

Digital supply chain 101

A guide to building a connected, resilient ecosystem for an AI-driven future



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The modern global supply chain is navigating an era of unprecedented complexity and volatility. Legacy operational structures, which rely heavily on linear transactions and static forecasting, are struggling to keep pace with rapid disruptions. In fact, approximately 69% of supply chains are unable to consistently make fast and accurate decisions in real time.¹

These inefficiencies lead to major financial losses. Retailers alone forfeit over \$1 trillion a year in lost sales due to stock-outs caused by fragmented visibility and poor cross-channel demand synchronization.² Modernizing these networks is no longer optional. It is a critical strategic requirement for survival.

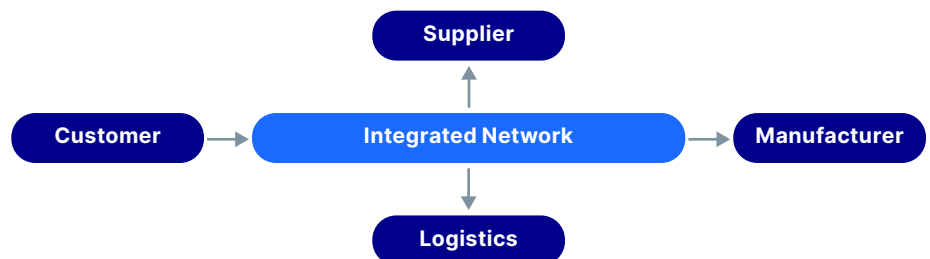
Traditional Linear Model

❌ Siloed and reactive



Modern Digital Ecosystem

✅ Real-time, connected, and predictive



Transitioning to a digital supply chain means moving from disconnected, step-by-step processes to a networked, collaborative ecosystem. At the heart of this transition is a unified integration network that connects every partner, system, and device in one digital backbone. This structural foundation is also critical for deploying advanced technologies, particularly AI.

Data readiness has become a critical strategic focus, with 77% of data management leaders ranking AI-ready data as one of their top five investment priorities over the next two to three years.³ By 2030, it is predicted that 40% of supply chains will use AI to shift from reactive cost-cutting to proactive, data-driven cost management.⁴

This guide explains how to transition your operations from a traditional cost center to an agile, predictive profit engine by laying down a strong digital foundation that supports your connected future.

1 Gartner, *Hype Cycle for Supply Chain Strategy*, July 2025

2 Forrester, *The ROI of Supply Chain Management*, July 2026

3 Gartner, *Predicts 2026: Realizing the Supply Chain AI Opportunity*, Jan 2026

4 ibid

What is a digital supply chain?

At its simplest, supply chain digitization is the process of replacing manual, paper-based steps with automated, real-time digital processes.

Traditional supply chains operate like a game of “telephone.” Each step, from raw materials to final delivery, is separated by data silos. Information is shared periodically via manual uploads, spreadsheets, emails, or phone calls. By the time a disruption is identified at one end of the chain, the other end is already suffering the consequences.

A digital supply chain operates as an interconnected network. It links internal enterprise resource planning (ERP) systems with external partners, logistics providers, and customer platforms. By sharing a single, continuous stream of real-time data, everyone in the ecosystem can see, collaborate, and respond to changes as they happen.

Capability	Traditional supply chain	Digital supply chain
Structure	Linear	Networked
Tracking and KPIs	Manual, delayed, and retrofitted	Automated, real-time, and continuous
B2B transactions	Heavy reliance on email, fax, and PDFs	Automated EDI, APIs, and integrated portals
Collaboration	Reactive (responding after an error occurs)	Proactive (adjusting to shared live signals)
Visibility	Limited, historical	End-to-end, near real-time
Decision-making	Guided by historical, incomplete records	Driven by predictive AI and live network data

To unlock this networked model, organizations must build a digital backbone. This integration layer ensures that transactions, order updates, and inventory changes flow seamlessly between completely different software systems. Once this backbone is in place, you can confidently layer on advanced intelligence, automation, and predictive tools.

Benefits of a digital supply chain and why they matter now

Digitizing your supply chain delivers measurable returns by eliminating manual friction, improving agility, and building deeper resilience.

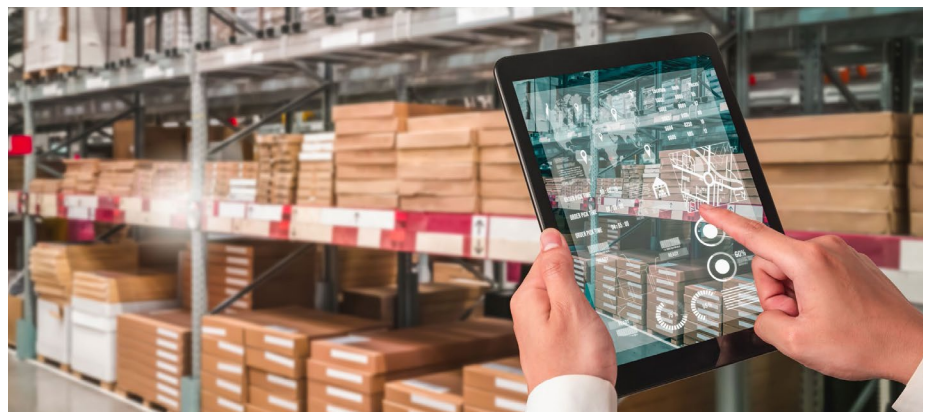
- **Accelerated business performance:** High-performing organizations that combine strong digital integration with structured AI-driven workflows are 3.6 times more likely to achieve transformative financial impact and measurable P&L gains compared to those using isolated tools.⁵ Automating B2B data exchanges eliminates manual entry errors, accelerates order-to-cash cycles, and lowers overhead.
- **Multi-tier risk visibility:** Standard tracking tools only look at direct Tier 1 suppliers. However, addressing sub-tier vulnerabilities has become critical, as 74% of supply chain leaders cite trade policy shifts and geopolitical tensions as their primary operational threats.⁶ An integrated network allows companies to break down these blind spots, helping you spot inventory bottlenecks deep in your supply base before they halt production.
- **Smarter, human-guided decision-making:** Research indicates that only 1 in 4 (25%) supply chain leaders expect AI systems to act as completely autonomous decision-makers, reinforcing that human oversight remains vital for operational success.⁷ Digitization unifies massive datasets instantly, surfacing predictive recommendations so experts can make fast, high-confidence choices.
- **Total value and operational resilience:** Rather than focusing strictly on short-term firefighting, modern supply chains are adopting Total Value frameworks that maximize enterprise performance by linking real-time IoT, ERP, and logistics data across trading partners. When a shipping lane or supplier is blocked, an integrated network allows you to re-route orders rapidly.
- **Mandatory sustainability compliance:** In Europe, more than 75% of organizations have increased their compliance budgets to handle mandatory Scope 3 emissions tracking and forced labor laws.⁸ Digitization provides an auditable, transparent ledger of product provenance from raw materials to final delivery.

5 McKinsey & Company, *The state of AI in 2025: Agents, innovation, and transformation*, Jan 2026

6 Reuters Events, *Leaner, Smarter, Faster and More Connected: Supply Chains Evolve to Meet Volatility and Cost Pressures*, 2025

7 McKinsey & Company, *The State of Organizations 2026*, Jan 2026

8 Reuters Events, *The State of European Supply Chains 2025*, 2025



Why AI requires an integrated network

AI is transforming modern logistics. However, there is a fundamental rule: AI is only as intelligent as the data feeding it.

As detailed in OpenText's strategic blueprint, *The Agentic AI Genome: Turning AI Investment into Enterprise Advantage*, moving from isolated AI experiments to an enterprise-wide operating model requires a clear orchestration hierarchy.⁹ Intelligent agents act as co-pilots across enterprise workflows, but human oversight remains the essential command layer that ensures operators review, refine, and sign off on key actions before execution.

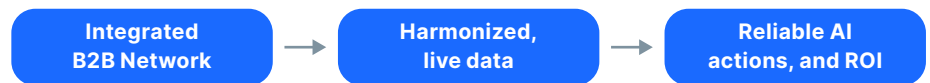
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Many organizations attempt to deploy advanced AI algorithms on top of disconnected, siloed data systems. Gartner research emphasizes that 86% of executives feel their teams are unprepared to adopt AI effectively without clean, governed, and unified data pipelines.¹⁰ Without an integrated network, AI tools suffer from:

- **Data fragmentation:** The AI cannot see supplier inventory, logistics delays, or distributor warehouse limits simultaneously.
- **Poor data quality:** Manual entry and mismatched data formats cause the AI to generate unreliable predictions, leading to a lack of user trust.
- **Delayed action:** Even if an AI identifies a risk and designs the perfect resolution, it cannot queue up that action for human sign-off if your systems are not digitally linked.

To fully enable AI, your organization must first prioritize an integrated, multi-enterprise network. This network acts as the connective digital fabric that continuously gathers, cleanses, and harmonizes data from every external supplier, carrier, and customer.

When your AI engine is fueled by a healthy, integrated data foundation, it can accurately forecast demand, detect anomalies, and suggest optimal adjustments. A strong integrated network is therefore the prerequisite for AI.

⁹ OpenText, *The Agentic AI Genome*, April 2026

¹⁰ Gartner, *Top SCCO Predicts 2026: Build the Key to Unlock Cost and Growth With AI-enabled Supply Chains*, Jan 2026

Key technologies driving the modern ecosystem

The digital supply chain is powered by a suite of collaborative technologies, each building upon your core integrated network.

Multi-enterprise collaboration networks (MCNs)

An [MCN](#) is a cloud-based integration platform that connects your business with your entire external community of customers, suppliers, distributors, and logistics providers. Rather than building expensive, individual connections to hundreds of different vendors, you connect once to the cloud network (such as OpenText™ Trading Grid) and instantly gain secure, standardized access to your entire ecosystem.

The Internet of Things (IoT)

[IoT](#) sensors and GPS trackers bridge the gap between physical goods and your digital systems. By attaching smart sensors to shipments, you can track real-time location, temperature, humidity, and shock. When integrated with your cloud network, this live data feeds directly into your planning systems, alerting you the moment a temperature-sensitive shipment is compromised.

Digital twins

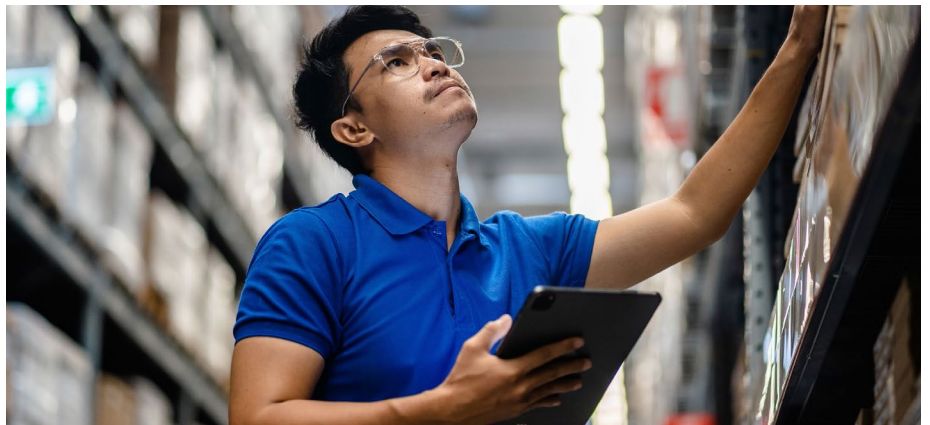
A [digital twin](#) is a dynamic, virtual model of your physical supply chain. By feeding live data from IoT sensors, ERP systems, and partners into the twin, you can run real-time simulations. This allows planners to stress-test your network, model the impact of potential shipping bottlenecks, and find the most efficient routing paths without risking real-world disruptions.

Command centers and control towers

A [supply chain command center](#) unifies your disparate monitoring tools into a single, comprehensive dashboard. It aggregates data feeds from your B2B network, inventory systems, and global weather patterns, giving decision makers a single source of truth to manage complex, multi-tiered operations.

Robust identity and access management (IAM)

As you integrate thousands of external vendors, suppliers, and IoT devices into your digital ecosystem, security is paramount. Modern B2B networks use decentralized [identity management](#) and delegated administration. This ensures that third parties can securely access only the specific data and applications they need, shielding your enterprise from cyberthreats and unauthorized access.



Real-world use cases

How does a digital supply chain translate into daily operational success? Here are the most impactful applications:

Automated B2B financial flows

Digitizing the order-to-cash cycle eliminates slow, manual invoicing and invoice matching. Transitioning from PDFs to fully structured electronic invoicing reduces invoice processing time by up to 88% per invoice.¹¹ By accelerating payment approvals, buyers can routinely capture early-payment discounts, turning accounts payable from a cost center into a direct savings engine.

Smart inventory management

Relying on physical counts or manual spreadsheets often results in expensive overstocking or costly stockouts. By linking inventory levels across warehouses and suppliers in real time, digital inventory systems automatically track inventory turnover. The system triggers reorder points based on live demand signals rather than historical guesswork, reducing carrying costs and optimizing cash flow.

End-to-end track and trace

For highly regulated industries like pharmaceuticals, food and beverage, or high-tech manufacturing, knowing the exact journey of a product is non-negotiable. Digital tracking allows you to verify the origin, custody, and transport conditions of every component. If a defect is found, you can surgically recall the specific affected batch rather than halting your entire operations.

Proactive risk mitigation

If a major deep-tier supplier faces a sudden shutdown, standard tracking tools wouldn't flag the issue until your direct supplier missed a shipment. A digital supply chain uses multi-tier visibility to identify sub-tier bottlenecks days or weeks in advance. This early warning gives your team the runway to re-allocate inventory, adjust production schedules, or activate alternative suppliers before your operations are impacted.



¹¹ International Observatory on eInvoicing of Politecnico di Milano, [Navigating eInvoicing: Sail into the Future](#), Sept 2025



Getting started: A step-by-step diagnostic

Transitioning to a digital supply chain is a journey, not an overnight event. A “rip-and-replace” approach to your legacy software is rarely practical. Instead, an incremental, strategic roadmap is the key to early and sustainable wins.

Ask your team these six key diagnostic questions to kickstart your strategy:

1. **Do we have a shared digital vision?** Ensure your supply chain goals are aligned with your overall corporate strategy. Bring leaders from procurement, IT, finance, and operations together to agree on clear, flexible milestones.
2. **Where are our greatest blind spots?** Map your current B2B processes. Where do you rely on manual data entry, PDFs, or spreadsheets? Identifying where delays, errors, and information gaps occur will show you exactly where digital tools will deliver the highest immediate return.
3. **Do we have the digital skills to support this shift?** Modern logistics require strong data literacy, integration expertise, and analytical skills. Audit your team’s strengths, establish training programs, and structure roles to bridge the gap between traditional logistics and modern digital systems.
4. **Are our suppliers and customers ready to connect?** A digital supply chain is a collaborative effort. Evaluate the technical readiness of your partner network. Look for integration platforms that accommodate partners of all sizes, from large vendors using advanced APIs to smaller suppliers using simple web portals.
5. **How should we prioritize our roadmap?** Balance quick, high-visibility wins with your long-term strategic goals. For example, automating purchase orders and invoice matching often delivers immediate savings and builds momentum for more complex projects like real-time IoT tracking or predictive AI forecasting.
6. **Are we working with the right technology partner?** Select partners who offer more than just standalone software. Look for a technology partner with a proven global network, deep integration expertise, and a clear roadmap for embedding security and intelligence directly into your B2B communications.



Resources

Learn how OpenText's multi-enterprise network connects your enterprise to over one million pre-connected trading partners.

[OpenText Trading Grid & B2B Integration ›](#)

Read the executive ebook to learn how to deploy governed, human-in-the-loop AI workflows across enterprise systems.

[The Agentic AI Genome Blueprint ›](#)

Connect directly with a specialist to assess your digital supply chain maturity and accelerate your transformation strategy.

[Contact OpenText supply chain experts ›](#)

Powering your connected future

Modern B2B integration is the foundation of digital supply chain excellence. OpenText is a recognized leader in helping global organizations connect, automate, and optimize their information flows.

OpenText™ Business Network integrates people, systems, and things across a secure, unified platform. By automating complex B2B transactions and data flows, OpenText helps you break down silos, gain deep visibility, and collaborate effortlessly with your global trading partners.

With specialized cloud solutions and integrated AI capabilities, OpenText helps you build a resilient, secure digital backbone. This foundation ensures your data is clean, secure, and ready to power the next generation of intelligent supply chain innovations.