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The Role of Start-Ups in AI-Enabled Supply Chain Resilience

INSIGHT REPORT
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Foreword



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Supply chain resilience has become a defining factor of competitiveness. As organizations navigate geopolitical tensions, economic volatility and increasingly complex disruptions, the challenge is building resilience at the speed required.

At the same time, advances in artificial intelligence (AI) are reshaping the innovation landscape. As AI becomes more accessible, a new generation of start-ups is translating advanced AI capabilities into practical solutions that create new opportunities for enterprises to strengthen supply chain resilience. As a result, the AI start-up ecosystem is becoming an increasingly important source of innovation for organizations seeking to accelerate adoption.

This report builds on a multi-year collaboration between the World Economic Forum and Accenture exploring how start-ups help address critical business and sustainability challenges. Drawing on over 50 interviews with industry leaders, start-ups, investors and academics, as well as an analysis of more than 600 AI start-up solutions, it examines how AI start-ups are expanding access to resilience capabilities and what this means for enterprise leaders seeking to engage with the evolving AI start-up ecosystem.

We hope this report gives leaders the confidence and clarity to act and helps them build supply chains and operations that are resilient by design, adaptive under pressure and responsible in the value they create.

Executive summary

The question is no longer whether AI can contribute to resilience, but how to access and scale the capabilities required to capture that value.

The increasingly volatile operating environment is reshaping value chains. Geopolitical fragmentation, climate-related disruptions, cybersecurity threats and economic uncertainty are exposing the limits of traditional supply chain models optimized primarily for efficiency. At the same time, recent advances in artificial intelligence (AI) are creating new opportunities to strengthen supply chain resilience.

This report examines how a new generation of AI start-ups is accelerating that transition. Drawing on insights from industry leaders, start-ups, investors and academics, as well as an analysis of more than 600 AI start-up solutions, it explores where AI start-ups are creating resilience value and provides a practical framework to help leaders determine when to buy, partner with or build AI solutions that strengthen supply chain resilience.

The analysis suggests that the strategic question for most organizations is no longer whether AI can contribute to resilience, but how to access and scale the capabilities required to capture that value. The research highlights three key findings for leaders:

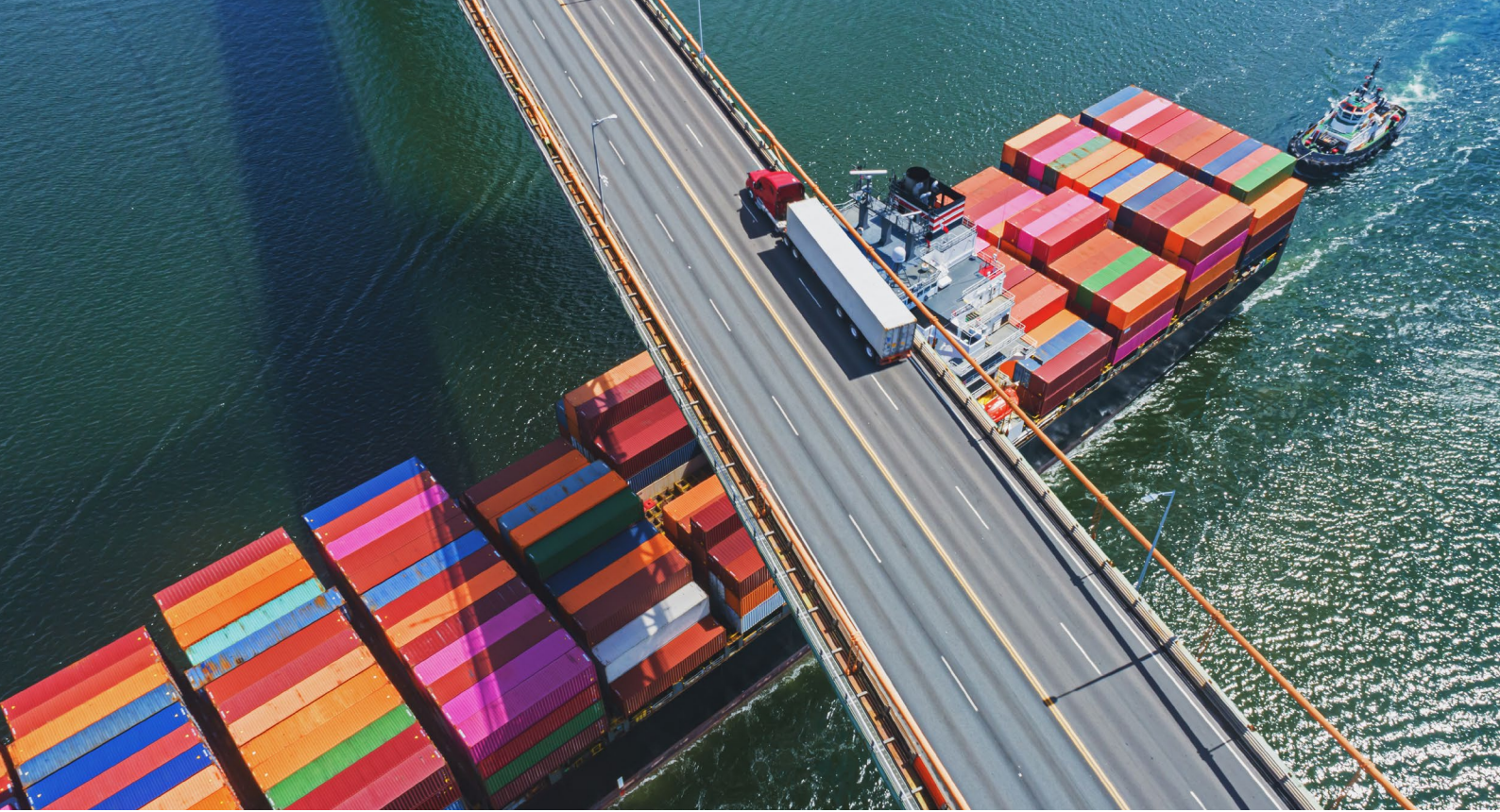
1. **Supply chain resilience is now a strategic asset, and AI is enabling organizations to pursue greater resilience and efficiency simultaneously.** Greater visibility, adaptability and responsiveness are allowing organizations to reduce exposure to risk while sustaining operational performance.
2. **AI start-ups are accelerating access to frontier resilience capabilities, but**

rapidly evolving AI start-up ecosystems require continuous monitoring. As new AI capabilities emerge, organizations will need to continuously reassess where the greatest sourcing opportunities are developing. They must recognize that the areas attracting the most investment do not necessarily correspond to where agentic AI innovation is advancing fastest or where the greatest resilience value can be created.

3. **Building everything internally is becoming the exception, not the rule.** Organizations will create the greatest value by applying a disciplined approach to sourcing AI solutions and treating the partner and AI start-up ecosystems as strategic accelerators that close internal capability gaps while embedding human oversight and governance from the outset.

Taken together, these findings highlight the growing importance of the AI start-up ecosystem in strengthening supply chain resilience. Realizing the full potential of AI will require organizations to combine external innovation, internal capabilities and responsible AI practices in ways that align with their strategic priorities and resilience objectives.

As the ecosystem continues to evolve, leaders will need to evaluate where AI can create the greatest resilience value and how best to access the capabilities required to capture it. The organizations that lead in supply chain resilience will not be those waiting for certainty, but those willing to build capability ahead of full clarity.



Introduction

Rising disruption is exposing the limits of traditional supply chains, creating an urgent need for new resilience capabilities.

29%

Only 29% of supply chain organizations have built the necessary capabilities to prepare for the future.

Many modern supply chains were designed for a less volatile operating environment. Built on assumptions of predictable demand, reliable suppliers and open trade, they have been optimized for efficiency.¹ That world no longer exists. Geopolitical fragmentation, climate shocks, regulatory pressures and cybersecurity threats are no longer isolated events but converge and leave organizations with little time to recover.

In response, supply chain resilience is rapidly moving up the strategic agenda. Nearly three out of four business leaders now view resilience not only as a risk-mitigation lever but also as a driver of growth and competitive advantage.²

Yet, awareness has not been translated into action. Most companies still lack the tools and infrastructure to respond effectively, with only 29% of supply chain organizations having built the necessary capabilities to prepare for the future.³ For most organizations, the gap between the speed at which disruptions unfold and their ability to respond to or reduce exposure to risk remains significant and is increasingly constraining performance and growth. Supply chain

disruptions are estimated to drive up to \$1.6 trillion in missed global revenue growth annually.⁴

Advances in artificial intelligence (AI) are creating new opportunities to close this gap by reshaping how organizations anticipate risk, make decisions and respond to disruptions.

What distinguishes this moment, however, is not just the technology, but who is building it.

The recent democratization of AI has enabled a new generation of AI start-ups to develop resilience solutions that many organizations would struggle to build internally. As the innovation ecosystem continues to expand, AI start-ups are broadening access to resilience capabilities and helping organizations close visibility gaps, anticipate and quantify risk exposure and initiate responses autonomously.

This report is intended to help leaders across supply chains, operations and technology navigate the evolving AI start-up ecosystem, identify opportunities to strengthen resilience and evaluate when to buy, partner with or build AI solutions.

1

The role of AI in building resilience

Supply chain resilience is now a strategic asset, and AI is enabling organizations to pursue greater resilience and efficiency simultaneously.



Supply chain resilience, as used throughout this report, refers to an organization's ability to sense disruption early, absorb its effects, adapt operations in response and recover quickly enough to maintain performance.⁵

The gap between this definition and how most organizations currently operate is significant. **Volatility has surged by 183%,⁶ yet only 7% of organizations can execute decisions in real time.⁷** The bottlenecks are structural. Supply chain visibility rarely extends beyond first- or second-tier suppliers,⁸ while disruption signals are scattered across increasingly complex networks

that span geographies, suppliers and logistics providers. As a result, risks are identified too late for meaningful intervention. Even when disruptions are detected, organizations struggle to respond at the speed required. Decision-making remains anchored in periodic planning cycles rather than real-time scenario modelling, while planning, procurement, manufacturing and logistics continue to operate separately.

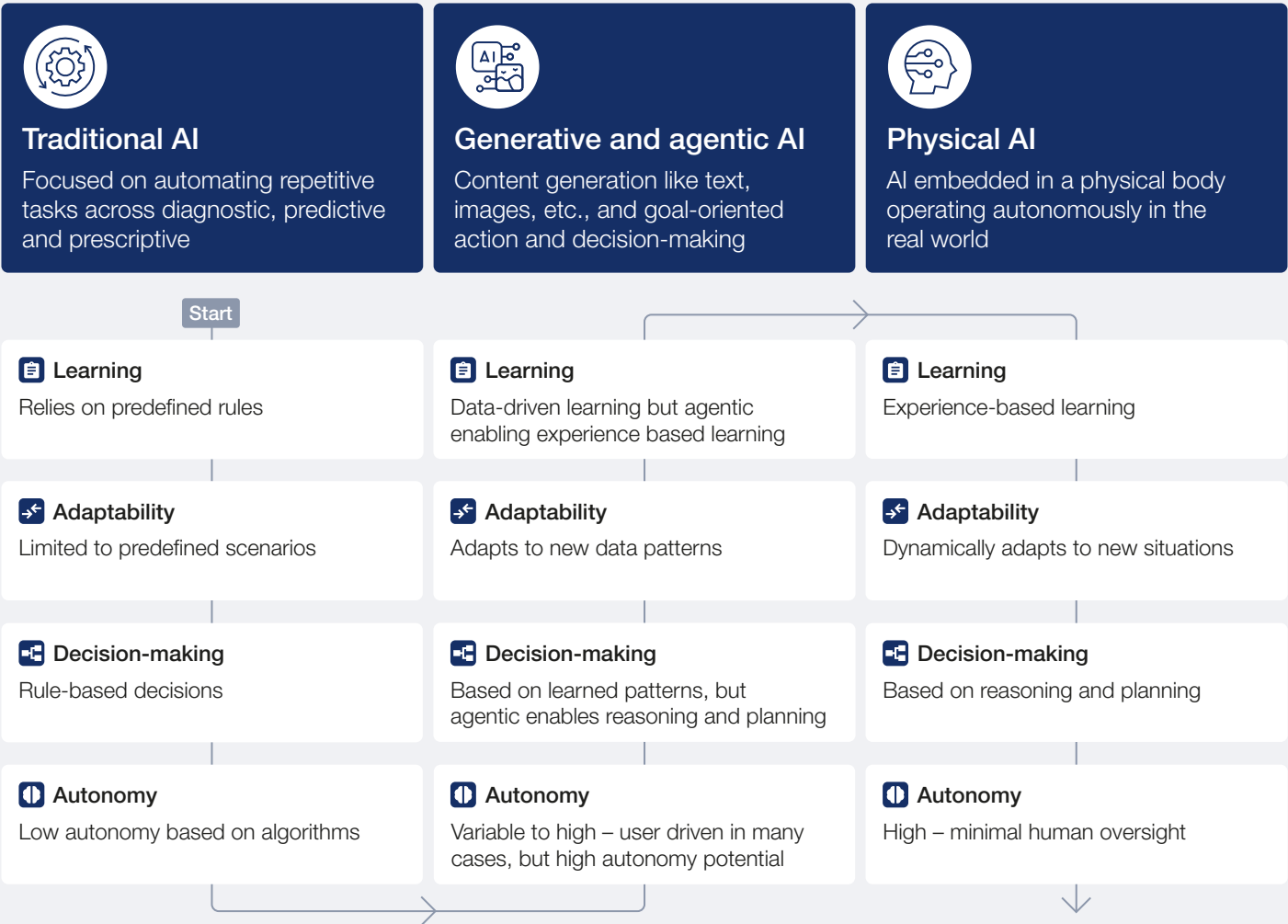
To better understand how AI is helping to address these challenges, it is useful to examine the evolution of AI and how it translates into more resilient supply chains.

1.1 Evolution of AI from automation tools to autonomous execution

AI capabilities can be understood through three broad shifts: traditional AI, generative and agentic AI, and physical AI (Figure 1). Each represents

a step change in the ability of systems to learn, adapt, make decisions and act with autonomy.

FIGURE 1 Evolution of AI



Source: Accenture.

“ Agentic AI represents a fundamental leap in capabilities, helping organizations reduce the time between sensing disruption and responding to it.

Traditional AI is widely used to automate repetitive tasks, identify patterns in historical data and support human decision-making. Its maturity is reflected in the World Economic Forum Global Lighthouse Network, an initiative that convenes the world’s most advanced manufacturing sites – with 62% of lighthouse solutions embedding traditional AI at scale,⁹ encompassing diagnostic, predictive and prescriptive capabilities.

Generative and agentic AI represent a fundamental leap in capabilities, helping organizations reduce the time between sensing disruption and responding to it. Generative AI can create new content and synthesize insights from vast amounts of structured and unstructured data, while agentic AI extends these capabilities through goal-oriented systems that perceive and adapt to their environment, orchestrating workflows end-to-end.

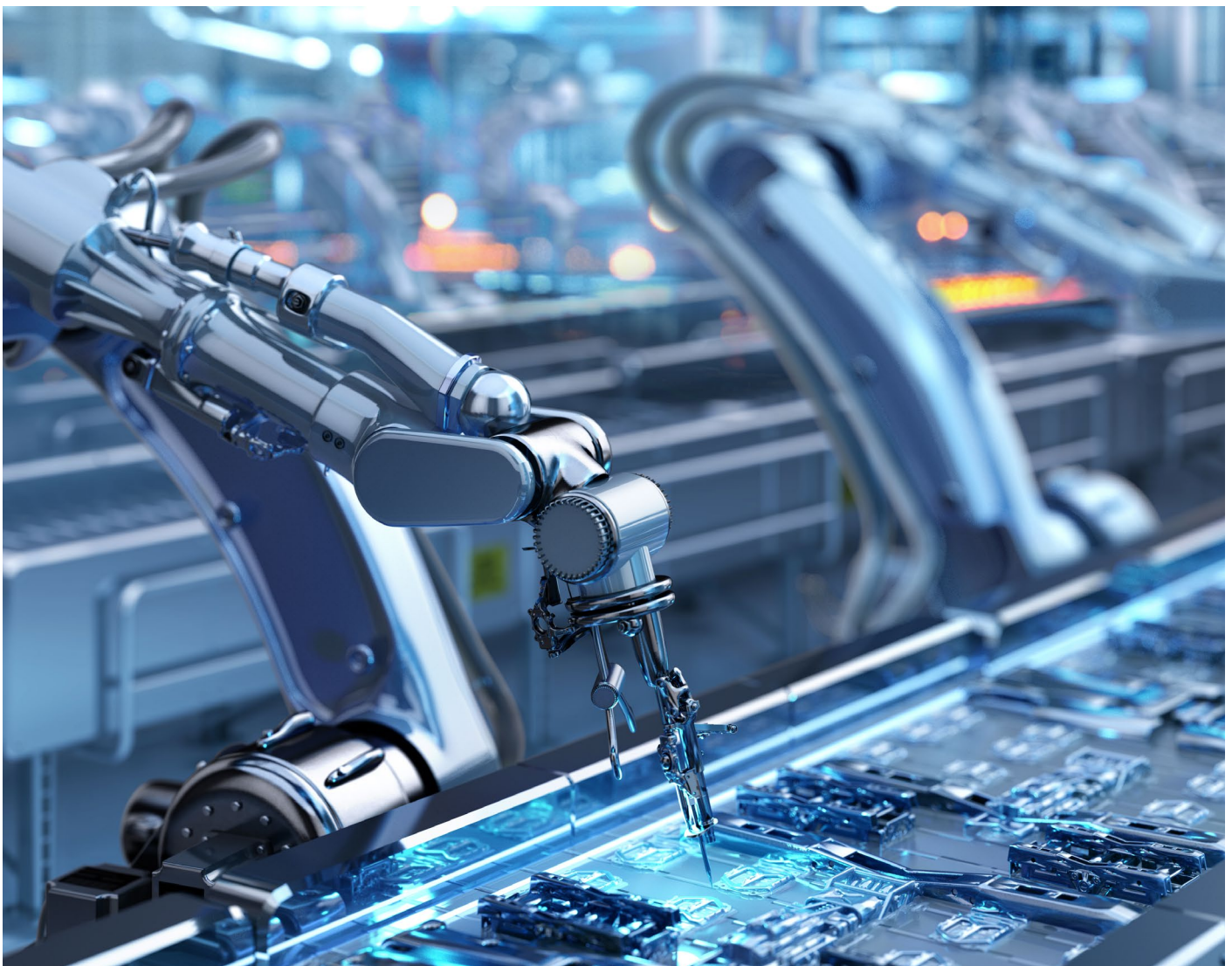
Adoption is still early but is accelerating. As of 2025, generative AI is deployed in 23% of Forum Lighthouse sites’ top five solutions – more than double the rate of 2024. Agentic AI, despite its recent emergence, has already been adopted by 8% of lighthouse sites, with early applications concentrated in manufacturing, integrated planning and supply chains.¹⁰ The pace of this shift is reflected

in Gartner data showing that multi-agent system inquiries grew by 1,445% between 2024 and 2025.¹¹

Three distinct operating models are crystallizing across agentic AI deployments, each reflecting a different threshold of human-machine collaboration and autonomy:

- **Human-to-agent:** A human initiates and decides every step; the agent drafts, retrieves or recommends.
- **Agent-to-human:** The agent executes autonomously within defined boundaries, escalating to humans at critical decision points.
- **Agent-to-agent:** Multi-agent networks plan, delegate and execute complex workflows end-to-end, enabling high levels of autonomy, with human oversight focused on governance and escalation.

Physical AI extends AI capabilities into the physical world through increasingly autonomous robotics and intelligent systems. Over time, these systems are expected to evolve from rule-based to more context-aware systems operating in environments such as manufacturing, warehousing and logistics.¹²



Black Lake Technologies: On-demand manufacturing and capacity

Cross-sector manufacturing  China (Series D)

Type of agentic AI: Human-to-agent Agent-to-agent

 Challenge	 Solution	 Impact
Traditional manufacturing systems are too rigid for the growing demand for smaller, faster production runs, resulting in chronically underused capacity and extended production cycles.	Black Lake Technologies offers an AI-driven coordination platform connecting demand to over 35,000 factories. Agents automate order intake, generate manufacturable 3D models directly from design inputs, optimize capacity allocation and match orders to the most suitable production lines in seconds. The platform dynamically orchestrates shop-floor workflows across distributed facilities based on live operational constraints, enabling smaller producers to access new demand while helping larger manufacturers handle short runs efficiently.	– 18% improvement in capacity use – Production cycles cut from 3 months to 3 weeks – Minimum order size reduced from 10,000 to 100 units

Source: Black Lake. (n.d.). Home. <https://www.blacklake.cn/>.

These three shifts should not be seen as a linear progression in which each replaces the last. In practice, they co-exist, and organizations often draw on a mix of them within the same solution. Taken together, however, they point in a consistent direction, towards greater autonomy and faster execution. Recent research confirms the shift from manual, labour-intensive processes towards

greater automation, augmented decision-making and, in some cases, full autonomy. By 2028, at least 15% of day-to-day work decisions will run autonomously through agentic AI.¹³ As AI assumes greater responsibility for execution, the importance of human oversight, governance, strategic decision-making and clear guardrails continues to increase, ensuring AI is deployed and scaled responsibly.

1.2 What this means for supply chain resilience

“Organizations with autonomous supply chain capabilities expect to reduce disruption response and recovery times by 62% and 60% respectively.”

Nearly two-thirds of organizations plan to advance their supply chain autonomy to the next level by 2035.¹⁴ Recent advancements in AI are enabling this shift at a critical time. As structural volatility places growing pressure on supply chains, building resilience increasingly depends on the ability to sense disruption early, adapt operations and respond as conditions change.

That surfaces a concrete set of operational questions around where organizations are most exposed to disruption, how quickly they can reroute shipments or model the cost, carbon and service trade-offs of alternative sourcing paths under live disruption, and whether products can be redesigned around materials that are easier to

source or less dependent on critical raw materials. These are some practical design choices that determine whether an organization can pivot when conditions change.

Answering these questions at the speed modern supply chains demand is beyond what human teams can do on their own, which is where AI comes into play.

AI strengthens resilience in two ways. The first, and most visible, is faster response. Organizations with autonomous supply chain capabilities expect to reduce disruption response and recovery times by 62% and 60% respectively, cutting average response times from 11 days to four.¹⁵



CASE STUDY 2

Centrum AI: Supply chain risk assessment and disruption modelling

Cross-industry  US (Seed)

Type of agentic AI: **Human-to-agent** **Agent-to-human**

 Challenge	 Solution	 Impact
Static supply chain planning tools and segregated data leave companies simultaneously exposed to excess inventory and stockouts, and unable to anticipate disruptions before they impact operations.	Centrum AI is an AI-based supply chain risk platform that connects to any enterprise resource planning (ERP) system, transport management system (TMS) or warehouse management system (WMS) through more than 350 pre-built connectors. Deterministic AI and machine learning (ML) agents auto-ingest, clean and correct operational data across inventory, logistics and procurement. They predict second- and third-order disruption impacts across supplier networks, simulate tariff, climate and geopolitical scenarios and quantify financial exposure weeks before disruptions materialize, enabling teams to act early and build lasting supply chain resilience.	– 15–30% working capital reduction – 99.7% data correction accuracy – Zero-configuration deployment with fully auditable automated decisions

Source: Centrum AI. (n.d.). Home. <https://www.centrum-ai.com/>.

The second, and often overlooked, is structural. AI helps organizations redesign operations in a way that reduces exposure to risk in the first place. Supply chain planning teams can map deep multi-tier networks through real-time digital twins, surfacing hidden risks and modelling what-if scenarios continuously. Product developers can run rapid impact analysis on material and design

decisions before committing; reverse logistics managers can coordinate recovery and re-use flows that reduce dependence on virgin materials and scarce resources. As the AI transformation matures, supply chain and operations will integrate and agentic AI can orchestrate workflows end-to-end, reshaping how supply chain strategies are executed.



Traditionally, supply chain efficiency and resilience have pulled in opposite directions. One drives out flexibility, the other depends on it. AI is resolving that tension, giving organizations the tools to design supply chains that are both lean and genuinely adaptive.

Matias Pollmann-Larsen, Global Sustainable Value Chain, Risk and Resilience Lead, Accenture

Based on a survey of 1,000 C-suite executives, autonomous supply chains are expected to cut order lead times by 27%, improve productivity by 25% and reduce carbon emissions by 16%.¹⁶ Organizations with high AI maturity in their supply chains also achieve 23% higher margins and up to 50% lower costs over time.¹⁷

While agentic and autonomous systems remain experimental at this stage, the shift towards more autonomous supply chains and operations is

starting to emerge. According to the [Next Frontier Intelligent Industrial Operations Outlook \(2026\)](#), leading manufacturers are advancing toward greater autonomy, with the most significant acceleration expected over the next five years and beyond.¹⁸ Building on these projections, this report maps the findings across six core supply chain and operations domains. Across all, autonomy levels are expected to rise substantially, with most more than doubling, signalling a broader shift in how operations are designed and run (Table 1).

TABLE 1 How the evolution of autonomy is expected to reshape supply chain resilience

Supply chain and operations domain	Autonomy level (now vs next)	Examples of what it looks like in practice
Autonomy level (scale 1–4): ① Assisted ② Co-adaptive ③ Self-directing ④ Self-managing ● now (0-2 years) ● next (5+years)		
Product development and engineering 		Shift product development and engineering towards continuous, AI-enabled simulation and validation. By integrating life cycle feedback with material-level insights on critical raw materials and carbon footprints, developers can embed resilience by design rather than retrofit it later.
Procurement 		Transform procurement from reactive transactions into AI-orchestrated supplier ecosystems that sense multi-tier risk, dynamically source against cost and sustainability constraints during disruptions and automate processes end-to-end. This makes procurement a strategic resilience driver rather than a cost management function.
Manufacturing 		Turn production, quality and maintenance into self-optimizing factory networks that recalibrate against real-time process and demand signals. This would reduce downtime, energy use and idle capacity while AI-enabled robotics self-organize material flows, equipping factories with flexibility to absorb disruptions and reconfigure instantly.
Logistics 		Shift logistics from fragmented systems to an AI-orchestrated network, with control towers unifying visibility, real-time risk sensing, decision-making and coordination across warehouses, transport partners and production. This enables improved responsiveness and greater flexibility during disruptions.
Service and next life 		Shift operations from linear to AI-orchestrated circular systems that manage reverse logistics, material recovery and redistribution. This unlocks new value streams, reduces dependence on scarce resources and strengthens long-term resilience and sustainability.
Integrated planning and supply chain 		Move planning from fragmented cycles to AI-driven networks with end-to-end visibility that sense risk, model scenarios and continuously synchronize demand and supply. This enables earlier disruption mitigation and more resilient network design.

Source: Accenture; World Economic Forum. (2026). *Intelligent Industrial Operations Outlook 2026*.

1.3 Why start-ups matter

Organizations proactively building resilience are already seeing their efforts pay off, with 3.6% higher revenue growth.¹⁹ At the same time, AI is expected to play a key role in making supply chains and operations more resilient. Yet, despite record levels of AI investment, only 22% of organizations have advanced AI-powered supply chain capabilities.²⁰ This suggests that, for many organizations, the challenge extends beyond investment to development of the underlying organizational capabilities needed to deploy AI effectively across supply chain and operations. A new wave of specialized AI start-ups is addressing three structural barriers to AI adoption (Table 2) – critical

data, talent and technology constraints. Rather than building all capabilities internally and competing in the market, organizations can increasingly access data foundations that improve supply chain visibility, specialized AI expertise within functional areas of the supply chain, and advanced AI capabilities through deployable products. Compared with larger technology providers, AI start-ups specialize in narrower problem areas, adopt emerging AI capabilities more quickly and are more willing to adapt solutions to specific requirements, often offering outcome-based commercial terms that make it easier for organizations to experiment with AI with greater confidence.

TABLE 2 The start-up advantage

Barrier	Enterprise challenge	Value of AI start-ups
Data is fragmented and not AI-ready 	Critical signals remain dispersed across internal systems, suppliers, logistics providers and external sources, making timely end-to-end visibility difficult to achieve. Up to 95% of generative AI initiatives struggle to deliver return on investment (ROI) due to data fragmentation,²¹ and 60% of AI projects are abandoned due to lack of AI-ready data.²²	AI start-ups are building the data foundations that enterprises struggle to construct alone, connecting data across supply chains and global trade flows. At the same time, they are increasingly addressing data readiness by embedding data collection and quality improvement directly into their solutions, reducing the need for organizations to establish perfect data foundations before deployment.
Specialist talent is scarce 	The expertise needed to build, deploy and govern agentic AI systems is expensive, difficult to retain and often concentrated in technology-native companies. Over 90% of global enterprises face a critical AI skills shortage, and the gap is not expected to narrow.²³ Meanwhile, 90% of employers rank AI and big data among the fastest-growing skill demands by 2030.²⁴	AI start-ups increasingly offer a combination of deep technical expertise in advanced AI and functional supply chain knowledge in ways most enterprises cannot replicate internally. By engaging with the right start-up, enterprises can access scarce capabilities such as AI agent design, AI governance and cyber security, without competing for talent in a constrained market.
Legacy systems are difficult to integrate 	Technology legacy systems such as ERP, and planning platforms remain a major barrier to AI adoption, with Gartner reporting that 56% of chief supply chain officers identify legacy system and process integration as a major challenge.²⁵ As a result, fragmented enterprise architectures limit organizations' ability to deploy and scale advanced AI capabilities, including agentic AI, across supply chain functions.	AI start-ups are increasingly addressing this challenge by developing solutions that complement rather than replace existing enterprise systems. Rather than requiring extensive technology replacement, many AI start-ups design agentic solutions that integrate with existing enterprise architectures through lightweight implementation, lowering the barriers to adoption.

Note: Addresses structural AI barriers based on desktop and primary research, including global AI start-up mapping and industry interviews.

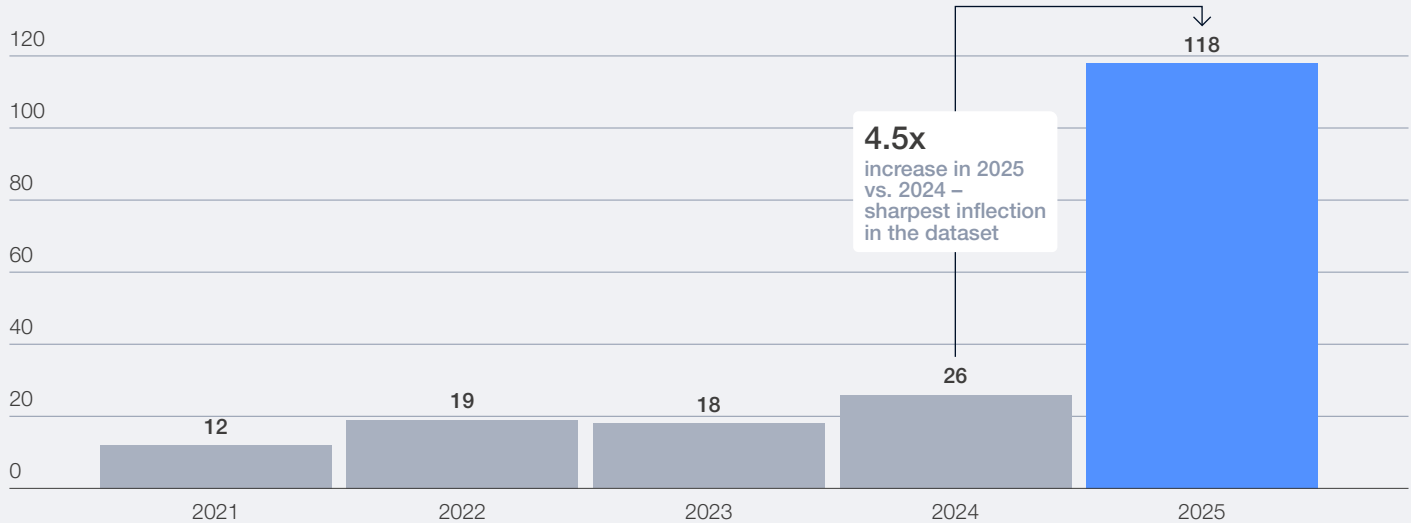
Source: Desktop and primary research, including global AI start-up mapping and industry interviews.

The start-up ecosystem can serve as a strategic accelerator of resilience, helping organizations close AI capability gaps and access emerging resilience capabilities faster than internal roadmaps allow. Corporate interest in partnering

with AI start-ups is already growing. A Plug and Play analysis of corporate engagement with agentic AI start-ups finds a 4.5 times increase in 2025 (Figure 2).²⁶

FIGURE 2 Corporate engagement with agentic AI startups over time

Plug and Play SLAM Intelligence Platform – agentic AI engagement



Note: Each event = formal introduction between Plug and Play corporate partner and an agentic AI start-up (autonomous decision-making, minimal human-in-the-loop). Figures reflect activity logged within the SLAM platform and do not represent the full market.

Source: Plug and Play.

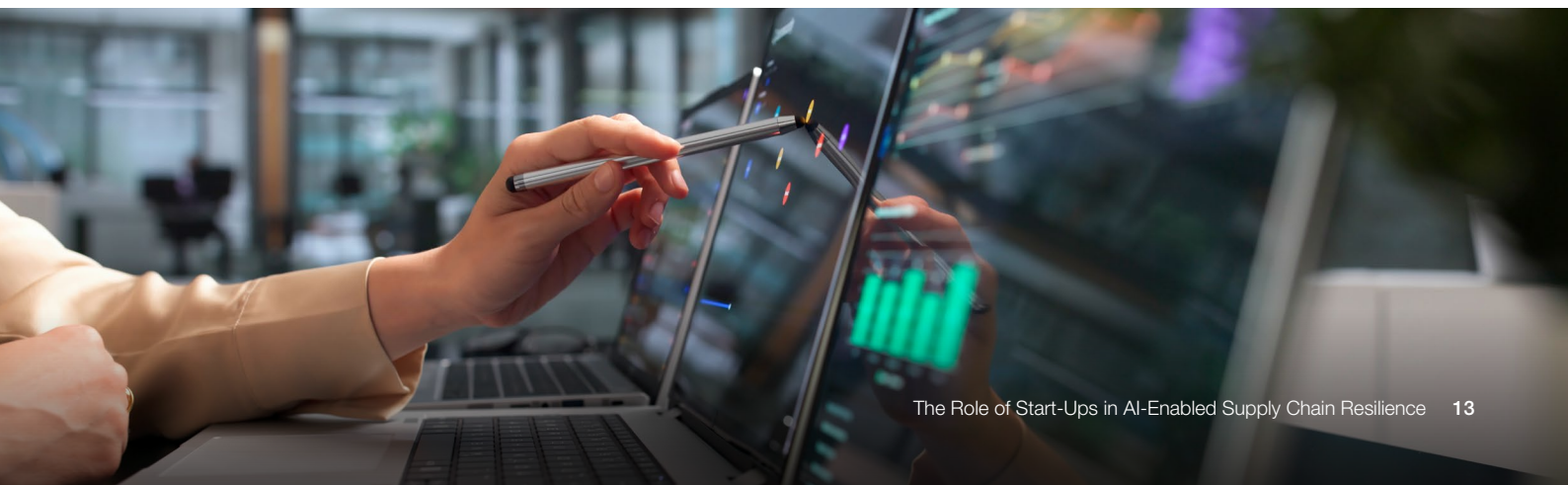
“ The start-up ecosystem can serve as a strategic accelerator of resilience, helping organizations close AI capability gaps and access emerging resilience capabilities.

At the same time, start-up partnerships may also introduce risks, as early-stage companies may face funding pressures, changes in strategic direction or consolidation within the market. They are therefore not suited to every use case, particularly in highly regulated environments or where deep enterprise system integration is required. The most effective approach is selective partnerships, applying start-up capabilities where speed, specialization and access to frontier AI outweigh these risks.

What makes the start-up advantage possible is the broader democratization of AI. Capabilities that were confined to a small number of well-resourced technology vendors until recently, such as advanced reasoning, multi-modal understanding and agentic orchestration, are increasingly accessible through

application programming interfaces (APIs) and open-weight models at a fraction of historical cost,²⁷ though the openness of the ecosystem remains dependent on API access policies set by incumbent vendors. The scale of capital flowing into this ecosystem reflects the broader opportunity. Venture capital investment in AI start-ups reached almost \$260 billion in 2025, by which point AI captured 61% of every venture dollar deployed worldwide, more than doubling its share since 2022.²⁸

Many AI-enabled resilience solutions already exist, as illustrated in this report’s case studies, but the harder question is where to look. The following chapter cuts through the noise of a fast-moving ecosystem to identify where start-ups are delivering value today.



CASE STUDY 3

Mandel AI: Supplier risk escalation and autonomous response

Cross-industry  US (Seed)

Type of agentic AI: Agent-to-agent

 Challenge	 Solution	 Impact
Procurement teams spend up to 70% of their time manually chasing suppliers, while critical disruption signals are buried in unstructured communications that no ERP was built to manage.	Mandel AI offers an agentic coordination layer for procurement, sitting on top of email and the ERP. Agents use natural language processing to parse emails, PDFs, spreadsheets and procurement documents in real time, reconciling purchase orders, quotes, invoices and delivery updates, then autonomously triggering supplier follow-ups, detecting disruptions and orchestrating end-to-end workflows based on company-defined processes. This frees procurement teams to focus on supplier relationships and strategic negotiations.	– Disruptions detected in hours, not days – Expired quotes and expedited shipments reduced by 70%, protecting margin during tariff volatility and tight supplier allocation

Source: Mandel AI. (n.d.). Home. <https://www.mandel.ai/>.

2

State of play: start-up ecosystem mapping for AI-enabled supply chain resilience

Start-ups are accelerating access to frontier AI capabilities that strengthen supply chain resilience, but strategic relevance matters more than ecosystem size.

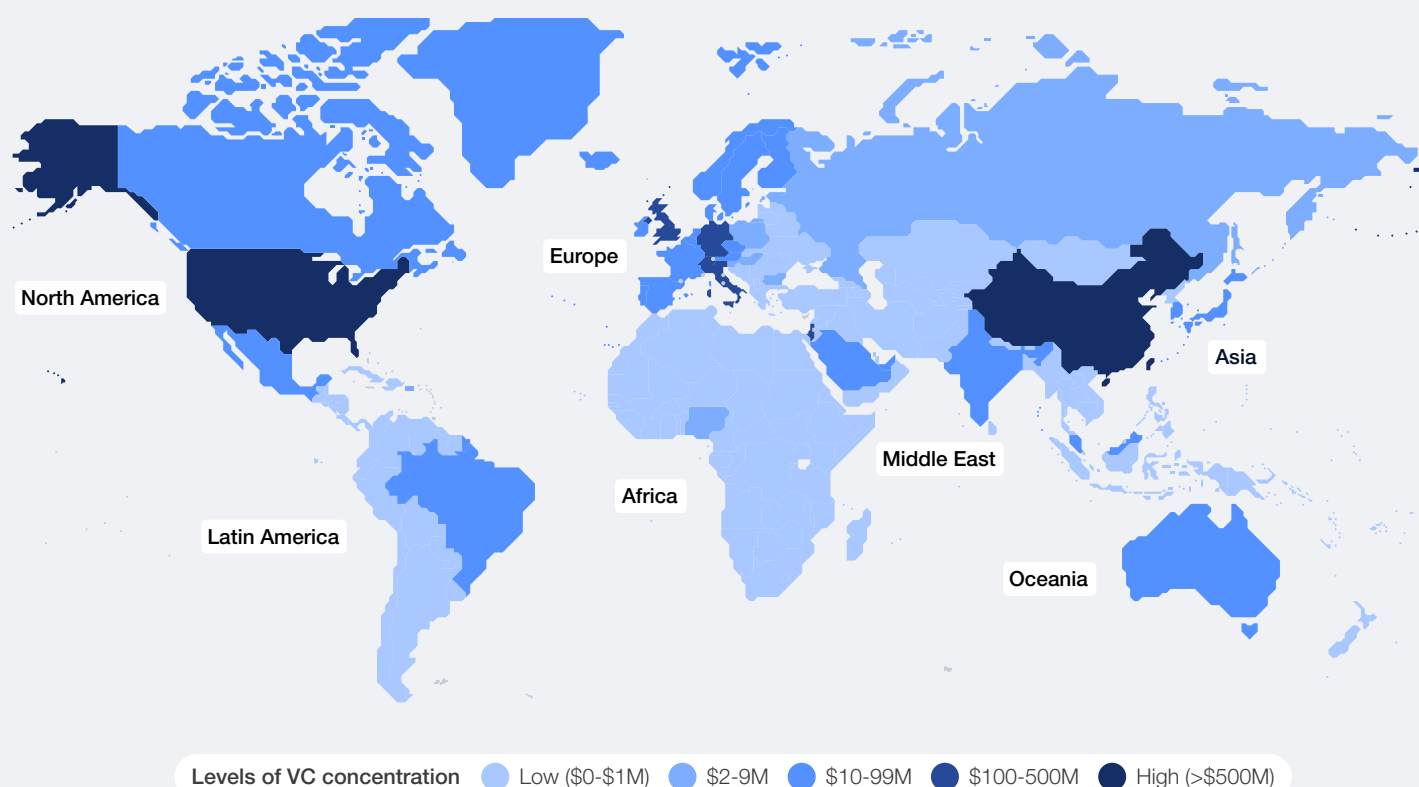


As organizations increasingly look beyond internal development to access frontier AI-enabled resilience capabilities, understanding the AI start-up ecosystem is becoming a strategic imperative. Understanding where AI start-up innovation is concentrated, where new solution categories are emerging and where critical innovation gaps persist provides the foundation for informed sourcing decisions, revealing which frontier capabilities

can be accessed today and where early partnership opportunities may create strategic advantage.

The analysis draws on an ecosystem of 612 AI start-ups, spanning all types of AI applications, across six supply chain and operations domains, covering almost \$7 billion in cumulative venture funding.²⁹ Figure 3 illustrates the geographic distribution of start-ups and associated investment.

FIGURE 3 Geographic distribution of AI start-up ecosystem and its venture funding



Note: North America captures 49% of domain funding despite representing 31% of start-ups, and its dominance sharpens significantly for agentic AI, with 48% of all funded agentic AI start-ups globally being headquartered there. For enterprises outside North America, this creates a strategic dependency. Many of the most advanced agentic capabilities are emerging outside their home markets, making access to global AI start-up ecosystems, partnership models and technology sovereignty increasingly important considerations. Organizations that rely solely on solutions from domestic markets may risk missing emerging capabilities that are shaping the next generation of AI-enabled resilience.

Source: Accenture; Dealroom.

“Start-up ecosystems differ not only in size, but also in how quickly agentic AI innovation is advancing.

Across the ecosystem, AI start-ups are combining technologies such as internet of things (IoT), robotics and digital twins with a new generation of AI capabilities, including agentic and physical AI. While the maturity of these technologies varies, the solutions are increasingly targeting a common set of enterprise priorities, including cost reduction, operational efficiency, visibility and transparency, emissions reduction and performance tracking.³⁰

Given the cross-functional applicability of agentic AI³¹ and its projected role in reshaping supply chain resilience, the assessment focuses on agentic momentum and innovation gaps across six supply chain

and operational domains. Agentic innovation momentum is an indicator that combines investor backing with the concentration of new start-ups intended to surface where new categories of agentic AI capabilities are emerging and gaining traction.

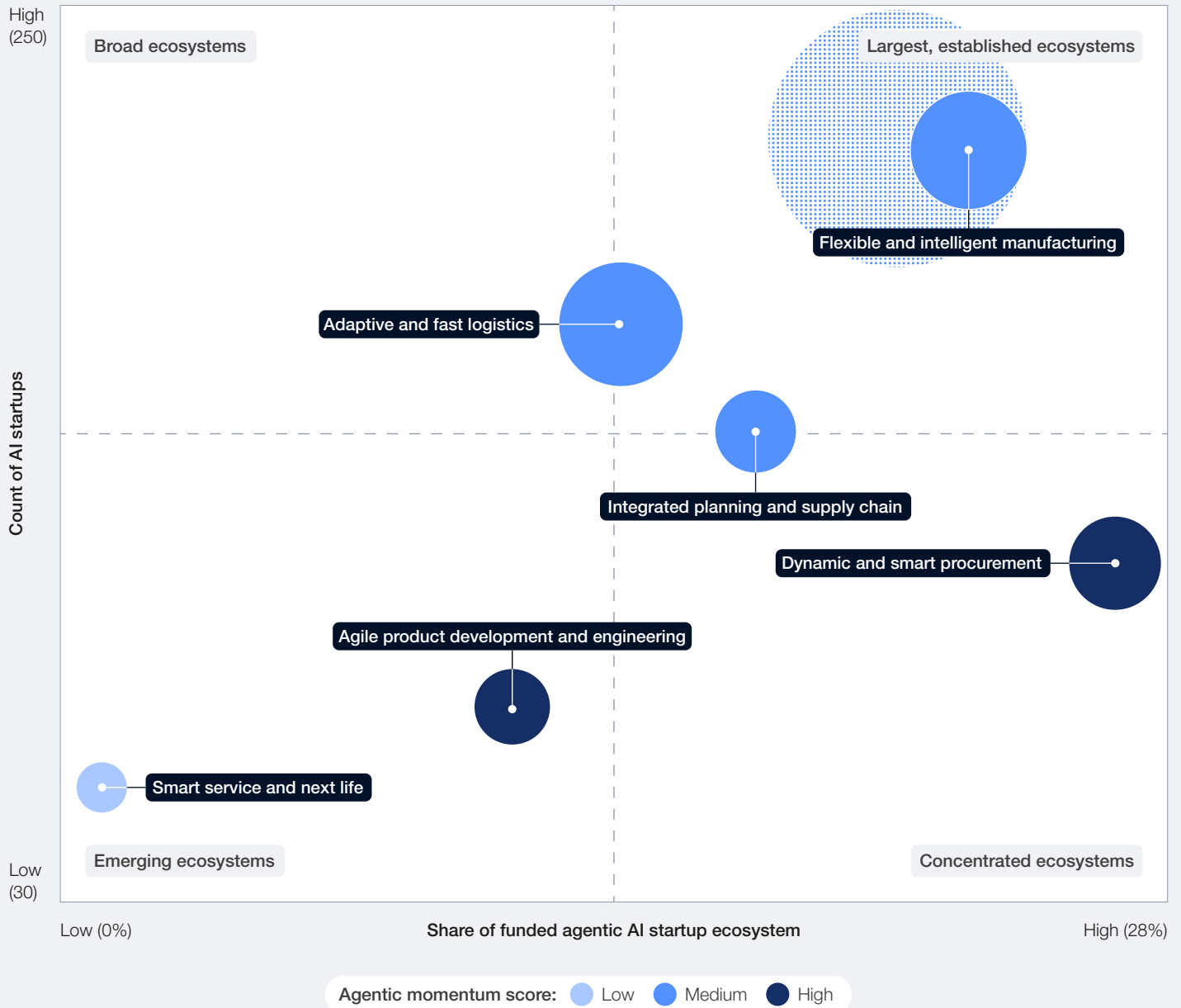
Together, these patterns reveal that start-up ecosystems differ not only in size, but also in how quickly agentic AI innovation is advancing. As shown in Figure 4 and Table 3, the domains attracting the most capital are not necessarily those where agentic AI innovation is advancing fastest. At the same time, agentic AI momentum alone does not determine where the greatest opportunities to strengthen supply chain resilience lie.

In other words, ecosystem size and investment volume are poor proxies for strategic opportunity. To better understand where start-ups are creating resilience value, the analysis that follows further examines each domain at the solution-area level, grouping start-ups into distinct capability categories. This provides a more practical view of where agentic AI start-ups are expanding resilience capabilities.

For enterprise leaders, these findings have two important implications:

- Where agentic AI momentum is strongest, start-up innovation is advancing rapidly, making regular ecosystem monitoring and reassessment of partnership opportunities increasingly important as new capabilities emerge.
- Conversely, in areas with fewer agentic AI start-ups, organizations are likely to have fewer partnership options, increasing the importance of early engagement with the most promising innovators as ecosystems develop

FIGURE 4 Global AI start-up ecosystem analysis



Note: Bubble size represents total cumulative funding in the domain (smallest: approximately \$120 million; largest: approximately \$4 billion),³² with dotted circle indicating funding tied to physical AI.

Source: Accenture; Dealroom.

TABLE 3 | Analysis of the global AI start-up ecosystem across six supply chain and operations domains

	Overall dataset			Agentic AI dataset		
Domain	Total # of start-ups	Total funding	Average funding per start-up	Agentic momentum score	Share of funded agentic AI start-ups	Share of new agentic AI start-ups
Agentic momentum score: Low Medium High						
Dynamic and smart procurement	86	\$507M	\$7.6M	10% 	27.4% 	36.6%
Agile product development and engineering	48	\$462M	\$11M	5.4% 	16.1% 	33.3%
Integrated planning and supply chain	108	\$490M	\$5.5M	3.9% 	17.7% 	22.1%
Flexible and intelligent manufacturing	209	\$705M (\$3.8B)	\$5.1M (\$67M)	2.2% 	21% 	10.5%
Adaptive and fast logistics	136	\$794M	\$6.2M	2% 	17.7% 	11.1%
Smart service and next life	33	\$90M	\$2.8M	0% 	0% 	3.0%

Note: Agentic momentum combines the share of agentic AI start-ups that have received funding, indicating investor backing, with the share of new agentic AI start-ups relative to the domain's total start-up population.

Source: Accenture; Dealroom.

2.1 Dynamic and smart procurement

“ Signals suggest that procurement is emerging as a particularly attractive domain for agentic AI.

Procurement is emerging as the leading test bed for agentic AI, recording the highest agentic momentum score across all six domains. It captures both the largest share of funded agentic AI start-ups (27.4%) and of new agentic AI start-ups (36.6%), with activity concentrated in Europe and North America. **Procurement automation and workflow orchestration** shows the strongest agentic momentum of any solution area in the analysis, reflecting both founder and investor conviction, while **sourcing automation and management** records one of the highest shares of new agentic start-ups, suggesting founder interest is accelerating ahead of capital (Table 4).

Together, these signals suggest that procurement is emerging as a particularly attractive domain for agentic AI, with the concentration of AI start-ups and capital signalling growing market interest and an expanding range of deployable solutions spanning visibility, decision support and autonomous execution.

Key start-up innovation gaps

One important gap from a resilience perspective is **market and commodity price intelligence**. Volatility in input costs related to energy, semiconductors and rare earth materials remains a primary trigger of procurement failures, yet investment-backed agentic start-ups addressing this challenge at scale remain scarce. A related gap exists in **supplier visibility, risk assessment and monitoring**, where agentic innovation remains focused on detecting risks rather than automating the mitigation and response that follows.

Implication for enterprise leaders

Despite procurement's high volume of repetitive and rules-based activities making it particularly well-suited to agentic AI, enterprise adoption remains limited.³³ This contrasts with a rapidly expanding agentic AI start-up ecosystem, suggesting a gap between technological potential and enterprise deployment. The emerging start-up landscape is



expanding the range of procurement activities that can be automated, from executing discrete, rules-based tasks to monitoring changing conditions and coordinating actions across workflows. This creates

the potential for agentic AI to support more adaptive procurement functions, including continuous risk monitoring and near-real-time response. Case study 4 illustrates one emerging capability.

TABLE 4 Analysis of AI start-up solution areas strengthening resilience in procurement

Procurement	Overall dataset			Agentic AI dataset		
Solution areas	Number of start-ups	Total funding	Average funding per start-up	Agentic momentum score	Share of funded agentic AI start-ups	Share of new agentic AI start-ups
● Procurement automation and workflow orchestration	43	\$291M	\$8.5M	9.7%	21%	46.3%
● Sourcing automation and management	20	\$127M	\$11.5M	1.6%	3.2%	50%
● Supplier-level visibility, risk assessment and monitoring	8	\$23M	\$2.9M	0.2%	1.6%	12.5%
● Market and commodity price intelligence	5	\$12M	\$3.1M	0%	0%	20%
● Sourcing market places and supplier discovery	10	\$54M	\$5.4M	0%	1.6%	0%

Note: Agentic momentum combines the share of agentic AI start-ups that have received funding, indicating investor backing, with the share of new agentic AI start-ups relative to the domain's total start-up population.

Source: Accenture; Dealroom.

Dalineia: market and commodity price intelligence and scenario planning

Cross-industry  US (Seed)

Type of agentic AI: Agent-to-human

 Challenge	 Solution	 Impact
Most spend analytics tools explain what was paid, not why costs changed or how to respond. Procurement teams remain exposed to tariffs, price swings and supply chain volatility.	Dalineia offers an AI-powered cost intelligence platform that breaks down spending at the stock-keeping unit (SKU) level, revealing the true cost drivers across Tier 2 and Tier 3 suppliers, including materials, labour, energy, tariffs and margins. AI agents continuously monitor commodity pricing, flag supplier margin anomalies, benchmark should-cost estimates and simulate sourcing scenarios in response to market shifts, drawing on over 1.2 million economic data points across 140 countries to power real-time cost forecasting and negotiation support. The result is fully auditable cost models supporting chief financial officer (CFO)-level reporting.	- Pharma client achieved \$1 million in cost savings within two weeks of go-live - Consumer goods company achieved better contract terms within a week of go-live

Source: Dalineia. (n.d.). Home. <https://www.dalineia.com/>.

2.2 Agile product development and engineering

Despite being one of the smallest start-up ecosystems analysed, **product development and engineering** is emerging as an early proving ground for agentic AI, with one-third of start-ups in the domain being newly launched. Activity is concentrated mostly in North America, followed by Europe, which together account for much of the early agentic AI innovation in this domain. Innovation momentum is strongest in **digital product development and co-engineering** as well as **rapid research and development (R&D) and material development**, suggesting that AI is beginning to influence resilience further upstream in the value chain (Table 5).

Together, the analyses suggest that AI start-ups are accelerating the shift from targeted applications towards more integrated product development and engineering workflows, creating new opportunities to address resilience earlier in the product lifecycle.

Key start-up innovation gaps

While most start-up activity is concentrated in accelerating digital product development, co-engineering and material discovery, comparatively few start-ups focus on **design for resilience**

optimization. This area relates to solutions that help organizations systematically evaluate how design decisions affect supplier dependencies, material availability, regulatory exposure and similar supply chain risks, which remain scarce, making this one of the most underused opportunities identified in the analysis. Recent research and expert interviews reinforce the important role AI could play in embedding resilience considerations and manufacturing constraints directly into product design and material choices.^{34,35}

Implication for enterprise leaders

Enterprise adoption remains in its early stages, with agentic AI in product development featuring in just 0.5% of global Forum lighthouse solutions.³⁶ This suggests that, despite growing start-up activity, the opportunity to embed AI into product development and engineering remains largely untapped. At the same time, nearly 40% of senior executives identify R&D as one of the functions with the greatest potential to benefit from AI investment.³⁷

Product development shapes many of the structural decisions that determine long-term

supply chain resilience, from material selection and supplier dependencies to manufacturing feasibility. Integrating AI into these decisions can help identify and reduce supply chain and risk exposure while accelerating redesign when disruptions occur.

Organizations that engage early with AI start-ups in this space can help shape emerging solutions and lead the transition towards resilience by design. Case study 5 illustrates how agentic AI is enabling this shift.

TABLE 5 Analysis of AI start-up solution areas strengthening resilience in product development and engineering

Product development and engineering	Overall dataset			Agentic AI dataset		
Solution areas	Number of start-ups	Total funding	Average funding per start-up	Agentic momentum score	Share of funded agentic AI start-ups	Share of new agentic AI start-ups
● Digital product development and co-engineering	25	\$292M	\$12.7M	3.1%	9.7%	32%
● Rapid R&D and material development	16	\$111M	\$7.9M	2.4%	6.5%	37.5%
● Design for resilience optimization	7	\$60M	\$11.9M	0%	0%	28.6%

Agentic momentum score: ● Low ● Medium ● High

Note: Agentic momentum combines the share of agentic AI start-ups that have received funding, indicating investor backing, with the share of new agentic AI start-ups relative to the domain's total start-up population.
Source: Accenture; Dealroom.

CASE STUDY 5

Makersite: Resilient product design and material risk insights

Manufacturing industry  Germany (Series B)

Type of agentic AI: Human-to-agent Agent-to-agent

Challenge	Solution	Impact
Manufacturers lack visibility into sustainability, cost and compliance risks tied to materials at the design stage, leading to higher environmental impact, regulatory exposure and costly late-stage redesigns.	Makersite offers an AI-based product life cycle intelligence platform that allows manufacturers to evaluate cost, sustainability, compliance and supply chain trade-offs at the material and component level. Using large language models (LLMs), proprietary ML and agentic AI that autonomously fills data gaps across over 150 external databases, the platform generates accurate product digital twins from bill of materials (BOM) data. An interactive AI agent surfaces material-level risk insights in natural language and autonomously executes design and sourcing decisions, building resilience into products from the earliest stage of development.	– 34% of global supply chains mapped – 50 times faster product development – Microsoft reduced Surface Pro 10's carbon footprint by up to 28%

Source: Makersite. (n.d.). Home. <https://makersite.io>.

2.3 Integrated planning and supply chain

“ AI start-ups are accelerating the evolution of integrated planning and supply chain towards autonomous orchestration.

Integrated planning and supply chain stands apart from the other domains by exhibiting broad-based innovation rather than momentum concentrated in a few solution areas. Start-up activity is concentrated in North America, and the domain records one of the highest rates of new agentic AI start-up formation, suggesting that entrepreneurial activity is advancing faster than investor backing. Agentic momentum is currently strongest in **intelligent supply chain planning and decision intelligence**, connecting planning, procurement, logistics and inventory decisions into a unified decision-making layer that enables organizations

to anticipate disruptions more effectively. At the same time, the increasing formation of new agentic AI start-ups in **supply chain management and workflow automation** signals an emerging shift towards automating execution and orchestration across supply chain functions.

Together, the analyses suggest that AI start-ups are accelerating the evolution of integrated planning and supply chain towards autonomous orchestration, offering targeted solutions and connective layers across end-to-end visibility, synchronized decision-making and coordinated execution.

TABLE 6 Analysis of AI start-up solution areas strengthening resilience in integrated planning and supply chain

Integrated planning and supply chain	Overall dataset			Agentic AI dataset		
Solution areas	Number of start-ups	Total funding	Average funding per start-up	Agentic momentum score	Share of funded agentic AI start-ups	Share of new agentic AI start-ups
● Intelligent supply chain planning and decision intelligence ● Supply chain visibility and risk intelligence ● Demand and inventory optimization ● Supply chain management and workflow automation ● Sustainability reporting and analytics	17	\$29M	\$3.6M	2.6%	4.8%	53.3%
	42	\$215M	\$5.8M	0.9%	4.8%	18.8%
	21	\$124M	\$7.2M	0.8%	3.2%	25%
	7	\$25M	\$4.9M	0.7%	1.6%	42.9%
	21	\$97M	\$5.1M	0%	0%	9.5%

Agentic momentum score: ● Low ● Medium ● High

Note: Agentic momentum combines the share of agentic AI start-ups that have received funding, indicating investor backing, with the share of new agentic AI start-ups relative to the domain's total start-up population.

Source: Accenture; Dealroom.

“ AI start-ups expand access to specialized planning, risk sensing and orchestration capabilities.

Key start-up innovation gaps

The greatest innovation gap lies in **supply chain management and workflow automation**. Expert and investor interviews consistently identified end-to-end supply chain orchestration as the agentic AI opportunity with the greatest potential to strengthen supply chain resilience. While start-ups increasingly provide point solutions for risk sensing, scenario modelling and decision support, very few are developing the connective layer needed for AI agents to autonomously coordinate workflows across planning, procurement and logistics. Underpinning this gap is the challenge many organizations face in connecting fragmented enterprise systems and data, limiting the ability of AI agents to synchronize decisions and orchestrate workflows across the supply chain. Although technically complex, a small but growing group of start-ups is beginning to build the connective data infrastructure needed to enable enterprise-wide orchestration – one of the most significant opportunities for future agentic AI innovation.

Implication for enterprise leaders

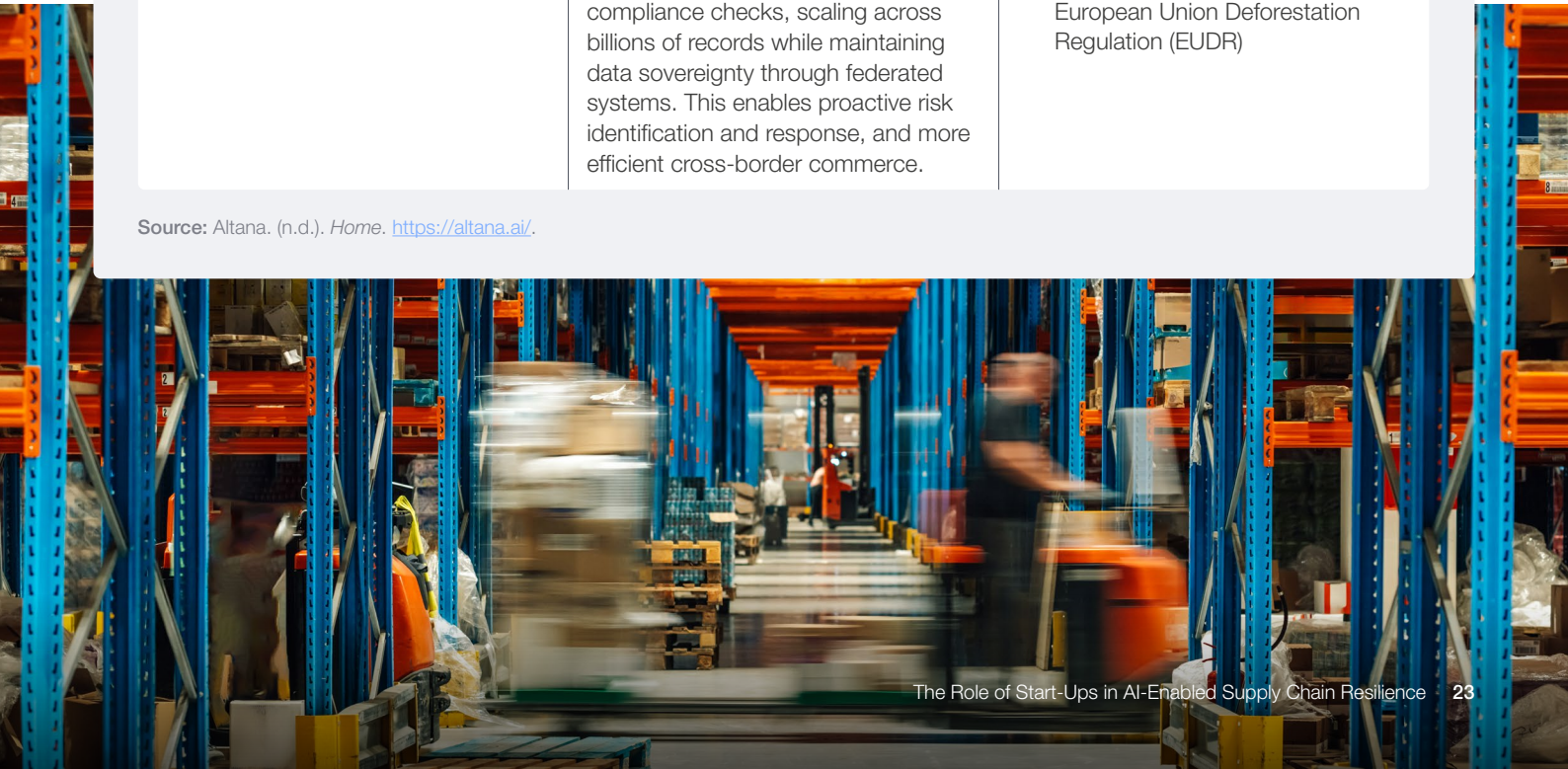
Enterprise adoption is beginning to move beyond experimentation, with Forum lighthouse solutions recording the second-highest level of agentic AI adoption in this domain. Applications span integrated supply chain and production planning, automated replenishment and control towers.³⁸ Yet end-to-end supply chain orchestration remains aspirational, with deployments still largely focused on individual applications rather than coordinated workflows across functions like planning, procurement and logistics.

Integrated planning sits at the centre of supply chain decision-making, creating an important entry point for connecting these capabilities across functions. As AI start-ups expand access to specialized planning, risk sensing and orchestration capabilities, organizations can progressively build towards more synchronized supply chain decision-making and execution. Case studies 6, 7, 8 and 9 illustrate how agentic AI is enabling this transition.

CASE STUDY 6
Altana: Multi-tier supply chain visibility and risk management

Cross-industry  US (Series C)		Type of agentic AI: Human-to-agent Agent-to-human Agent-to-agent		
 Challenge	 Solution	 Impact		
Rising global regulations and geopolitical tensions are increasing compliance burdens and exposing critical gaps in supply chain resilience across industries.	Altana offers an AI-powered network for trusted trade, connecting businesses, logistics providers and governments around a shared, verified source of truth. A hybrid architecture combines ML and autonomous agents to automate supplier risk screening, product classification, tariff calculations and customs compliance checks, scaling across billions of records while maintaining data sovereignty through federated systems. This enables proactive risk identification and response, and more efficient cross-border commerce.	– 85% acceleration in supply chain risk analysis – Eight times faster customs prep via agentic trade workflows – Supports US regulation, tariffs and free trade agreements as well as the EU carbon border adjustment mechanism (CBAM) and the European Union Deforestation Regulation (EUDR)		

Source: Altana. (n.d.). Home. <https://altana.ai/>.



CASE STUDY 7

Auger: Autonomous supply chain orchestration and workflow automation

Cross-industry  US (Series A)		Type of agentic AI: Human-to-agent Agent-to-human Agent-to-agent	
 Challenge	 Solution	 Impact	
Planning systems plan but don't execute, ERPs transact but don't reason and control towers alert but hand decisions back to humans. This "coordination tax" traps billions in working capital and waste.	Auger offers an AI-native supply chain management operating system connecting planning and execution across inventory, logistics, procurement and suppliers. Built on Microsoft Fabric, the platform ingests data from ERPs, spreadsheets, APIs and legacy systems into a unified, real-time operational layer, with no extensive data preparation required. A proprietary "agentic ontology" encodes operational constraints, business rules and trade-offs, enabling AI agents to make coordinated decisions autonomously, rebalancing inventory, rerouting shipments, coordinating suppliers and adjusting production.	– \$150 million series A and B funding – Named premier supply chain autonomy partner on Microsoft Fabric 2026 – Current customers include Meta, Fanatics, Kimberly-Clark and Owens & Minor.	

Source: Auger. (n.d.). Home. <https://auger.com/>.

CASE STUDY 8

ThroughPut: Inventory bottleneck discovery and rebalancing

Cross-industry  US (pre-seed)		Type of agentic AI: Agent-to-human Agent-to-agent	
 Challenge	 Solution	 Impact	
Supply chains fail not only from lack of visibility, but also because bottlenecks go unmanaged. Most organizations cannot identify and prioritize the constraints that dictate end-to-end flow.	ThroughPut offers an AI-enabled supply chain management platform that first identifies the organizational constraint and then reprioritizes all existing efforts to improve flow through that bottleneck. Agents reallocate excess inventory to shortage areas, separate slow- from fast-moving stock across production and logistics, and escalate abnormal demand and supply signals for human review. Leading indicators, such as shifting lead times, true demand and production backlogs, continuously enrich rebalancing recommendations, enabling a daily human-agent collaboration.	– US Air Force: 1–4% more aircraft availability, 37,500 labour hours saved – New York City subway: 22% reduction in stock-out rates – SpaceX supplier: 50% reduction in inventory days	

Source: ThroughPut. (n.d.). Home. <https://throughput.world/>.

Intensel: Extreme weather and physical climate risk intelligence

Cross-industry  India (Seed)		Type of agentic AI: Human-to-agent Agent-to-human
 Challenge	 Solution	 Impact
Extreme weather events create operational risks across assets and supply networks, yet organizations struggle to translate that risk into the granular, asset-level exposure and financial impact needed to guide action.	Intensel is an AI-powered platform for extreme weather and physical climate risk intelligence, assessing hazard exposure at both the asset and portfolio level. By combining climate science, high-resolution geospatial data, physics-based modelling and deep learning, it covers over 20 hazards — with particular strength in hydrology-based rainfall flood, storm surge, wildfire and typhoon risk. The platform translates this exposure into financial, insurance and operational risk metrics, helping organizations evaluate future climate scenarios, identify vulnerable assets, quantify potential losses and prioritize adaptation and mitigation strategies.	– Over 1.69 billion mapped assets, with 75% of global land area covered in high-resolution rainfall flood modelling – Stress-testing of surrounding infrastructure and asset-level adaptation measures

Source: Intensel. (n.d.). Home. <https://www.intensel.net/>.

2.4 Flexible and intelligent manufacturing

Manufacturing is the largest AI start-up ecosystem analysed, attracting the highest level of capital and accounting for the second-largest share of funded agentic AI start-ups (21%). Europe (closely followed by North America and Asia) leads in agentic AI start-up activity, reflecting the most geographically diverse innovation landscape across the six domains. Yet, agentic momentum remains modest, with the analysis indicating that most agentic innovation builds on established AI, IoT and industrial technologies that are increasingly being paired with agentic capabilities, rather than

giving rise to entirely new categories of innovation. Momentum is strongest in **production monitoring**, **risk sensing and optimization**, while **workforce augmentation** is emerging as a fast-growing area of new agentic start-up formation (Table 7).

Together, the analyses suggest that manufacturing is moving towards increasingly autonomous and flexible operations, with AI start-ups expanding access to deployable solutions that continuously sense, optimize and adjust production as conditions change.

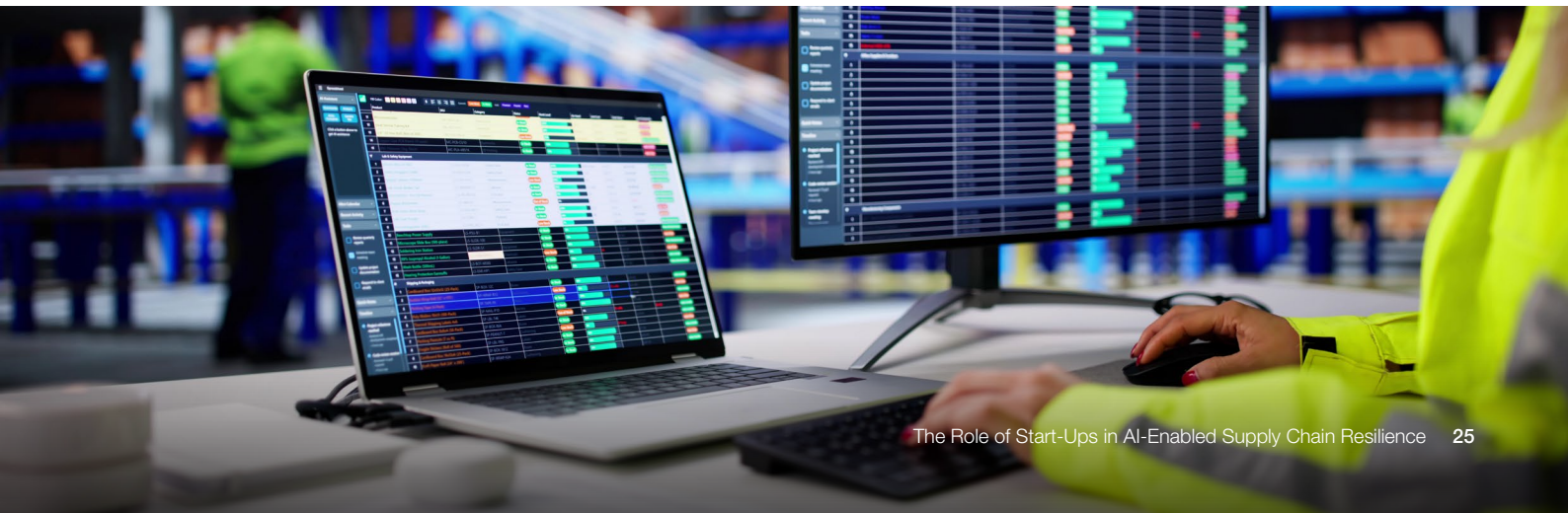
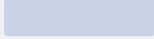
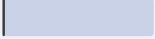
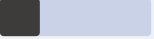


TABLE 7 | Analysis of AI start-up solution areas that strengthen resilience in manufacturing

Manufacturing	Overall dataset			Agentic AI dataset		
Solution areas	Number of start-ups	Total funding	Average funding per start-up	Agentic momentum score	Share of funded agentic AI start-ups	Share of new agentic AI start-ups
Agentic momentum score: ● Low ● Medium ● High						
● Production monitoring, risk sensing and optimization	75	\$366M	\$5.3M	1.7% 	11.3% 	14.7% 
● Food and agricultural production intelligence	26	\$96M	\$3.7M	0.9% 	4.8% 	18.8% 
● Augmented workforce tools	11	\$52M	\$7.4M	0.6% 	1.6% 	36.4% 
● Industrial robotics and enablement	58	\$3.8B	\$67M	0.1% 	3.2% 	3.4% 
● Cybersecurity for industrial and OT systems	12	\$62M	\$6.2M	0% 	0% 	9.1% 
● Flexible, additive and on-demand manufacturing	12	\$61M	\$5.5M	0% 	0% 	8.3% 
● Facility digitalization and planning	16	\$68M	\$4.2M	0% 	0% 	0% 

Note: Agentic momentum combines the share of agentic AI start-ups that have received funding, indicating investor backing, with the share of new agentic AI start-ups relative to the domain's total start-up population.

Source: Accenture; Dealroom.

“ Areas such as autonomous process control for quality management and workforce augmentation, is progressing beyond early experimentation.

Key start-up innovation gaps

As manufacturing systems become increasingly autonomous and interconnected, cybersecurity is emerging as a critical resilience challenge. Despite cyber insecurity being identified as a top global risk³⁹ and 80% of organizations having already encountered risky behaviours from AI agents,⁴⁰ the start-up ecosystem focused on **cybersecurity for industrial and operational technology (OT) systems** remains relatively small. Expert interviews suggest this gap extends beyond manufacturing, with cybersecurity emerging as a cross-cutting challenge across supply chain and operations domains, creating opportunities for solutions that can scale horizontally across functions.⁴¹

Implication for enterprise leaders

Manufacturing records the highest level of enterprise AI adoption across all domains

analysed, with 52% of Forum lighthouse solutions deploying traditional AI and 5% deploying agentic AI. The Forum lighthouse analysis suggests that manufacturing, particularly in areas such as autonomous process control for quality management and workforce augmentation, is progressing beyond early experimentation towards broader enterprise deployment.⁴² As a result, manufacturers have an opportunity to engage with increasingly proven agentic AI applications that strengthen both resilience and operational performance. Case study 10 illustrates how agentic AI is enabling this transition.

However, the breadth of the industrial AI ecosystem may make emerging agentic capabilities more difficult to distinguish from established traditional AI solutions. Organizations may therefore need a more targeted approach for identifying start-ups with differentiated agentic capabilities and applications relevant to their resilience priorities.



CASE STUDY 10

Pelico: AI powered manufacturing orchestration

Discrete manufacturing

France (Series B)

Type of agentic AI:

Human-to-agent

Agent-to-human

Agent-to-agent

Challenge	Solution	Impact
In multi-plant networks, a single delayed part can halt an entire line; disruptions cascade faster than fragmented, manual processes can react.	Pelico offers an AI-powered manufacturing and maintenance, repair and overhauls (MRO) orchestration platform synchronizing production, procurement, maintenance and supply chain operations across factories. AI agents continuously detect disruptions, model upstream and downstream impacts in real time and recommend recovery actions, covering alternate sourcing, stock transfers, resequencing and supplier trade-offs. Agents simulate alternative production and repair scenarios, prioritize corrective actions and coordinate workflows across teams, turning fragmented data into shared operational view.	– 15% throughput improvement with no additional labour or capital – Parts shortages reduced by up to 37% – On-time deliveries up 15% – MRO cycle times cut by up to 40%.

Source: Pelico. (n.d.). Home. <https://www.pelico.ai>.

2.5 Adaptive and fast logistics

Despite attracting significant venture investment, logistics exhibits comparatively modest agentic innovation momentum, with most agentic AI start-up activity concentrated in North America. Rather than being driven by a broad wave of new agentic start-ups, around 39% of new agentic activity is concentrated in **logistics management and workflow automation** (Table 8), where agentic solutions are increasingly orchestrating activities

across freight brokerage, customs compliance, fleet management and exception handling.

Together, these signals suggest that AI start-ups are expanding the range of deployable logistics solutions across visibility, decision support and workflow automation, enabling faster and more adaptive responses to disruption.

TABLE 8 | Analysis of AI start-up solution areas that strengthen resilience in logistics

Logistics	Overall dataset			Agentic AI dataset		
Solution areas	Number of start-ups	Total funding	Average funding per start-up	Agentic momentum score	Share of funded agentic AI start-ups	Share of new agentic AI start-ups
Agentic momentum score: Low Medium High						
● Logistics management and workflow automation	36	\$183M	\$6.5M	5% 	12.9% 	38.9%
● Logistics visibility, risk sensing and route optimization	41	\$285M	\$7.0M	0.1% 	3.2% 	2.4%
● Flexible fulfilment marketplaces	13	\$33M	\$2.5M	0% 	1.6% 	0%
● Warehouse robotics and enablement	25	\$197M	\$7.9M	0% 	0% 	0%
● Autonomous and last-mile delivery	11	\$42M	\$3.8M	0% 	0% 	0%
● Warehouse management, monitoring and planning	10	\$55M	\$5.5M	0% 	0% 	0%

Note: Agentic momentum combines the share of agentic AI start-ups that have received funding, indicating investor backing, with the share of new agentic AI start-ups relative to the domain's total start-up population.

Source: Accenture; Dealroom.

“ AI start-ups are expanding the range of deployable logistics solutions across visibility, decision support and workflow automation.

Key start-up innovation gaps

The greatest innovation gap lies in translating logistics visibility into autonomous action. While start-ups increasingly support **visibility, risk sensing and route optimization**, relatively few solutions seem to automate the response to disruptions through coordinated decision-making across logistics networks. A similar gap exists in warehouse management, where both the analysis and investor interviews point to limited innovation in the coordination and orchestration of multi-vendor robotics systems.⁴³ As warehouses deploy increasing numbers of autonomous systems, the ability to coordinate robots and workflows across platforms is emerging as a key enabler of operational resilience.

Implication for enterprise leaders

Enterprise adoption of agentic AI in logistics remains in its early stages, with Forum's lighthouse analysis identifying that only 1% of solutions primarily apply agentic AI to internal logistics and warehouse operations.⁴⁴ While this low share may reflect the lighthouse community's focus on manufacturing organizations, Gartner research indicates broader adoption across the logistics sector.⁴⁵ For organizations seeking agentic AI solutions in logistics, start-up partnership opportunities are currently concentrated in broader logistics management, with fewer solutions targeting internal logistics and warehouse operations. Identifying capabilities in these less mature areas will therefore require more targeted ecosystem scanning as new start-up solutions emerge. Case study 11 and 12 illustrates how agentic AI is enabling more adaptive and resilient logistics operations.

CASE STUDY 11

Nauta: Autonomous logistics management orchestration

Logistics  US (Seed)

Type of agentic AI: **Agent-to-human** **Agent-to-agent**

 Challenge	 Solution	 Impact
Visibility tools only show what's happening and copilots suggest what to do, but detention fees still stack up, stockouts go undetected, and margins erode faster than teams can respond.	Nauta offers what it calls the operational brain for supply chains, a platform that unifies fragmented data from ERPs, WMS, TMS, portals and carrier feeds into a single source of truth, running an autonomous AI workforce on top. Over 20 supply chain agents predict SKU-level stockout risk, reroute shipments and resolve coordination work end-to-end, drafting purchase orders, chasing suppliers, matching documents and clearing exceptions autonomously. ML models score supplier reliability and forecast penalties before they occur, sharpening accuracy with every shipment. Operators make the judgement calls while agents execute.	– 80% reduction in detention and demurrage costs – 75% of coordination tasks automated, and exceptions resolved 60% faster – Trusted by over 50 multinationals with over \$50 billion in combined sales

Source: Nauta. (n.d.). Home. <https://www.getnauta.com/>.

CASE STUDY 12

Claryo: Warehouse management, monitoring and planning

Logistics  US (Series A)

Type of agentic AI: **Human-to-agent** **Agent-to-human** **Agent-to-agent**

 Challenge	 Solution	 Impact
Warehouse operators lack real-time visibility into inventory movement, space use and operational bottlenecks, and fragmented monitoring systems constrain efficiency and responsiveness.	Claryo offers an AI-driven warehouse intelligence platform that creates spatially accurate digital twins from phone or drone scans. Agents operate continuously on the twin, monitoring material flow, inventory, cycle times, safety and automation performance via CCTV and WMS integration. Agents also capture and codify institutional knowledge from experienced supervisors, while a built-in simulation engine supports layout planning and robotics deployment decisions before any physical implementation.	– Structured shift snapshots improve handoffs and accelerate manager response – Continuous exception detection delivers \$2.56 per square foot in annualized profit and loss (P&L) – Recognized as a Forum 2025 Tech Pioneer

Source: Claryo. (n.d.). Home. <https://www.claryo.co/>.

2.6 Smart service and next life

“ While enterprise adoption remains most limited in this domain, 95% of executives expect circularity to become important within the next three years.

Service and next life appear to be the least mature domains from the perspective of agentic AI. Innovation remains concentrated in more mature and established AI technologies such as computer vision and machine learning (ML), while the limited agentic AI activity, concentrated primarily in Europe, is focused on **circular marketplaces and reuse platforms** (Table 9). However, low agentic AI momentum should not be interpreted as a lack of strategic opportunity.

Sitting at the intersection of circular economy regulation, critical material dependencies and end-of-life product flows, **the domain is growing**

in strategic importance as reducing reliance on critical raw materials becomes increasingly important to supply chain resilience. Although investment remains low, entrepreneurial activity across the broader AI start-up ecosystem is strong when looking beyond agentic AI, with this domain recording the highest rate of new AI start-up formation (51.5%) across the domains analysed.

Together, these findings suggest that strong AI entrepreneurial activity could provide a foundation for agentic AI start-ups to emerge and support the shift towards increasingly autonomous circular operations as the domain matures.

TABLE 9 Analysis of AI start-up solution areas that strengthen resilience in service and next life

Smart service and next life	Overall dataset			Agentic AI dataset		
Solution areas	Number of start-ups	Total funding	Average funding per start-up	Agentic momentum score	Share of funded agentic AI start-ups	Share of new agentic AI start-ups
Circular marketplaces and reuse	16	\$41M	\$2.6M	0.1%	0.8%	6.2%
Recycling and waste management	13	\$29M	\$2.2M	0%	0%	0%
Circular and reverse logistics	4	\$20M	\$4.9M	0%	0%	0%

Agentic momentum score:

Low

Medium

High

Note: Agentic momentum combines the share of agentic AI start-ups that have received funding, indicating investor backing, with the share of new agentic AI start-ups relative to the domain's total start-up population.

Source: Accenture; Dealroom.

Key start-up innovation gaps

The innovation gap extends across the domain.⁴⁶ While AI start-ups in this space receive the lowest average funding (\$2.8 million) despite the domain's strategic resilience value, the largest gap and opportunity lie in **circular and reverse logistics**. Here, agentic AI can automate high-frequency decisions on whether returned products should be repaired, refurbished, resold, recycled or disposed of. As extended producer responsibility regulations increase incentives for product recovery and reuse, digital product passports and other circularity regulations are expected to provide the trusted product and material data needed to accelerate AI-enabled circular value chains.

Implication for enterprise leaders

Enterprise adoption mirrors the immaturity of the start-up ecosystem. Forum lighthouse analysis identifies no agentic AI deployments and only 1% of solutions that apply traditional AI within this domain.⁴⁷ While enterprise adoption remains most limited in this domain, 95% of executives expect circularity to become important within the next three years, and 70% anticipate higher margins from circular business models than from traditional linear models.⁴⁸

This gap between current AI adoption and expected strategic importance creates an opportunity for organizations to act early. Rather than waiting for the agentic AI ecosystem to mature, organizations can begin strengthening the data and digital foundations required for circular operations, while

selectively engaging with emerging start-ups in areas aligned with their resilience priorities. Early partnerships can provide organizations with greater influence over how emerging solutions develop

while building capabilities ahead of broader adoption. Case studies 13 and 14 illustrate how agentic AI is beginning to enable the transition towards circular supply chains.

CASE STUDY 13

Reclaim: Circular reverse logistics

Fashion

 Spain (pre-seed)

Type of agentic AI:

Human-to-agent

Agent-to-human

Agent-to-agent

 Challenge	 Solution	 Impact
Most post-purchase product value sits outside brand ecosystems. Existing take-back and resale tools rely on fragmented networks and manual workflows, making circularity difficult to scale.	Reclaim offers an agentic circular operating system and reverse logistics platform for fashion brands. Layered agents handle intake, grading, pricing and channel routing, each coordinating specialist sub-agents to determine the highest-value pathway per item. Integrated into brand ERP and product lifecycle management (PLM) systems, agents automate resale, repair, recycling and donation workflows end-to-end. Recommendations carry explicit confidence levels, operators retain override authority, and every decision is logged in a full audit trail.	– Projected on year 3 (Catalonia) – 2.16 million kg textile waste diverted – 1.4–1.9 million garments resold annually – Selected for AI for Good pitch (2026)

Source: Reclaim. (n.d.). Home. <https://www.reclaim.world/>.

CASE STUDY 14

Excess Materials Exchange: Surplus inventory redeployment and monetization

Cross-industry

 Netherlands (Series A)

Type of agentic AI:

Human-to-agent

Agent-to-human

Agent-to-agent

 Challenge	 Solution	 Impact
Industrial companies and manufacturers lack visibility into surplus assets that could substitute new procurement, leading to unnecessary spending, higher supply chain risk, avoidable emissions and wasted resources.	Excess Materials Exchange offers a material recovery intelligence platform that enables organizations to identify, evaluate and redeploy underused assets. Agentic AI operates over digital product passport and portfolio data, enabling natural language interaction across inventories. Agents autonomously classify and grade assets, assess reuse potential, perform compliance checks and execute end-to-end workflows, from matchmaking and logistics to transaction completion, making previously uneconomic recovery opportunities commercially viable at scale.	– Up to 60% cut in environmental impact – Up to 110% increase in the financial value of recovered materials (compared to conventional disposal or lower-value recovery)

Source: Excess Materials Exchange. (n.d.). Home. <https://www.excess.company/>.

3

A practical framework: buy, partner or build AI solutions to strengthen resilience

Building everything internally is becoming the exception, not the rule.



“As enterprise leaders turn to AI to strengthen resilience, they need a disciplined way to decide when to buy, partner, build or combine approaches.”

As enterprise leaders turn to AI to strengthen resilience, they need a disciplined way to decide when to buy, partner, build or combine approaches. This framework helps them answer three questions:

1. What type of solution is needed to improve supply chain resilience (step 1)?
2. Which strategic, operational and responsible AI criteria (with their associated trade-offs) should shape the sourcing decision (step 2)?
3. When can start-ups meaningfully accelerate progress, and what does the organization need to have in place to make the partnership succeed (step 3)?

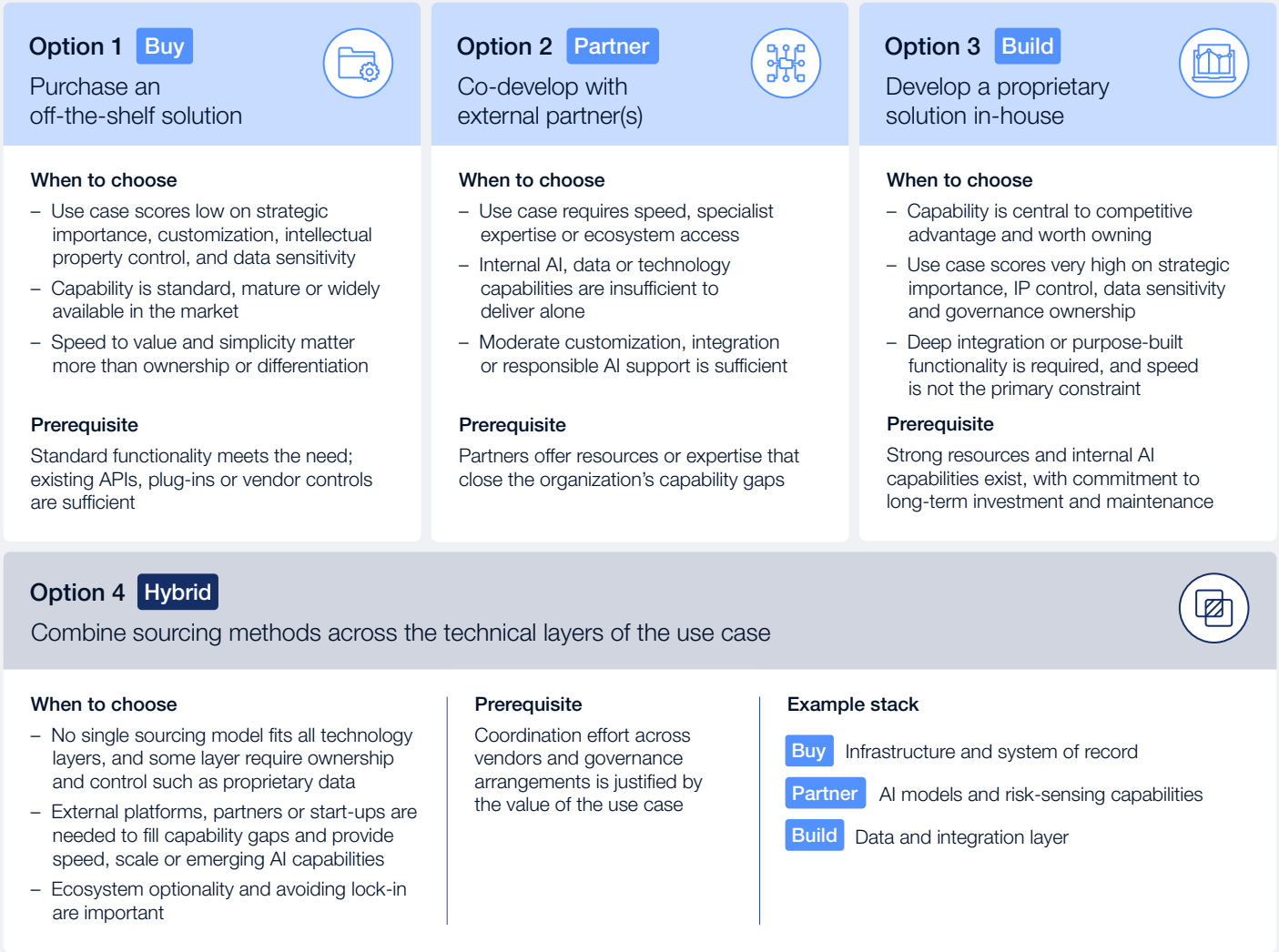
Summary of four key sourcing models

Figure 5 summarizes common patterns observed in leadership decisions across buy, partner, build and hybrid approaches. These are not prescriptive rules, but indicative triggers that often point towards a preferred sourcing model.

How to use this framework

- **Convene cross-functional owners.** Strategy, operations, technology, data, procurement, risk, legal considerations and sustainability – not IT alone – should shape both the use case definition and the sourcing decision.
- **Apply at the use-case level.** Sourcing decisions rarely generalize across an AI portfolio. Each use case carries its own strategic importance and operational constraints and should be assessed on its own terms, while ensuring decisions support a coherent AI portfolio rather than a fragmented set of point solutions.
- **Revisit decisions regularly.** Technology breakthroughs, vendor consolidation and rapidly maturing start-up ecosystems can all change the optimal path. Reassess on a regular basis, or whenever a material shift occurs.

FIGURE 5 Four sourcing models



Source: Accenture.

Step 1 Define the resilience opportunity

Objective: Help leaders get a clear understanding of the resilience challenge and the current supply chain resilience maturity to identify the right AI solution to strengthen supply chain resilience.

Start with the business problem, not the technology

Supply chain leaders anchor investment in a well-defined problem. Three diagnostic questions help leaders assess whether the problem is understood with sufficient clarity to proceed:

1. What disruption, risk or vulnerability is the organization most exposed to, and where in the supply chain does it materialize?

2. What decisions or processes break down under stress?
3. What is the cost of inaction, financially and non-financially?

Locate yourself on the maturity journey

Resilience is built progressively, from sensing risks and gaining decision support to automating execution and responses when disruption occurs. Where leadership cannot clearly answer the three questions above, the organization is likely at an early stage of the supply chain resilience maturity journey, where the priority is to establish a data foundation that provides visibility into resilience vulnerabilities. Understanding where the organization sits on this journey helps define which use cases are feasible and which capabilities should come first.

FIGURE 6 Supply chain resilience maturity journey

Supply chain resilience maturity	Intelligent sensing Building the data foundation for supply chain visibility		Accelerated decision-making Predictions, analysis and recommendations	Autonomous execution Automated response and orchestration
	Strategic visibility	Operational visibility		
Basic Legacy systems, limited data visibility, high manual intervention	Core focus Build the static snapshot of the supply chain to understand the network dependencies and hidden risks	Premature Static snapshot must come first to understand foundational vulnerabilities and risks	Premature Predictions on incomplete data produce misleading outputs and erode trust in the model	Out of reach No data foundation to act on and no monitoring to validate or contain autonomous action
Digital Digital tools enabling partial automation of routine tasks	Foundation set Foundation mostly in place. Close gaps in master data and extend visibility where blind spots remain	Achievable Deploy in selected domains where digital infrastructure is strongest; broader coverage needs more investment	Core focus The frontier for digital companies is extending the visibility to rapid analytics and insights	Premature Premature for broad deployment. Bounded pilots only, with tight guardrails and human oversight
Advanced Scaled digitization, integrated high-quality data, strong ecosystem collaboration	Foundation set Maintain master data quality; prioritize operational visibility investments rather than over-investing in static visibility	Core focus Implement selectively to gain operational visibility in core domains	Core focus Scenario modelling and insights to support decision-making at scale	Achievable Achievable in bounded, well-governed domains: build autonomy selectively where ROI and control are clear
Leading Generative and agentic AI driving autonomous decision-making across domains	Foundation set Ongoing maintenance, not new investment	Foundation set Capability is maturing, enabling real-time monitoring across the network	Core focus Expand the analytical capabilities into new domains or at scale in the organization	Core focus Extend agentic AI to new domains while maintaining governance and human oversight

● Core focus
 ● Achievable
 ● Premature
 ● Foundation set
 ● Out of reach

Note: Core focus: Highest-return investment priority given current maturity and data foundations. Achievable: Deployable in selected domains with targeted effort; broader rollout requires further development. Premature: Insufficient foundations make deployment difficult and likely to produce poor outcomes. Foundation set: Capability is established; maintain rather than invest further. Out of reach: Required data, technology and governance foundations are not yet in place.

Source: Accenture.

Waiting for “perfect” data is rarely a viable strategy. Instead, leaders should build a minimum viable data foundation and strengthen it as maturity advances. AI can accelerate this process by transforming paper records into structured data and organizing unstructured supplier information, capabilities increasingly embedded into start-up solutions as part of deployment.

Define the use case

A well-defined use case clearly links the problem to a measurable objective that is strategic, operational or both, narrowing the solution space to what matters. Once a clear problem is defined, organizations should step back and assess whether AI is in fact required, or whether the need can be met with simpler, more established solutions. In many cases, applying AI where it is not necessary adds cost, complexity and avoidable resource use without improving outcomes.

Step 2 Evaluate and select the sourcing model

Objective: Guide leaders in assessing AI use cases against key sourcing criteria to determine the sourcing model that best balances strategic, operational and responsible AI trade-offs.

The framework below brings together 12 criteria across three dimensions: strategic context, operational readiness and responsible AI. Their relative importance will vary depending on the use case and organizational context, making the sourcing decision a matter of leadership judgement rather than a formula. The value of the framework lies in supporting a balanced assessment across all three dimensions, reducing the risk that a single consideration, such as speed to market, drives decisions that create longer-term constraints, including vendor lock-in.

Strategic context

- ✓ **Strategic importance:** Is this use case a source of competitive advantage or a capability required simply to compete?
- ✓ **Speed-to-market urgency:** How quickly must this use case be deployed to achieve business value?
- ✓ **Intellectual property (IP) control and proprietary rights:** How important is ownership and control of the solution, data, models and IP?
- ✓ **Cost considerations:** What level of upfront investment and ongoing operating cost is the organization prepared to support?

- ✓ **Ecosystem optionality and lock-in risk:** How important is it to preserve flexibility and maintain access to future technology options?

Operational readiness

- ✓ **Data sensitivity and availability:** How sensitive is the data required for this use case, and to what extent is it readily available?
- ✓ **Internal technical expertise availability:** Does the organization have sufficient AI, data and engineering capabilities to deliver and maintain the solution?
- ✓ **Integration and compatibility requirements:** How deeply must the solution integrate with existing systems, processes and technology platforms?
- ✓ **Customization requirements:** To what extent does the solution need to be tailored to unique organizational requirements?

Responsible AI implications

- ✓ **Risk management and compliance requirements:** What regulatory, legal, cybersecurity and operational risks must be managed?
- ✓ **Governance model and human oversight requirements:** What level of accountability, monitoring and human involvement is required?
- ✓ **Sustainability of AI:** How material is the environmental footprint of the AI solution, and how will it be measured and managed?

“ The value of the framework lies in supporting a balanced assessment across all three dimensions, reducing the risk that a single consideration, such as speed to market, drives decisions.

BOX 1 Responsible AI must be evaluated from the outset

High-risk use cases warrant heightened controls and clear liability allocation, human-in-the-lead principles should be defined before deployment, and compliance obligations with regulations like the EU AI Act exist regardless of sourcing model. Additionally, the environmental footprint of AI remains particularly under-addressed, and

organizations should understand the true cost of their AI investments across energy, carbon and water. Standardized frameworks like Sustainable AI Quotient⁴⁹ help organizations measure exactly that. **A disciplined evaluation of the above criteria helps surface these trade-offs early, before they become difficult and costly to reverse.**

TABLE 10 AI sourcing decision framework

Dimensions	Criteria	Buy	Partner	Build	Hybrid
Strategic context					
Strategic alignment 	Strategic importance	Low Capability needed to compete but not to differentiate (commodity capability)	Moderate-high Strategically relevant, but advantage can be partner-enabled	Very high Core source of long-term competitive advantage	Moderate-high Critical layers built or partnered on
	Speed-to-market urgency	High Rapid deployment needed	Moderate Partners with complementary capabilities accelerate delivery	Low Building is highly resource- and time-intensive	Moderate-high Partners accelerate time to value
	IP control and proprietary rights	Low Full IP ownership is not important	Moderate Partial IP control is acceptable and sufficient	High Complete IP ownership and control is very important	Moderate-high Full ownership where it matters most
	Cost considerations	Low-to-medium Low-to-medium investment	Moderate investment Costs are shared or negotiated	High High upfront and ongoing investment	Varies Varies by specific use case, tech layer and partnerships
	Ecosystem optionality and lock-in risk	Low Accepts higher lock-in risk	Moderate Gives access to another provider and tech capabilities, but some lock-in risk exists	Moderate Reduced vendor dependence, but creates internal lock-in risk	High Avoids lock-in and enables strategic exposure to emerging capabilities
Operational readiness					
Data 	Data sensitivity and availability	Low Data is not highly sensitive or not primarily internal	Moderate-high Some sensitive or internal data, with controlled partner access	High Highly sensitive data that must remain internal	Moderate-high Sensitive data is internal, less sensitive data is shared
Talent 	Internal technical expertise availability	Low Internal AI talent is limited, or the leadership chooses not to allocate	Moderate Partner fills expertise or capacity gaps	High Strong AI talent can deliver and sustain the solution over time	Moderate-high Partners fill certain gaps
Technology 	Integration and compatibility requirements	Low-moderate Standard APIs or plug-ins are sufficient	Moderate A one-shot integration setup is sufficient (e.g. creating APIs)	High Deep integration with existing systems is not possible with current solutions	Moderate-high Integration needed across systems and partners
	Customization requirement	Low Standard functionality is sufficient	Moderate-high Configuration or co-development needed	High Solution must be purpose-built	Varies Purpose-built where critical, standard elsewhere

TABLE 10 | Continued

Dimensions	Criteria	Buy	Partner	Build	Hybrid
Responsible AI implications					
Responsible AI 	Risk management and compliance	Lower control Lower control over data privacy and security; reliant on vendor's risk management mechanisms	Shared control Shared control; need to collaborate with partner	Full control Full control and ownership of the mitigation processes and controls that reduce AI related risks	Shared control need to collaborate with partners
	Governance model and human oversight	No direct control Vendor sets autonomy thresholds and escalation paths; requires vendor oversight (e.g. AI policy, transparency documentation)	Shared control Shared accountability structures; require alignment of roles for monitoring, updates, maintenance, etc.	Full control Full control over governance design; internal accountability for maintenance, upgrades, and product roadmap management	Distributed Distributed, explicit governance across individual partners
	Sustainability of AI	No direct control Inherits vendor's design and footprint	Partial control Opportunity to negotiate efficiency in partnership terms	Full control Requires technical expertise	Partial control Inherit where bought, controlled where built

Source: Accenture.

Hybrid sourcing as a strategic advantage

Many high-impact use cases for AI-enabled supply chain resilience benefit from a hybrid sourcing model, where different layers of the technology stack are sourced differently.

In a hybrid approach, organizations retain ownership of the elements that create competitive advantage or involve sensitive operational data, while using external solutions where speed and scale matter most. Infrastructure, core platforms and commodity AI components can be purchased off the shelf; proprietary data, integration layers and decision logic remain in-house; and advanced

AI capabilities can be accelerated through partnerships with start-ups or specialist providers. For example, an organization may procure a supply chain platform, partner with an AI start-up to develop risk-sensing or decision support copilots and keep the underlying data and know-how internal.

By combining established platforms with specialized start-ups, organizations can strengthen resilience without overengineering internal capabilities. However, realizing these benefits requires clear governance, as ownership boundaries and AI supply chain dependencies can become increasingly complex across the technology stack.



Step 3 Engage start-ups as strategic partners and build the conditions for high-impact collaboration

Objective: Help leaders build the conditions for successful start-up collaboration by identifying the organizational capabilities and start-up partners needed to scale impact.

Organizational readiness for successful start-up collaboration

Start-ups offer a way to access emerging AI capabilities, specialized expertise and innovation speed that would be difficult or costly to develop internally. However, realizing this value depends as much on the organization's ability to collaborate effectively as on the quality of the start-up itself. Research consistently shows that most corporate-start-up partnerships fail not because of the technology, but because the corporate or the start-up is not set up to collaborate effectively. Among this research,^{50,51,52} five key conditions have been identified as prerequisites for organizational readiness.

- ✓ **Speed to decision:** Can the organization commit to a pilot within 4–8 weeks? Extended corporate timelines are among the most common reasons start-up partnerships fail to progress.
- ✓ **Dedicated ownership:** Is there a named internal owner with sufficient seniority and cross-functional access who can champion the collaboration and remove internal blocks? Without an executive sponsor, start-up pilots often stall inside the corporate hierarchy.
- ✓ **Adapted procurement processes:** Can the organization offer start-up-specific contracting through streamlined non-disclosure agreements (NDAs), flexible procurement requirements and balanced IP arrangements? Targeted adjustments to standard processes can accelerate engagement.

- ✓ **Tolerance for risk:** Is leadership prepared to accept that early-stage start-up pilots carry a different risk profile than deployments with established vendors? Applying standard vendor expectations to early-stage start-ups sets an unrealistic bar for innovation.
- ✓ **Clear value for both sides:** Can the organization articulate what the start-up gains beyond the contract, like access to data, real operational context or a reference customer? One-sided partnerships rarely sustain start-up engagement over time.

Start-ups are at different stages in their scaling journey, influencing both enterprise readiness and the level of collaboration required to drive joint success. Leading corporates adapt governance, procurement and contracting processes accordingly to match the pace of the specific start-up. Where readiness gaps exist, ecosystem intermediaries, such as venture client programmes or specialist accelerators, can help de-risk and accelerate collaboration.⁵³

Start-up identification and initial market scan

Once readiness has been established, the next step is identifying the start-ups best positioned for the use case. Rather than a traditional request for proposal (RFP) process, the objective is to identify and screen candidates across the six dimensions in Table 11 using publicly available information as the starting point. The earliest-stage start-ups often have less documentation and fewer customer references, requiring greater reliance on founder interactions and direct validation. Organizations without a dedicated venture or innovation function may benefit from ecosystem intermediaries to support identification and pre-qualification.

“ Start-ups are at different stages in their scaling journey, influencing both enterprise readiness and the level of collaboration required to drive joint success.



TABLE 11 | **Assessment framework for initial market scan of technology partners**

Dimensions	What to evaluate	How to scan and what to look for
AI market positioning and credibility	Vendor's positioning and track record in the AI space	Review customer references, case studies, awards, investor quality and market recognition relative to funding stage.
Cost-performance ratio	Whether the offering balances cost with quality and performance	Review product descriptions and pricing, as well as the total cost of ownership. If not publicly available, request details on pilot and at-scale pricing.
Technical fit	Whether the vendor's technical capabilities match the use case requirements	Review technical product information like AI/ML stack, APIs and certifications. If limited public information, request a pitch deck or architecture walkthrough, and clarify ease of integration and whether the solution is a foundation-model wrapper or not.
Geographic reach and support coverage	Whether the geography and support services fit the organization's needs	Check headquarters location, delivery time zone and support model. In the absence of formal structures, treat founding team responsiveness during the sales process as a proxy.
Responsible AI signals	Vendor's approach to AI governance, risk management and sustainability	Review responsible AI policies, security, privacy and compliance documentation, and certifications such as the International Organization for Standardization International Electrotechnical Commission (ISO/IEC) 42001. For the most early-stage start-ups, founder awareness and contractual commitments can serve as proxy indicators.
Strategic innovation and learning value	Whether the collaboration generates genuine knowledge transfer and co-investment, and builds internal AI capability over time	Look for evidence of knowledge transfer rather than black-box delivery, such as joint publications or enterprise references. For early-stage start-ups, pre-contract engagement (e.g. sharing of expertise before signing) can indicate a genuine learning partner.
Once the initial scan is complete, shortlist three to five candidates for deeper due diligence. This typically involves vendors responding to organization-specific commercial, technical and procurement criteria. Together, the two stages provide a rigorous basis for final vendor selection.		

Conclusion

Supply chain resilience is entering a new phase. Advances in AI are changing how organizations anticipate disruption, make decisions and adapt operations, while a growing ecosystem of start-ups is broadening access to capabilities that were previously out of reach for most enterprises. The question is no longer whether these capabilities exist, but how can organizations deploy them effectively and at scale.

The findings of this report point to three imperatives for leaders:

- Treat supply chain resilience as a strategic asset, using AI to achieve greater resilience and efficiency simultaneously.
- Leverage the start-up ecosystem to access frontier AI-enabled resilience capabilities, continuously monitoring the ecosystem for emerging solutions and engaging where they align with strategic priorities.

- Apply a disciplined approach to AI sourcing that balances strategic, operational and responsible AI considerations, ensuring that internal building is driven by strategic need rather than being the default approach to AI adoption.

These imperatives only deliver value in combination. Strategy, sourcing and governance decisions made in isolation create fragmented capabilities that struggle to scale. Organizations must make deliberate choices about which capabilities to prioritize, how to engage with the innovation ecosystem and how to embed AI into existing workflows and decision-making processes so that it operates as a coordinated enterprise capability.

The next generation of resilient supply chains will be defined not by their ability to react to disruption, but by their ability to anticipate, adapt and continuously learn. The organizations that emerge as leaders will be those that act before certainty arrives, investing early in the capabilities and partnerships needed to turn AI innovation into lasting resilience and long-term value.

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Altana

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CIRQUEL

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Circularise

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Logitech	
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Endnotes

1. World Economic Forum. (2026). *Global Value Chains Outlook 2026: Orchestrating Corporate and National Agility*. https://reports.weforum.org/docs/WEF_Global_Value_Chains_Outlook_2026.pdf.
2. World Economic Forum. (2026). *Global Value Chains Outlook 2026: Orchestrating Corporate and National Agility*. https://reports.weforum.org/docs/WEF_Global_Value_Chains_Outlook_2026.pdf.
3. Gartner. (2025). *Gartner survey shows only 29% of supply chain organizations have built necessary capabilities to deliver on future performance*. <https://www.gartner.com/en/newsroom/press-releases/2025-02-18-gartner-survey-shows-only-29-percent-of-supply-chain-organizations-have-built-necessary-capabilities-to-deliver-on-future-performance>.
4. Accenture. (2023). *Resiliency in the making*. <https://www.accenture.com/content/dam/accenture/final/accenture-com/document-2/Accenture-Resiliency-in-the-Making-Report.pdf>.
5. Accenture. (2023). *Resiliency in the making*. <https://www.accenture.com/content/dam/accenture/final/accenture-com/document-2/Accenture-Resiliency-in-the-Making-Report.pdf>.
6. Accenture. (2024). *Pulse of change: 2024 index*. <https://d110erj175o600.cloudfront.net/wp-content/uploads/2024/01/15113529/Accenture-Pulse-of-Change-2024-Index-Executive-Summary.pdf>.
7. Gartner. (n.d.). *Future of supply chains 2026: Ensure your supply chains are future-fit*. <https://www.gartner.com/en/supply-chain/topics/future-of-supply-chain>.
8. EcoVadis & Accenture. (2026). *Sustainable procurement barometer 2026*. <https://pages.ecovadis.com/hubfs/2026%20Sustainable%20Procurement%20Barometer/Sustainable%20Procurement%20Barometer%202026.pdf>.
9. World Economic Forum. (2026). *Global Lighthouse Network 2026*. https://reports.weforum.org/docs/WEF_Global_Lighthouse_Network_2026.pdf.
10. Ibid.
11. Gartner. (2025). *What Are Multiagent Systems?*. <https://www.gartner.com/en/articles/multiagent-systems>.
12. World Economic Forum. (2025). *Physical AI: Powering the New Age of Industrial Operations*. https://reports.weforum.org/docs/WEF_Physical_AI_Powering_the_New_Age_of_Industrial_Operations_2025.pdf.
13. Gartner. (2025, 25 June). *Gartner predicts over 40% of agentic AI projects will be canceled by end of 2027* [Press release]. <https://www.gartner.com/en/newsroom/press-releases/2025-06-25-gartner-predicts-over-40-percent-of-agentic-ai-projects-will-be-canceled-by-end-of-2027>.
14. Ibid.
15. Accenture. (2025). *Autonomous Supply Chain Design Report*. <https://www.accenture.com/content/dam/accenture/final/accenture-com/document-3/Accenture-TL-Autonomous-SC-Design-Report.pdf>.
16. Ibid.
17. Accenture (2024). *Next stop, next-gen: Tap into new value with advanced supply chain capabilities*. <https://www.accenture.com/content/dam/accenture/final/accenture-com/document/NextStopNextGen-2.pdf>.
18. World Economic Forum. (2026). *Intelligent Industrial Operations Outlook 2026*. <https://www.weforum.org/publications/intelligent-industrial-operations-outlook-2026/>.
19. Accenture. (2023). *Resiliency in the making*. <https://www.accenture.com/content/dam/accenture/final/accenture-com/document-2/Accenture-Resiliency-in-the-Making-Report.pdf>.
20. Accenture. (2024). *Next stop, next-gen: Tap into new value with advanced supply chain capabilities*. <https://www.accenture.com/content/dam/accenture/final/accenture-com/document/NextStopNextGen-2.pdf>.
21. Supply Chain Management Review. (2025). *Where 2025's AI predictions hit, missed, and what supply chain leaders must recalibrate in 2026*. <https://www.scmr.com/article/where-2025s-ai-predictions-hit-missed-and-what-supply-chain-leaders-must-recalibrate-in-2026>.
22. Gartner. (2025). *Lack of AI-ready data puts AI projects at risk*. <https://www.gartner.com/en/newsroom/press-releases/2025-02-26-lack-of-ai-ready-data-puts-ai-projects-at-risk>.
23. International Data Corporation. (2025). *Closing the Gap: Verifying AI Skills in the Enterprise*. <https://20797751.fs1.hubspotusercontent-na1.net/hubfs/20797751/Analyst%20Reports/IDC%20paper%20-%20Analyst%20brief%20.pdf?hsCtaAttrib=187564836699>.
24. Gartner. (2025). *Hype cycle for agentic AI*. <https://www.gartner.com/en/articles/hype-cycle-for-agentic-ai>;
World Economic Forum. (2025). *The future of jobs report 2025*. https://reports.weforum.org/docs/WEF_Future_of_Jobs_Report_2025.pdf.
25. Gartner. (2026, 29 April). *Gartner survey finds technology integration and talent perceived as key roadblocks to scaling AI in supply chain* [Press release]. <https://www.gartner.com/en/newsroom/press-releases/2026-04-29-gartner-survey-finds-technology-integration-and-talent-perceived-as-key-roadblocks-to-scaling-ai-in-supply-chain>.
26. Plug and Play (2026). *Plug and Play Supply Chain Platform vertical analysis: 2,000 start-ups across supply chain, robotics, manufacturing, industrial automation and physical AI*. [Unpublished proprietary dataset and programme insights shared with the World Economic Forum and Accenture].

27. Stanford Human-Centered Artificial Intelligence (HAI). (2025). *The 2025 AI Index Report*. Stanford University. <https://hai.stanford.edu/ai-index/2025-ai-index-report>.
28. Organisation for Economic Co-operation and Development (OECD). (2025). *Venture Capital Investments in Artificial Intelligence Through 2025*. https://www.oecd.org/en/publications/venture-capital-investments-in-artificial-intelligence-through-2025_a13752f5-en/full-report.html.
29. Accenture & Dealroom. (2026). *Global AI start-up ecosystem mapping across supply chain resilience domains*. [Unpublished proprietary dataset]. The analysis covers 612 AI start-ups including seed to series B companies and selected pre-seed start-ups meeting predefined funding or recency thresholds. Start-ups that included AI, from traditional to physical AI, formed a core component of the product or technology stack, supporting resilience through sensing, decision support or workflow execution across any of the listed domains. Data should not be interpreted as exhaustive market coverage. The Agentic Innovation Momentum Score is a composite indicator combining each domain's share of the funded agentic AI start-up ecosystem with the share of new agentic AI start-ups founded between 2023 and 2026 relative to the domain's total start-up population. The score provides a directional measure of where established investment and accelerating start-up formation coincide.
30. International Business Machines (IBM). (2026). *IBM Impact Accelerator supply chain cohort applications analysis: AI start-up solutions for supply chain modernization*. [Unpublished proprietary dataset and programme insights shared with the World Economic Forum and Accenture].
31. World Economic Forum. (2026). *Intelligent industrial operations outlook 2026*. World Economic Forum. https://reports.weforum.org/docs/WEF_Intelligent_Industrial_Operations_Outlook_2026.pdf.
32. Accenture & Dealroom. (2026). *Global AI start-up ecosystem mapping across supply chain resilience domains*. [Unpublished proprietary dataset]; International Business Machines (IBM). (2026). *IBM Impact Accelerator supply chain cohort applications analysis: AI start-up solutions for supply chain modernization*. [Unpublished proprietary dataset and programme insights shared with the World Economic Forum and Accenture].
33. Accenture. (2026). *AI adoption analysis of WEF Global Lighthouse Network solutions*. [Unpublished internal analysis]. Analysis of 1,288 AI solutions deployed across the Global Lighthouse Network as of June 2026, conducted in collaboration with the World Economic Forum. Solutions were classified as traditional AI or agentic AI and mapped across six supply chain and operations domains.
34. Accenture & Uplink. (2026). *Industry interviews on AI-enabled supply chain resilience*. [Unpublished primary research]. Findings draw on more than 50 semi-structured interviews conducted between January and June 2026 with industry leaders, start-ups, venture capital investors and academia. Interviews were conducted on a not-for-attribution basis and are presented as aggregated findings.
35. Farrell, R. (2025). *AI-powered generative design: A new era of product innovation*. Machine Design. <https://www.machinedesign.com/cad-cam-software/article/55328545/ptc-ai-powered-generative-design-a-new-era-of-product-innovation>.
36. Accenture. (2026). *AI adoption analysis of WEF Global Lighthouse Network solutions*. [Unpublished internal analysis]; Accenture & Uplink. (2026). *Industry interviews on AI-enabled supply chain resilience*. [Unpublished primary research]. Findings draw on more than 40 semi-structured interviews conducted between January and June 2026 with industry leaders, start-ups, venture capital investors and academia. Interviews were conducted on a not-for-attribution basis and are presented as aggregated findings.
37. World Economic Forum & Accenture. (2026). *Organizational transformation in the age of AI: How organizations maximize AI's potential*. https://reports.weforum.org/docs/WEF_Organizational_Transformation_in_the_Age_of_AI_How_Organizations_Maximize_AI%27s_Potential_2026.pdf.
38. Accenture. (2026). *AI adoption analysis of WEF Global Lighthouse Network solutions*. [Unpublished internal analysis]; Accenture & Uplink. (2026). *Industry interviews on AI-enabled supply chain resilience*. [Unpublished primary research]. Findings draw on more than 50 semi-structured interviews conducted between January and June 2026 with industry leaders, start-ups, venture capital investors and academia. Interviews were conducted on a not-for-attribution basis and are presented as aggregated findings.
39. World Economic Forum. (2026). *Global risks report 2026*. https://reports.weforum.org/docs/WEF_Global_Risks_Report_2026.pdf.
40. SailPoint. (2025). *SailPoint research highlights rapid AI agent adoption, driving urgent need for evolved security*. <https://www.nasdaq.com/press-release/sailpoint-research-highlights-rapid-ai-agent-adoption-driving-urgent-need-evolved>.
41. Accenture. (2026). *AI adoption analysis of WEF Global Lighthouse Network solutions*. [Unpublished internal analysis]; Accenture & Uplink. (2026). *Industry interviews on AI-enabled supply chain resilience*. [Unpublished primary research]. Findings draw on more than 50 semi-structured interviews conducted between January and June 2026 with industry leaders, start-ups, venture capital investors and academia. Interviews were conducted on a not-for-attribution basis and are presented as aggregated findings.
42. Accenture. (2026). *AI adoption analysis of WEF Global Lighthouse Network solutions*. [Unpublished internal analysis]; Accenture & Uplink. (2026). *Industry interviews on AI-enabled supply chain resilience*. [Unpublished primary research]. Findings draw on more than 50 semi-structured interviews conducted between January and June 2026 with industry leaders, start-ups, venture capital investors and academia. Interviews were conducted on a not-for-attribution basis and are presented as aggregated findings.

43. Accenture. (2026). *AI adoption analysis of WEF Global Lighthouse Network solutions*. [Unpublished internal analysis]; Accenture & Uplink. (2026). *Industry interviews on AI-enabled supply chain resilience*. [Unpublished primary research]. Findings draw on more than 50 semi-structured interviews conducted between January and June 2026 with industry leaders, start-ups, venture capital investors and academia. Interviews were conducted on a not-for-attribution basis and are presented as aggregated findings.
44. Accenture. (2026). *AI adoption analysis of WEF Global Lighthouse Network solutions*. [Unpublished internal analysis]; Accenture & Uplink. (2026). *Industry interviews on AI-enabled supply chain resilience*. [Unpublished primary research]. Findings draw on more than 50 semi-structured interviews conducted between January and June 2026 with industry leaders, start-ups, venture capital investors and academia. Interviews were conducted on a not-for-attribution basis and are presented as aggregated findings.
45. Gartner. (2026). *The future of supply chain: Reshaping for a machine-enabled future*. <https://www.gartner.com/en/webinar/814907/1820427-the-future-of-supply-chain-reshaping-for-a-machine-enabled-future>.
46. Accenture. (2026). *AI adoption analysis of WEF Global Lighthouse Network solutions*. [Unpublished internal analysis]; Accenture & Uplink. (2026). *Industry interviews on AI-enabled supply chain resilience*. [Unpublished primary research]. Findings draw on more than 50 semi-structured interviews conducted between January and June 2026 with industry leaders, start-ups, venture capital investors and academia. Interviews were conducted on a not-for-attribution basis and are presented as aggregated findings.
47. Ibid.
48. World Economic Forum. (2025). *Circular transformation of industries: The art of scaling circular supply chains*. https://reports.weforum.org/docs/WEF_Circular_Transformation_of_Industries_The_Art_of_Scaling_Circular_Supply_Chains_2025.pdf.
49. Accenture. (2025). *Powering sustainable AI: Balancing growth with environmental responsibility*. <https://www.accenture.com/us-en/insights/sustainability/powering-sustainable-ai>.
50. European Innovation Council and SMEs Executive Agency. (2025). *European Innovation Council publishes flagship report on corporate-startup collaboration*. European Commission. https://eic.ec.europa.eu/news/european-innovation-council-publishes-flagship-report-corporate-startup-collaboration-2025-07-10_en.
51. Pennell, J., Young, S. & McPherson, J. (2024). *Partnering between established companies and startups*. Harvard Law School Forum on Corporate Governance. <https://corpgov.law.harvard.edu/2024/10/31/partnering-between-established-companies-and-startups/>.
52. Bannerjee, S., Bielli, S. & Haley, C. (2016). *Scaling together: Overcoming barriers in corporate-startup collaboration*. Nesta. https://media.nesta.org.uk/documents/scaling_together_.pdf.
53. Demir, F. & Lukes, M. (2025). Corporate-startup collaboration: A managerial decision-making framework based on a systematic literature review. *Review of Managerial Science*, vol. 19, pp. 2423–2454. <https://doi.org/10.1007/s11846-024-00818-1>.



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