

Cooldest Vendor Innovations in Supply Chain Planning Technology, 2026

26 August 2026 | ID G00852947 | 9 min read

By Joe Graham and Buse Aras

Legacy supply chain planning systems fail in volatile and uncertain environments. Heads of supply chain planning can use this research to evaluate three leading-edge innovations utilizing AI agents and probabilistic models that enable autonomous decision making and move toward an antifragile and decision-centric future.

Insights at a Glance

Innovations in Supply Chain Planning Technology

Emerging technologies are reshaping supply chain planning, driven by market volatility and the limitations of deterministic forecasting. Key innovations include semantic data fabric, agentic AI and probabilistic modeling, which are essential for navigating uncertainty and building antifragile networks.

Key Insights

The capability confidence gap: Only 22% of CSCOs felt very confident in their ability to achieve adapting capabilities and workflows for an AI-driven supply chain, despite 54% saying it would be their most urgent priority for the first six months of 2026.¹ This confidence gap suggests that while organizations understand the need to transform planning, many have yet to establish the capabilities, skills and operating models required to execute that transformation successfully.

Pivoting from static sales and operations planning (S&OP) to decision orchestration: Market volatility has exposed the limitations of periodic, plan-centric S&OP processes. To improve responsiveness and resilience, heads of supply chain planning must evolve toward decision orchestration capabilities that continuously evaluate trade-offs, synchronize decisions across functions and adapt plans as conditions change.

Decoupling intelligence from ERPs: Edge innovations like those included in this report help bypass the need for perfect master data. They natively ingest fragmented data across heterogeneous systems, bridging planning and execution without multiyear integrations or delayed starts to address poor master data quality.

Vendor Innovations

Amazon Web Services' Amazon Connect Decisions: Deploys an autonomous, multiagent architecture that maps disparate data silos and calculates complex supply chain processes dynamically.

Auger's Autonomous Supply Chain OS: Eliminates operational latency by fusing S&OP with execution into an AI-native layer that processes messy data.

CloudPaths' SIMMBA.ai: Harmonizes isolated AI models across diverse ERP ecosystems, enabling cross-platform probabilistic simulations without vendor lock-in.

Innovation Storyline

For decades, supply chain planning has been centered on improving forecast accuracy through deterministic, batch-oriented S&OP processes. While these approaches improved visibility and alignment, they often lacked the ability to continuously evaluate trade-offs and rapidly respond to changing conditions.

As a result, many organizations remained dependent on manual intervention rather than advancing toward decision-centric planning, where operational decisions are continuously assessed and increasingly automated at scale.

Today, that technical barrier has collapsed. The convergence of agentic AI, probabilistic algorithms and semantic data fabrics makes decision-centric planning a tangible reality. Technology now propels organizations away from fragile consensus plans and toward intelligent networks that orchestrate, automate and learn from individual decisions.

The vendor innovations featured in this research act as catalysts for this shift. They equip heads of supply chain planning to dismantle outdated operating models by taking three critical leaps:

Sensing, evaluating and automating in real time: Attempting to balance one massive, slow-moving master plan is a losing game. Market leaders are deploying AI agents to break planning down into thousands of individual, bite-sized decisions. Rather than waiting for monthly alignment meetings, these systems continuously sense market shifts, evaluate financial trade-offs, and autonomously resolve execution gaps or escalate for human intervention when needed.

Turning chaos into a competitive advantage: The perfect forecast does not exist. Innovative companies no longer fight uncertainty; they capitalize on it. By instantly running thousands of probabilistic what-if scenarios, these tools automate the analysis process and surface the best options to enable the organization to make decisions. They actively build networks that inherently grow stronger under stress.

Escaping the “clean data” trap: Enterprise technology implementations frequently stall because legacy data isn’t “clean enough.” Emerging planning tools alter this dynamic by deploying AI data agents and semantic layers that contextualize messy operational data in weeks rather than years. While organizations must still maintain core data governance, these edge architectures prevent master data cleanup projects from delaying time-to-value for automated decision-centric planning.

By embracing these decision-centric enablers, leaders can stop waiting for the future to arrive and instead start building toward an autonomous, antifragile network today.

Vendor Innovations

Amazon Web Services’ Amazon Connect Decisions

Seattle, Washington, USA

<https://aws.amazon.com/products/connect/decisions/>

Analysis by Joe Graham and Cristina Carvallo

Amazon Web Services offers Amazon Connect Decisions, an AI-native supply chain planning and decisioning platform that delivers demand planning, supply planning and operational monitoring directly to planning practitioners. Powered by a multiagent architecture branded as “AI Teammates,” the solution deploys specialized software agents across functional workflows to automate routine operational trade-offs alongside human planners.

Rather than requiring multiyear ERP consolidation or master data cleansing projects, the platform’s data agent automatically interprets and maps unstructured enterprise data into a standardized operational view, compressing onboarding timelines from months to weeks.

To resolve operational exceptions in real time, the platform combines a suite of over 20 forecasting models, including time-series foundation models like Chronos2, deep learning algorithms like DeepAR, and statistical models like Seasonal

ARIMA and AutoCES, with Amazon's proprietary models.

By continuously evaluating physical warehouse limits and promotional demand surges, the agents execute closed-loop microadjustments and learn from human planner feedback over time. This automated decision loop reduces daily execution latency and frees planning teams to focus on strategic network trade-offs.

Challenges:

Interactive data validation: While the platform ingests raw enterprise data without requiring rigid pass-fail formatting pipelines, planners must engage in continuous interactive validation with AI agents to resolve data anomalies and approve contextual mappings before operational plans are executed.

Decision rights and model governance deficits: Because the closed-loop engine adapts model weights from human feedback, strict oversight is essential. Lacking governance guardrails, flawed planner overrides alter model logic, propagating compounding execution errors networkwide.

Operational integration effort: Despite rapid onboarding capabilities, deploying AI planning solutions across disparate legacy systems requires ongoing data harmonization and workflow alignment. Regardless of whether implementation is managed directly or via third parties, enterprise buyers must account for the internal technical and organizational effort required to sustain clean data flows and automated execution.

Who Should Care:

Heads of supply chain planning and supply chain technology leaders in high-volatility sectors, such as fast-moving consumer goods (FMCG), retail, automotive and industrial manufacturing, should evaluate this solution. It is particularly relevant for organizations seeking alternative approaches to supply chain planning that avoid large software installations or disruptive, multiyear system modernizations.

Auger's Autonomous Supply Chain OS

Bellevue, Washington, USA

<https://auger.com/>

Analysis by Buse Aras

Auger offers the Autonomous Supply Chain OS, an AI-native decision layer above legacy enterprise systems that unifies planning and execution. Where visibility and reporting tools add another view of the business, Auger ships a prebuilt ontology, AUSCO, encoding physical constraints, contractual rules, and financial parameters into one operational model. Auger states AUSCO arrives prebuilt rather than configured per customer and adapts using the customer's data.

Auger targets the gap between advice and action: when a trade-off has nowhere to live, it becomes a meeting. Auger labels that overhead a coordination tax, and the symptom is decision latency, when a decision that arrives after it could have changed anything. The Autonomous Supply Chain OS platform connects the systems that run operations, reasons across the trade-offs between them, and autonomously executes routine operational decisions.

Auger operates on customer data in its existing state, requiring no cleansing or harmonization program as a precondition to value, which would remove the multiyear sequencing dependency that typically gates decision automation, and it integrates with Microsoft Fabric.

Challenges:

Organizational readiness for autonomous decision making: Organizations may need new governance models, decision rights and oversight mechanisms as decisions shift from manual processes to automated action. Auger provides graduated autonomy levels intended to let organizations advance a decision type from recommendation to autonomous action as confidence builds, though oversight accountability stays with the customer.

Legacy ERP friction: Auger writes decisions back to systems of record rather than replacing ERP, TMS or WMS functionality, so integration is read plus write-back, not displacement. Establishing reliable write-back paths into rigid legacy architectures requires engineering effort and customer-side change control.

Limited market maturity and performance benchmarking: Auger's market presence is still developing relative to established planning vendors, though disclosed customers include Meta's Reality Labs, Fanatics, Kimberly-Clark and Owens & Minor. The company has raised \$150 million across two rounds of funding. Independently verifiable evidence on long-term performance, scalability, and outcomes remains limited.

Who Should Care:

Heads of supply chain planning and supply chain technology leaders in high-scale, high-complexity sectors, such as high-tech, industrial manufacturing, consumer goods and healthcare distribution, should evaluate Auger. It is particularly relevant for those seeking to unify planning and execution without heavy software rollouts or multiyear ERP modernizations.

CloudPaths' SIMMBA.ai

Newark, California, USA

<https://cloudpaths.com/>

Analysis by Joe Graham

CloudPaths provides a multiagent orchestration layer, called SIMMBA.ai, designed to connect isolated AI agents across heterogeneous software environments. Recognizing that enterprise supply chains rarely operate within a single software provider's ecosystem, the platform utilizes the open Model Context Protocol (MCP) to enable standardized communication between AI models operating across different ERPs and cloud hyperscaler platforms.

This architectural mechanism enables specialized functional AI applications, such as discrete demand, inventory, logistics or procurement agents, to share contextual reasoning and execute probabilistic supply chain simulations.

By acting as an orchestration fabric, CloudPaths permits an inventory agent in one enterprise application to dynamically negotiate boundaries with a logistics agent in a separate architecture, facilitating cross-platform supply chain digital twins without requiring monolithic software consolidation.

Challenges:

Data governance prerequisites: The platform relies on structured data inputs across connected applications; enterprises must establish baseline data governance and shared metadata definitions to feed the underlying multiagent models.

Disintermediation risk: Major ERP and enterprise software vendors may natively build cross-platform agent communication protocols into their proprietary ecosystems, potentially limiting the addressable market for independent orchestration layers.

Multiagent conflict resolution and negotiation latency: Orchestrating dynamic boundary negotiations between autonomous AI agents across separate software environments creates operational complexity, requiring robust arbitration to prevent logic loops or latency during critical execution windows.

Who Should Care:

Heads of supply chain planning and supply chain technology leaders operating across complex, multivendor IT landscapes should evaluate CloudPaths and its SIMMBA.ai solution. It is particularly relevant for organizations seeking alternative approaches to execute cross-platform probabilistic simulations without undertaking heavy software installations or accepting monolithic vendor lock-in.

Evidence

© 2026 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. and its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. It consists of the opinions of Gartner's research organization, which should not be construed as statements of fact. While the information contained in this publication has been obtained from sources believed to be reliable, Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information. Although Gartner research may address legal and financial issues, Gartner does not provide legal or investment advice and its research should not be construed or used as such. Your access and use of this publication are governed by Gartner's Usage Policy. Gartner prides itself on its reputation for independence and objectivity. Its research is produced independently by its research organization without input or influence from any third party. For further information, see "Guiding Principles on Independence and Objectivity." Gartner research may not be used as input into or for the training or development of generative artificial intelligence, machine learning, algorithms, software, or related technologies.

© 2026 Gartner, Inc. and/or its Affiliates. All Rights Reserved.

Source reprint: [gartner.com/doc/reprints](https://www.gartner.com/doc/reprints)