

How life sciences companies use *generative AI* to improve supply chain resilience

Most companies recognize Gen AI can improve supply chains but many are unable to take full advantage of these powerful solutions

Enterprises in the life sciences sector are under immense and growing pressure to make their supply chains more resilient and cost-efficient, and generative AI and other data-driven technologies are poised to solve these challenges while also helping enterprises accelerate new product introductions and capitalize on market opportunities. But until companies address some fundamental issues in their organizations, many will be unable to take full advantage of these tools.

Significant, costly challenges

Supply chains across the life sciences sector are being stressed on multiple fronts. The COVID-19 pandemic is a notable recent example but other, ongoing challenges include geopolitical instability, inflation, and more frequent and severe weather events caused by climate change.

Such challenges are boosting costs for materials and transportation. They're also causing delivery disruptions and product shortages. According to Satya Patloori, Vice President, Life Sciences, Capgemini Invent, unless life sciences organizations transform their supply chains – and soon – the consequences will be severe. He noted, for example, internal research and poll results indicate that by 2030:

- Supply chain costs for medical technology companies could increase by over 35 percent
- Those costs for pharmaceutical companies could balloon by more than 50 percent
- Full-time equivalent employee counts and OpEx cost per employee could rise by more than 40 percent.

Maximizing manufacturing efficiencies through AI and data

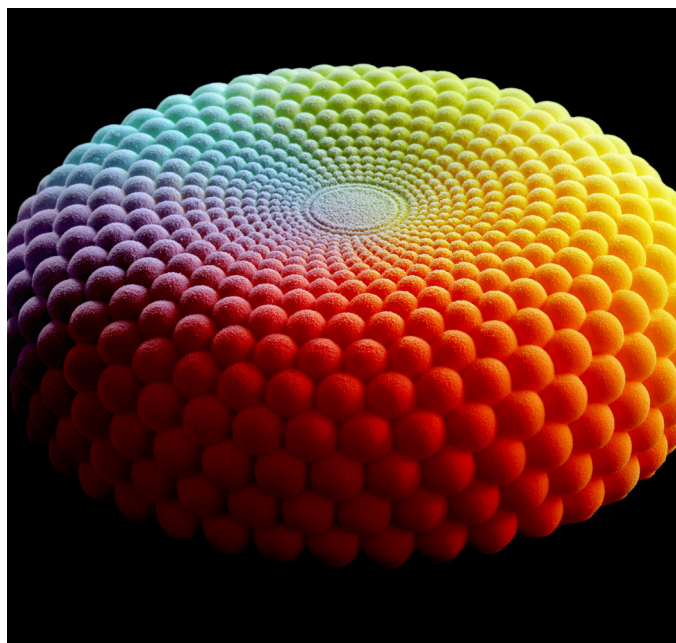
Many companies already understand they can address these issues with data and advanced analytics. AI can identify pain points within the supply chain, and it can predict potential issues and help organizations solve them – before they occur. It can also identify product anomalies and help trace them back through the supply chain to their source. What's more, the advent of generative AI means people can interact with these powerful tools using natural language interfaces – enabling not just data scientists but also all business users to research issues and develop solutions.

Many companies have identified use cases and launched proof of concept trials. According to Patloori, here's what life sciences companies should consider when implementing AI across supply chain operations.

Get the organization's data assets in order. A high-quality data strategy is the essential foundation that enables AI and Gen AI initiatives – but many companies still have not addressed this important requirement. For example, many organizations do not have end-to-end visibility into their supply chain. Instead, data is locked in operational silos related to planning, production, and logistics. By unlocking these silos, AI can identify relationships between them to help make the entire supply chain more efficient.

Focus on specific efficiencies. The C-suite isn't looking for a simple efficiency gain across the board. Instead, it has well-defined objectives, like better cash flow, reduced inventory, quality improvements, or accelerated cycle times. Every use case that applies AI to the supply chain must clearly address a business objective, or it has no value to the organization.

Make governance a priority. Companies must set clearly defined targets and establish a means to measure the results of any proof of concept trial against corporate targets. This ensures all use cases are designed to drive value for the enterprise.



Improving the supply chain with AI

According to Joe Alvillar, Life Sciences Supply Chain Lead, Microsoft, AI can ease supply chain bottlenecks by enhancing production flow and reducing the time required to complete ancillary activities like preventative maintenance and production machinery calibration.

Here are some other ways life sciences companies are working with Microsoft to deploy innovative AI solutions.

Improved product lifecycle management: Generative AI allows production workers to document issues at any stage in the manufacturing process by using a natural language interface to report a concern. The solution captures this data and creates a summarized report that's routed to the appropriate team for resolution. Generative AI also facilitates global collaboration by providing translation into multiple languages as required. This improves the manufacturing process and workflow.

AI factory assistant: One life sciences company worked with Microsoft to deploy a Gen AI powered assistant to the factory floor that provides access to structured engineering data through a natural language interface. Production workers can use an intuitive chat bot to help them identify reasons for equipment malfunctions and discuss options for resolution. The system has enabled the company to onboard frontline workers 50 percent faster than before, and facilitates faster on-the-job up-skilling by providing an always-on companion to answer questions as they arise.

Enhanced visibility across the supplier network: The company is also using AI to collect, organize, and analyze data from different sources across its supply chain. Internal data is then connected with external data like compliance requirements, sustainability factors, and market pressures. The insights from this solution help the company better predict pricing deviations and potential shortages to enhance risk management.

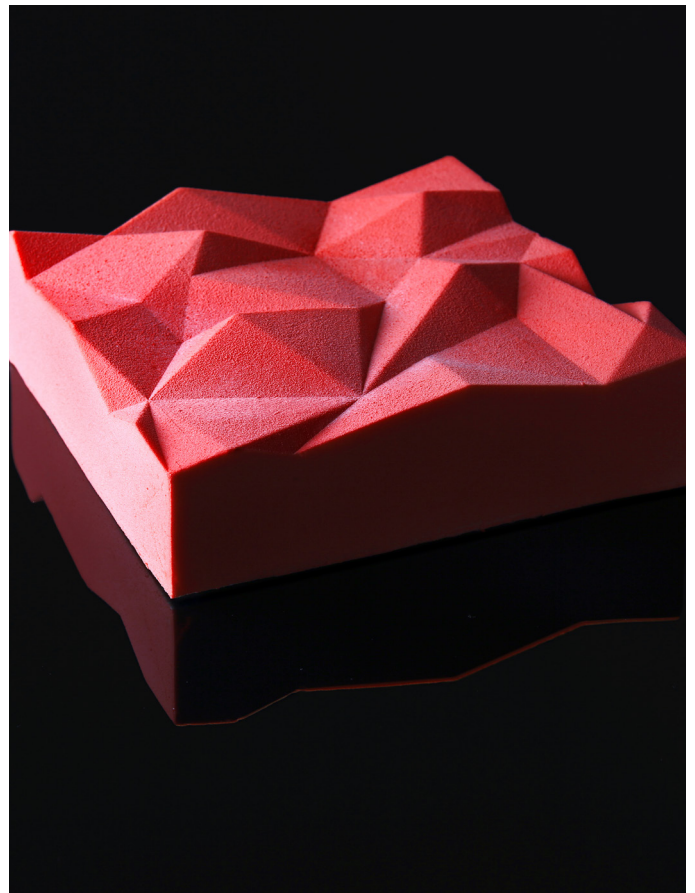
Strong supply chains deliver value at scale

For most enterprises, generative AI is still relatively new – but it's already having an enormous impact on business. Life sciences companies seeking to improve their supply chain resiliency and efficiency should embrace use cases that are quick to deploy and demonstrate value. This will provide technical teams and business users

with first-hand experience with the technology, while positioning the organization to scale the solution. It will also prepare the company to tackle use cases with bigger stakes and greater rewards.

Capgemini draws upon its global network of technology partners like Microsoft, as well as its expertise in multiple industrial sectors, to help companies successfully identify and deploy use cases that address specific business objectives and deliver tangible value.

To learn more about how Capgemini helps pharmaceutical, med tech, and other life sciences companies use generative AI to improve their supply chains, please contact Vice President and Generative AI Practice Leader [Ayan Bhattacharya](#).



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