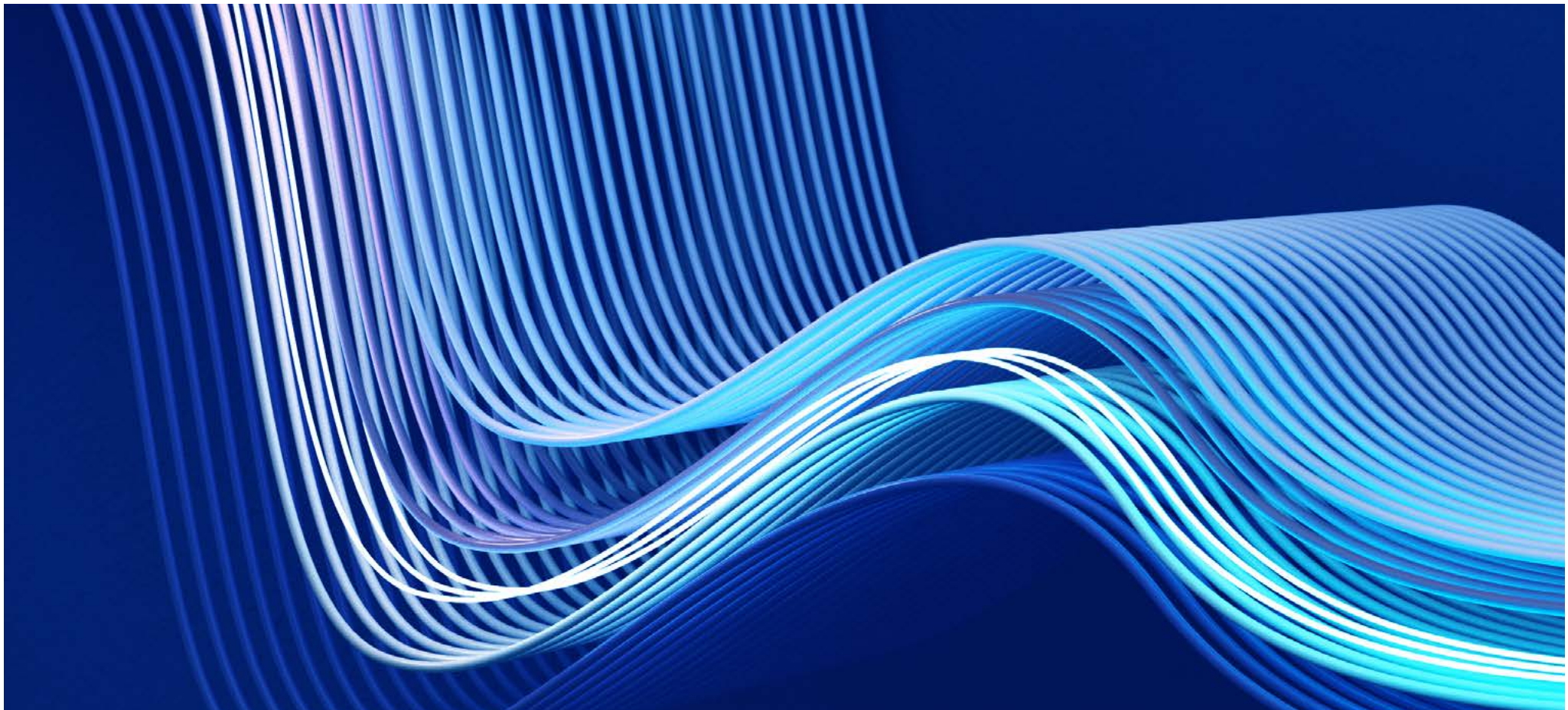
Key definitions

For the purpose of this research, the below supply chain-related definitions apply:

- *Upstream supply chain* – pre-production activities including planning, raw-material sourcing, supplier selection and management, and inbound logistics.
- *Downstream supply chain* – post-production processes such as distribution, warehousing, direct-to-consumer logistics, and after-service sales and support.
- *Supply chain resilience* – an organization's ability to anticipate, withstand, adapt to, and recover from disruption while maintaining continuity of operations and meeting business objectives.

In the report, when we refer to *artificial intelligence (AI)*, we mean the full range of technologies that enable machines to learn, reason, and make decisions either by analyzing data, generating content, or taking autonomous actions, including but not limited to machine learning, generative AI, and agentic AI. Specifically, *agentic AI* is defined as the deployment of AI agents in a real-world environment where agents can detect signals, plan and reason, make autonomous decisions, and achieve set goals independently without human intervention.







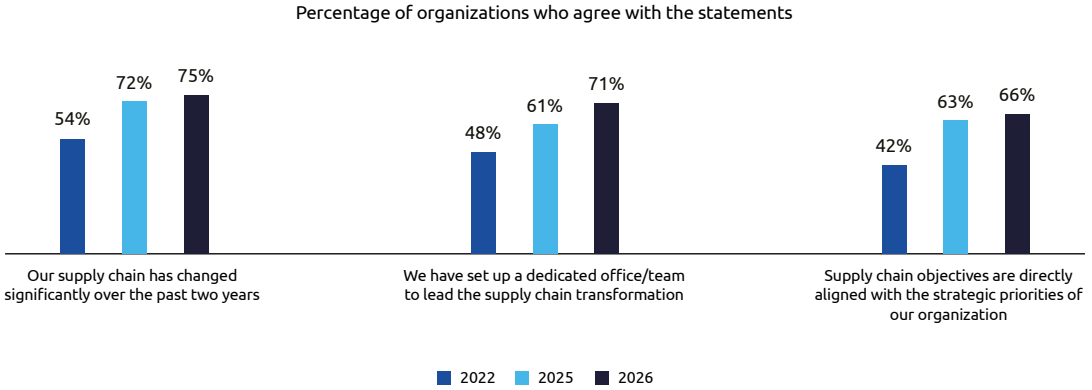
01 Supply chain transformation is still top of the agenda

For most organizations, supply chain transformation is a priority

Escalating geopolitical risks, trade restrictions, supply shortages, inflationary pressures, climate events, and evolving customer expectations have exposed the limitations of traditional supply chain models. Our recent sustainability research reveals that 87% of organizations globally have experienced climate-related supply chain disruptions.[1] As a result, organizations are prioritizing transformation initiatives to improve resilience, agility, visibility, and operational efficiency.

Following the transformation surge in 2022, the trend has remained stable since last year's study. Most (75%) executives agree that their supply chains have changed significantly over the past few years, and seven in 10 have established dedicated transformation teams. Two-thirds of executives also report strong alignment of their organization's supply chain objectives with overall strategic priorities (see **Figure 1**). A senior supply chain leader at a European food manufacturer, observes: *"As supply chains become increasingly interconnected, organizations must move beyond fragmented regional processes toward globally standardized operating models that improve alignment, strengthen decision making, and enable more effective integrated business planning."*

Figure 1.
Three-quarters of organizations have transformed their supply chains



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives; New-generation supply chain survey, March–April 2025, N = 1,000 executives; Intelligent supply chain survey, August–September 2022, N = 1,000 organizations.

Notably, in 2026, 55% of respondents from aerospace and defense (A&D) organizations report that their supply chains have changed significantly over the past two years compared with 70% in life sciences, 79% in consumer products, and 81% in industrial manufacturing. We identify potential drivers of this trend as:

- **A&D implemented many resilience and localization initiatives before 2024.** The A&D sector began addressing defense supply chain resilience, supplier concentration, security, and sovereignty issues well before many commercial industries. Defense procurement requirements, export controls and security regulations, and supplier dependence were all prominent concerns that added urgency.[2] As a result, A&D may present fewer recent changes. NATO's endorsement of the Defense-Critical Supply Chain Security Roadmap in June 2024 underscores the A&D sector's longstanding prioritization of supply chain resilience.[3] Igor Bonvino, a procurement leader in A&D, comments: *"In single-source environments, resilience depends on managing suppliers as strategic partners, building long-term relationships that support continuity of supply, business stability, and future growth."*
- **Long product and procurement cycles limit the pace of change.** Unlike our other focus sectors, A&D operates with 10–30-year program lifecycles, extensive certification requirements, long supplier-qualification processes, and government contracting stipulations. These constraints reduce the speed and visibility of supply chain transformation.

Supply chain investment is on the upswing

As a natural response to the sector placing increased importance on supply chain transformation, organizations are ramping up their strategic investments to build more resilient, agile, and future-ready operations.

In 2026, most organizations (68%) plan to increase their investments in supply chain transformation over the next 12–18 months. This share has remained steady since our 2025 research, in which 66% of organizations globally said they were planning to increase supply chain investment in the next 12–18 months.

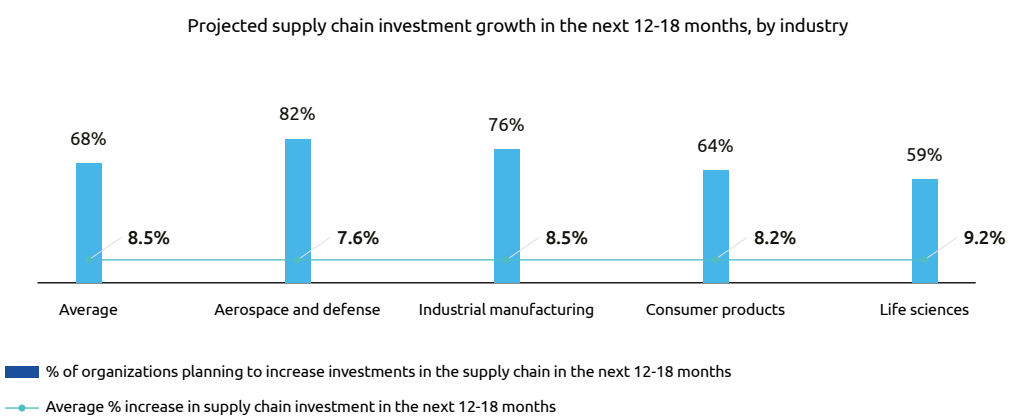
The 2026 share rises to 82% in A&D and falls to 59% in life sciences (see **Figure 2**). In our 2025 survey, 75% of life sciences organizations said that in light of the current economic and global scenario, they were planning to increase investments in supply chain in the next 12-18 months.[4] The lower share in 2026 may not necessarily indicate weaker supply chain focus. Instead, life sciences organization may be channeling investment into resilience, compliance, traceability, and AI-enabled capabilities.

They may be targeting investment in highly specific priorities, such as serialization, product traceability, or cold-chain controls rather than broader supply chain transformation. This is supported by the finding that life sciences organizations planning supply chain investments expect the highest average spending increase of any industry.

In addition, an average of 65% of organizations say that they have allocated a dedicated budget for AI agents and agentic AI initiatives within the supply chain. A global supply chain planning leader at an American pharmaceutical company, adds: *"Digital supply chain mapping, scenario planning, and AI-enabled decision support have become strategic investment priorities."*

Among those expecting to increase supply chain investment, the average planned increase is 8.5%, rising to 9.2% in life sciences but falling to 7.6% in A&D. The lower figure for A&D suggests more selective investment, that A&D is entering a more mature stage of transformation, investments target specific bottlenecks, such as demand forecasting AI, and/or executives perceive a need for incremental improvements, rather than major redesign. Shail Oza, Director, Supply Chain at WestJet, notes: *"Demand forecasting has become one of the most important investment areas for modern supply chains. A stronger demand signal creates better control across sourcing, procurement, logistics, inventory, and distribution decisions."*

Figure 2.
Most organizations plan to increase supply chain investment



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.

Global leaders are investing heavily to expand supply chain and logistics:

- Amazon plans to invest over $48 billion in India by 2030, spanning AI infrastructure, cloud expansion, and logistics capabilities. This will reinforce the tech giant's presence in South Asia as India continues to emerge as a key global manufacturing and export destination.[5]
- Johnson & Johnson is restructuring its supply chain, with a particular focus on its innovative medicine business. The initiative will simplify and streamline operations, including exiting some sites. Johnson & Johnson expects the project to be completed by end-2029, with associated costs projected at $750 million.[6]
- Volvo Construction Equipment is significantly expanding its US footprint. As a consequence, it will manufacture more than 50% of its North American machine supply at its Shippensburg, Pennsylvania facility, following a recent investment of $40 million. This expansion of regional manufacturing may enhance equipment availability and reliability of service and support.[7]

02 Agentic AI will redefine supply chain

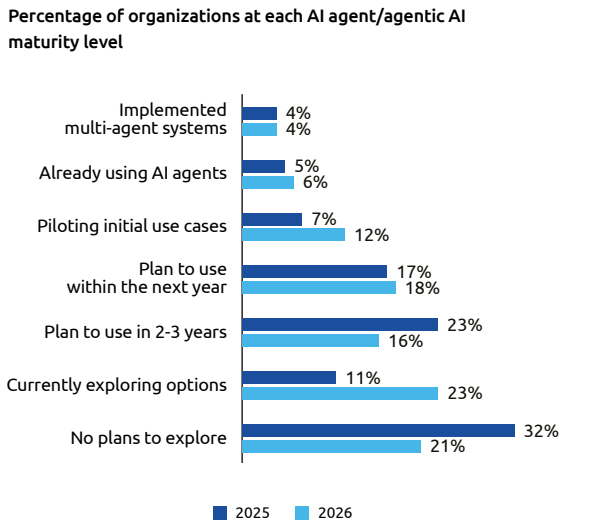
Agentic AI will enable goal-driven autonomous decision-making across planning, sourcing, manufacturing, logistics, and fulfillment, improving operational efficiency and strengthening resilience. Unlike traditional AI, which primarily provides insights and recommendations, agentic AI can perceive events (i.e., recognize and interpret an event), analyze data, coordinate actions across systems, and execute decisions with minimal human intervention. As technology matures, agentic AI will serve as a central orchestrator of complex supply chain networks.

AI agent adoption has increased over the past year

The share of organizations reporting ongoing pilots or that they are already using AI agents or multi-agent systems grew from 16% in 2025 to 22% in 2026. Furthermore, the share of organizations with no plans to explore AI agents in the supply chain declined from one-third in 2025 to 21% in 2026 (see **Figure 3**). Shail Oza of WestJet, notes: *"AI-driven procurement is emerging as one of the most practical and valuable applications of agentic AI, helping organizations improve sourcing decisions, efficiency, and responsiveness."*

Figure 3.

22% of organizations are piloting or have implemented AI agents in their supply chains



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives; New-generation supply chain survey, March–April 2025, N = 1,000 executives.

In our research, between 2025 and 2026, the share of organizations piloting or using AI agents in digital supply chain transformation has increased across all industries. (see **Figure 4**). A&D organizations report a higher rate of supply chain AI agent pilots or implementation (39%) compared with 22% globally. This likely reflects a convergence of factors. A&D supply chains face acute parts scarcity, multilayer supplier dependencies, geopolitical exposure, and mission-readiness requirements, creating high-value use cases in sourcing, supplier risk monitoring, parts allocation, predictive sustainment, and maintenance. The industry also reports stronger investment in supply chain transformation and the foundational technologies required to support AI agents (discussed later in this report), while defense modernization programs are actively encouraging AI experimentation. For example, the US Defense Logistics Agency is piloting nearly 200 AI agents that work autonomously in use cases spanning demand planning and supply chain risk management.[8]



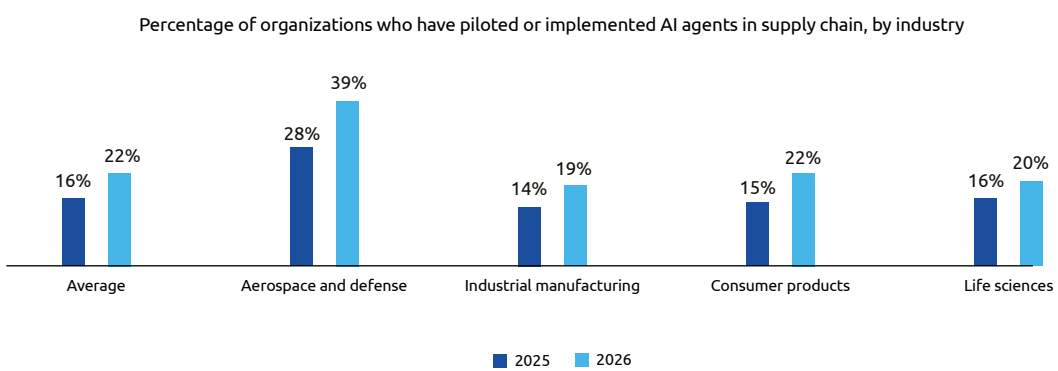
"AI-driven procurement is emerging as one of the most practical and valuable applications of agentic AI, helping organizations improve sourcing decisions, efficiency, and responsiveness."

Shail Oza

Director, Supply Chain at WestJet



Figure 4.
The use of AI agents/agentic AI has accelerated since 2025



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives; New-generation supply chain survey, March–April 2025, N = 1,000 executives.

Our 2026 research reveals that a hybrid solution, combining in-house development and external solutions, is the most common approach to adopting AI agents and agentic AI in the supply chain (46%). However, only 14% of organizations say they primarily build or develop these capabilities in-house.

Agentic AI will soon be making most business decisions in the supply chain

On the cross-sector average over half (56%) of organizations believe that, within the next three to five years, agentic AI systems will make most supply chain decisions. This is down from 66% in 2025 (see **Figure 5**).

This type of decline is commonly seen in the adoption cycle of emerging technologies. We could interpret it as a shift from optimism to realism, rather than a loss of confidence in agentic AI strategy. According to Gartner's *2026 Hype Cycle for Agentic AI*, agentic AI is at the "peak of inflated expectations," highlighting its significant market attention and strong adoption ambitions. But agentic AI's rapid ascent disregards the gap between organizational aspirations and the practical realities of implementation. While many organizations are piloting AI agents to automate specific

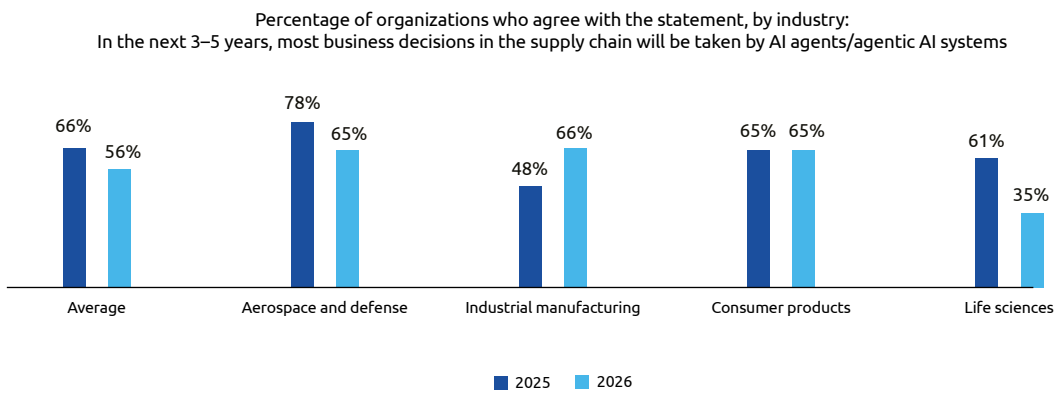
tasks within functions such as software engineering, customer service, or operations, most initiatives remain limited in scope.[9]

With regard to life sciences, the share of respondents (35%) who believe AI agents will make most supply chain business decisions is lower than for other industries and dropped from 2025 (61%). A potential driver for this dynamic is that since supply chain decisions can directly affect product quality, patient safety, regulatory compliance, and drug availability, life sciences respondents may be less comfortable saying "most decisions" will be taken by AI agents. Even if AI improves forecasting, scenario planning, or supplier risk monitoring, final accountability for critical supply chain decisions will likely remain with humans. Life sciences respondents may therefore see AI agents as decision-support tools rather than decision making tools.

In addition, the decline could be attributed to perceived regulatory inflexibility and Good Manufacturing Practices (GMP)-related caution. One interpretation of the industry's more cautious outlook is that life sciences organizations apply quality- and compliance-oriented assurance expectations to adjacent supply-chain decisions, including some that are not themselves GMP decisions. Regulatory guidance increasingly emphasizes context of use, decision consequence, validation, traceability, and human oversight for AI in regulated activities; these practices may shape expectations for autonomy more broadly.[10]

Figure 5.

56% of organizations believe agentic AI will make most business decisions in supply chain within 3-5 years



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives; New-generation supply chain survey, March–April 2025, N = 1,000 executives.
*The life sciences sample in 2025 comprised larger organizations by annual revenue than in 2026. For example, 28% of the life sciences sample in 2025 were organizations with more than $20 billion in revenue compared to only 3% in 2026; 73% of life sciences organizations in our 2026 sample have between $1 billion and $10 billion in annual revenue.

Prominent AI agent use cases are emerging in upstream and downstream supply chains

Our research explores emerging use cases among organizations that have committed to an agentic AI roadmap. Among organizations with an agentic AI strategy roadmap (N=560), examples of common supply chain use cases organizations are piloting and/or implementing include:

- Upstream supply chain:
  - Continuously forecast demand and proactively coordinate supply, inventory, and production adjustments
  - Continuously optimize pricing by analyzing demand, competitor pricing, inventory levels, and supply constraints, and implement pricing adjustments
  - Continuously monitor cybersecurity threats and coordinate incident response
  - Conduct supplier risk assessment and coordinate mitigation actions
- Downstream supply chain:
  - Autonomously identify and resolve order fulfillment exceptions
  - Autonomously predict equipment failures and orchestrate maintenance activities
  - Continuously optimize and execute delivery routing decisions based on real-time traffic, delivery constraints, and operational conditions

Our qualitative research with industry executives provides further illustrations that organizations are moving from experimentation to targeted deployment of AI agents in supply chain.

- In upstream supply chains, a large European industrial manufacturer has deployed an AI agent to autonomously assess the compliance of low-risk indirect procurement requests (i.e., goods and services that support daily business operations rather than the final product). Looking ahead, the company aims to expand the agent's capabilities so that, for selected use cases, such as catalogue purchases, it can identify approved suppliers, create purchase orders, and complete transactions autonomously, while escalating exceptions to procurement teams when human intervention is required.
- In downstream operations, an automation machinery manufacturer shared that the organization uses an AI agent to autonomously resolve routine customer fulfillment inquiries by retrieving order and shipment data, initiating corrective actions when delays or exceptions occur, proactively communicating updates, and escalating complex cases to employees.
- In supply-chain planning, an American pharmaceutical company has piloted AI agents to continuously monitor upstream supply chain signals, anticipate emerging disruptions, and autonomously generate and evaluate response scenarios, escalating only high-impact decisions to planners.

56%

Share of organizations that believe agentic AI will make most business decisions in supply chain within 3-5 years

Agentic AI orchestration could reshape future industry supply chains

Industry focus: Aerospace and defense

A&D supply chains are highly regulated and quality-driven, requiring compliance with strict defense, export control, security, and airworthiness standards in accordance with the mission-critical nature of A&D products. A&D products have long development cycles and lifespans, creating a low-volume, high-value production environment characterized by specialized, customized (and consequently expensive) products that often remain in service for decades. Close supplier partnerships are the key to supply continuity, quality, lifecycle support, and program success.

Seven in 10 (71%) A&D executives cite rising costs of critical components as a major challenge, while 67% report shortages of components and spare parts as a key concern. A component supply-risk and cost-optimization agent can help A&D organizations address rising component costs and shortages by continuously monitoring supply market conditions, forecasting supply risks, identifying alternative sourcing options, optimizing inventory allocation, and recommending proactive mitigation actions. By enabling real-time visibility and autonomous decision support, AI agents help to ensure production continuity and reduce procurement costs, while strengthening supply chain resilience. The future A&D supply chain could evolve into a cross-functional AI agent network.

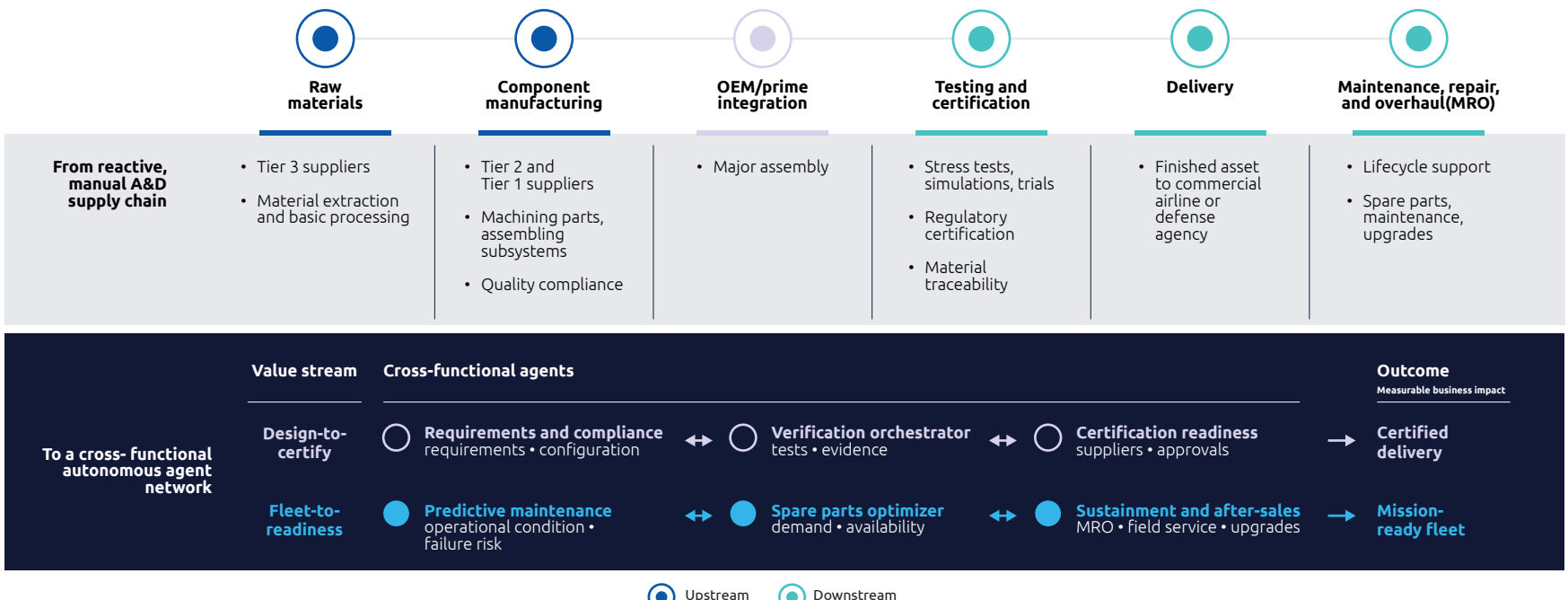
Based on our research, **Figure 6** offers a view of the future A&D supply chain transformed by AI agents across example value streams (i.e., an end-to-end business flow that cuts across functions to deliver a specific operational objective), and business outcomes (i.e., the measurable result achieved by the value stream). In the design-to-certify value stream, AI agents coordinate requirements, configuration, supplier compliance, verification and certification evidence from initial design through approved delivery. In fleet-to-readiness, a series of AI agents post-delivery coordinates equipment health, maintenance, spare parts, MRO, upgrades and after-sales support.





Figure 6.

Current vs. future AI-agent-driven A&D supply chain



Source: Capgemini Research Institute analysis; Capgemini industry expert point of view (POV).

As an illustration, here are two examples of the use of AI agents in supply chain among A&D organizations:

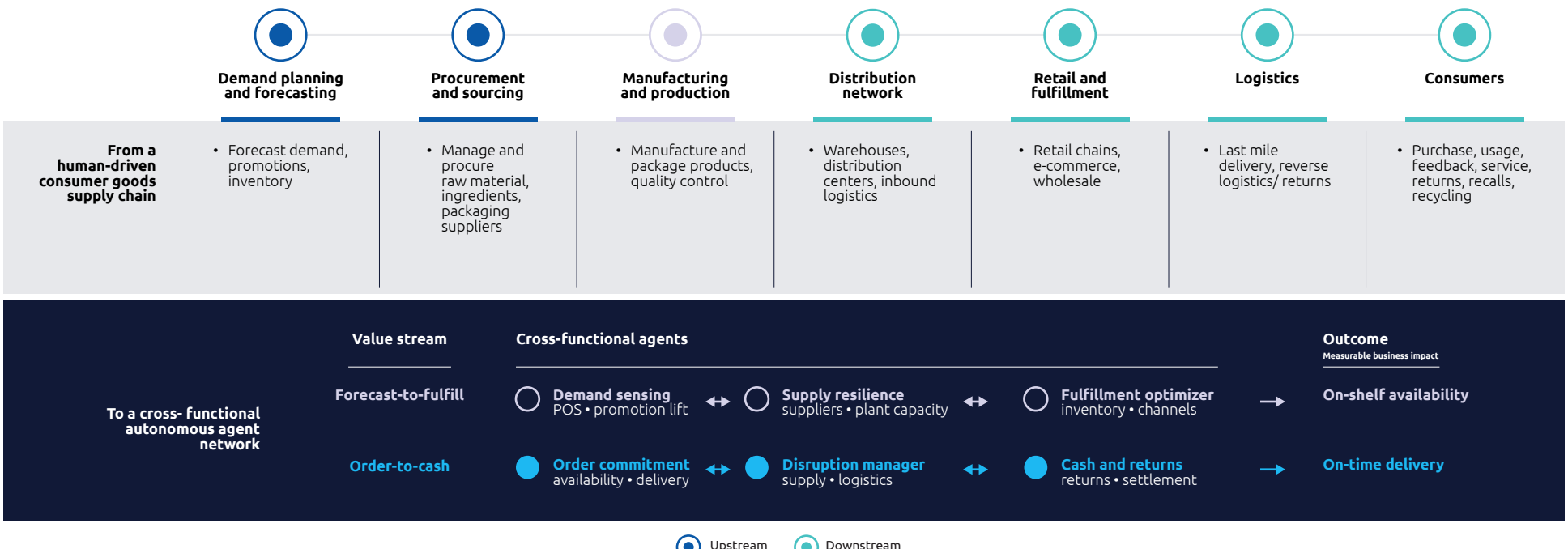
- Boeing used Fairmarkit's AI-powered sourcing agents to control 'tail spend' (small, scattered, and unmanaged purchases that fall outside a organization's core strategic procurement contracts).[11, 12]
- GE Aerospace has partnered with Palantir to deploy advanced agentic-AI-powered capabilities across sourcing, allocation, fulfillment, maintenance and repair operations, and customer service, to enable faster identification of supply constraints, improved parts availability, and more resilient supply chain operations.[13]

Industry focus: Consumer goods

The consumer goods industry supply chain is complicated by the high volume of stock keeping units (SKUs), volatile demand, and the challenges of multi-channel distribution. Over three-quarters (77%) of consumer goods organizations in our 2026 research say that forecasting uncertainty caused by rapid shifts in consumer behavior constitutes a top challenge impacting their organization's supply chain today. As a changing combination of promotions, weather, social media trends, competitor actions, and seasonality cause consumer demand to change rapidly, forecast errors can lead to stockouts or excess inventory. A demand agent could monitor point-of-sale (POS) data, weather, promotions, social sentiment, among other areas, and continuously update forecasts, which could trigger inventory and production changes. The business impact of such an agent could include improved product availability, lower excess inventory, and/or reduced markdowns.

Our research reveals that 68% of consumer goods organizations believe AI agents will revolutionize the existing supply chain framework and processes in their industry. Based on our research, **Figure 7** offers a view of the future consumer goods supply chain by illustrative value streams transformed by AI agents. Consumer goods supply chain shifts from sequential handoffs to a continuous operating model: agents sense signals, orchestrate cross-functional decisions, execute coordinated actions, and route exceptions to humans. The human role shifts to strategy, governance, and exceptions approval. In forecast-to-fulfill, a series of AI agents convert market demand signals into coordinated supply and fulfillment decisions. Its goal is to ensure that consumers can find the product when and where they want it. In order-to-cash, AI agents coordinate the complete journey from accepting an order through delivery, returns, settlement, and cash collection.

Figure 7.
Current vs. future AI agent-driven consumer goods supply chain



Source: Capgemini Research Institute analysis; Capgemini industry expert point of view (POV).

Examples of the use of AI agents in supply chain among consumer goods organizations:

- Unilever's multi-agent procurement system evaluates suppliers, pricing, contracts, risk, and sustainability metrics to give sourcing teams one recommendation view.[14]
- Pepsico uses AI agents to give field teams real-time inventory visibility and support stocking decisions to improve product availability and store execution.[15]

Industry focus: Industrial manufacturing

Industrial manufacturing supply chains are characterized by complex multi-tier supplier networks, dependence on critical raw materials and components, long production cycles, customized manufacturing requirements, asset-intensive operations, and a strong focus on operational efficiency, supplier collaboration, resilience, and digital transformation.

Two-thirds (66%) of industrial manufacturing executives cite rising costs of critical components as a major challenge, while 62% report shortages of components and spare parts, and 59% identify extended lead times for essential components as a key concern. Furthermore, 71% of industrial manufacturers in our survey believe AI agents will revolutionize the existing supply chain framework and processes in their industry.

A critical component supply and lead-time optimization agent can help industrial manufacturers mitigate these issues by continuously monitoring supply risks, forecasting disruptions, identifying alternative sourcing options, and optimizing inventory and procurement decisions. By providing real-time visibility and autonomous decision-making support, the agent enables more resilient, cost-effective, and agile manufacturing operations.

Based on our research, **Figure 8** offers a view of the future industrial manufacturing supply chain transformed by AI agents across two illustrative value streams. Source-to-supply is a network of AI agents that ensure the right materials, components, and suppliers are available at the right time, cost, quality, and risk profile. AI agents in demand-to-build coordinate demand, materials, and production capacity to ensure connected manufacturing can start and proceed efficiently.

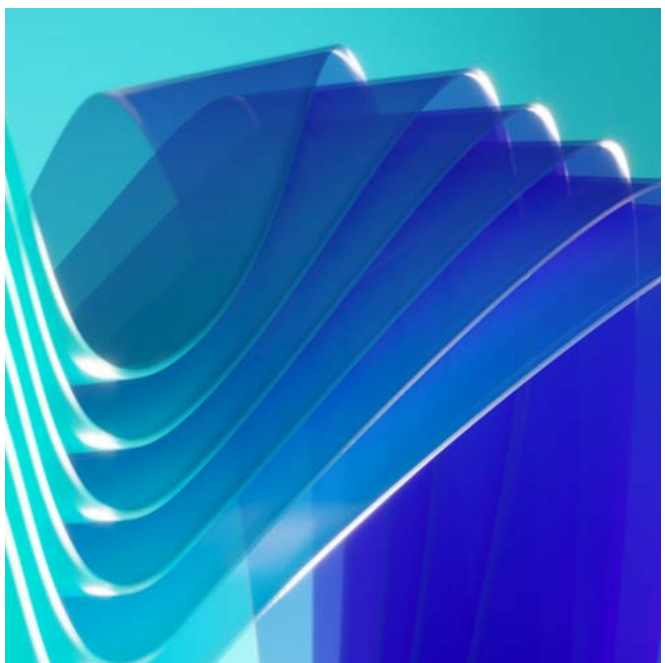
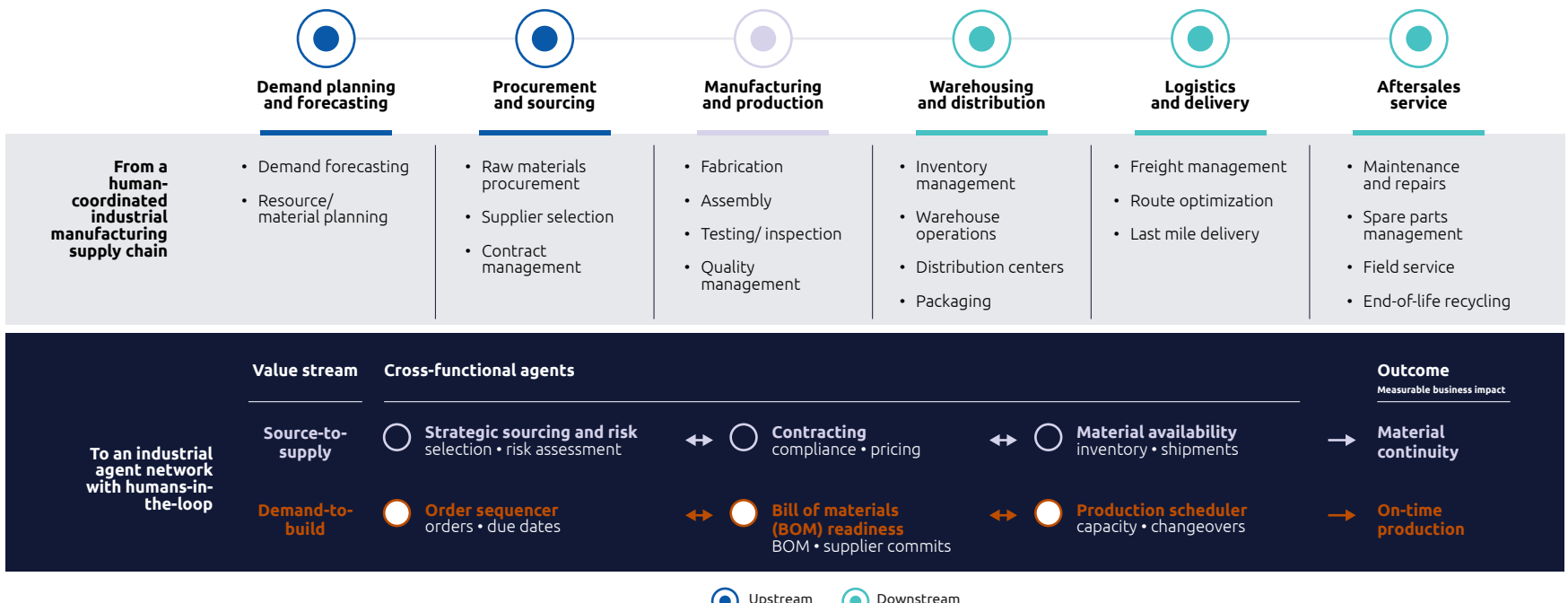


Figure 8.

Current vs. future AI agent-driven industrial manufacturing supply chain



Source: Capgemini Research Institute analysis; Capgemini industry expert point of view (POV).

As an illustration, here are three use cases of AI agents in supply chain among industrial manufacturers:

- To address the growing complexity of supplier management, GE Appliances deployed a supplier collaboration agent to streamline interactions with over 600 suppliers. The solution delivered significant benefits, including a 25% reduction in back orders and enhanced efficiency in order status management.[16]
- Schneider Electric launched Zeigo Hub to help organizations decarbonize their supply chains. Zeigo Hub uses advanced agentic AI to accelerate decarbonization efforts and enable smarter data-driven decisions.[17]
- John Deere, a US agricultural industrial manufacturer, uses a network of collaborative AI agents to manage material shortages across its factories. When an agent detects an impending or current shortage, it automatically initiates actions such as inventory checks. According to the organization, this agent-based approach has reduced the time spent on shortage-management processes by up to 75%, improving factory-floor responsiveness and execution.[18]



Industry focus: Life sciences

Biotechnology and pharmaceutical (biopharma) supply chains are characterized by stringent regulatory oversight, patient-centric operations, and complex global networks. Rigorous quality and traceability requirements and temperature-sensitive logistics add to the complexity of the biopharma supply chain. Further implications for patient safety demand strong risk management and control protocols.

34%

Share of biopharma organizations who are are piloting or already using AI agents in R&D

The use of AI in the biopharma supply chain appears to be most prominent in the R&D phase. Our recent research exploring the use of AI in biopharma R&D revealed that around a third of organizations (34%) are piloting or already using AI agents in R&D, and 60% are currently exploring potential applications or planning to adopt AI agents in the next 1–3 years. Only 6% of biopharma organizations lack plans to explore the use of AI agents in R&D.[19] Based on our research, **Figure 9** offers a view of the future biopharma supply chain transformed by AI agents across key value streams.

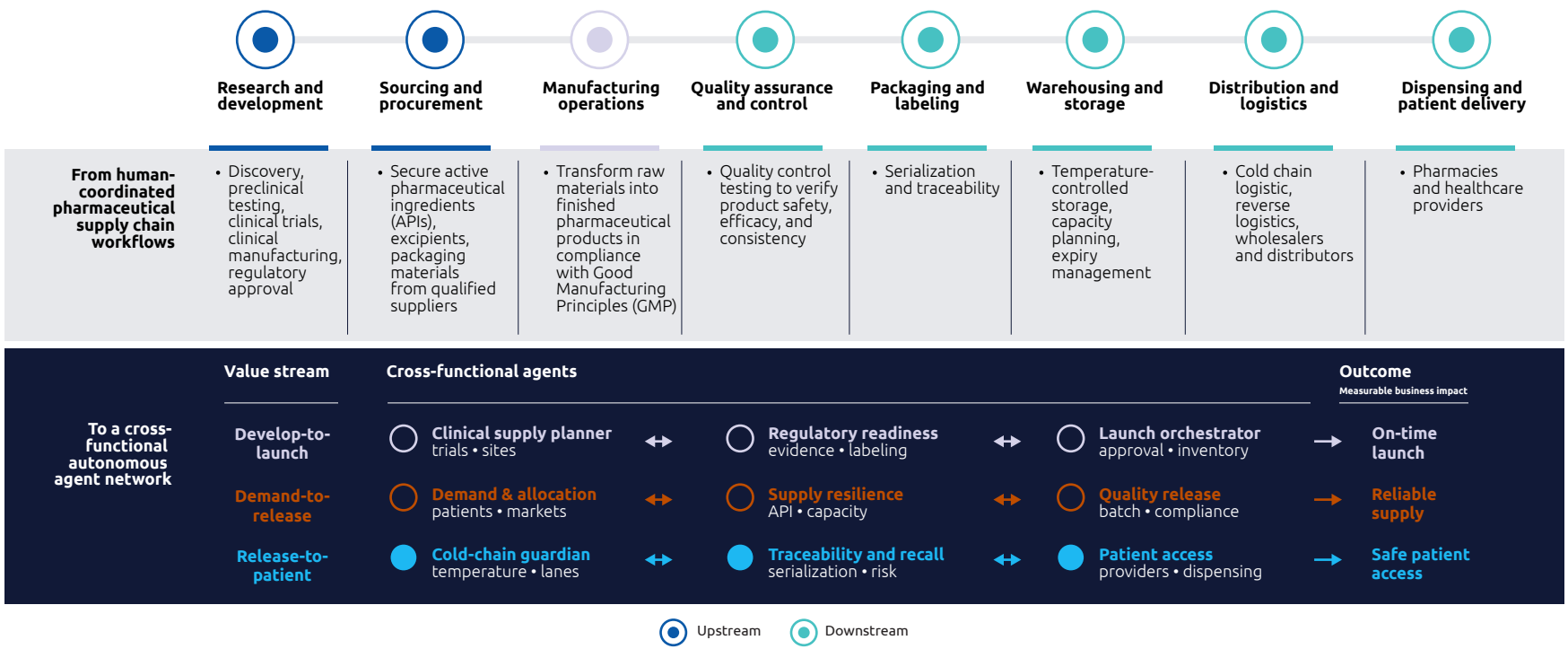
- *Develop-to-launch-* a series of AI agents coordinate clinical supply, regulatory readiness and commercial launch preparation so the medicine is available when approval is received.
- *Demand-to-release-* AI agents translate patient and market demand into an executable production plan and ensure that compliant batches are released in time to meet that demand.
- *Release-to-patient-* AI agents protect the medicine from the point of batch release through storage, transport, dispensing and patient access.

Examples of the use of AI agents in supply chain among biopharma manufacturers include:

- Bristol Myers Squibb redesigned its procurement process around an agentic AI platform, reducing the average request for proposal (RFP) cycle from 6–9 months to less than one month.[20]
- Johnson & Johnson is deploying agentic AI for autonomous drug discovery to replace manual iterations and experiments faster, which will ultimately accelerate R&D pipelines.[21]
- Moderna has integrated AI agents across its 5,000-person workforce. These are tasked with critical activities including drafting regulatory documents, personalizing patient communications, and synthesizing datasets across legal, medical, manufacturing, and commercial teams.[22]
- Within procurement, Pfizer has used AI agents to automate the requisition approval process, a 26-step workflow involving multiple checks, validations, and cross-referencing. An AI agent now performs these checks autonomously, learning and improving through human-in-the-loop oversight.[23]

Figure 9.

Current vs. future AI agent-driven biopharma supply chain



Source: Capgemini Research Institute analysis; Capgemini industry expert point of view (POV).

03 Human oversight will remain essential

Organizations are taking a realistic view of fully automated supply chains

Our research shows a simultaneous substantial increase in planned adoption of agentic AI and lower expectations for full autonomy. A quarter (25%) of respondents on average across sectors believe that their organization's supply chain will be fully automated and powered by agentic AI within the next three to five years, down from 37% in 2025 (see **Figure 10**).

Over the past year, having gained hands-on experience with pilots and deployments, organizations may have realized that supply chains involve thousands of interconnected decisions. Moreover, data quality remains inconsistent across systems and partners, exception handling is difficult to automate, and many decisions require cross-functional judgment. As a consequence, organizations are becoming more realistic about implementation timelines. Tanja Gilb, a supply chain leader in consumer products explains: *"While AI will continue to optimize an increasing number of supply chain processes, organizations will need to rely on human judgment for critical decisions that require context, experience, and accountability."*

While organizations remain cautious about fully autonomous supply chains, they continue to invest in AI-enabled operating models. However, scaling agentic AI involves more than deploying technology. To enable AI agents to operate effectively across complex supply chain networks, organizations must redesign business processes, strengthen data foundations, and establish scalable technology ecosystems. Shail Oza of WestJet, adds: *"Fully autonomous end-to-end supply chains remain a long-term aspiration because many operational, commercial, and regulatory decisions will continue to require human involvement and oversight. That being said, there remain several opportunities within end-to-end processes where autonomous operations would greatly improve the performance of supply chains (e.g., automated reordering, inventory rebalancing, requisition flows)."*

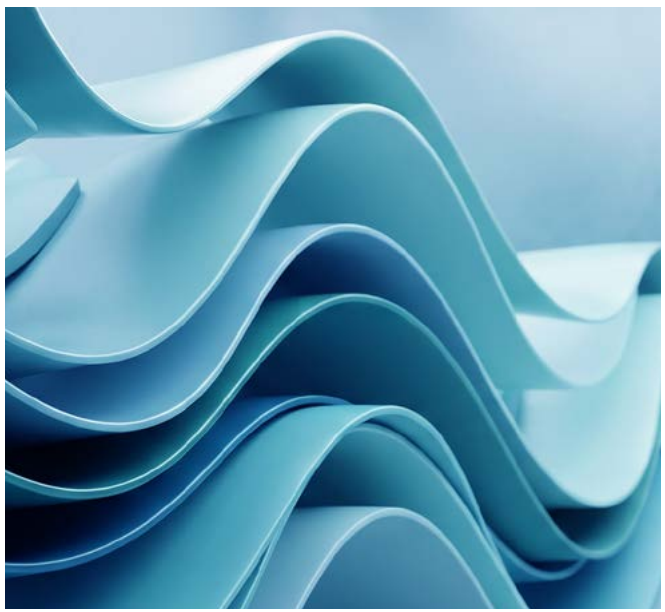
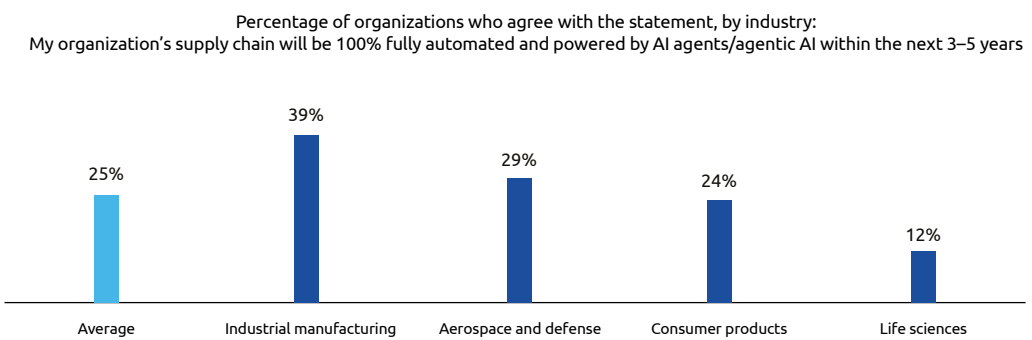
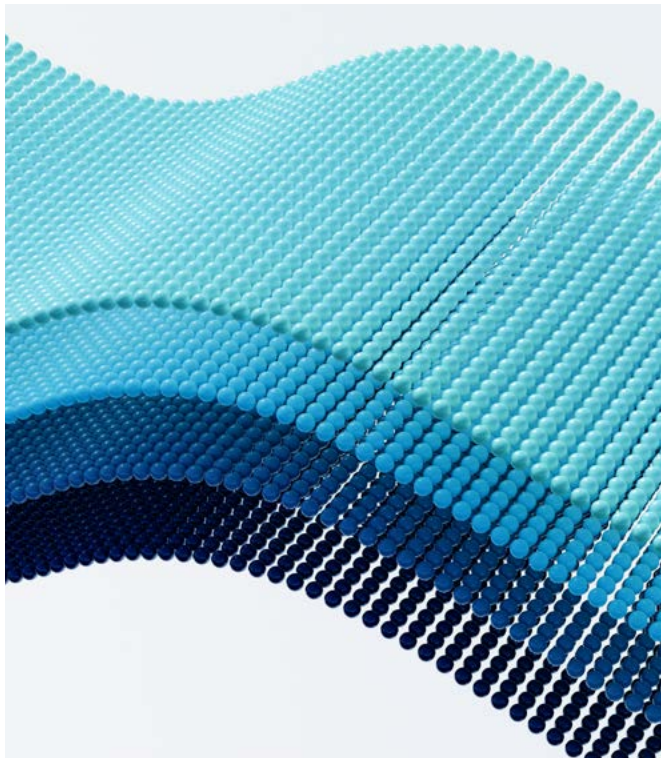


Figure 10.
Few believe their supply chain will be fully automated within 3–5 years



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.

- **Industrial manufacturing** has the highest share (39%) of organizations agreeing to full automation in supply chains over the next 3-5 years. The industry may be more confident about automation due to its standard processes, established suppliers, longer lead times, and existing automation capabilities. Many industrial manufacturers have invested in automation and industrial AI before offering services to other organizations. The International Federation of Robotics reports that factories worldwide installed more than 600,000 industrial robots in 2025, an increase of 11% from 2024, taking the global operational stock to a record 5 million units.[24]
- In contrast, fewer respondents from **consumer products** agree that their supply chain will be fully automated (24%) than industrial manufacturing. The consumer products industry is faster-paced and more exposed to frequent changes in consumer demand and behavior, requiring decisions to be made in minutes or days rather than weeks or months. This environment may make broad automation and autonomous decision-making more complex.
- Only 12% of **life sciences** respondents believe their supply chain will be fully automated within the next 3-5 years, the lowest of any industry. Life sciences organizations may see AI agents as powerful decision-support tools but still require humans to do critical decision making where some supply chain decisions can affect patient safety and



regulatory compliance. In addition, life sciences supply chains are among the most ecosystem-dependent of any industry since pharmaceutical and medtech companies rely on a complex network of CMOs/CDMOs, third-party logistics providers, distributors, hospitals, pharmacies, regulators, and suppliers. Since life sciences organizations do not fully control these nodes, combined with stringent quality and compliance requirements, it is difficult to automate the end-to-end supply chain through AI agents alone.

Human-in-the-loop remains critical

Our research reveals that organizations continue to place high emphasis on the human element in AI agents and agentic AI. Eight in ten organizations believe that a lack of human oversight could increase operational and reputational risks. This falls to 75% among life sciences respondents and rises to 86% among respondents from the consumer products industry. A global supply chain planning leader at an American pharmaceutical company says: *"While AI will likely recommend and eventually automate many routine decisions within three to five years, major decisions with significant impact will continue to require human involvement."*

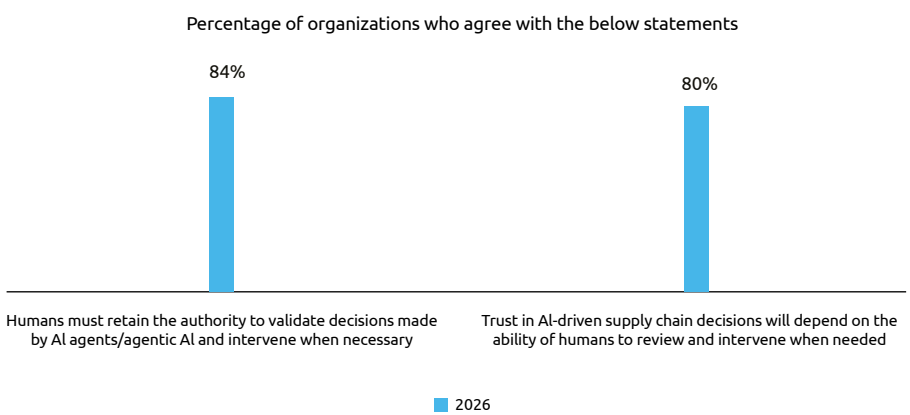
Consistent with 2025 (85%), most organizations in 2026 (84%) believe that humans must retain the authority to validate decisions made by AI agents, and that trust depends on human intervention when necessary (80%) (see **Figure 11**). These findings are consistent across industries.

80%

Share of organizations who believe trust in AI-driven supply chain decisions depends on human intervention when necessary

Figure 11.

Eight in 10 organizations believe human intervention is critical



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.

While human oversight is a critical factor for trust in AI agents, it can also create a scaling challenge. As AI agents become involved in a growing number of supply-chain decisions, requiring human review of every recommendation or action can slow response times and limit the benefits of automation. Organizations therefore need ways to allow humans to govern outcomes without manually reviewing every decision. One approach is to establish traceability for agent-influenced outcomes, providing visibility into the data, assumptions, and logic behind agent decisions and actions. This enables targeted human oversight, stronger accountability, and greater trust while allowing agentic systems to operate at scale. Seventy-three percent of organizations in our survey agreed that transparency and explainability of AI agent decision-making is an important factor when establishing guardrails for AI agents in supply chain.

DHL Supply Chain prioritizes human-supervised agentic AI for enhancing operational efficiency. It is building agentic AI models designed to manage exceptions, coordinate activities across systems, and support agent-to-agent communication. The organization continues to follow a human-in-the-loop operating model, where employees oversee exceptions, validate AI-generated recommendations, and retain accountability for operations while automation manages repetitive monitoring and analysis activities.[25] A supply chain and customer care leader at a German automation machinery manufacturer, explains: *"As AI systems become more capable and*

autonomous, human oversight will remain essential for business-critical decisions that carry significant operational or financial implications."

Organizations across industries anticipate building human-AI supply chain teams

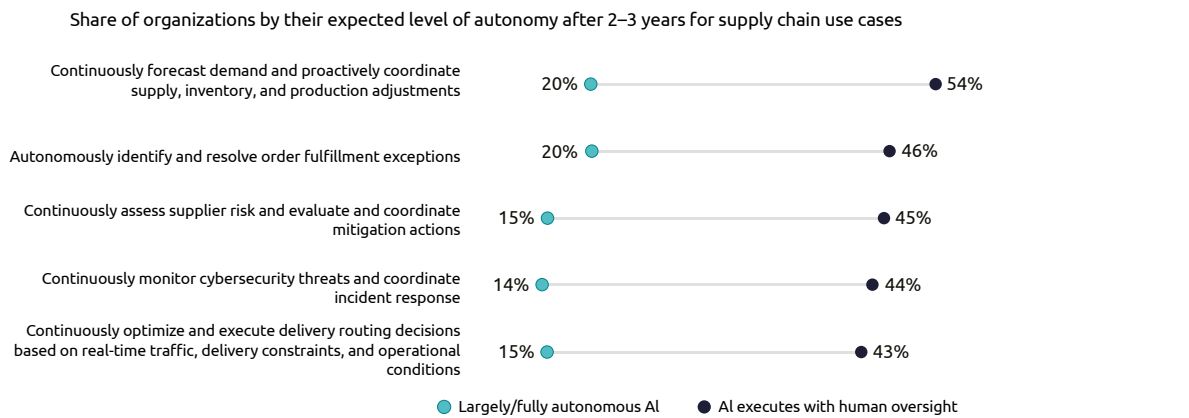
Across supply chain use cases, organizations are far more likely to expect AI to execute with human oversight than to operate largely or fully autonomously in 2–3 years.

Organizations increasingly expect human-AI teams to operate AI-powered supply chains. In such teams, AI agents automate analysis, coordination, and routine decision making while humans provide oversight, high-stakes decision making, and governance. This collaborative model can enhance efficiency, strengthen trust, and enable more resilient and agile supply chain operations.

Our research reveals that of organizations that are planning, piloting, or implementing AI agents in supply chain (n = 560), up to 54% expect to see AI executing tasks with human approval and/or oversight within 2–3 years across selected supply chain use cases. Up to one-fifth of organizations predict largely or fully autonomous use cases in this period (see **Figure 12**).

Figure 12.

Most executives expect AI agents to execute tasks with human approval



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 560 executives from organizations that are planning, piloting, or implementing AI agents in supply chain. *Fully manual/no AI, AI provides decision support only, and unsure/don't know responses from the survey question not included in this analysis.

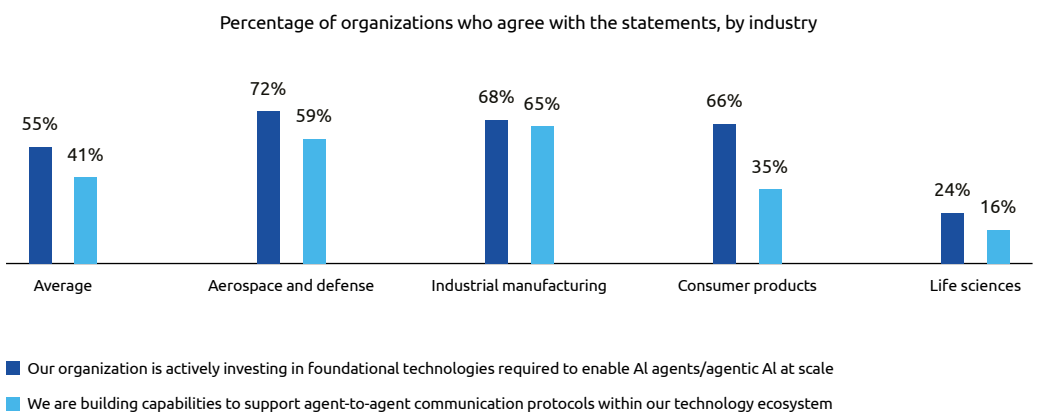
Certain organizations lag in readiness for AI agent implementation

Slightly over half (55%) of organizations say they are actively investing in foundational technologies (e.g., data platforms, security frameworks) required to enable AI agents/agentic AI at scale. Four in 10 organizations are building capabilities to support agent-to-agent communication protocols (e.g., agent-to-agent, model context protocol) within their technology ecosystem (see **Figure 13**).

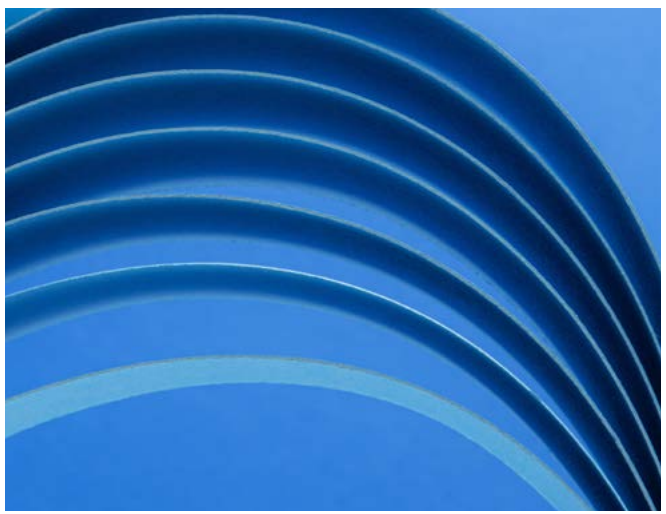
Over 70% of A&D organizations say they are investing in foundational technologies, compared with less than a quarter in life sciences (24%). A&D has a history of investment in digital engineering, digital thread, digital twins, and model-based engineering. Our 2025 A&D research found that digital continuity was a top priority for industry. More than 80% of A&D executives viewed digital continuity as essential to business transformation and a key driver of competitive advantage.[26] Therefore, stronger foundations in end-to-end digital continuity can more effectively enable AI agents. The digital thread connects information across engineering, suppliers, manufacturing, production, maintenance, and sustainment, giving AI agents access to connected data.

Figure 13.

Life sciences lags in terms of investment in foundational AI technologies



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.



Furthermore, A&D organizations have elevated supply chain resilience and security to strategic priorities. Industry bodies such as the Aerospace Industries Association highlight the need for significant investments in technology, infrastructure, and supply chain resilience capabilities, while NATO has identified resilient and secure supply chains as critical to defense readiness.[27, 28, 29]

The lower share of foundational AI investment among life sciences organizations may reflect a prioritization of near-term, high-value AI use cases over enterprise-wide foundational capabilities for agentic AI. Life sciences organizations may be concentrating AI investment towards applications, rather than foundational systems for AI agents. Rather than diminished confidence in AI, this may suggest that life sciences organizations are moving from broad experimentation toward more targeted scaling efforts. Some life sciences organizations may believe that their foundational systems are adequate; however, others may still be underestimating the need for investment in digital and data foundations. Josh Kim, Director, Supply Chain for the Specialty Diagnostic Group at Thermo Fisher Scientific, explains: *"Data quality remains the single biggest barrier to successful AI adoption, making strong governance, data stewardship, and reliable foundational data essential for scaling AI-powered supply chain capabilities."*

In addition, the life sciences industry's stringent validation, quality, data integrity, and regulatory requirements can increase the complexity of modernizing enterprise-wide digital foundations. Further, life sciences organizations often operate across fragmented internal functions and external partner networks. As a result, the challenge may be less about identifying AI use cases and more about establishing the integrated data foundations, common data models, and connected decision frameworks required to support AI at scale.

04 Supply chain resilience is the north star

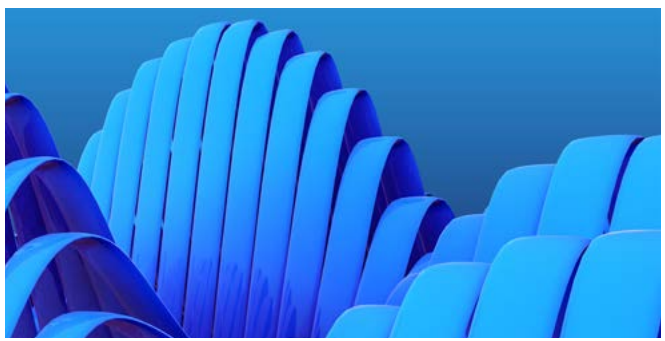
Geopolitics is a core supply chain issue

Geopolitical destabilization means that organizations can no longer rely on the seamless movement of goods, materials, components, and technologies across global markets. Consequently, sourcing, manufacturing, and distribution decisions are strategically critical. A procurement director at a French industrial manufacturer, says: *"Geopolitical volatility has elevated risk management to a core supply chain priority, requiring organizations to strengthen anticipation capabilities, diversify risk exposure, and build more resilient supplier networks."* Geopolitical instability can carry substantial economic costs. Lloyd's estimates that a severe geopolitical conflict disrupting global trade and supply chains could result in $14.5 trillion in lost global economic output over five years.[30]

Overall, 78% of organizations view geopolitical instability as a significant supply chain challenge (up from 52% globally in our 2025 research),[31] with six in 10 concerned about their ability to maintain seamless operations. Only about half (54%) say they can respond quickly to short-term disruptions. While geopolitical instability is a major challenge across all industries, our research reveals that levels of concern and ability to respond vary by industry (see **Figure 14**). A global supply chain planning leader at an American pharmaceutical company says: *"Our main challenge, which organizational expectations and geopolitical events have intensified, is increased demand for rapid scenario planning and decision making. The planning team is under pressure to process an increasing number of scenario requests, often faster than they can handle, which complicates timely and effective decision-making."*

In addition, tariffs can become a geopolitical supply chain risk, and our research reveals they are also an increasing concern. In 2026, 71% of organizations view import/export tariffs as a significant challenge impacting their organization's supply chain today, up from 56% in 2025.[32] Tariffs both challenge and reshape supply chain agility. They can restrict market access, reduce market share and employment, and increase operating costs and import-price volatility.[33]

Organizations must also account for trade-compliance requirements, including country of origin (COO), tariff structures, and new documentation protocols.[34] Recent data from the World Trade Organization (WTO) shows high levels of trade policy activity in 2025 and into 2026, with restrictive measures (i.e., government actions or regulation that limits, hinders, or distorts the free flow of goods, services, or investments across international borders such as tariffs or import bans) increasingly being used.[35]



78%

Share of organizations who view geopolitical instability as a significant supply chain challenge, up from 52% in 2025

Figure 14.

The ability to respond effectively to disruptions varies by industry



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.

Key sectoral leads support supply chain resilience initiatives. In response to rising demand for its missile platforms, Lockheed Martin is strengthening supplier partnerships, increasing operational collaboration, and advancing innovation. As part of these efforts, its Missiles and Fire Control (MFC) division convened an Integrated Air and Missile Defense (IAMD) supplier summit, bringing together more than 200 domestic and international suppliers. The event focused on fostering stronger relationships, accelerating decision making, addressing evolving security challenges and meeting future defense requirements.[36]

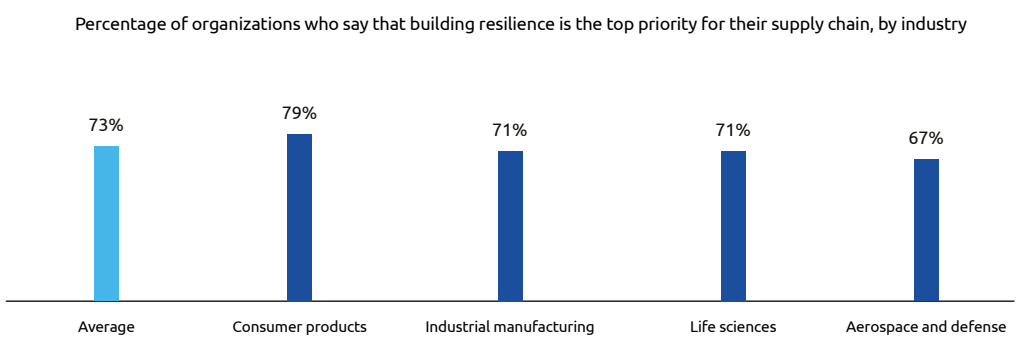
Larsen & Toubro, an India-based industrial engineering and manufacturing organization, plans to establish rare-earth magnet manufacturing capabilities in the country, aligning with the government's broader objective of building a stronger domestic supply chain for strategically important industrial materials and lessening reliance on Chinese sources, strengthening supply security and reducing strategic dependencies.[37] Rajiv Ranjan Sinha, Head of Supply Chain Transformation and Network Strategy, Retail Sweden at IKEA, comments: *"Supply chains today are confronting simultaneous uncertainty across production resources, costs, reliability, and geopolitics, making resilience, adaptability, and anticipation increasingly important competitive capabilities."*

Improving resilience is a key driver of transformation initiatives

The majority of organizations (73%) identify resilience, including diversification and contingency planning, as the top priority for their supply chains, and invest accordingly. Supply chain resilience remains at the top of the strategic agenda across industries (see **Figure 15**). Our research defines supply chain resilience as an organization's ability to anticipate, withstand, adapt to, and recover from disruption while maintaining continuity of operations and meeting business objectives. Ferrero's Merkulova adds: *"Resilience can no longer be achieved through internal optimization alone. Increasingly, it depends on synchronizing the entire supplier ecosystem and creating stronger collaboration, visibility, and information flow across partners."* Organizations cannot anticipate or prevent every disruption. Resilience therefore not only depends on absorbing and recovering from disruption, but also on responding quickly as conditions change. This requires structural agility which is the ability to shift sourcing locations, diversify suppliers, adjust inventory and production, reroute logistics, and reduce excessive dependence on just-in-time operating models.

Figure 15.

Seven in 10 organizations are prioritizing supply chain resilience



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.

Agentic AI drives supply chain resilience

AI agents enable organizations to detect disruptions earlier, coordinate responses faster, and adapt operations more dynamically. Our research reveals that, among organizations that are at least exploring the use of AI agents in the supply chain, respondents expect an average improvement of around 10% in supply chain resilience over the next three years. Put another way, organizations expect their supply chains to be about 10% better at anticipating, absorbing, and recovering from disruptions than they are today.

As an illustration, AI agents that detect a supplier disruption can autonomously conduct the following steps towards recovery:

- **Supplier risk agent** evaluates impact
- **Procurement agent** identifies alternatives
- **Inventory agent** adjusts stock
- **Logistics agent** reroutes shipments
- **Customer agent** reprioritizes orders
- **Human** approves only exceptions

A 2026 peer-reviewed study of real-world supply chains integrated autonomous agentic AI with IoT (called Agentic AIoT) to improve just-in-time logistics for modular construction equipment. The study found that agentic AIoT enhanced resilience by reducing median disruption-recovery time from 183 to 46.5 minutes for site-unavailability events in one project, representing a 74.6% decrease. In a second project, the median traffic delay recovery time decreased from 137.5 to 33 minutes, representing a 76% reduction. Recovery was defined as the time from when the disruption was first detected until affected logistics assets resumed their planned schedules.[38]

As defined earlier in this report, supply chain resilience is an organization's ability to anticipate, withstand, adapt to, and recover from disruption while maintaining continuity of operations and meeting business objectives. This resilience improvement expectation suggests that organizations view AI agents as a means of anticipating, responding to, and recovering from disruption, rather than a way of eliminating it entirely. Gartner places the adoption of agentic AI among their eight top supply chain technology trends for 2026 that will empower chief supply chain officers (CSCOs) to unlock greater business value and enhance resilience.[39]

Supply chain sovereignty is a board-level issue

Our research reveals that ensuring business continuity is the top-ranked motivation for pursuing supply chain sovereignty. Our research defines a sovereign supply chain as one that prioritizes domestic and trusted-ally control to secure critical goods and capabilities, reduce reliance on geopolitical rivals or unstable regions, and ensure resilience during disruptions. It refers to an organization's capability to be resilient, to have strategic autonomy and be free from external interference across the supply chain.

Almost all (98%) organizations worldwide, regardless of country or industry, have discussed supply chain sovereignty with their boards.

Among those:

- 31% actively supervise it as a strategic agenda item with dedicated board governance
  - This share increases to 46% among A&D respondents and drops to 22% among respondents in life sciences
- 25% regularly monitor it as part of their risk portfolio
- 42% periodically review it or have ad-hoc discussions



"Supply chains today are confronting simultaneous uncertainty across production resources, costs, reliability, and geopolitics, making resilience, adaptability, and anticipation increasingly important competitive capabilities."

Rajiv Ranjan Sinha

Head of Supply Chain Transformation and Network Strategy,
Retail Sweden at IKEA

A global supply chain planning leader at an American pharmaceutical company says: *"Supply chain sovereignty is a significant topic at our company, influencing scenario planning, AI vendor selection, and manufacturing strategies, with a focus on security, intellectual property, and geographic diversification."*

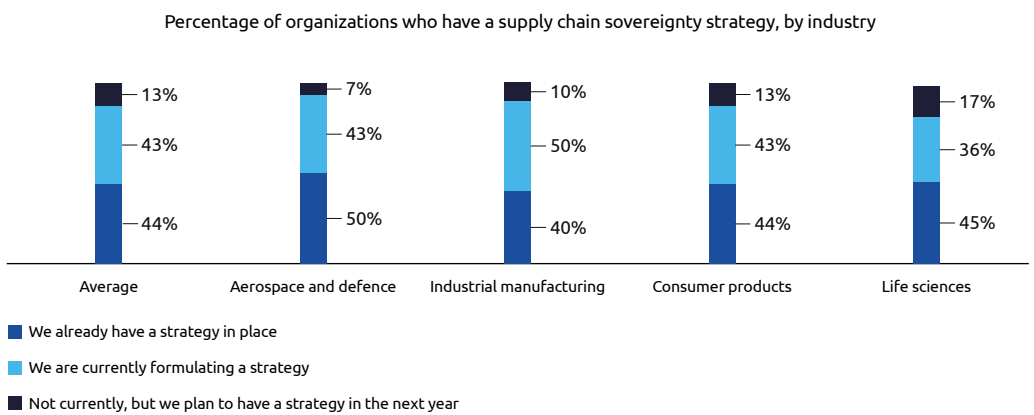
In addition, over six in 10 organizations (63%) say that their senior leadership regularly reviews geopolitical, trade, and localization risks affecting their supply chain, which is consistent across industries. Furthermore, on average globally 44% already have a supply chain sovereignty strategy in place and 43% are currently formulating a strategy (see **Figure 16**).

98%

Share of organizations worldwide who have discussed supply chain sovereignty with their boards

Figure 16.

Nearly nine in 10 organizations have or are formulating a supply chain sovereignty strategy



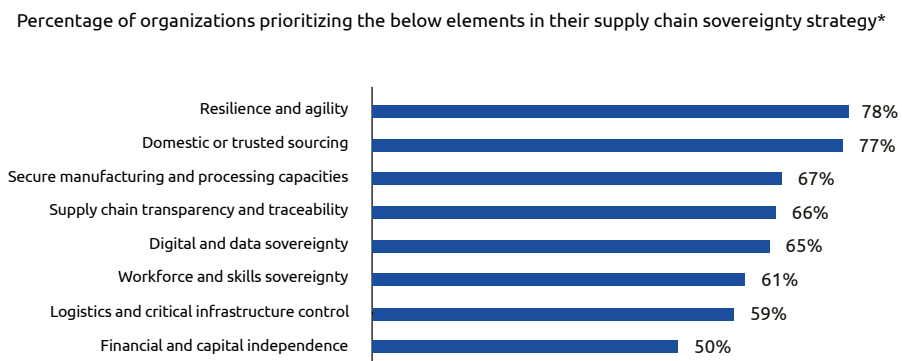
Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.
*Less than 1% of organizations globally say they do not plan to have a strategy in the next year.

A supply chain and customer care leader at a German automation machinery manufacturer, notes: *"At its core, supply chain sovereignty is about identifying, understanding, and actively managing concentration risks that could expose organizations to geopolitical disruptions or excessive dependency on specific suppliers, regions, or materials."*

Among organizations that have implemented, or plan to implement, a supply chain sovereignty strategy, 78% prioritize improving resilience and agility by diversifying suppliers, establishing alternative transportation routes, and strategically positioning critical inventory reserves. A similar share (77%) prioritizes domestic or trusted sourcing, ensuring secure access to critical raw materials, natural resources, and other key inputs through local suppliers or trusted, geopolitically aligned partners (see **Figure 17**).

Josh Kim of Thermo Fisher Scientific, explains: *"Supply chain sovereignty is less about complete reshoring and more about making deliberate decisions around critical products, materials, and capabilities where greater control, resilience, and supply security are required."*

Figure 17.
Resilience and trusted sourcing are top priorities within supply chain sovereignty strategies



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 993 executives at organizations that have implemented, or plan to implement, a supply chain sovereignty strategy.

*Refer to the appendix for the detailed definitions of each element of supply chain sovereignty strategies.



"Data quality remains the single biggest barrier to successful AI adoption, making strong governance, data stewardship, and reliable foundational data essential for scaling AI-powered supply chain capabilities."

Josh Kim

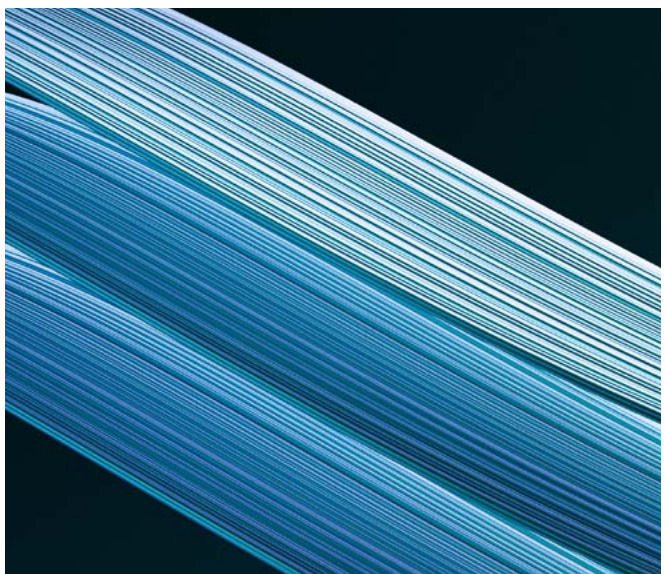
Director, Supply Chain for the Specialty Diagnostic Group at Thermo Fisher Scientific



"We have good visibility into tier-1 suppliers, but achieving meaningful transparency across tier-N remains a significant challenge due to the complexity of modern supply chains, particularly in the electronics sector. Tracing products back to the origin of raw materials is difficult because of the numerous intermediaries and processing steps involved."

Elodie Ragne

Sustainable Purchasing Director at Getinge



Less than half of organizations regularly assess supply chain dependencies

Our research reveals that 45% of organizations regularly assess the risks associated with their dependencies on foreign entities. In addition, four in 10 organizations say they have defined targets and/or KPIs to reduce exposure to high-risk dependencies (e.g., single-country sourcing). By industry, six in 10 industrial manufacturers report regular assessment of supply chain dependencies, with a similar share of A&D organizations doing the same (see **Figure 18**).

Furthermore, beyond tier-1 suppliers, visibility drops. Globally, organizations say that on average they have visibility (defined as understanding the supply chain base for overcapacity, downtime, and bottlenecks) into 51% of tier-1 suppliers, dropping to 23% for tier-2 suppliers. Elodie Ragne, Sustainable Purchasing Director at Getinge, a Swedish medical equipment manufacturer, explains: *"We have good visibility into tier-1 suppliers, but achieving meaningful transparency across tier-N remains a significant challenge due to the complexity of modern supply chains, particularly in the electronics sector. Tracing products back to the origin of raw materials is difficult because of the numerous intermediaries and processing steps involved. To mitigate the resulting supply chain risks, robust forecasting, dual sourcing strategies, safety stocks of finished goods and critical components, and comprehensive business continuity plans are essential. However, these measures should be complemented by enhanced supplier mapping, traceability initiatives, and ongoing supply chain due diligence."*

Figure 18.

Globally, fewer than half of organizations regularly assess supply chain dependencies



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.

40%

Share of organizations who have defined targets to reduce exposure to high-risk supply chain dependencies

Sustainability practices to enhance supply chain resilience

Sustainability and resilience are increasingly interconnected, with investments in sustainability initiatives having knock-on benefits for operational efficiency (see **Figure 19**). In addition, half say these investments have strengthened their organization's ability to anticipate and respond effectively to supply chain disruptions. Elodie Ragne of Getinge, comments: *"Sustainability has evolved from a voluntary initiative into a strategic and regulatory imperative, increasingly shaping how organizations design, manage, and strengthen their supply chains."*

Sustainability practices such as supplier diversification, resource efficiency, renewable energy adoption, circular economy initiatives, ESG collaboration, and greater supply chain transparency mitigate environmental, regulatory, and resource-related risks while improving long-term agility, continuity, and performance. Divya Seethapathy, Director of Global Supply Chain, ODM Operations at Schneider Electric, adds: *"Resilience and agility will be defining capabilities as supply chains confront risks across geopolitical, climate, and financial dimensions."*



"Resilience and agility will be defining capabilities as supply chains confront risks across geopolitical, climate, and financial dimensions."

Divya Seethapathy

Director of Global Supply Chain, ODM Operations at Schneider Electric

Figure 19.

63% of executives agree that investments in sustainability initiatives have improved the operational efficiency of their organization's supply chain



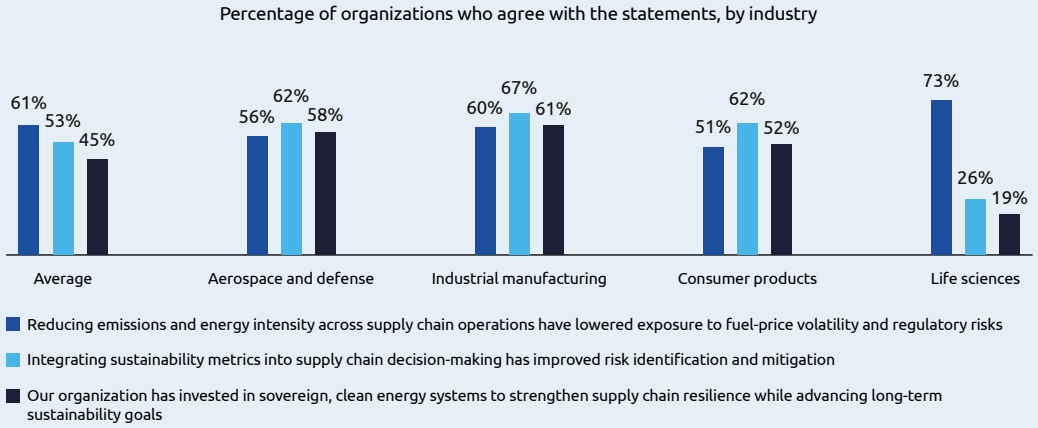
Source: Capgemini Research Institute, Sustainability business trends survey, June–July 2026, N = 2,100 executives.

Pfizer is strengthening supply chain resilience by embedding climate action and emissions reduction across its operations. Recognizing that nearly 80% of its greenhouse gas emissions originate in its value chain, the organization is aligning sustainability objectives with resilience strategies to enhance long-term supply chain stability and ensure reliable medicine availability.[40]

Our 2026 research reveals that, across sectors, six in 10 organizations say that lowering emissions and energy intensity across supply chain operations has reduced exposure to fuel-price volatility and regulatory risks. This figure rises to 73% among life sciences respondents and falls to 51% among those in the consumer products sector. Just over half (53%) of organizations say that integrating sustainability metrics into supply chain decision-making has improved risk identification and mitigation. Only 26% of life sciences organizations report the same (see **Figure 20**).

Figure 20.

Six in 10 organizations say that enhanced supply chain sustainability mitigates fuel-price volatility and regulatory risks



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.

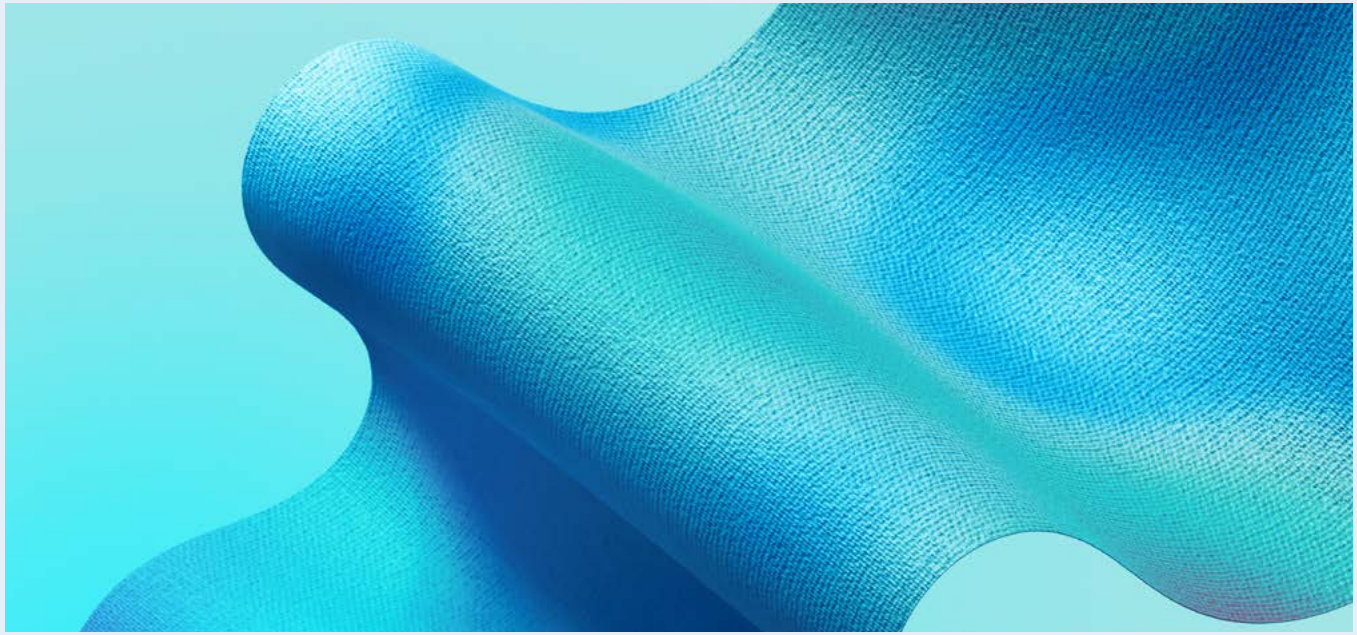
Through carbon emissions and reduced energy use, organizations consume less fuel and energy, cushioning the impact of spikes in diesel, natural gas, aviation fuel, or electricity prices. Organizations could do this via route optimization that reduces transportation miles traveled; shifting freight from air to rail or sea, where feasible; electrifying logistics fleets; improving warehouse energy efficiency (e.g., LED lighting, smart heating, ventilation and air-conditioning [HVAC]); or increasing load utilization and reducing empty truck miles.

Furthermore, organizations with lower emissions and energy intensity are better positioned to comply with new regulatory requirements as they are introduced and avoid carbon taxes and other costly penalties, higher compliance costs, and reputational risks.

Tracking sustainability metrics helps organizations identify early-stage vulnerabilities that traditional cost, quality, and delivery metrics may miss. For example, tracking supplier Scope 1, 2, and/or 3 carbon emissions would identify suppliers exposed to future carbon taxes or emissions regulations, or suppliers with inadequate decarbonization plans. Tracking energy dependency metrics such as reliance on fossil fuels would help identify risks including exposure to fuel-price volatility or energy security risks. Examples by industry include:

- **Consumer products** – Monitoring water stress and deforestation metrics identifies sourcing risks for agricultural commodities before shortages occur
- **Life sciences** – Tracking suppliers' energy and climate resilience identifies vulnerabilities in temperature-sensitive pharmaceutical supply chains
- **Industrial manufacturing** – Monitoring carbon intensity and critical mineral dependencies reveals exposure to future carbon regulations and geopolitical supply shocks
- **A&D** – Tracking sovereign sourcing, energy security, and critical-material dependencies identifies suppliers vulnerable to geopolitical disruptions

Through clean energy investments such as on-site renewable generation, energy storage, renewable microgrids, green hydrogen, or domestically sourced renewable energy, organizations can strengthen supply chain resilience. By securing a sustainable supply chain with access to reliable, local, and lower-volatility energy sources, organizations can reduce the risk that external shocks disrupt production, transportation, or supplier operations while supporting long-term sustainability objectives.



05 Laying the foundations for a resilient AI-powered supply chain

Build the data and digital foundation for supply chain

To build an AI-powered supply chain, organizations must establish strong data, technology, and operating foundations. AI delivers maximum value when supported by connected systems, high-quality data, and agile processes that enable real-time decision making, automation, and supply chain resilience at scale.

But technology alone is not enough to achieve this. Leading organizations are combining process redesign, robust data ecosystems, and platform-based operating models to enable AI agents and multi-agent systems to operate effectively across functions, suppliers, and logistics networks. To enable an AI-powered supply chain, organizations should focus on the following critical enablers:

- Build an AI-ready digital foundation by **modernizing and standardizing technology infrastructure** and **digitalizing core processes** through scalable, interoperable platforms that streamline operations and enable intelligent automation. This reduces complexity, eliminates manual inefficiencies, and improves data consistency, while providing the connectivity, visibility, and agility required to deploy AI solutions across the enterprise.
- Build a **trusted, unified data foundation** that integrates data across the end-to-end supply chain and strengthens data quality, and security to enable accurate, reliable, and scalable AI adoption. Eight in ten executives (80%) cite the inability to ensure data is accurate at the point of decision as a key challenge in implementing agentic AI for supply chain management. AI agents are only as reliable as the data that powers them. Organizations should integrate data across suppliers, manufacturing, logistics, inventory, and customer systems into a single source of truth, supported by clear ownership, standardized data definitions, and robust governance.

  This foundation should be reinforced through continuous master data management (MDM), including the elimination of duplicate records, correction of errors, standardization of formats, and regular updates. Automated data-quality controls should be deployed to detect anomalies, inconsistencies, missing data, and data drift before information reaches AI models, while ongoing monitoring ensures accurate decision-making. In addition, maintaining clear data lineage and traceability promotes transparency, and by extension confidence in AI-driven decisions. Finally, organizations should strengthen data governance through clear ownership, data-validation standards, and continuous monitoring.

Accelerate transformation through AI-powered intelligent operations

Organizations should evaluate which supply chain activities must remain in-house, and which can be effectively managed through specialized partners. This model allows internal teams to focus on strategic priorities and regulatory governance, while external systems focus on routine execution, exception handling, and scaling human-AI workflows. Forty-six percent of organizations in our survey say they are combining in-house development and external solutions to adopting AI agents in supply chain.

Organizations can begin by taking a phased approach and first target areas where intelligent supply chain operations can deliver immediate value, such as standardized, data-heavy, and highly repeatable activities before expanding into more complex, cross-functional processes. For example, demand planning, order fulfillment, logistics, or inventory management. Organizations can structure agreements with partners around core business outcomes, including supply chain resilience, cost efficiency, and decision speed.

Establish the semantic layer as the enterprise context for agentic supply chains

The semantic layer should become the operating context for supply chain AI agents, providing a governed representation of business entities, relationships, constraints, policies, and performance objectives. A semantic layer is a common business language applied to an organization's data. It ensures that people, systems, and AI use the same definitions and understand how information is connected. Master data management (MDM) creates trusted master data; the semantic layer creates a shared, governed representation of supply-chain entities, relationships, constraints, and business rules. This context enables enterprise agentic AI to interpret data consistently, reason across functional silos, and generate recommendations aligned with the organization's operating reality rather than generic models.[41]

It is important to establish standard definitions for entities such as product, supplier, plant, inventory, order, capacity, lead time, service level, and risk, and document how they relate. The semantic layer evolves with changes in the supply network, business constraints, and regulations. It learns from each resolved decision and gradually builds a company-specific knowledge base that reflects how the organization operates.

Build agentic orchestration for connected decisions across the supply chain ecosystem

Organizations should create an orchestration capability that connect AI agents, business systems, data, and people across the supply chain. It should coordinate AI agents across planning, sourcing, manufacturing, logistics, inventory, and supplier ecosystems while escalating exceptions and high-impact trade-offs to human decision makers. This will allow agents to work together, coordinate decisions, and respond to disruptions rather than operating in separate functions.

Supply chain experts will play a critical role as orchestration leaders. Human-AI supply chain teams will depend on effective orchestration between people and AI agents rather than isolated task automation. In an agentic operating model, orchestration agents coordinate specialized agents across planning, inventory, production, and logistics to evaluate enterprise-wide scenarios and recommend actions based on business priorities and constraints.

At the same time, humans retain responsibility for validating recommendations, applying business judgment, managing exceptions, and ensuring decisions are aligned with organizational objectives. This combination of AI-driven supply chain coordination and human accountability is essential to building resilient, responsive, and trusted supply chain operations.

Agentic AI can support as a central orchestrator by combining the below capabilities:[42]

- **Strengthen signal sensing and gap detection** – Connect internal operational signals such as inventory, production, service and order changes with external risks such as geopolitical, supply risks, regulatory environment, and other economic conditions. The key is to prioritize emerging issues early, rather than reacting to isolated alerts after disruption occurs.
- **Create cross-functional decision orchestration** – Use AI to evaluate response scenarios/coordinated reasoning across multiple domains including supply, demand, logistics, finance, commercial commitments, and compliance at the same time.
- **Coordinate execution** – AI agents can translate approved decisions into synchronized actions across planning, ERP, operational, and partner systems. They can track execution outcomes continuously and trigger reassessment when constraints or conditions change. It is also important to keep teams accountable for governance, critical trade-offs, and the boundaries of AI autonomy.

Deploy an agentic control plane for governance and compliance

Organizations should establish an agentic control plane that provides policy governance, decision traceability, observability, auditability, compliance controls, performance monitoring, and human override capabilities across AI-enabled supply chain operations. Our research found that most organizations (84%) believe that humans must retain the authority to validate decisions made by AI agents, which is consistent with our 2025 research. Human oversight remains an important factor when establishing guardrails for AI agents in the supply chain. Compliance with regulatory requirements (78%), the need for built-in fail-safe mechanisms (76%) to override or halt AI agent decisions, and transparency and explainability of AI agent decision-making (73%) are other important factors shared by organizations.

To ensure regulatory compliance, organizations should embed regulatory, data privacy, security, and ethical requirements throughout the AI lifecycle. Robust governance should include decision traceability, risk assessments, human oversight, and continuous compliance monitoring. Organizations should implement traceability mechanisms that record the data sources, assumptions, decision pathways, and actions associated with agent-influenced outcomes. Such capabilities enable auditability, targeted human intervention, and governance at scale without requiring humans to review every individual decision. Fail-safe mechanisms help ensure that high-risk decisions are flagged, paused, or sent to a human for review before action is taken. Together with explainable AI, ongoing monitoring, audit trails, and override controls, they help keep AI decisions accountable and reduce risks.

Operate supply chain resilience and agility as a continuously monitored capability

Our research reveals 78% of organizations cite geopolitical instability as top challenge for supply chain disruption management, up from 52% in 2025, which demonstrates the need to build supply chain resilience in order to anticipate, respond to, and recover from repeated disruptions.

Organizations should embed supply chain resilience into everyday operations. AI agents and orchestration capabilities should continuously sense disruptions, evaluate scenarios, coordinate responses, monitor execution outcomes, and trigger reassessment when operating conditions change. Organizations should treat resilience as an ongoing business capability rather than a reactive crisis-management function. Improving visibility, risk management, operational flexibility, supplier networks, and business continuity capabilities are the keys to boosting supply chain resilience.

- **Design structural agility into the supply chain** – Organizations should identify which elements of their operating model can be reconfigured rapidly during disruption. This includes establishing qualified alternative suppliers and locations, flexible manufacturing capacity, postponement strategies, strategic inventory buffers, alternative transportation routes, and operating models that reduce dependence on just-in-time supply. Business continuity can be further enhanced by developing contingency plans, alternative sourcing strategies, and recovery procedures, while conducting scenario planning and stress testing to prepare for geopolitical, environmental, supplier, and cyber-related disruptions and accelerate recovery.
- **Assess and mitigate vulnerabilities across the supply chain ecosystem** – An end-to-end supply chain risk assessment allows organizations to identify, evaluate, monitor, and mitigate vulnerabilities from raw material sourcing and manufacturing to logistics, distribution, and customer delivery before they result in significant

operational, financial, or reputational disruption. Mapping critical dependencies and interconnections across the supply chain ecosystem, while regularly assessing suppliers' financial stability, operational capabilities, cybersecurity posture, geopolitical exposure, and business continuity preparedness will strengthen supplier risk visibility.

- **Strengthen cybersecurity across operations and partner networks** – Modern supply chains are increasingly interconnected, meaning a cyberattack affecting any part of the supply chain ecosystem can disrupt operations, delay shipments, expose sensitive data, and trigger a ripple effect across the value chain. Three quarters of (75%) of executives cite cybersecurity as a major supply chain challenge. As such, enhanced cybersecurity is a critical enabler of supply chain resilience. Organizations can build cyber resilience and threat detection by establishing comprehensive incident response, business continuity, and disaster recovery plans, while harnessing AI-powered security tools and agentic AI to detect anomalies, identify emerging threats, and respond to incidents in real time.

Industry-specific recommendations to accelerate AI-powered supply chains

- **Aerospace and defense – Build anticipatory, sovereign, and digitally connected supply networks**
  Aerospace and defense organizations should use AI to strengthen visibility and decision-making across complex supplier networks. Given the sector's dependence on multi-tier supply chains, critical materials, and specialized suppliers, organizations should prioritize early identification of supplier risks, raw-material shortages, and capacity constraints. AI-enabled supply chain monitoring can help organizations anticipate disruptions, assess alternative sourcing options, and support mitigation actions before delivery schedules or program performance are affected.

  Organizations should also focus on connecting engineering, manufacturing, supply chain, and sustainment activities through a common digital backbone. AI agents can support supplier assessment, supplier recovery, component lifecycle management, supply-chain quality management, and predictive sustainment, while improving visibility and coordination across the ecosystem. This approach can help strengthen mission readiness, improve supply continuity, and support compliance requirements across increasingly complex defense supply chains.

- **Consumer products – Organize AI agents around business outcomes**
  Consumer products organizations should design AI agents around end-to-end outcomes rather than individual functions. Agents focused on outcomes such as fulfilment, pricing, risk management, or disruption management can bring together information from sourcing, manufacturing, inventory, distribution, and logistics. For example, a fulfillment agent could assess supplier risk, available production, expected production yield, and inventory requirements to support a coordinated response across the network.

  Given the sector’s fast-changing demand and consumer behavior, organizations should retain human oversight for decisions requiring judgment while using AI agents to improve decision speed and coordination. This will require shared data networks, clear decision rights, approval and escalation paths, and accountability across internal teams, suppliers, and logistics partners. The objective should be faster, more coordinated decisions across the value chain,

rather than automating existing functional processes in isolation.

- **Industrial manufacturing – Build on automation maturity to connect supply chain decisions**
  Industrial manufacturers should build on their mature automation base to introduce AI agents across standardized and repeatable supply chain processes. Established supplier networks, longer planning cycles, and existing automation capabilities provide a strong foundation for AI agents to monitor supply conditions, coordinate information, and support and/or execute decisions across planning, sourcing, inventory, and operations. Organizations should focus first on processes with clear rules and reliable data and then expand agent-to-agent communication across internal operations and supplier networks. This incremental approach can help manufacturers scale AI-powered supply chains without disrupting proven systems and processes.
- **Life sciences – Build shared intelligence across the biopharma ecosystem**
  Life sciences organizations should prioritize the data and architectural foundations that allow AI agents to operate across a fragmented value chain. Historically, planning, procurement, manufacturing, quality, logistics, and external manufacturing have been optimized as separate functions. Organizations should establish a shared operational intelligence layer built on consistent master data, contextualized operational data, and common definitions of products, materials, suppliers, inventory, capacity, quality status, and demand. This would allow agents to reason across functions and connect decisions spanning internal sites, suppliers, contract development and manufacturing organizations, logistics providers, and testing laboratories.

  Rather than pursuing full autonomy, life sciences organizations should focus on orchestrated decision support, with agents continuously identifying supply risks, evaluating alternatives, assembling recommendations, and coordinating actions across organizational boundaries. Humans should remain accountable for decisions affecting quality, compliance, patient safety, and supply assurance, while AI agents improve the speed, consistency, and completeness of the information supporting those decisions. This human-agent model is appropriate for a highly regulated environment that is built upon solid data architecture and decision frameworks.



Conclusion

Our research shows that organizations recognize the urgency of fortifying their supply chains against geopolitical instability, economic uncertainty, cyber threats, critical material shortages, and climate events. They are ramping up investment, prioritizing resilience, and placing supply chain sovereignty high on the board agenda. But many still lack the visibility, risk assessment, and response capabilities to manage disruption effectively. Agentic AI can help close this gap by improving risk sensing, planning, coordination, and decision making across the supply chain. Adoption is growing across organizations, but the near-term goal is not a fully autonomous supply chain. Rather, it is a human–AI model.

Organizations must establish the data and digital foundation for supply chain, including the semantic layer and agentic orchestration for connected decisions across the ecosystem. Strong governance and clear decision rights, approval rules, monitoring, and escalation mechanisms are essential. Leaders should treat supply chain resilience as a continuously monitored capability to help turn it into a lasting competitive advantage.



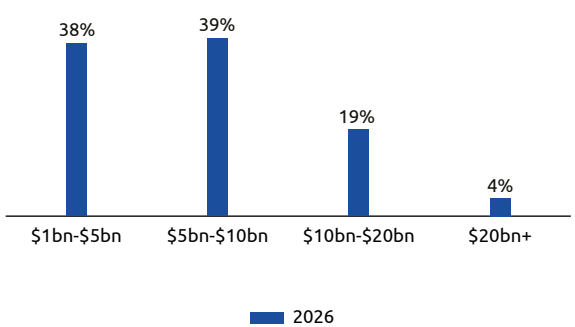
Research methodology

This publication draws on a multifaceted research program examining the dynamics and investment drivers of supply chain transformation and adoption maturity of agentic AI for supply chain around the world. The study included an online survey specially commissioned in July 2026 of 1,000 executives from large private-sector organizations with over $1 billion in annual revenue in A&D, industrial manufacturing, consumer products, and life sciences.

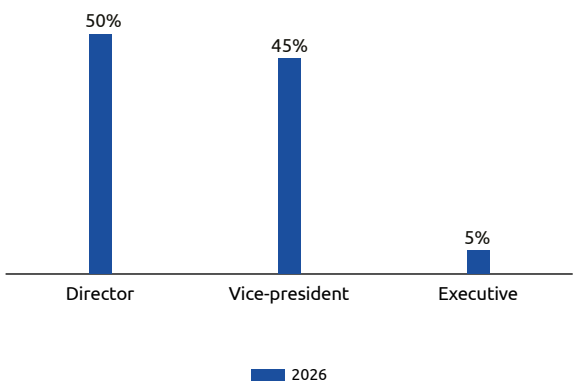
We supplemented this quantitative research with 11 qualitative interviews with senior supply chain executives at leading global organizations. We also carried out extensive desk research.

The study findings reflect the views of the interviewees and survey respondents and is intended to provide high-level guidance. Please contact one of the Capgemini experts listed at the end of the report to discuss specific implications for your organization.

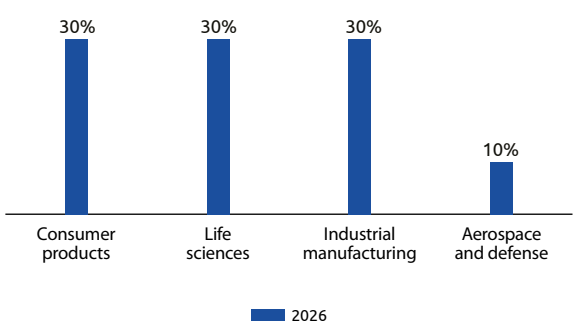
Percentage of organizations by annual revenue



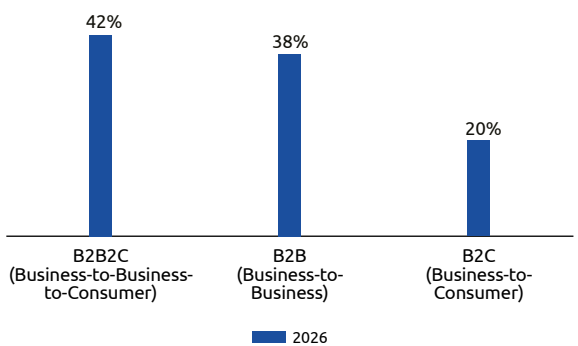
Percentage of organizations by job title



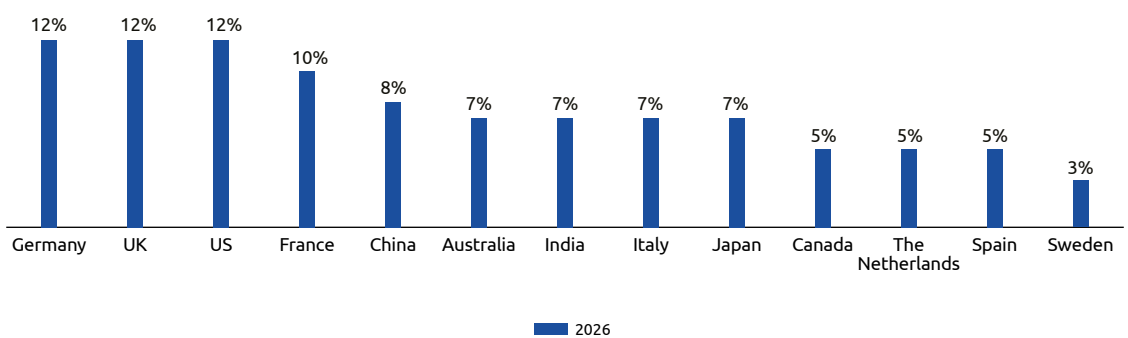
Percentage of organizations by sector



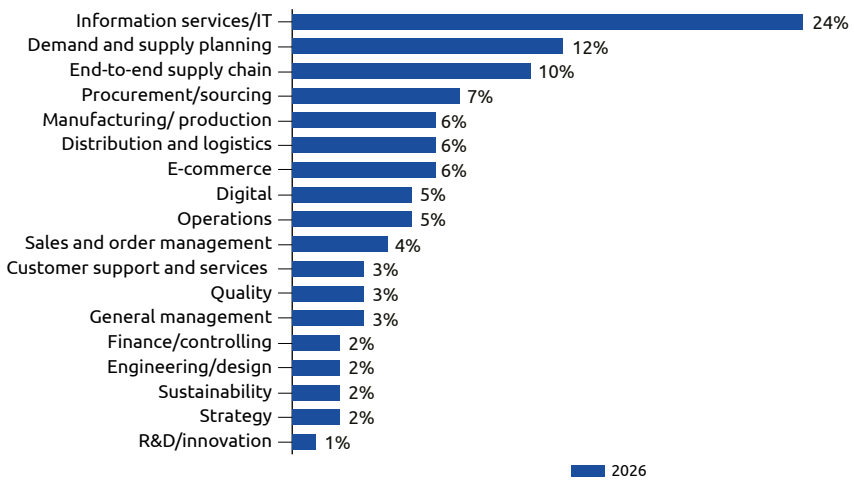
Percentage of organizations by business type



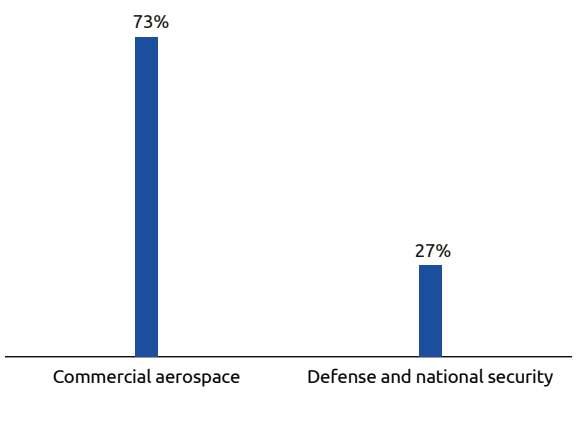
Percentage of organizations by location of headquarters



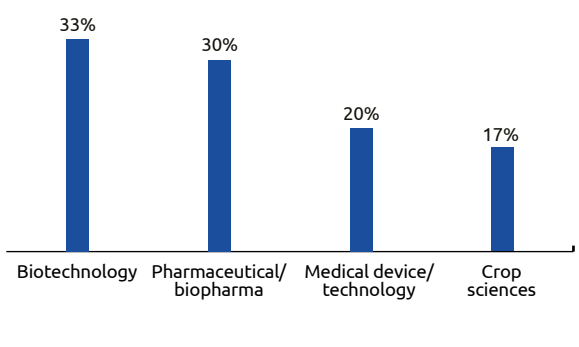
Percentage of organizations by business function



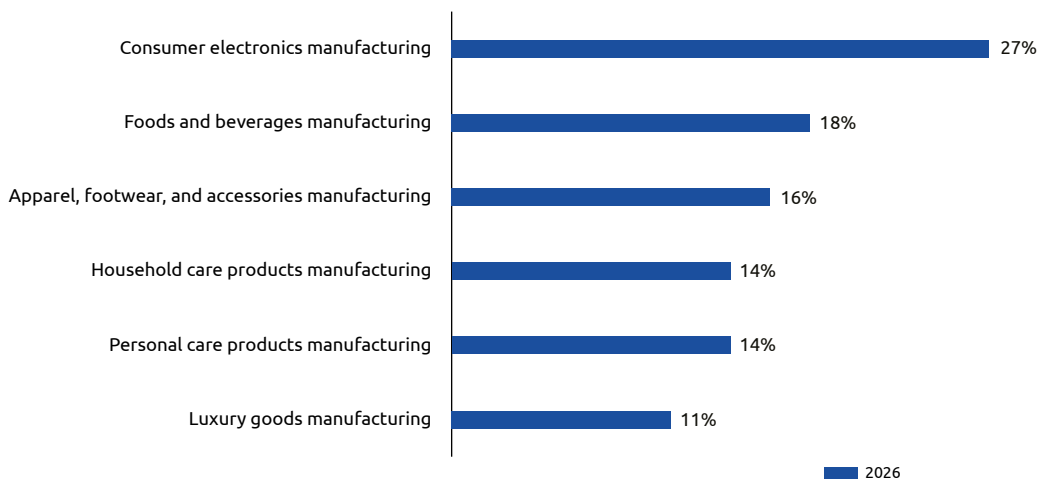
Percentage of aerospace and defense organizations by subsector



Percentage of life sciences organizations by subsector



Percentage of consumer products organizations by subsector



Source: Capgemini Research Institute, Supply chain survey, July 2026, N = 1,000 executives.

Appendix

Definitions for supply chain sovereignty strategy elements from Figure 17:

Resilience and agility – Opting for diversified suppliers, alternative routes, and strategically prepositioned storage of critical reserves to absorb shocks and enable rapid response to disruptions.

Domestic or trusted sourcing – Ensuring secure access to critical raw materials, natural resources and other inputs through local sourcing or trusted, geopolitically aligned partners.

Secure manufacturing and processing capacities – Building onshore or allied manufacturing, assembly, fabrication, and processing capabilities for strategically important goods and components.

Supply chain transparency and traceability – Achieving end-to-end, multi-tier supply chain visibility to identify dependencies, risks, compliance gaps, and sub-tier choke points across materials and components.

Digital and data sovereignty – Secured ownership or trusted access to core technologies, intellectual property (IP), software and knowhow, supported by secure, domestically controlled digital platforms, localized AI algorithms, and encrypted networks to prevent data breaches and external interference.

Workforce and skills sovereignty – Availability of skilled domestic talent, including engineering, manufacturing, digital, and operational capabilities.

Logistics and critical infrastructure control – Ensuring national or allied control over critical infrastructure and transport routes, including energy, ports, logistics, data centers, and digital networks, to safeguard supply chains from external interference.

Financial and capital independence – Access to domestic or allied financing, investment, and insurance to reduce dependence on adversarial or volatile sources of capital.



References

1. Capgemini Research Institute, A world in balance 2026: The resilience reset, September 2026.
2. US Department of War, “Defense department establishes supply chain resiliency working group,” September 3, 2021.
3. NATO, “Defense-critical supply chain security roadmap,” July 2024.
4. Capgemini Research Institute, New-generation supply chain, March–April 2025, N = 1,000 executives.
5. APAC Outlook, “Amazon commits $48 bn to India as AI, logistics, and supply chain expansion accelerates,” June 29, 2026.
6. Supply Chain Dive, “Johnson & Johnson embarks on supply chain restructuring,” July 31, 2026.
7. Volvo, “Volvo construction equipment rolls out first US-built excavators and large loaders,” August 19, 2026.
8. Defense One, “Digital employees are coming to the Defense Logistics Agency,” September 11, 2026.
9. Gartner, 2026 Gartner Hype Cycle for Agentic AI, April 15, 2026.
10. US FDA, “Considerations for the use of artificial intelligence to support regulatory decision-making for drug and biological products,” Draft guidance for industry and other interested parties, January 2025.
11. Businesswire, “Fairmarkit launches total agentic sourcing, the first platform to put AI to work across all enterprise spend with leading ERPs,” April 29, 2026.
12. Supply Chain Management Review, “Boeing turned to Fairmarkit, AI to help land its tail spend,” July 24, 2024.
13. GE Aerospace, “GE Aerospace and Palantir expand partnership to transform military aircraft readiness with AI,” March 12, 2026.
14. Metaveo, “Unilever is using multi-agent AI to improve procurement decisions,” April 24, 2026.
15. PepsiCo, “PepsiCo leverages Salesforce's Agentforce to advance AI agenda,” June 24, 2025.
16. North America Outlook, “How GE Appliances is scaling AI across manufacturing and supply chains with Google Cloud,” April 24, 2026.
17. Schneider Electric, “Schneider Electric launches Zeigo™ Hub: a scalable platform to accelerate supply chain decarbonization and empower global net zero ambitions,” July 15, 2025.
18. SAP, “John Deere—Agentic AI for factory floor execution,” June 18, 2026.
19. Capgemini Research Institute, “Smart bet, only option, or both? Biopharma R&D turns to AI,” January 2026.
20. The Conveyor, “Bristol Myers Squibb rebuilds its sourcing around an AI platform,” June 19, 2026.
21. The Wall Street Journal, “How are companies using AI agents? Here’s a look at five early users of the bots,” January 6, 2026.
22. Forbes, “Will 45% of work at Moderna be completed by AI by 2030? Yes,” July 15, 2025.
23. CPO Rising, “Pfizer’s path to AI-driven procurement: from automation to intelligence,” December 15, 2025.
24. International Federation of Robotics (IFR), “Five Million Robots now Operate in Factories Globally,” September 24, 2026.
25. Supply Chain Management Review, “DHL Supply Chain bets on data foundations, robotics, and agentic AI to drive growth,” June 17, 2026.
26. Capgemini Research Institute, “The strategic edge: How digital continuity drives business outcomes in aerospace and defense,” June 2025.
27. FDA, “Computer software assurance for production and quality management system software,” February 3, 2026.
28. Aerospace Industries Association, “Supply chain,” 2026.

29. NATO, “Defense-critical supply chain security roadmap,” July 2026.
30. “Lloyd’s geopolitical conflict scenario sees global economy exposed to $1.4 trillion loss,” October 9, 2024. https://www.lloyds.com/insights/media-centre/press-releases/geopolitical-conflict-scenario
31. Capgemini Research Institute, New-generation supply chain, March–April 2025, N = 1,000 executives.
32. Capgemini Research Institute, New-generation supply chain, March–April 2025, N = 1,000 executives.
33. Darden School of Business, “Supply chains explained: How they work and why tariffs can strain them,” March 11, 2025.
34. Orderful, “Tariff impact on supply chain: how will 2025 tariffs affect the economy and logistics?” April 16, 2025.
35. World Trade Organization, Economic research and analysis, “Updated WHO-IMF TPA Index shows continued rise in global trade policy,” July 23, 2026.
36. Lockheed Martin, “Ready when it counts: Lockheed Martin strengthens supply chain resilience to deliver more missile systems to America and allies,” October 23, 2025.
37. BusinessWorld, “L&T joins India’s effort to build rare-earth magnet supply chain outside China,” August 11, 2026.
38. Wu, Liupengfei; Lu, Weisheng; Zou, Yuanben; An, Hongda; and Wang, Bolun. “Agentic artificial intelligence of things (AIoT) for just-in-time logistics and supply chain: a case of modular construction.” International Journal of Logistics Research and Applications, 2026. Received November 17, 2025; accepted February 19, 2026. https://www.tandfonline.com/doi/full/10.1080/13675567.2026.2636594#abstract
39. Gartner, “Gartner identifies top supply chain technology trends for 2026,” June 30, 2026.
40. Supply Chain Digital, “Inside Pfizer’s climate-ready supply chain strategy,” December 18, 2025.
41. Capgemini Invent, “Beyond silos: Next-gen supply chains: Rewiring supply chains around a responsive decision-centric model with agentic AI,” June 2026.
42. Capgemini Invent, “Beyond silos: Next-gen supply chains: Rewiring supply chains around a responsive decision-centric model with agentic AI,” June 2026.

Authors

Meet the Capgemini experts



Volker Roelofsen
Executive Vice President, Group Offer Leader Supply Chain Management and Procurement Europe, Capgemini
volker.roelofsen@capgemini.com

Volker Roelofsen is a senior expert with over 28 years of experience in automotive supply chain management and procurement. He has worked with clients like Mercedes Benz/Daimler, Continental, BMW, and Bosch, focusing on strategy, network optimization, and inventory management. Volker helps clients shape successful strategies, achieve transformation, and meet sustainability goals.



Paco Ribagnac
Global Head of Supply Chain, Capgemini Invent
paco.ribagnac@capgemini.com

Paco Ribagnac is the Global Head of Supply Chain at Capgemini Invent, leading the firm's global portfolio for Intelligent Supply Chain transformation. He brings over 15 years of experience across consulting and industry, with deep expertise in end-to-end value chain optimization and large-scale digital transformation. His career includes leadership roles in a global consumer goods company, strengthening his operational perspective across planning and customer service. Paco has driven major transformation programs, from operating model redesign to IT and digital architecture modernization.



James Mepham
Global Head of Intelligent Supply Chain Practice, Capgemini's Business Services
james.mepham@capgemini.com

James Mepham is a senior supply chain and operations executive at Capgemini, currently serving as Global Head of Intelligent Supply Chain Practice at Capgemini's Business Services, with over 20 years' experience leading large scale transformation programs from concept through to realized business outcomes. He brings deep expertise across supply chain, manufacturing, retail and integrated operations, with a strong track record in end-to-end process transformation, operational cost reduction, and maximizing value from IT and ERP investments. James has led complex, multi-market programs delivering measurable improvements in cash flow, profitability and operational performance across consumer goods, automotive, and industrial sectors.



Frédéric Combes
Executive Vice President, Global Aerospace and Defense Industry Leader, Capgemini
frederic.combes@capgemini.com

Frédéric joined Capgemini in 2024 as Quality Excellence Priority Leader, within the global aerospace and defense industry, where he played a key role in strengthening operational excellence and Capgemini's positioning across the sector. With nearly three decades of experience in the aerospace and defense industry, Frédéric brings extensive expertise acquired throughout his career at Airbus Group, where he held leadership positions across Engineering, Safety, Customer Services, and Business Development. Frédéric has a strong track record of leading critical projects and programs, driving large-scale transformations, managing complex crisis situations, and fostering innovation.

Authors

Meet the Capgemini experts



Mayank Sharma
Vice President, Global Capability Leader Supply Chain Practice for Consumer Goods, Retail and Distribution, Capgemini
mayank.q.sharma@capgemini.com

Mayank is a supply chain leader with expertise in driving supply chain transformations through use of digital solutions across planning, procurement, logistics, fulfilment, and sustainability. He has worked across consulting, operations and technology giving him a well-rounded approach to identifying business transformation requirements and re-inventing supply chain operating models through performance-led technology transformations. Mayank brings unique experience of leading transformations as a consultant at Big 4 and at Amazon.com of leveraging digital solutions within e-commerce supply chain to drive end-to-end supply chain improvement.



Brian Eden
Vice President, Head of Global Life Sciences Technical Operations, Capgemini
brian.eden@capgemini.com

Leading the Global Life Sciences Technical Operations Practice for Capgemini, Brian drives process and digital solutions for pharmaceutical and medical device clients in supply chain, manufacturing, quality, technical transfer, and related functionalities. He has three decades of operations transformation, management consulting, and leadership experience. He has developed and led global lean and digital programs, consistently recruiting and developing a diverse array of talent and has led global business integrations, executed a range of process and product programs, and directly supervised operations of technical processes. Brian's experience extends to government, public and private sectors and to the pharmaceutical, medical device, energy, consumer products, and food processing industries.

Authors

Meet the Capgemini Research Institute



Jerome Buvat
Head of the Capgemini Research Institute
jerome.buvat@capgemini.com

Jerome is the head of the Capgemini Research Institute. He works closely with industry leaders and academics to help organizations understand the business impact of emerging technologies.



Marisa Slatter
Director, Capgemini Research Institute
marisa.slatter@capgemini.com

Marisa is a Director at the Capgemini Research Institute. She collaborates with industry leaders to understand challenges and opportunities relating to emerging technologies, innovation, and sustainability.

The authors would like to thank Akshay Jadhav, Kandarp Saraswat, and Dominique Banon from the Capgemini Research Institute for their contribution to this research.

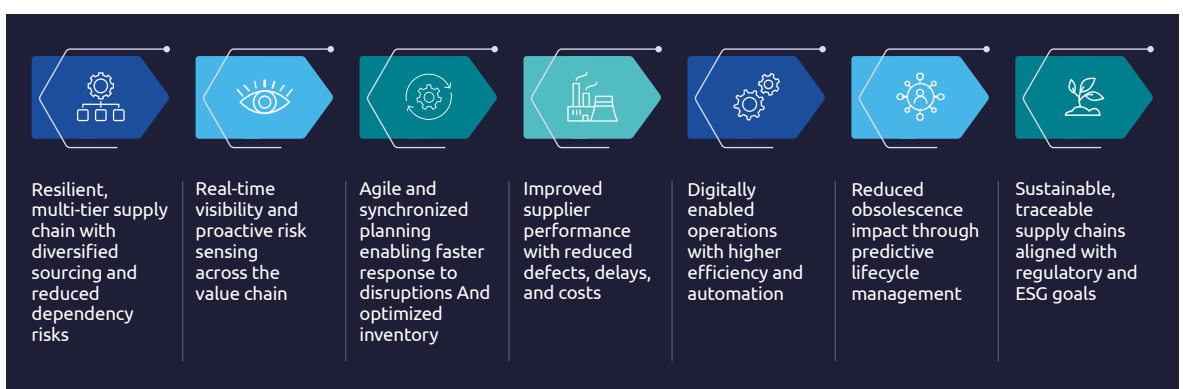
The authors would also like to thank Pierre Bagnon, Jean-Marc Barniol, Michael Becker, Frédéric Berne, Audrey Bessac- Lamat, Laurent Bromet, Vincent Charpiot, Nitin Dsouza, Charlotte Pierron-Perles, Mark Ruston, Sandip Sharma, Santosh Kumar Soni, Bastian Thöle, Dreen Yang, Ruth-Ann Peters, Bridget Pietsch, Christine Svitila, Gert-Jan Schoppert, Punam Chavan, Aparajita Paul, Vibha Palekar, Manish Saha, Soumi Biswas, and Sonali Malekar for their contributions to the report.

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For more information, please contact:

Global

Volker Roelofsen
Executive Vice President, Group Offer Leader Supply Chain Management and Procurement Europe, Capgemini
volker.roelofsen@capgemini.com

Paco Ribagnac
Global Head of Supply Chain, Capgemini Invent
paco.ribagnac@capgemini.com

Audrey Bessac-Lamat
Chief Technology Officer, Supply Chain Engineering
audrey.bessac-lamat@capgemini.com

By industry

Aerospace and Defense

Santosh Kumar Soni
Senior Director, Intelligent Supply Chain for Aerospace and Defense
santosh.a.soni@capgemini.com

Consumer Products and Retail

Mayank Sharma
Vice President, Global Capability Leader Supply Chain Practice for Consumer Goods, Retail and Distribution, Capgemini
mayank.q.sharma@capgemini.com

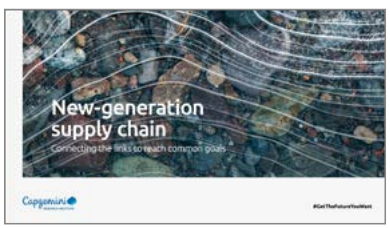
Life Sciences

Brian Eden
Vice President, Head of Global Life Sciences Technical Operations, Capgemini
brian.eden@capgemini.com

Industrial Manufacturing

Mohammed Amine Abouhanine
Sub-Capability Leader, Supply Chain Engineering
mohammed-amine.abouhanine@capgemini.com

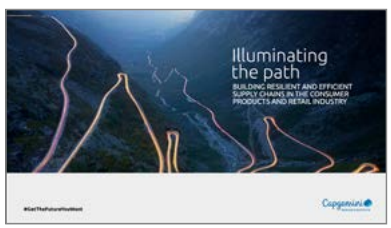
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New-generation supply chain



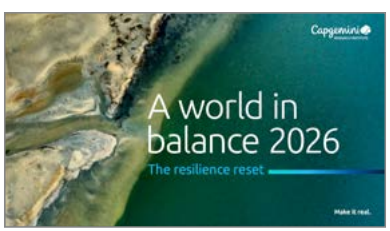
Intelligent supply chain



Supply chain in consumer products, and retail



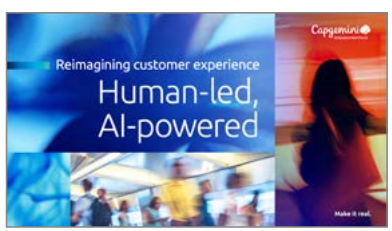
Resurgence of manufacturing



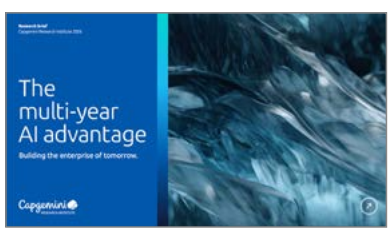
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Physical AI



Reimagining customer experience

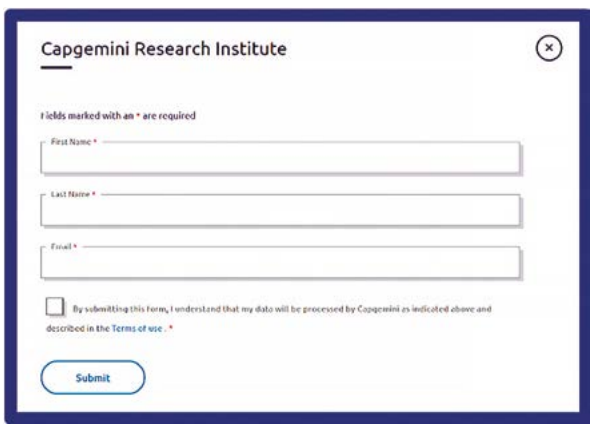


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