



Whitepaper

Agentic AI Meets DEO: Orchestrating the Future of Supply Chains



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Turning Volatility Into Velocity with Agentic AI

You are likely familiar with (and perhaps tired of hearing about) artificial intelligence—it's everywhere.

From AI-powered playlists, smart assistants answering your questions to AI-enhanced cameras that adjust lighting and focus automatically, AI is showing up in more and more aspects of our daily lives.

You may have even used a chatbot like ChatGPT to draft an email, summarize a document, or an AI image generator to visualize a concept. **These tools are helpful, but they're reactive.** They wait for you to prompt them, guide them, and interpret the results, but only as an outcome of your input. Agentic AI, unlike more traditional generative AI, however, doesn't wait to be told what to do. It senses. It adapts. It takes initiative. In short, most AI can help you with completing tasks; **Agentic AI, however, can help you make decisions and then act on them.**

Agentic AI: The Next Evolution in Supply Chain Decisioning

GAINS has always believed that Artificial Intelligence is about more than just automation—it's about enabling better decisions, faster. The use of Agentic AI in supply chain planning is an exciting development and a natural extension of GAINS' methods of critical analysis, continual improvement, and moving forward faster. Unlike traditional AI, which sits passively in the background, requiring human interaction, Agentic AI takes initiative, it actively senses, evaluates, and acts—just like a seasoned planner would, only faster and with more data at its fingertips. GAINS' development of Agentic AI is core to our Decision Engineering & Orchestration (DEO) philosophy. **We believe it will empower supply chain systems not just to calculate the best course of action, but to discover it through continual sensing, simulation, and response across time horizons.**

Learn the difference between **Traditional AI & Agentic AI**





Traditional AI vs. Agentic AI:

What's the Difference?

Traditional AI

Passive & Reactive

Waits for human input or pre-programmed triggers to operate.

Task-Specific

Performs narrow, predefined tasks like forecasting or pattern recognition.

Static Logic

Uses historical data to model and predict outcomes based on fixed rules.

Human-Dependent

Outputs need human interpretation and follow-up action

Standalone Functionality

Sits alongside human processes, often disconnected.

Agentic AI

Proactive & Autonomous

Identifies goals, initiates actions, and adapts without waiting for instructions.

Goal-Oriented & Cross-Functional

Operates across processes to achieve outcomes like improving service or reducing inventory—aligning decisions across time horizons.

Dynamic Learning

Continuously learns and evolves using reinforcement learning and live feedback.

Decision-Centric

Makes and executes decisions—fully integrated into the business workflow.

Embedded in a DEO Framework

Works within GAINs' Decision Engineering & Orchestration (DEO) to align strategic, tactical, and operations.

From Insights to Action: Why It Matters in Supply Chain

Through the use of AI Agents, GAINS becomes more than just a supply planning solution, and more like an experienced member of your team drawing from GAINS' advanced algorithms, best practices, and real-time data. Traditional AI solutions may alert you that there is a problem. **GAINS DEO can tell you why, recommend what to do, and then do it**—whether that's adjusting an order, reallocating inventory, or alerting a supplier. **It's the difference between analysis and orchestration.**

The Case Intelligent Automation: Why Now?

We're operating in a time of unprecedented uncertainty due to wild shifts in trade policy, market volatility, global instability, and customer expectations that can change at the speed of a social media post. Supply chains are under more pressure than ever.

"Global trade dynamics are experiencing a shock, and supply chains are reconfiguring rapidly. Over the next 6-12 months, the key will be resilient and responsive supply chain management, focused on agility and risk management."

- Steven Carnovale

Professor of Supply Chain Management
Florida Atlantic University.

Simultaneously, AI capabilities have leveled up and become more powerful than any time in the past:

- **Smarter Reasoning:** Large Language Models (LLMs) are better at context, planning, and multi-step logic.
- **Memory & Context Windows:** AI can now retain and apply long-term context—crucial for strategic supply chain decisions.
- **Reinforcement Learning:** AI learns from interactions, improving outcomes over time.
- **Tool Usage:** Modern agentic systems integrate directly with APIs and business systems to take real-world actions.

These advances make agentic AI the perfect complement to GAINS DEO, enabling continuous alignment between strategy, planning, and execution.





The DEO Advantage: Why Agentic AI Needs a Decision Framework

Agentic AI without structure can create as many problems as it solves. **GAINS DEO acts as both a blueprint and a safety net, ensuring that every decision an AI agent makes is traceable, explainable, and aligned with business objectives.** It maps decisions across strategic, tactical, and operational layers, providing continuity and context. This allows Agentic AI to operate effectively—**not just taking action, but taking the right action, at the right time, for the right reasons.**

By embedding Agentic AI within a structured decision framework like GAINS DEO ensures these intelligent agents work in concert with your organization's planners, business goals, and system constraints. It's not about replacing people—it's about empowering them to manage more complexity, with more clarity, faster and smarter than ever before.

That's what makes GAINS' DEO approach essential:

- **Structured Decision Mapping:** Ensures Agentic AI aligns with your business priorities.
- **Transparency & Traceability:** Every AI-driven action is visible, explainable, and adjustable to fit your needs and meets your KPIs.
- **Composable Architecture:** Agents plug into your existing tech stack without ripping out legacy systems.
- **Rapid Time to Value:** Start small, scale fast—get real results in weeks, not years, building on quick wins as you go.

Your Supply Chain: The Frontline of the AI Revolution

We believe the supply chain will be the vanguard leading the AI transformation. Supply chains are uniquely positioned to take the lead because they sit at the intersection of complexity, volatility, and opportunity. No other business function spans such a broad range of decisions—from long-term design and sourcing strategies to daily execution and service recovery.

50%
**of businesses plan to
deploy AI agents this year**

With Agentic AI embedded into a DEO framework, supply chain professionals can orchestrate decisions across these time horizons with clarity, confidence, and speed. This makes supply chains the proving ground—and launchpad—for intelligent, autonomous systems that will eventually reshape the broader enterprise. "We're seeing major momentum," Capgemini reports that 50% of businesses plan to deploy AI agents this year." In short, the supply chain isn't just one area where AI can help. It's where AI will prove its value first.

Instead of managing chaos, supply chain leaders will manage AI agents that manage the chaos. **"In a lot of ways, the IT department of every company is going to be the HR department of AI agents in the future,"** said NVIDIA's CEO Jensen Huang during his 2025 CES keynote. He predicts that **by the end of 2025, 30% of companies will have "digital employees"** who are contributing to enterprises in a meaningful way.



From Reactive to Proactive: Agentic AI in Supply Chains

While most AI tools analyze. Few act. Fewer still adapt. Agentic AI, as we see it at GAINS, will become the engine behind real-time, goal-oriented decision orchestration.

Here's how:

Inventory Planning: Instead of reacting to stockouts, DEO anticipates demand spikes, notifies your team, and proactively adjusts safety stocks and reorder points.

Lead Time Management: AI agents flag suppliers with creeping lead times and reconfigure sourcing priorities before problems arise. (Read how Border States is using GAINS DEO to preemptively adapt to supplier delays.)

Procurement: DEO suggests optimal buys, automates low-risk purchases, and flags exceptions—freeing up your supply chain team for high-impact work requiring a more “human touch.”

Customer Service: AI agents predict potential service misses or delays and trigger action—reallocating inventory, notifying customers, or escalating issues to the appropriate team.

The Bottom Line

You don't need an army of planners with advanced supply chain degrees to be successful in the face of the mounting uncertainty—you need a unified force of AI-augmented decision agents. Each working in concert to deliver better outcomes across your entire supply chain. More than just a flashy add-on, Agentic AI will become a foundational capability built into the core of your supply chain operations. Empowering your business to move beyond reactive firefighting and toward proactive, synchronized decision-making.

While Agentic AI is still in its infancy, advances are being made every day. **The capabilities we've outlined aren't the future of supply chain planning and design. It's what GAINS delivers today.** Providing the skill, experience, and technology to maximize your team's efficiency, productivity, and know-how. The result? Fewer silos. Less guesswork. More confidence in every decision. Using GAINS, your supply chain becomes smarter, faster, and more resilient. We help you shift from static processes to adaptive orchestration—connecting strategy, planning, and execution in real time.

Let's Move Forward Faster.

Drive Results. Engineer Your Advantage and orchestrate smarter decisions—together.

Contact GAINS today