



# **The Future is Here: How AI Builds Smarter Supply Chains**



Imagine a world where **Artificial Intelligence (AI)** enables you to gain **end-to-end visibility** into your supply chain so you can proactively predict, assess and **mitigate disruptions** – in many cases, before they even occur.



A Fortune 500 company struggled with a lack of supply chain visibility.



Its key supply chain data was maintained in disparate systems and sources, making it hard to effectively manage customer orders and mitigate disruptions.



Lack of visibility into inbound supply deliveries and delays, the resulting impact on complex bundled orders, and the downstream inability to address customer preferences, was especially concerning.



But with AI, the company can connect and correlate data from across their disparate systems for a real-time, end-to-end view of their supply chain.



They can quickly see the status of critical orders and have a high degree of confidence in the information they are viewing.



Within just a few weeks of applying AI, the company consolidated visibility on multi-component orders.



Now, they get AI-enabled smart alerts that cut through data noise and let them know when a late delivery will impact a customer order.



They're even alerted to external events from news and social media feeds and other subscription data services.



When a disruption does occur, a smart alert is sent, and an AI-powered "Resolution Room" is automatically generated to bring together the right members of the supply chain team to resolve the issue.



In the Resolution Room, AI provides the team with the most relevant information to help resolve the problem – including insight into the orders affected *and* the potential financial impact.



Every resolution is archived by AI in a digital "playbook" and retrieved and recommended the next time a similar disruption occurs.



Over time, AI helps the team mitigate disruptions in minutes – not hours or days.



By applying the power of AI, the company empowered their supply chain experts with real-time actionable insights to quickly and proactively assess events and the potential repercussions.



With AI-driven recommendations they can now resolve issues before they impact customer orders.



And they can consistently deliver flawless customer experiences that set their company apart from competitors.

# A Smarter Supply Chain is Possible

Supply chains are the lifeblood of a business, impacting everything from the quality, delivery and costs of an organization's products and services, to customer service and satisfaction, and ultimately profitability.

Fortune 1000 and Global 2000 businesses are increasingly reliant on their suppliers and partners. Depending on the industry, 50 to 65% of the value of a company's products or services is derived from suppliers.<sup>1</sup>

And the requirements and pressures on the supply chain – including those for sustainability, cost efficiency and disruption and risk mitigation – continue to grow in complexity. In fact, 70% of Chief Supply Chain Officers (CSCOs) categorize their supply chains as “very” or “extremely” complex.<sup>2</sup>

Supply chains must monitor and manage an ever-increasing array of potential disruptions – including common events, such as weather, delivery delays and quality defects, as well as major events like political unrest, natural disasters and the financial instability of suppliers. More than 85% of CSCOs say it is already exceedingly difficult to predict and proactively manage these disruptions and risks.<sup>3</sup>

Exacerbating all these challenges is the fact that most supply chain organizations are operating with systems built for another era. They lack the transparency and visibility supply chain professionals need to better predict and mitigate disruptions and optimize inventory. A full 84% of CSCOs report that this lack of visibility is their biggest challenge.<sup>4</sup>

At the heart of this visibility challenge is the fact that supply chain organizations struggle to corral and make sense of an overwhelming amount of data scattered across dozens of different processes, internal and external sources, and siloed systems.

Under these conditions, it is difficult if not impossible to effectively manage and monitor the complete supply chain. This leads to unnecessary risk exposure, disruptions and delays, and increased costs.

## What if you could...

- Gain end-to-end supply chain visibility across disparate systems and data sources?
- Illuminate blind spots in your supply chain?
- Proactively predict and mitigate disruptions before they occur?
- Instantly assess and prioritize disruptions?
- Slash disruptions in half and significantly reduce disruption mitigation time?
- Arm supply chain professionals with all the information they need to act quickly with confidence?

## You can, with AI.

As a leader in the development of AI, IBM has helped leading manufacturers, retailers and logistics companies leverage the power of AI to significantly improve supply chain visibility, connect disparate systems, and proactively predict and mitigate disruptions and risks.

In this paper, we'll explore the specific benefits, real-world use cases and best practices for getting started quickly with AI.

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**AI-enabled smart alerts and predictive capabilities can cut disruptions in half and reduce expedited shipment costs by up to 50% or more.**

Source: IBM Transparent Supply Chain Case Study: How Artificial Intelligence Transforms the Supply Chain

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# AI Delivers Greater Visibility and Insights into Your Supply Chain

“Supply chains that successfully enable visibility, analytics and employ AI technologies will have a step up on competitors.” - IDC

End-to-end supply chain visibility must be rooted in a real-time, contextual understanding of all the right data. While there’s no shortage of data – in fact, there’s an overwhelming amount of it languishing in disparate systems in and outside the enterprise – much of it is unusable or untapped.

In fact, only 20% of the data that companies have access to today is readily available to the supply

chain organization. Of that 20%, less than 10% is effectively used by supply chain professionals. And that’s just the structured data! Analysts report that most businesses are virtually blind to the other 80% of data, which is dark and unstructured. <sup>5</sup>

Bottom line, most Fortune 1000 companies and their supply chains are operating on a small fraction of the data and information that is available to them.

## Disruption Mitigation & Supply Assurance

87%

of CSCOs consider proactive disruption and risk mitigation critical, yet only 36% say they are adequately equipped to manage it. <sup>6</sup>

## Inventory Management

29%

of companies report that inventory optimization is their top priority in the next year. <sup>7</sup>

## Order Management & Customer Fulfillment

61%

of companies see AI and data analytics as being a driver of improved customer service. <sup>8</sup>

## Business-to-Business (B2B) Network

90%

of companies require more than 30 minutes to fulfill each order status request. <sup>8</sup>

## That's where AI comes in.

AI technology can rapidly and comprehensively read, understand and correlate data – from across disparate sources and systems, both internal and external – and provide real-time insights based on a contextual analysis of that data.

AI correlates data and “thinks” like the human mind, but at incredible scale and speed, so it can take in more data, sort through it and provide new insights that deepen visibility across the supply chain.

AI is equally effective with structured data from sources like planning, sourcing, production, warehouse, transport and other systems, and unstructured data such as weather and political reports, news accounts and social media feeds. By tapping into previously “dark” sources of data, AI is compounding supply chain intelligence.

But it is the ability to compare structured and unstructured data and generate insights from it that is AI’s hallmark and biggest value driver for the supply chain. And it gets smarter over time. When deployed, AI-enabled systems continue to evolve in their understanding – they learn – essentially becoming trained on your preferences and supply chain.

AI-powered systems advance and understand your practices to a point where they can begin to interpret demand and risk signals from structured and unstructured data sources. Act on those signals to alert you and the rest of the supply chain organization. And then provide recommendations for action.

The ability to search and query using natural language, and retrieve insights immediately, also drives greater productivity, particularly in making timely business decisions and in predicting, preventing and resolving disruptions.

Based on its continuous learning and training in your supply chain – and on observing past actions and decisions – AI can build “playbooks” of your best practices and begin providing instant analysis to better inform decision-making. Supply chain professionals can then act with confidence based on the trusted data and insights that the AI system provides on-demand.

With these capabilities, AI promises a new era of supply chain optimization across supply assurance, inventory management, order management and other areas of supply chain management.

### Disruption Mitigation & Supply Assurance

AI optimizes the business’ agility and flexibility in responding to changes, events and disruptions, such as providing proactive smart-alerts ahead of time if a shortage for a key part is probable or flagging a critical supplier’s financials if they portend an impact on delivery.

### Inventory Management

AI complements and elevates existing inventory solutions to more effectively match supply volume to customer demand; lower safety stock and inventory levels; and reduce working capital. More effectively respond to demand, harness real-time sensing and supplement supply chain intelligence with non-traditional data sources like trade journals and Twitter.

### Order Management & Customer Fulfillment

AI connects, correlates and learns from existing and new systems and data sources to provide visibility, alerts and recommendations to ensure faster and on-time delivery – from order management and warehousing through shipping and delivery.

### Business-to-Business (B2B) Network

An AI-powered digital network provides visibility into the entire lifecycle of a transaction in real time, in detail and in context. Tap into deep insights regarding transaction trends and performance.

# IBM - Helping You Realize the Promise of AI

“IBM helps organizations leverage the power of Artificial Intelligence to gain greater visibility and predictive insights across the supply chain. Ultimately, that visibility and insight can help drive action, efficiency and incremental revenue.”

— Bobby Bernard, Supply Chain Executive, Lenovo

IBM is the world leader in enterprise AI, with thousands of client engagements across dozens of industries and multiple areas of focus – from customer service to risk and compliance, and from order and inventory management to supply chain.

IBM has been working with leading manufacturing, retail and logistics companies to apply AI for supply chain visibility, disruption mitigation, optimization and performance improvement. We not only provide AI-powered supply chain solutions, but also partner with our clients on AI programs, from design to implementation, helping them address diverse challenges and realize the opportunities and value AI provides.

For example, IBM worked with a Fortune 500 industrial automation company to improve their end-to-end supply chain visibility to mitigate disruptions and more effectively manage complex

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**“What AI does in seconds typically takes me hours for each query ... huge time savings opportunity.”**

- Data Analytics Leader,  
Fortune 500 Industrial Automation Company

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orders. We leveraged our AI solutions to consolidate visibility across the supply chain and specifically gain greater visibility into their complex, multi-component orders. We helped them leverage AI to manage data overload to provide alerts for late supplier deliveries that would impact these orders. The AI was trained to quickly assess order status and financial risk, so issues could be prioritized and resolved before they impacted customer delivery. The capabilities and insights provided by AI helped them to significantly improve delivery performance and the quality of customer orders.

## Disruption Mitigation & Supply Assurance

AI-enabled smart-alerts and predictive capabilities to cut disruptions in half<sup>9</sup> and reduce expedited shipment costs by up to 50%.

## Inventory Management

AI-enabled comprehensive data and analysis to improve forecast accuracy by as much as 50% and reduce inventory costs.

## Order Management & Customer Fulfillment

AI and advanced analytics to access untapped data and insights from order management, fulfillment and inventory systems to lower cost-per-package by up to 5.4% and reduce shipping costs by up to 7.1%.

## Business-to-Business (B2B) Network

An AI-powered digital B2B network can retrieve order and transactional data up to 90% faster and reduce time to value by as much as 85%.



**Lenovo, a global electronics manufacturer**, also turned to IBM because it wanted to establish greater visibility across systems and data sources to minimize disruptions and improve customer order management. They applied IBM Sterling Supply Chain Insights with Watson through the Fast Start program to immediately leverage AI capabilities to connect disparate sources of data to get greater insights into top customers and correlate data from other systems with their order management systems to improve delivery and customer satisfaction. In just six weeks, the client demonstrated a proof of concept for AI application

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**“[AI] and BTI will allow our Customer Service and Finance teams to easily track an order from inception to cash. It will allow them to perform their duties in a much more efficient manner.”**

- EDI Manager, The Master Lock Company

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using their data – and started on the road to greater visibility and reducing disruptions.

**Master Lock, a company that develops and manufactures security products**, wanted to enable its internal business users to self-serve – to find real-time data about transactions to support customers, suppliers and finance projects. IBM worked with them to implement AI-powered Business Transaction Intelligence (BTI) across their supplier and partner network. In addition to achieving the expected results of more quickly looking up and tracking business transactions, the company has identified and rectified inefficiencies in technical EDI processing with their partners.

These examples are just a sampling – and the beginning – of what IBM and our clients can accomplish with AI. IBM’s approach to AI, and AI-powered solutions for supply chain provides a solid and value-focused path for getting started with this game-changing technology.

# IBM Sterling Supply Chain Insights with Watson

AI has virtually limitless applications to supply chain optimization and performance improvement. It complements and leverages existing systems, analytics and technology investments, promising a new era of supply chain optimization.

AI enables unprecedented, detailed and real-time visibility across the supply chain.

Ultimately, such capabilities and improvements have a direct impact on mitigating disruptions, reducing risks and improving the bottom-line.

IBM Sterling Supply Chain Insights with Watson, AI-enabled, solutions empower your organization to build a more intelligent, agile, demand-sensitive and customer-centric supply chain.

***IBM Sterling Supply Chain Business Network*** (SCBN) with ***Business Transaction Intelligence*** (BTI) establishes digital connections with suppliers and partners to automate, digitize and correlate all B2B documents to deliver deep search and visibility into the B2B transaction lifecycle and partner performance. BTI allows you to search and see the entire lifecycle of a transaction in real-time and in context.

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**AI provides actionable insights to deepen connectivity, extend collaboration and achieve unprecedented visibility.**

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When you combine the power of AI with blockchain, using ***IBM Sterling Delivery Transaction Intelligence*** with SCBN, your organization can establish multi-party transparency and visibility across supplier and partner relationships. This shared record of truth ensures that all the participants in supply chain processes stay informed and connected to events and changes in business transactions, from order to delivery, without compromising security or confidentiality. With a single, shared view of events, partners can quickly and easily resolve issues and potential disputes.

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**“The compelling thing about Watson Supply Chain Fast Start for SCI, is that IBM actually demonstrates the value of Artificial Intelligence for your organization by using your data and applies AI to your objectives and preferred use cases. It’s a proof of concept with actual, tangible results. Our first three AI use cases were completed with our data in just under five weeks with the Fast Start program.”**

— Bobby Bernard, Supply Chain Executive, Lenovo

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***IBM Sterling Supply Chain Insights with Watson*** (SCI) leverages AI that learns and understands to provide monitoring, visibility and insights across your supply chain. With SCI, organizations can be proactively alerted to, assess and mitigate disruptions and risks – and optimize the supply chain to deliver greater business value.

The Operations Center with smart alerts in SCI proactively monitors and governs operations with speed and agility, and provides configurable alerts to cut through data overload and predict potential disruptions. Alerts can be configured around the indicators that are most important to the organization, and users can then drill down to better understand the details and impact of an event.

The Resolution Rooms in SCI leverage AI to recommend the right team members to help resolve specific disruptions – and then provides that team with the relevant information, updates and insights needed to mitigate the event, drawing from disparate data sources. This capability drives greater collaboration and augments a team’s knowledge, speeding the response to a disruption/event. Over time, as each



event and resolution are captured, the AI develops ‘digital playbooks’ – a body of knowledge of how specific issues were resolved. These learned best practices enable greater speed and accuracy in responding to future events.

## Get Started with Fast Start in IBM Sterling Supply Chain Insights with Watson

IBM clients are getting up and running with real-world applications of AI in as little as six weeks with the Fast Start program in IBM Sterling Supply Chain Insights with Watson. The Fast Start program leverages AI capabilities and your supply chain data, to create a blueprint and proof of concept for AI for your organization.

[Learn more on the Fast Start Program.](#)

[Learn how AI can help you deliver a smarter supply chain.](#)

### Footnotes:

1. CAPS Research, Institute for Supply Management, Cross-Industry Report of Standard Benchmarks
2. The Changing Face of Supply Chain Risk Management, SCM World
3. IBM IBV Global Chief Supply Chain Officer (CSCO) Study
4. IBM IBV Global Chief Supply Chain Officer (CSCO) Study
5. The Thinking Supply Chain, IDC
6. IBM IBV Global Chief Supply Chain Officer (CSCO) Study
7. IDC, The Thinking Supply Chain
8. IDC, The Thinking Supply Chain
9. IDC, The Thinking Supply Chain



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