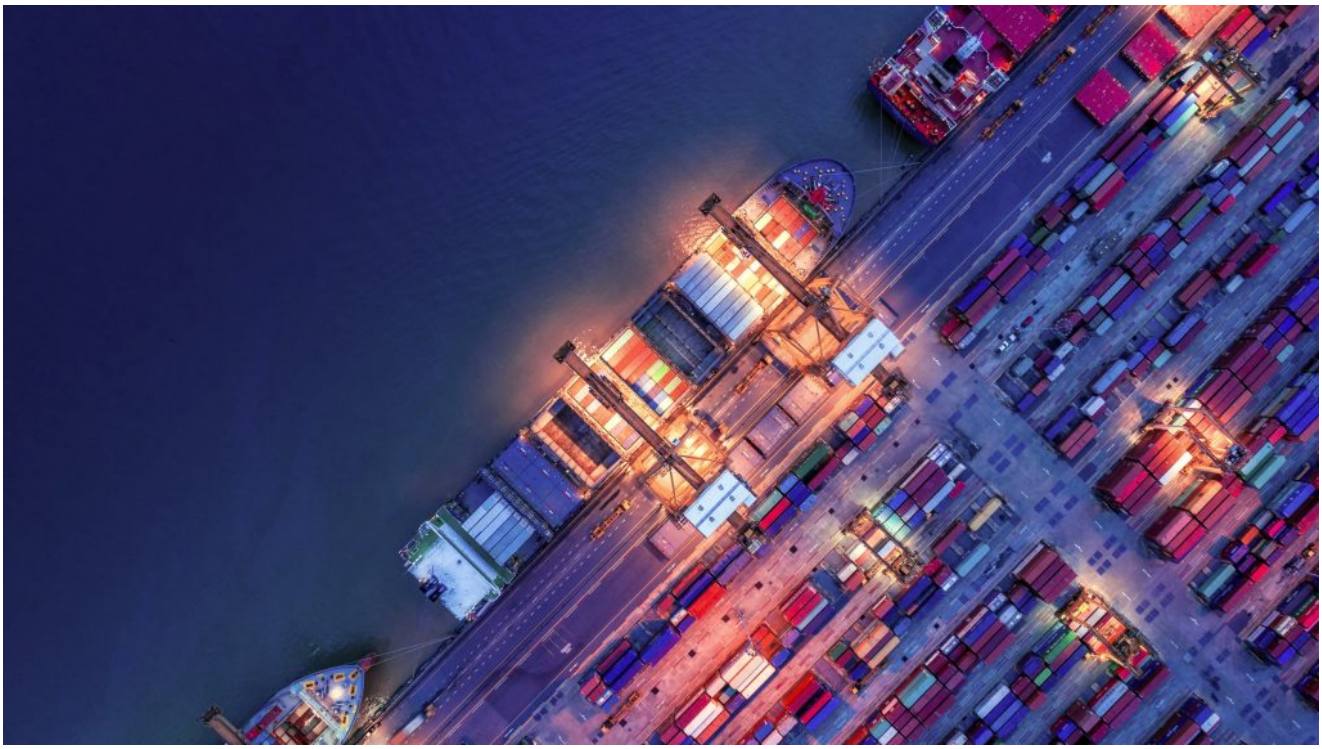
Lenovo uses AI and machine learning to build an ultra-resilient supply chain

18 January 2024



Predicting and mitigating supply chain risks in fast-moving markets with Lenovo Supply Chain Intelligence

Challenge: Supply Chain Sensitivity in Global Markets

Sudden global events such as the COVID-19 pandemic and the 2021 Suez Canal obstruction have shown just how vulnerable supply chains can be to disruption.

To preempt and mitigate supply chain risks in global markets, Lenovo created Supply Chain Intelligence (SCI)—an AI-powered solution that continuously analyzes supply chain data to identify potential issues and resolve them in real time.

This article explores the background to our supply chain transformation and shows how Lenovo SCI could help enterprises in other industries better respond to the unexpected and sharpen their competitive edge.

Challenge: Anticipating Supply Chain Issues

Over the last decade, Lenovo's world-class manufacturing and supply chain strategy has helped us to build lean and agile operations—enabling us to bring innovative solutions to global markets rapidly and cost-efficiently, while at the same time maintaining tight controls around quality and security.

Across our global supply chain, our aim is to anticipate issues in a complex and uncertain market to ensure that we can meet and then exceed customers' expectations. To achieve this goal year after year, Lenovo must engage effectively with 2,000 international suppliers.

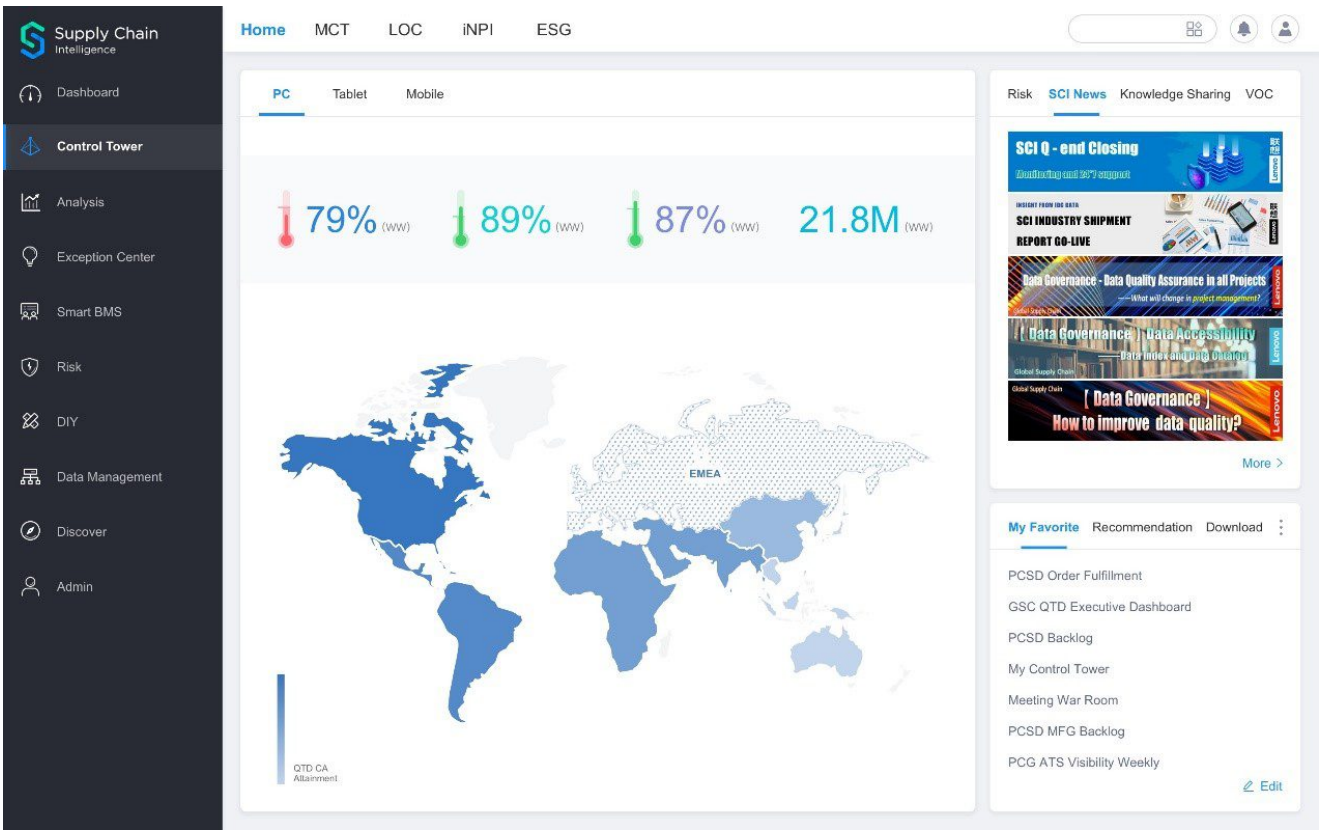
With conventional business models and systems orchestrating our supply chain, we found that siloed operations and limited access to real-time information were restricting our ability to preempt and mitigate supply chain risks.



Solution: Lenovo powers Lenovo

Lenovo embarked on an ambitious project to infuse our supply chain with real-time analytics and AI. The aim was to break down silos between systems and stakeholders, delivering end-to-end visibility into every part of the supply chain.

To realize our vision, Lenovo created Supply Chain Intelligence (SCI)—a solution that integrates all the company's supply chain transactions and management systems into a single platform, governed by intelligent tools.



Using AI and machine learning technology, SCI continuously analyzes supply chain data to identify potential issues and propose solutions in real time. To date, we have integrated more than 800 individual data sources with SCI, which comprises almost 80% of all the data inputs that make up the Lenovo supply chain. Each day, SCI performs over 1,500 data-related tasks—revealing hidden insights that would be practically impossible for a human to uncover.

Solution: Transforming Supply Chain Operations

By integrating previously siloed functions into an end-to-end digital workflow, SCI enables Lenovo's global supply chain to respond faster to address supply chain risks and deliver on time to customers around the world.



Helen Li

SCI has opened up a wide range of game-changing capabilities for Lenovo's global supply chain. Using predictive analytics, the solution continuously scans the market for demand

signals and generates new forecasts in real time—helping to improve forecast accuracy and ensure the right materials are on hand to meet customer demand. Backed by intelligent procurement and intelligent quality management capabilities, the solution also helps ensure that suppliers meet Lenovo's strict sourcing and quality rules.

"SCI helps me to drive quick, effective, and smart decisions by consolidating all the supply chain data into one platform."

> *– Helen Li, Executive Director, PC Commodity Supply, Planning, Inventory Management and Strategic Planning, Global Supply Chain, Lenovo*



Solution: Delivering Real-Time Visibility

When Lenovo customers order online, integration with SCI provides real-time delivery estimates based on the availability of components. SCI also surfaces smart logistics insights, providing accurate visibility into the status and location of orders in the logistics network.



Russell
Shimp

“The first thing I do every day is open up SCI. The beauty of SCI is that all data comes from the same source—enabling strong collaboration and alignment across our team as well as Lenovo’s entire supply chain.”

– Russell Shimp, Executive Director, WW PC Customer Fulfilment, Lenovo



Carlos
Marques

“We’ve used the Smart Meeting tool in SCI to support over 300 leaders and global team-members for more than two years. It simplifies meeting preparation, improves efficiency and enables faster decision-making, thereby improving the customer experience.”

– Carlos Marques, Director, WW Supply Chain Operations and Special Bids, Lenovo

Result: Breaking Down Data Silos

With SCI, Lenovo has integrated siloed operational systems into a central platform—including intelligent supply and demand planning, procurement, manufacturing, quality management, fulfillment, and logistics.

Today, Lenovo is using SCI to orchestrate its global supply chain. For example, if a customer’s order will potentially be delayed due to adverse weather, the solution will automatically send an alert. Lenovo decision-makers can choose from a set of AI-generated recommendations for alternative logistics methods at the touch of a button.

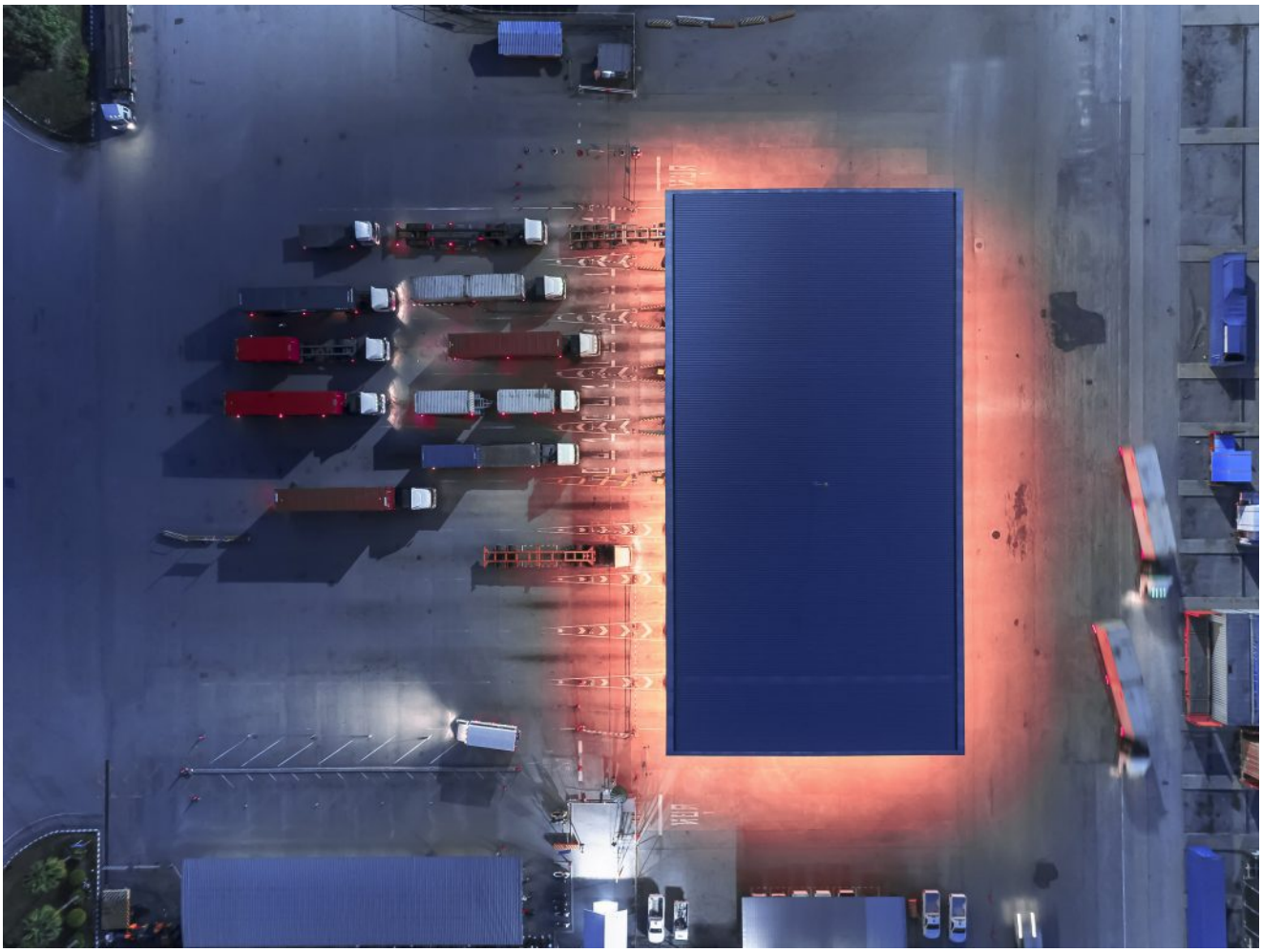
Once selected, SCI automatically pushes a notification to the relevant Lenovo personnel about the change, helping to ensure timely delivery. Regardless of the method, the goal is always the same: offer an excellent experience for every Lenovo customer.

Result: Driving Smarter Decisions

More than 70% of Lenovo supply chain employees use SCI to support their decision-making and keep track of day-to-day activities. Because cross-functional teams now share the same platform, it is faster and easier than ever to share relevant information between Lenovo and our trading partners—cutting decision-making cycle times by an average of 60%.

SCI has contributed to a 4.8% revenue increase and boosted on-time-in-full delivery performance by 5%. In fact, SCI has helped Lenovo to reduce manufacturing and logistics

costs by around 20% while simultaneously boosting service levels in these areas.



Result: Shaping Excellent Customer Experiences

Using AI-powered innovations such as SCI, Lenovo is shaping an advanced approach to supply chain management—and by deploying the solution in your organization, you can transform your approach too.

SCI can dynamically analyze stakeholder requirements across all parts of the supply chain, enabling you to identify the optimal resource allocations to maximize efficiency and drive high customer satisfaction.

By leveraging process automation and AI modeling, SCI allows your business to maintain intelligent operations with a strong customer focus. These capabilities don't only benefit your planners—real-time data and faster decision-making can help enhance operational efficiency and collaboration for the whole supplier ecosystem.

To find out how Lenovo could help your business build an agile, intelligent supply chain, visit Lenovo.com or speak to your Lenovo contact.