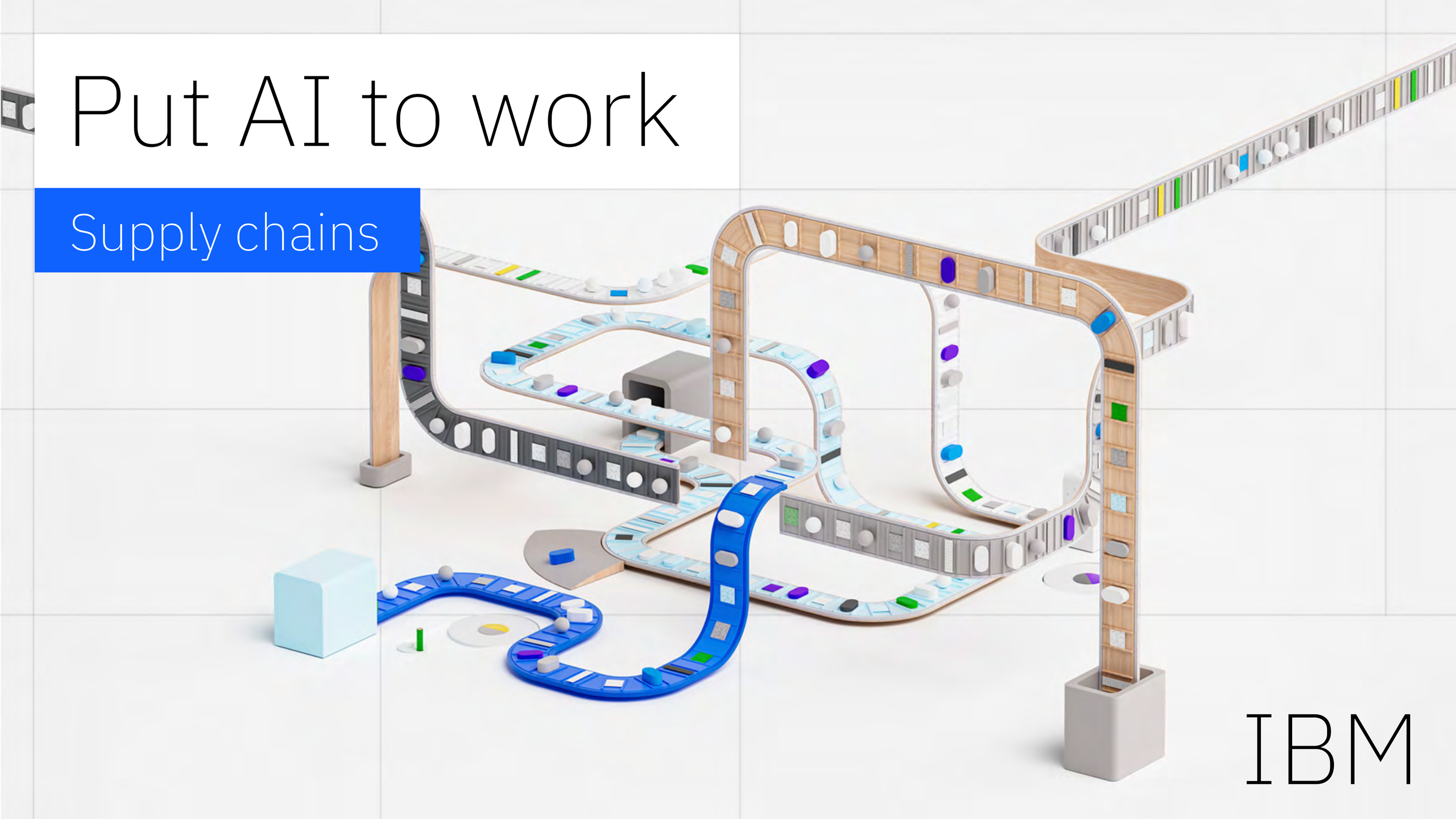
Put AI to work

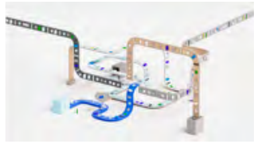
Supply chains



IBM

Contents

Uncertainties rule the supply chain landscape. Global disruptions. Geostrategic tension. Supplier delays. Volatile cost environments. Fluctuating customer demands. Supply chain and procurement leaders are continually striving to enhance visibility, resiliency, agility and cost efficiency in their operations—goals that align precisely with the potential of generative AI (gen AI).



Cover:
Gen AI in action
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01

Supply chains in the age of AI

In today’s volatile supply chain landscape, CSCOs and CPOs are beset on all sides by challenges old and new. As they tackle these challenges and optimize their operations, how can gen AI help?

89% of surveyed executives reported that key investments in automation will include gen AI capabilities.[1] And 19% said gen AI will be critically important to their supply chain automation futures.[1]

Chief supply chain officers (CSCOs) and chief procurement officers (CPOs) have always faced formidable challenges. With so many moving parts, variables and external dependencies, supply chain management is complex. While external factors, such as geopolitical uncertainties, economic volatility and heightened customer expectations, keep constant pressure on supply chain and procurement leaders, they also face internal challenges ranging from tackling talent burnout to meeting sustainability objectives. Within the last few years, new obstacles, such as scarcity of materials, uncertainty in supply and demand, rising freight costs, and growing complexity in the supply chain network, have also entered the line of sight of supply chain teams. To handle both old challenges and new ones, CSCOs and CPOs are seeking cost-effective solutions that will help maintain their competitive edge—gen AI being one of them.

Investing in gen AI to automate and streamline supply chain workflows is now a top priority among CSCOs. In a recent study by the IBM Institute for Business Value, 89% of surveyed executives reported that key investments in automation will include gen AI capabilities—and 19% said gen AI will be critically important to their supply chain automation futures.[1] A smarter supply chain relies on intelligent cross-functional workflows powered by data-driven decisions. These intelligent workflows ultimately generate value by reimagining the way work is done, adding AI and automation to everyday tasks, insights, responses and actions. In the same study, 9 in 10 surveyed executives said their organization's workflows will be digitized with intelligent automation and AI assistants by 2026.[1]

Gen AI—a generational leap forward in AI technology—draws from deep learning neural networks known as foundation models and uses powerful transformers to produce high-quality content, such as text, images or code, from organizations' existing proprietary data.

The availability of real-time data across the supply chain is a key factor driving digitization and automation. Data is the foundation of businesses—and organizations that connect all their data in real time to present a single source of truth can make decisions faster and respond instantly to shifting market realities.

With 51% of surveyed executives considering the ability to respond to real-time demand volatility a top operational priority,[1] anything that enables organizations to make these decisions faster can be a great help. Gen AI provides capabilities that help link data across silos—enabling CSCOs and CPOs to reach their single-source-of-truth goal.

By harnessing gen AI to drive data initiatives that connect people and technology across the supply chain ecosystem, organizations can uncover insights, increase productivity, improve resiliency and accelerate innovation.

The right workforce strategy is also a major consideration for CSCOs and CPOs as they seek to accelerate growth and deliver value. With the help of automation, leaders can redesign the employee experience for a hybrid world by focusing on flexibility, intentionality and empathy.

Automated, intelligent processes and workflows provide employees the opportunity to work collaboratively from anywhere and anytime, while enabling organizations to tap into new skills and capabilities. For 6 out of 10 executives surveyed, the business case for investing in automation centers around boosting workforce productivity and agility—and gen AI amplifies these effects for both human employees and AI assistants.[1]

Gen AI helps transform many aspects of supply chain and procurement operations. Employees, across functions, get the business-wide visibility they need to optimize planning and inventory, improve workflows, and meet market demands. Everyone in the organization—from the shop floor worker to the C-level executive—is empowered to make quick, fact-based decisions that result in greater operational efficiency, higher product quality and better cost optimization. Supply chain and procurement organizations get to transition their operations toward a more predictive, proactive and future-oriented approach, thus building a competitive edge in the market.

However, gen AI is not without its challenges and teething troubles. In the Global Risks Report published by the World Economic Forum in 2024, one of the top 3 risks cited is AI-generated misinformation and disinformation.[2] Gen AI is still in its early days in terms of technology maturity, fairness and transparency of AI models, and accuracy and reliability of their outputs are issues that remain to be fully addressed. When supply chain leaders consider enterprise adoption of gen AI, they should keep these realities in mind and choose AI models that are trained to deliver the accurate answers needed to run business operations efficiently.

Even as organizations open up to the possibilities of gen AI, frontrunners in the industry are already seeing their efforts bear results. In another study by the IBM Institute for Business Value, supply chain innovators have reported 34% more revenue growth and 326% more profitability than their peers from 2017 through 2020.[3]

How can organizations harness the power of gen AI to transform their supply chain operations? There are some key use cases for gen AI that organizations can learn from as they look to reinvent their supply chains for the future.

34% more revenue growth
326% more profitability

From 2017 through 2020, supply chain innovators outperformed their peers.[3]

02

Why AI in supply chains matters

It’s time to move from +AI to AI+. When CSCOs and CPOs put AI to work at the strategic core of the business, they can solve both emerging and persistent challenges and fundamentally transform supply chains.

Scaling AI across the enterprise, safely

Despite the widespread enthusiasm for using gen AI for business—especially from board members and investors—many business leaders still have concerns about gen AI adoption.

In a recent study, the IBM Institute for Business Value found that responding executives have 4 top concerns about gen AI adoption.[4]

61% have concerns about data lineage or provenance.

57% have concerns about data security.

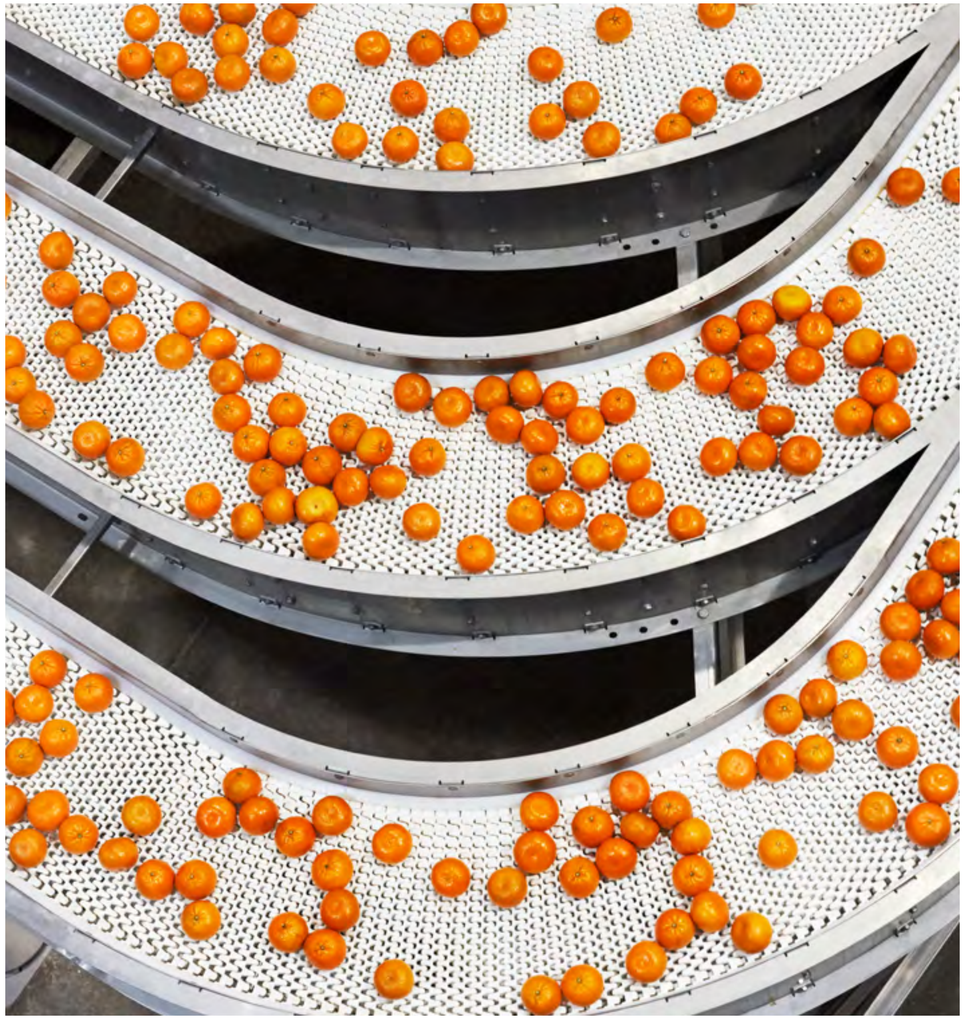
53% have concerns about the constraints introduced by regulations and compliance.

45% have concerns about data privacy.

How your organization succeeds with gen AI is influenced by how you select, govern, analyze and apply data across it.

Huge volumes of data from different sources are used to train gen AI models, so, implementing governance, management and ethical frameworks that operate end to end is key if you wish to adopt AI safely and responsibly.

IBM has long followed core principles grounded in commitments to trust, transparency and fairness to guide how we handle client data and insights—and how we develop and deploy new technologies. To continue this practice in the age of AI, IBM has developed a multidisciplinary, multidimensional approach that embeds ethical principles into AI applications and processes. With IBM's Principles for Trust and Transparency and Pillars of Trust as the foundation for our AI ethics initiatives, we're helping people and organizations adopt AI responsibly, and with clear purpose.



IBM's guiding principles for AI ethics

Principles for Trust and Transparency

The purpose of AI is to augment human intelligence
We believe AI should make all of us better at our jobs, and the benefits of the AI era should touch the many, not just the elite few.

Data and insights belong to their creator
Clients' data is their data, and their insights are their insights. We believe government data policies should be fair and equitable, prioritizing openness.

New technology, including AI systems, must be transparent and explainable
Companies must be clear about who trains their AI systems, what data is used and what goes into their algorithms' recommendations.

Pillars of Trust

Explainability
Good design does not sacrifice transparency in creating a seamless experience.

Fairness
Properly calibrated, AI can assist humans in making fairer choices.

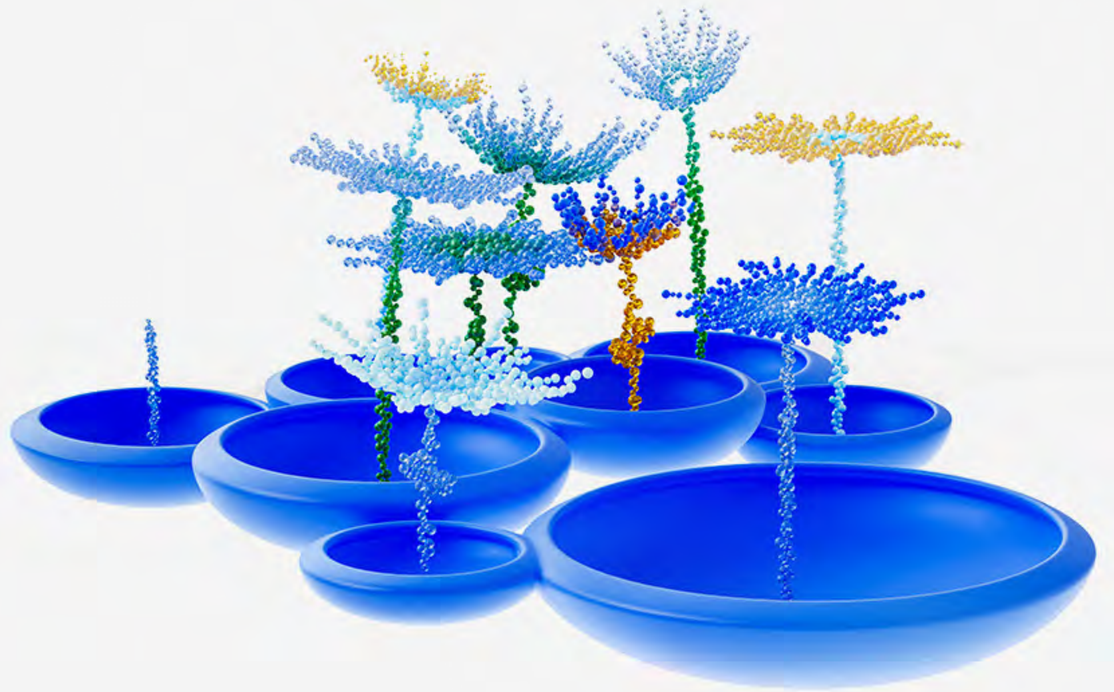
Robustness
As systems are employed to make crucial decisions, AI must be secure and robust.

Transparency
Transparency reinforces trust, and the best way to promote transparency is through disclosure.

Privacy
AI systems must prioritize and safeguard consumers' privacy and data rights.

In the past, enterprises have approached AI as an add-on, with the end goal being digital transformation. Now, AI is becoming the centerpiece of business transformation—75% of business leaders surveyed believe competitive advantage will depend on who has the most advanced gen AI.[7] But harnessing the potential of AI to fundamentally transform supply chains requires a mix of vision technology, creativity and change management. Enterprises need to put AI to work at the strategic core of the business—not just add it on to existing systems—to solve challenges and help achieve their business objectives.

It’s time to move from +AI to AI+.



Combining traditional and gen AI

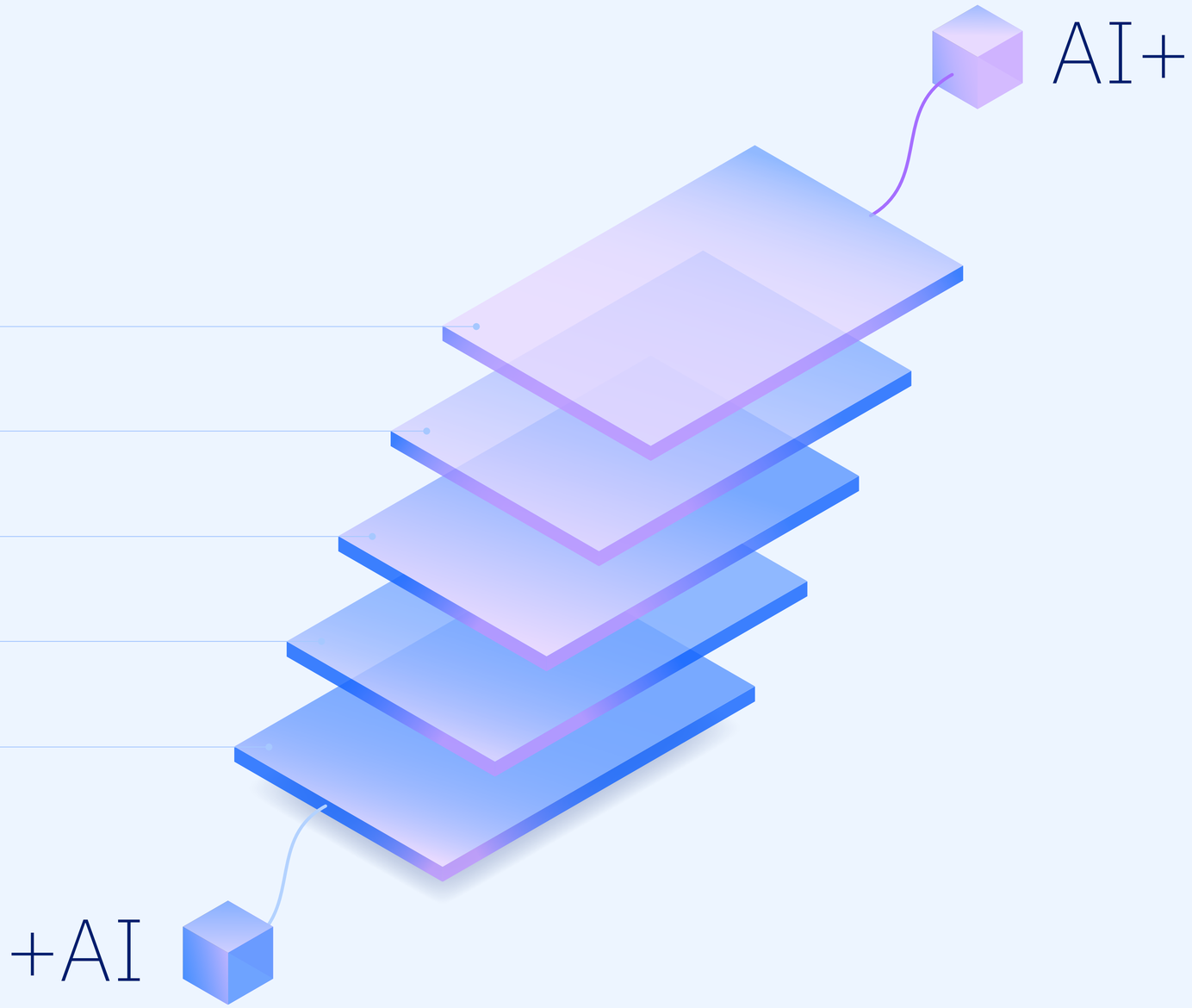
So, does this shift in technology mean you need to replace your traditional AI solutions with the latest gen AI for supply chains? IBM AI leaders say no.

Traditional AI models that use conventional machine learning (ML) and rules-based models have different capabilities and serve different functions: predictive analysis, security and compliance, automation, and more. Gen AI models, on the other hand, use foundation models to autonomously generate content based on the data they were trained on.

What's new about gen AI is its ability to generate original content that feels conversational, using large language models (LLMs). These LLMs can pull in all your corporate guidelines and inputs to help generate content, with brand requirements that are in the desired voice and tone. Gen AI alone can provide benefits, but you can see a great value-add when it's combined with traditional AI.

The AI Ladder®
in the modern day

- Let AI help with the work
- Replace your workflows
- Automate your workflows
- Add AI to your applications
- Collect, organize, grow data



Gen AI and traditional AI are, in fact, complementary technologies; use them together to help accelerate and achieve your strategic goals.

Traditional AI

Applies predefined rules and algorithms to specific sets of data to help solve problems, make predictions and automate tasks

Potential supply chain management tasks using traditional AI

Predictive or prescriptive
Structured data analysis, predictions forecasting

Directed conversational AI
Deterministic dialog flows for structured conversational AI

Computer vision AI
Machine vision for object and anomaly detection

Process automation
Robotic process automation (RPA), process reengineering and optimization

Generative AI

Uses LLMs to generate new content based on patterns learned from the data they were trained on

Potential IT tasks using gen AI

Summarization
Summaries of documents, such as user manuals, asset notes, financial reports

Conversational search
Support for standard operating procedures and troubleshooting

Content creation
Personas, user stories, images, personalized UI, marketing copy, email and social responses

Code creation
Code copilot, code conversion, technical documentation creation and test cases

03

Put AI to work for supply chains

With gen AI, organizations can build predictive and proactive capabilities that enable supply chain and procurement leaders to not only manage their operations better but also prepare for disruptions.

In many ways, the start of the pandemic in early 2020 marked a turning point in the way organizations managed their supply chains. Before the pandemic, the focus was on simplifying supply chain operations, with organizations slimming down from multiple suppliers to single sources. However, due to disruptions caused by lockdowns, travel restrictions and other government-imposed controls starting in 2020, supply chain leaders were forced to reevaluate.

As supplies, manufacturing and logistics were hit by these disruptions, finding alternate options for vendors, production facilities and logistics routes—for both raw materials and finished goods—became imperative. Organizations had to diversify their options to de-risk their supply chain and make operations more robust. But with diversity came complexity.

As supply chain operations expanded, data multiplied. Supply chain and procurement teams faced the daunting task of making sense of all the data before they could meaningfully respond to fluctuating market demands. Planning for supplies, inventory, production and logistics became complicated. It became clear to leaders that there had to be a better way of doing things—one where they could manage operations and make decisions based on real and relevant data. Meanwhile, enterprise AI was advancing, and many organizations began exploring how to integrate it into their operations.

62% of surveyed executives expect gen AI to accelerate the pace of discovery, leading to new sources of product and service innovation.[1]

The availability of real-time data from across the supply chain—which included pools of unconnected, ungoverned shop floor data outside of transaction systems—became a decisive factor for AI adoption. With gen AI, organizations now had the reason—and importantly, the ROI—to collect, connect and curate all this data to make timely, insight-driven decisions that could proactively benefit their operations.

For leaders and decision-makers, AI brought a unified view of the entire supply chain ecosystem that helped them enhance operational efficiency and resiliency, improve collaboration and drive innovation. In a study by the IBM Institute for Business Value, nearly two-thirds (62%) of surveyed executives said they expect gen AI to accelerate the pace of discovery, leading to new sources of product and service innovation. And gen AI leaders outperform in innovation 53% more frequently than their peers.[1]

With the emergence of gen AI, organizations can now build predictive and proactive capabilities that enable supply chain professionals to better plan their operations and prepare for disruptions. Using internal and external data, gen AI can help predict demand patterns, streamline and monitor operations, keep constant track of quality and alert users before exceptional events occur. Also, teams are empowered to act faster to mitigate events as gen AI offers specific recommendations on the next best steps. The IBM Institute for Business Value study found that more than 4 in 5 (81%) surveyed executives agree predictive capabilities with gen AI detect problems earlier, and 77% say gen AI models successfully identify geopolitical and climate risks, enabling proactive mitigation.[1]

53%

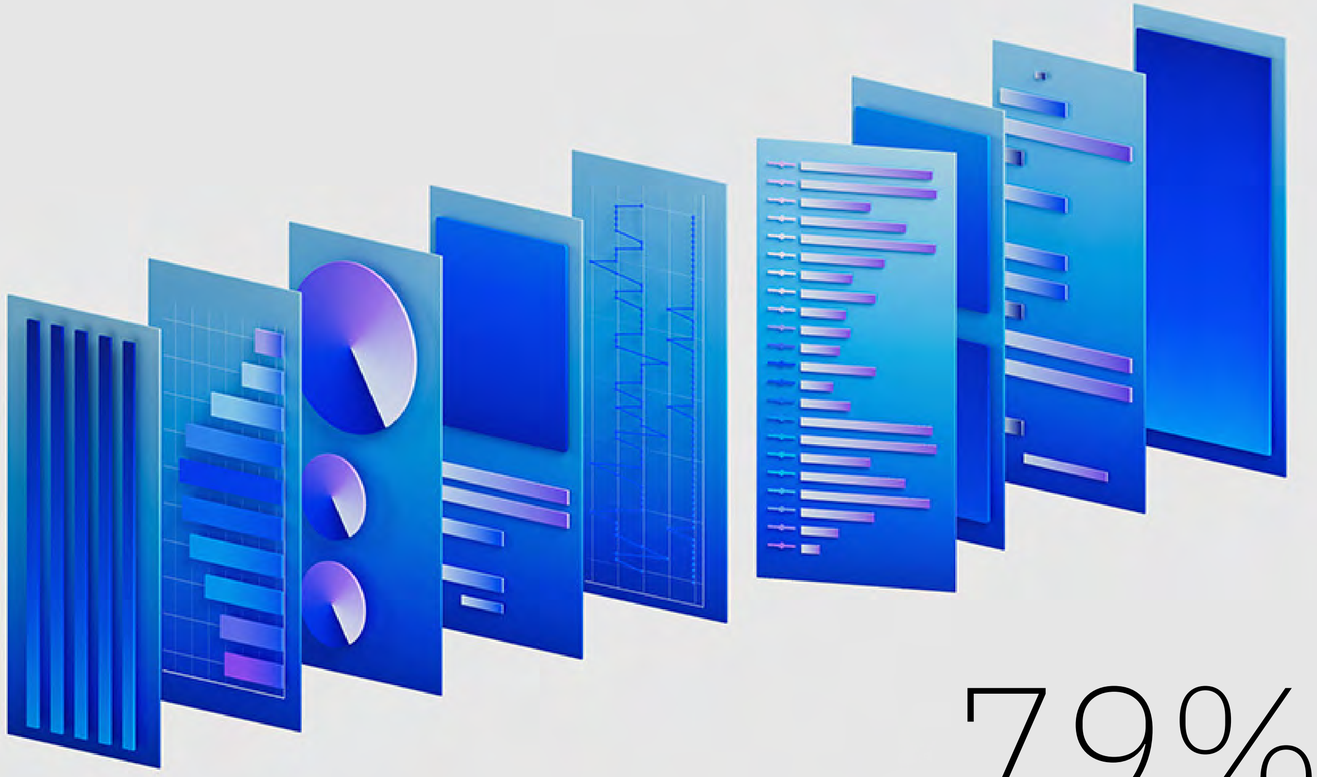
Gen AI leaders outperform in innovation 53% more frequently than their peers.[1]

For example, an **electronic manufacturing** company needs to source components from different suppliers to run their production line. But if a labor strike or weather event affects one of the suppliers, the procurement team will need to come up with a plan B. With gen AI, the team can quickly assess the impact of these roadblocks on production and delivery and get recommendations on the best course of action.

In this case, the company can consider sourcing from a second or third choice supplier—even if the cost is higher—because any stoppage in production could prove to be costlier. When IBM faced a similar challenge during the peak of the pandemic, we were able to quickly re-source and reroute parts as necessary, leading to a 100% order fulfilment rate.[6]

AI can also make a significant difference when it comes to demand sensing and forecasting. Demand volatility can upset the entire supply chain, from inventory management to supplies, production planning, logistics and total supply chain costs.

In an IBM Institute for Business Value study, 79% of surveyed executives said gen AI will optimize inventory management by predicting future demand patterns.[1] Organizations hold considerable volumes of historical data that, when combined with external market data, can provide fairly accurate insights into future demand. With the help of AI metrics, supply chain professionals can make sense of the data on hand to better predict demand cycles.



79%

of surveyed executives said gen AI will optimize inventory management by predicting future demand patterns.[1]

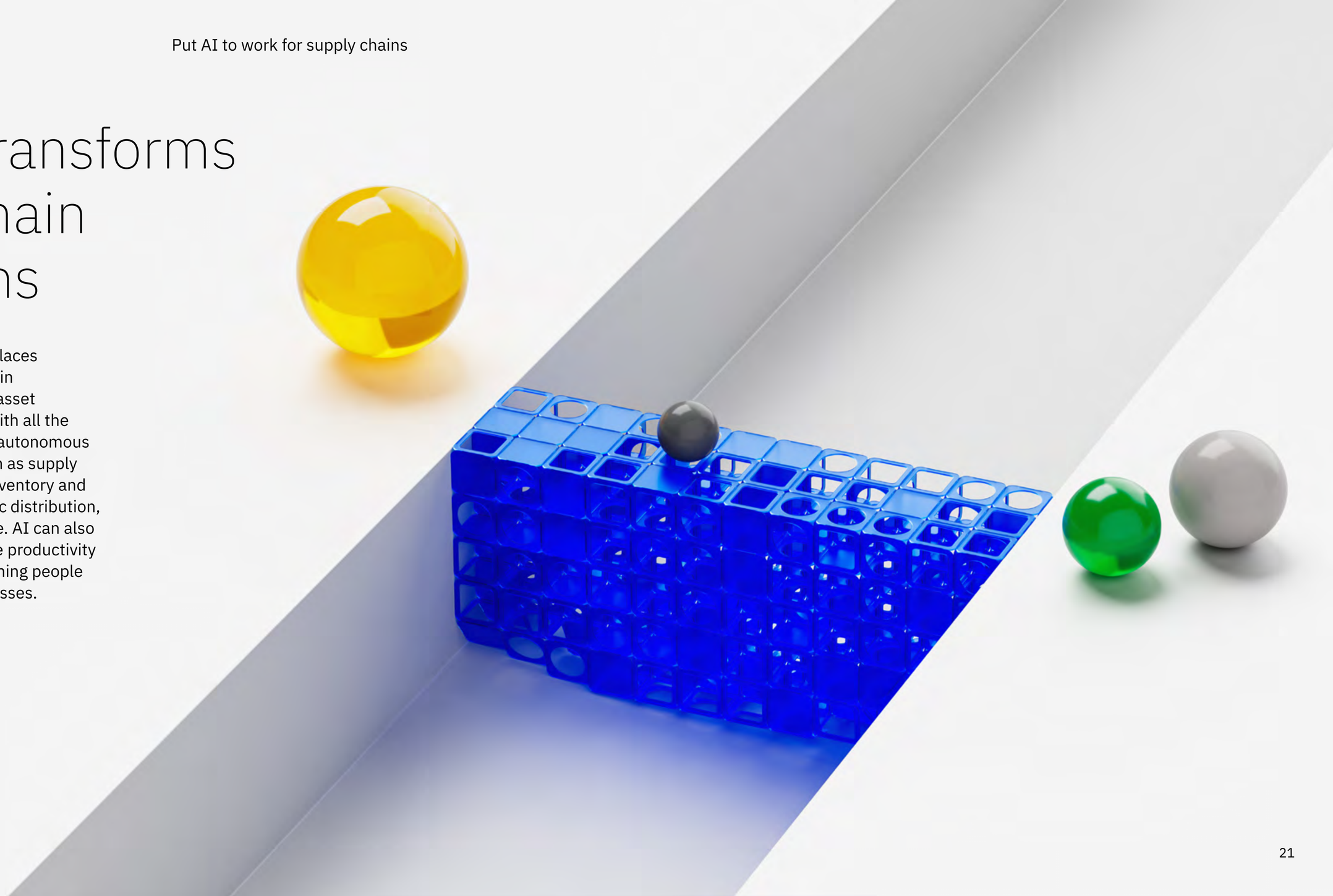
More accurate demand forecasting also enables inventory optimization. With AI providing a clear view of an organization's current state of supply and demand, teams can better plan their inventories and work toward achieving inventory reduction. After its supply chain transformation, IBM has been able to save USD 160 million related to reduced inventory costs, optimized shipping costs, better decision-making and improved time savings.[6]

When it comes to inventory supply, lead times often vary—and suppliers don't always provide reliable projections. By establishing AI-powered communication channels and collaboration platforms with suppliers, supply chain teams can keep near real-time track of supplies and respond faster when disruptions occur. IBM has built a solution that enables a user to enter an order and get an answer in about 17 seconds—as compared to the hours it would take if they were using phone calls, emails or electronic resource planning (ERP) queries.[6]

IBM set in motion our supply chain transformation driven by natural language processing (NLP) and AI capabilities more than 5 years ago. We modernized our traditional systems spread across different organizational silos, which helped improve agility and resilience. Now, with the infusion of gen AI, IBM and IBM® Business Partners can help clients unlock new business value from their structured and unstructured data. And employees, irrespective of their age or experience, can use gen-AI-powered digital assistants and companions to help accelerate their learning curve, ask questions in natural language to explore data, make quick and informed decisions, and be more productive.

How AI transforms supply chain operations

Gen AI can be used in many places throughout the supply chain—in manufacturing, planning and asset performance management. With all the data available, AI can enable autonomous decision-making in areas such as supply and production scheduling, inventory and network optimization, dynamic distribution, and preventative maintenance. AI can also be used to augment employee productivity by allocating resources, assigning people to tasks and scheduling processes.

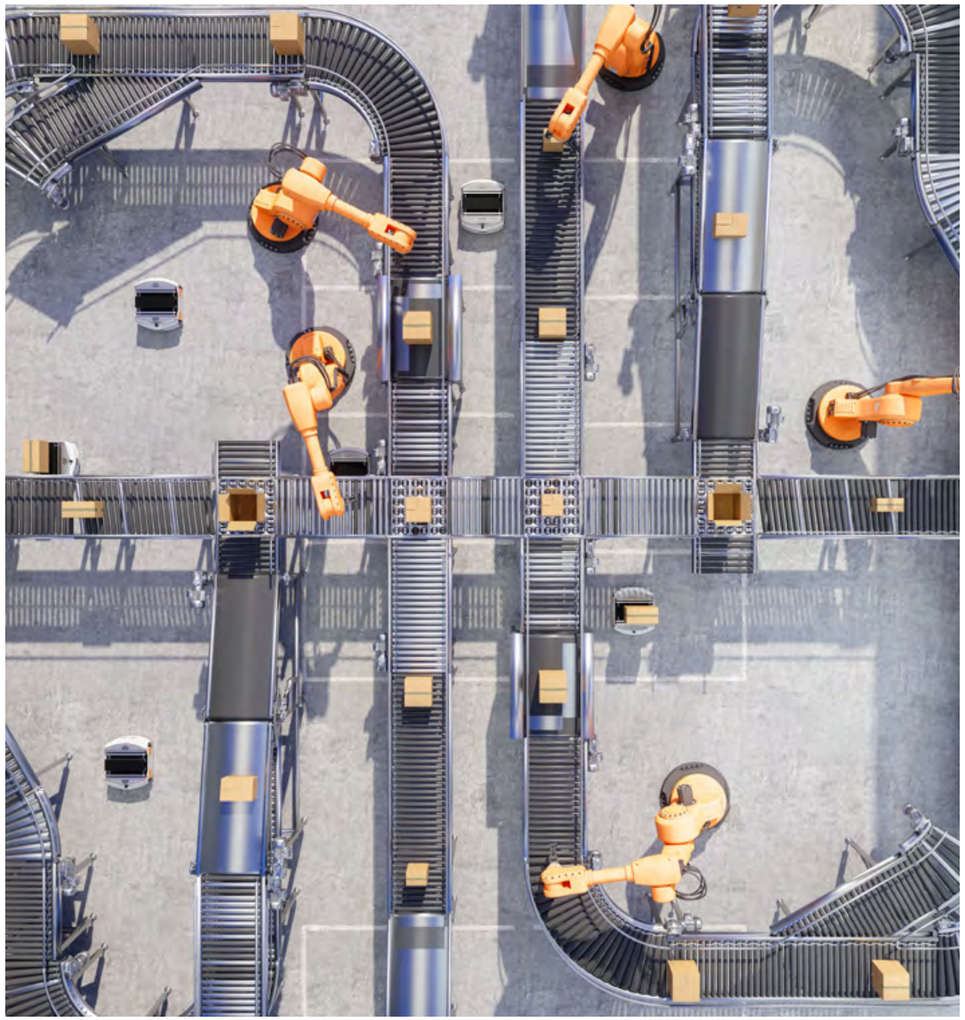


Gen AI in manufacturing

In manufacturing, AI has been in use for many years now. It's most frequently used to automate and optimize processes, identify and resolve production bottlenecks, monitor quality, assess equipment health, and schedule preventative maintenance. It can also enable personnel on the floor to proactively respond to issues before they become crises, such as equipment failures or production of substandard goods.

With the emergence of gen AI, AI adoption within manufacturing has accelerated. With technology such as LLMs, among others, organizations can now tap into their English language datasets to generate insights, summarize information or create reports.

Manufacturing also has untapped islands of data—rarely used beyond day-to-day operations—existing in many areas of the supply chain. Gen AI can make use of this data to enable production operators to act in the moment by recommending the next best action or providing proactive alerts.



For example, a **life sciences company**, operating in a highly regulated environment, could increase their efficiency with the help of gen AI. Employees can obtain a summary of government regulations that apply to their respective functions without having to go through reams of documents, thus saving a lot of time and effort. With its text summarization capability, gen AI could also help the operator of a bioreactor maximize production yield.

No two bioreactions happen the exact same way—each batch operation creates new data points. Gen AI can combine these new bits of information with standard operating procedure (SOP) to offer workers recommendations that can enhance yield.

Gen AI in supply chain planning

Supply chain planning is a demanding process that's dependent on multiple factors. AI automation brings order to the chaos, enabling teams to analyze all the information in near real-time and make the right decisions. AI can help boost the productivity of teams, predict demand better, reduce inventory costs, and improve on-time delivery and fill rates.

If the benefits of traditional AI are felt largely at the organization level, gen AI goes a level deeper, empowering individual team members across the supply chain to perform their tasks better. Gen AI serves as an assistant to almost all employees in the supply chain. An operations leader can use AI-generated recommendations based on real-time operational data to adjust production schedules. A demand planner managing annual planning needs both a long-term view and a daily action plan based on the day of the week. At any point in time, they can check the readiness of the plan by asking specific questions to a gen-AI-based assistant. With data-informed answers at the ready, decisions can be made instantly. Plus, faster decision-making frees up employees' time, allowing them to focus on other tasks and collaborate better toward driving productivity.

For example, IBM Business Partner, Terzo, has a financial intelligence platform that helps finance and procurement teams optimize spend across their third-party suppliers using the IBM watsonx™ platform for natural language search and task automation. The Terzo platform allows clients to centralize contracts, link invoices and extract metadata to better manage, forecast and understand business spend.

Gen AI in asset management

Asset management teams haven't always been early adopters of new technologies due to the complexity of existing systems, risk aversion and regulatory compliance issues. However, technologies such as gen AI can significantly improve asset management operations—from workforce enablement and training to asset lifecycle management.

Managing asset health is a critical area where gen AI can help. Organizations need to make important repair or replace decisions based on metrics such as the age of the assets or their present condition. By synthesizing the relevant asset-related information, gen AI can recommend the right action in real time—whether it's repairing the asset or replacing it altogether.

With a high percentage of seasoned employees, asset management is an area where most of the operations are run on historical knowledge with little to no documented information. As new workers take charge, knowledge transfer becomes a big challenge. To help make the onboarding process simple and efficient, organizations can use gen AI to create training materials, process documentation, how-to guides, best practice documents, safety guidelines, maintenance manuals and more.

Gen AI can assist personnel in performing their routine tasks more efficiently. For example, a wind technician may encounter an issue while working on a wind turbine. Using gen AI, the technician can get specific directions on what to do next and how to resolve the issue. Troubleshooting equipment problems faster not only saves the workers' time but can also extend the life of assets.

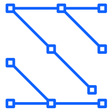
AI can also help employees remove repeatable tasks from their daily work schedule, resulting in an improvement in productivity. In highly regulated industries, such as utilities and life sciences, workers can use gen AI to keep track of rules and regulations, as well as the necessary safety precautions needed for compliance.

The path to supply chain automation

Challenges to AI adoption

As with any new technology, AI has its share of early adopters and slow starters. One major reason for slow adoption is many organizations don't understand **how or where exactly AI—in particular, gen AI—can help.** There are also concerns about gen AI making certain job roles redundant.

In reality, AI can free employees from repeatable tasks so they can focus on more complex and higher-value work. By streamlining processes, gen AI also helps organizations accomplish certain tasks with fewer resources, while at the same time improving individual employee efficiency and productivity.



Another big challenge for organizations is **getting their data ready for AI**. While business leaders know the immense value of their data, they must address several practical issues before the value can be actualized. For supply chain leaders, this challange includes the untapped islands of data that exist in many areas of the supply chain, which could be used by gen AI to assist production operators with real-time recommendations. How do you segment and clean all the data? Are proper data privacy and security guidelines in place? How do you tackle data latency problems? And most importantly, how do you ensure data quality? The quality of data directly impacts the accuracy and reliability of AI outcomes. And trust in outcomes is still a cause for concern in gen AI.

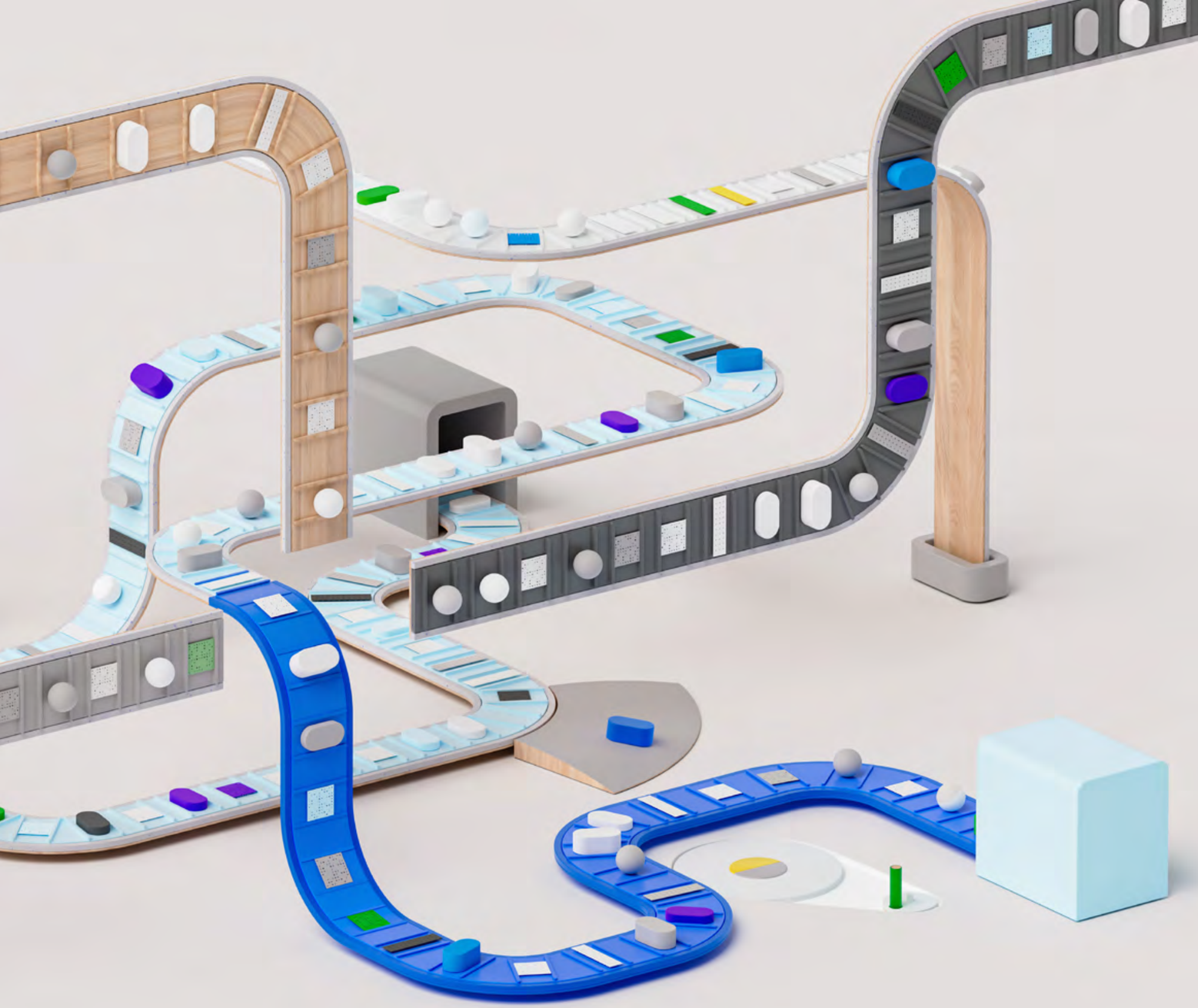
A third potential blocker for organizations adopting AI is a **skills gap**. Many organizations don't have the resources with the correct skillset to implement AI into their workflows, and hiring and training employees can be time-consuming and expensive. IBM Business Partners offer organizations an easy way to accelerate their AI adoption by providing them with innovative technology to optimize core business operations, automate business processes and improve reporting. We empower our Business Partners to easily integrate AI into their industry-specific or domain-specific solutions to better meet client needs.

How do organizations benefit?

Supply chain and procurement organizations must navigate a challenging landscape fraught with complexity and uncertainty. To keep operations agile, resilient and responsive, business leaders need to achieve a higher level of innovation and risk management—and AI can help. AI has the power to transform the way organizations function—whether it's by creating scalable operations, establishing agile workspaces or automating entire supply chain workflows. With new technologies such as gen AI, organizations can navigate global network complexities, ease uncertainties in supply and demand, stay competitive in the market, and drive customer satisfaction.

Supply chain management has many transactional functions—supply chain and procurement specialists spend their time on routine tasks, such as tracking shipments, managing inventory and scheduling deliveries. Right now, there's limited scope for professionals to do higher-value work that uses their full human potential. With AI—especially gen AI—that's set to change.

Gen AI empowers supply chain and procurement professionals with greater visibility, agility and decision-making capacity. While freeing up the workforce from repeatable tasks, gen AI can also bring predictive and proactive capabilities that enable people to see around corners—so they can manage risks better and respond faster to events. And importantly, supply chain professionals can shift their focus to work that adds real business value.



Gen AI in action

Many organizations around the world are already using gen AI to optimize their supply chain and procurement operations. Here are two instances where IBM was able to successfully put AI to work for supply chains.

Problems with data transparency and consistency were holding back Coca-Cola Europacific Partners' (CCEP's) efforts to find and act on the insights buried in the company's spend data. Using procurement consulting and AI-first business operating services from IBM, CCEP was able to drill deeper into its procurement data to extract strategic insights that have helped achieve a whole new level of optimization and propel business value. To keep the AI momentum going, CCEP has also decided to pilot a new solution using the IBM watsonx AI and data platform.

USD 40 million

in overall business benefits, including USD 5 million in annual cost and avoidance savings from improved category management and sourcing made possible through AI-powered analytics

60%

of catalog coverage across indirect procurement

Realizing a need for more supply chain speed and transparency, the IBM supply chain team set out a bold vision to build its first cognitive supply chain. The aim was to have an agile supply chain that extensively uses data and AI to lower costs, exceed customer expectations, ruthlessly eliminate or automate nonvalue added work, and exponentially improve the experience of supply chain colleagues. Working with IBM Consulting®, the team was able to accomplish a supply chain digital transformation that helped augment IBM's sense-and-respond capabilities.

100%

order fulfillment even during the peak of the COVID-19 pandemic

USD 160 million

in cost savings, achieved by deploying a cognitive supply chain and building in more resilience and agility

What surveyed supply chain leaders want

Gartner report on Supply Chain Leader Persona Priorities[7]

40%

of CSCOs want better supply chain visibility.

35%

of CSCOs want to improve resiliency.

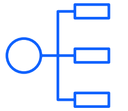
35%

of CSCOs want to enhance decision-making.

Key advantages of AI in supply chains

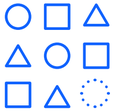
Optimized inventory and network
AI can bring a single dashboard view of an organization’s complex network of suppliers, production centers, warehouses, distribution facilities and logistics partners. Using planning and predictive analytics, supply chain professionals can streamline network operations through intelligent production, storage and logistics management, and optimize inventory levels with more accurate demand prediction.

More accurate demand sensing and forecasting
Using ML algorithms and forecasting functionality, AI can help analyze trends and predict future demand patterns based on historical values and external data. Accurate demand forecasts help organizations plan their inventory better and mitigate the issues of overstocking and stockouts, leading to lower overall costs.



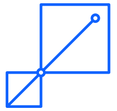
Faster decision-making
AI helps analyze both structured and unstructured data across the business and improve the speed of decision-making through dashboards and scenario setting. By accelerating routine decisions that are backed by data-driven insights, supply chain leaders can enhance operational agility and respond faster to changing market demands.

Enhanced visibility
Intelligent, automated workflows facilitate horizontal integration across functions, providing a 360-degree view of the supply chain and potential disruptions. With increased visibility and transparency, leaders can respond to risks immediately, making decisions informed by real-time data and insights.



Improved resiliency
AI empowers supply chain professionals with predictive and proactive capabilities, enabling them to better anticipate future scenarios and prepare for unforeseen circumstances. With AI-driven workflows, organizations can build a smarter, more resilient supply chain that’s more responsive to disruptions.

More efficient operations
Organizations can use AI to capture, monitor and analyze operational data at every stage to enhance quality—right from the receipt of raw materials all the way through to finished goods. Real-time quality alerts can prevent defective items from being made. AI also enables organizations to improve the overall efficiency of their equipment through early fault detection, faster diagnostics and preventive maintenance. Production workers can use AI to quickly troubleshoot and resolve issues, thus increasing asset performance and life.



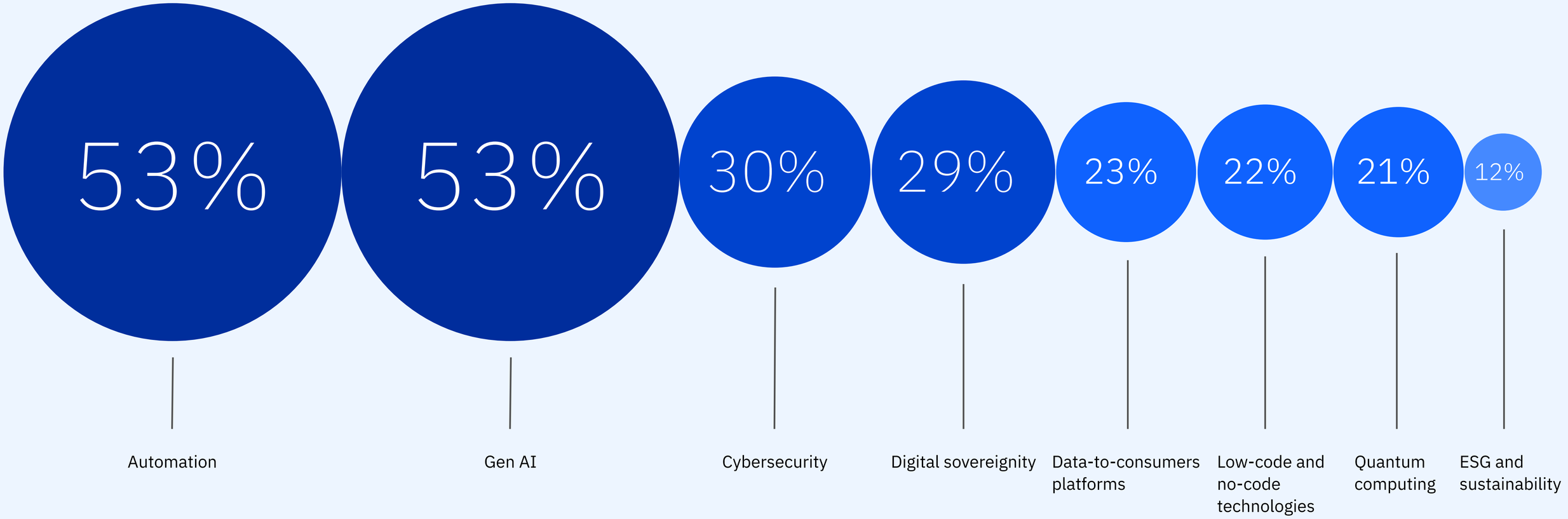
Increased productivity
AI relieves employees of routine tasks so they can focus on more innovative and productive work. Organizations can use AI to quickly identify and rectify process-related issues, optimize workflows, monitor asset health, minimize downtime and accelerate decision-making—all of which result in increased productivity.

Better employee experience
Gen AI redefines the experience for employees by helping them generate content such as summaries and reports instantly, receive customized plans and recommendations, anticipate and respond to disruptions faster, and understand next best actions in any situation to accelerate decision-making.

More sustainable supply chain operations
To build transparency and trust across the supply chain, organizations need visibility. Using data and AI, supply chain professionals can improve visibility and understand in real time how their supply chain impacts the environment. Organizations can even incorporate their environmental, social and governance (ESG) goals as a key lever in decision orchestration. With AI-driven analytics, leaders can make informed decisions aimed at more sustainable supply chain operations—whether it’s optimizing routes for sustainable logistics or conducting preemptive maintenance for longer equipment life.

Get started on supply chain automation

In a recent IDC study, supply chain leaders chose automation and gen AI as top-of-mind technologies with the potential to drive supply chain transformation. As they charted their automation journey, one the the key factors they considered was how to get the trifecta of data, cloud and AI to work together.



Source: IDC, Chief Supply Chain Officers Intrigued by the Potential for Automation Generally — and GenAI Specifically[8]

Supply chains generate enormous amounts of data at every step. However, most of this data ends up in silos, making valuable information inaccessible to those who require it. For instance, a procurement specialist would need the latest data on the supplier's production levels to decide on the next course of action. Is the supplier ahead of schedule, on schedule or behind schedule? Without access to the right information, decisions get delayed, and productivity suffers. The challenge for leaders is to take the dark, underused and disconnected data in their supply chains and integrate it to make it available for analysis, insights and action.

But how do organizations create an integrated data environment that connects all supply chain data—both internal and external? The answer lies in a modern data architecture that brings together cloud, edge computing, IoT devices and AI technologies. The right data architecture enables organizations to access all their data—whether on premises or in the cloud—and apply AI to generate insights both at the enterprise level for supply chain planning and at the shop floor level to help workers make informed operational decisions.

By integrating data from diverse locations, organizations can achieve end-to-end visibility across the supply chain—all the way through from the suppliers upstream to the business and customers downstream—and in some cases, even the end consumer. Decision-makers can see all their data on a single pane of glass and visualize what's going on across the entire supply chain. Any data can be pulled into the cloud platform using streaming ingestion models for analysis in near real-time. With a strong data foundation in place, organizations can harness the power of AI to make more accurate, informed predictions.

Having adopted an architectural philosophy around the 3 key components of cloud, data and AI, organizations can now put that approach into practice for a compelling use case to discover how AI unlocks value. Depending on business priorities, new use cases can be added over time on an incremental basis to drive supply chain automation forward.

04

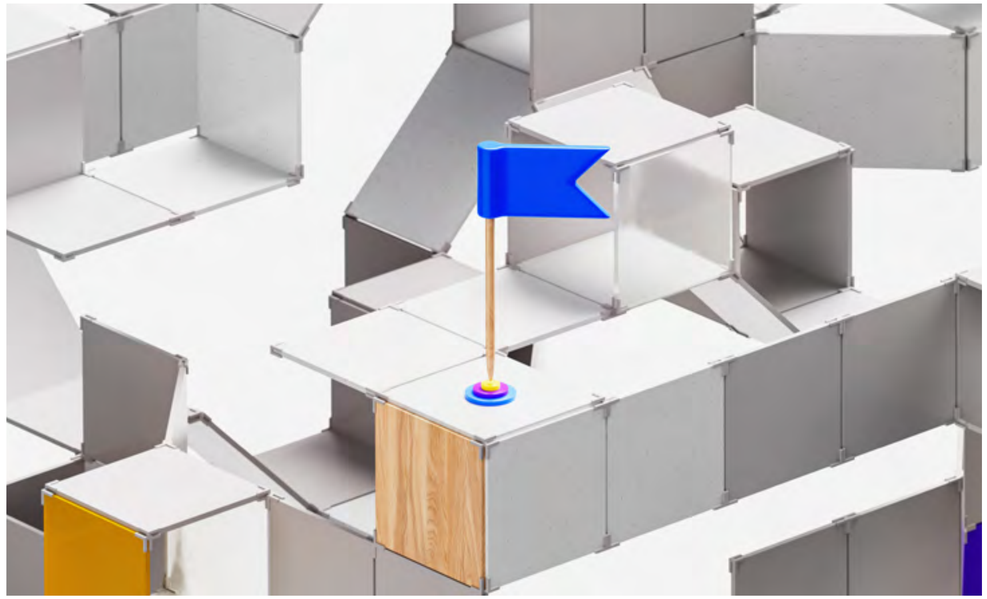
Take the next step

As CSCOs and CPOs move from the hype to the how of gen AI, there are a few considerations they should keep in mind to develop a consistent, enterprise-wide approach to gen AI.

As enterprises transition from the *hype* to the *how* of gen AI, it becomes even more critical to understand the costs of—and the value derived from—investments in the technology. CEOs and their CSCOs know they need to tread carefully while adopting it, but they also feel the need to act fast. Still, according to an IBM Institute for Business Value study, 60% of organizations surveyed have not yet developed a consistent, enterprise-wide approach to gen AI.[9]

Here's how you can get started. →

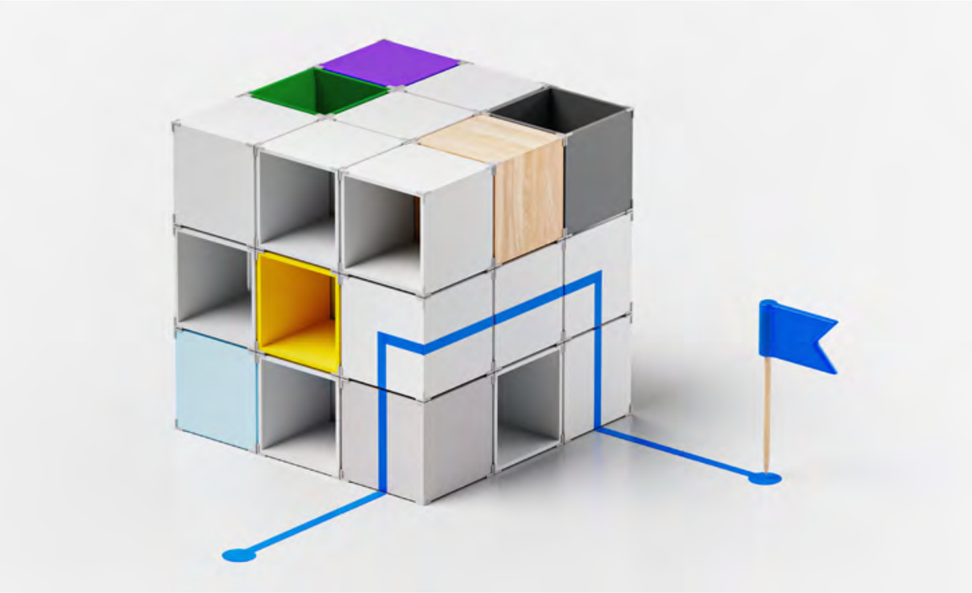
1 Begin by identifying a pain point



Look at areas of your supply chain operations where you have pain points that AI can address. It could be improving asset health through predictive maintenance. It could be better use of your warehouse footprint. It could be training and enablement of new recruits. Start from a place where you see AI add the most value.

Also, keep your larger business objectives in mind. Is it about achieving cost reduction? Or is it about improving the quality of your products? Consider use cases that can bring the biggest benefits to your organization. Avoid instances where the business impact is so insignificant that it becomes unconvincing as a proof of concept.

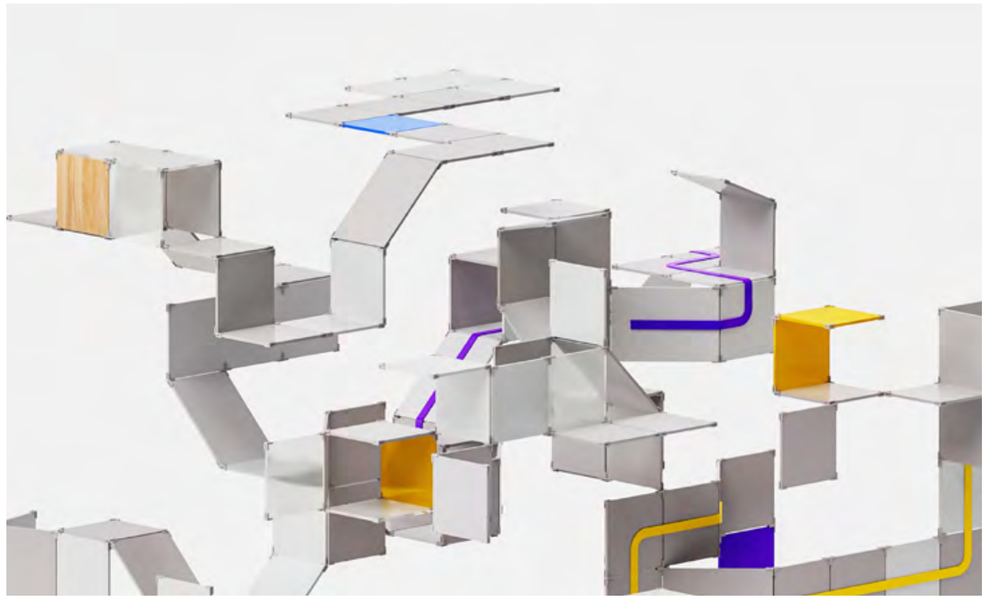
2 Focus with speed



Once you've identified the right kind of use case, start small. Make focused investments that can help your organization unlock the value of AI and bring in ROI. Watch as your use case implementation gains traction and apply the learning to other use cases to drive adoption. As AI adoption achieves a certain level of maturity, the process of adding new use cases will become much faster. One point to note here is that while it's better to start small, going slow on AI adoption is not a good idea. Organizations that keep a steady pace are more likely to achieve early success with AI.

3 Prepare your data for AI implementation

AI runs on data. To put AI to work, ensure a basic level of digitization of all your supply chain assets so you can capture data in large quantities and make it readily accessible. Supply chain data encompasses both historical and operational data spread across multiple databases. To train an AI model for a specific use case, orchestrate all the relevant data with proper governance in place, synchronize the diverse datasets and prepare the data meticulously to help the model achieve the desired outcomes.

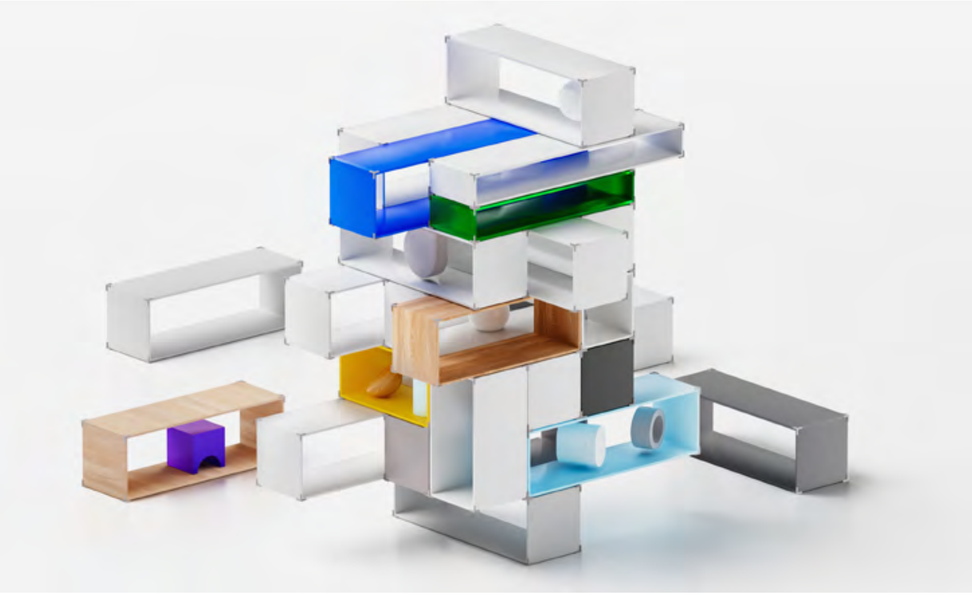


4 Make it a collaborative effort

Take your employees and partners along on the AI adoption journey. Deploy AI and other technology tools to simplify—not complicate—the work of both employees and all the associates in your broader supply chain ecosystem. Weave AI into the systems and processes your employees use today to streamline operations and make their tasks simpler while incorporating the benefits of AI. And importantly, work with a cloud hyperscaler of your choice to build the data platform, and get your collaborator to invest in developing the use case and turning it into a success.

5 Focus on progress, not perfection

After you've set the implementation plan in motion, expect only incremental improvements and not an overnight transformation. Keep in mind it takes more than one iteration to get it right. Gen AI is still in its evolutioary phase and it takes time to build faith in a model's output. For instance, you may find only about 50% of an AI model's recommendations as acceptable to begin with. But as you learn to work with these models, you'll understand how the responses can be made more accurate and relevant to your business. Use the small wins you achieve as an opportunity to get more buy-ins and investments to advance your automation journey.



Ready to begin?

Register for a discovery session with IBM AI experts today.

IBM has the technology and the consulting expertise to help you move forward quickly with AI.

Request an AI strategy briefing with IBM experts →

IBM watsonx Assistant
IBM watsonx Assistant™ is a conversational AI solution that provides organizations with the tools to build AI assistants designed to deliver answers and self-service support to customers and suppliers. Supply chain and procurement professionals can use the capabilities to gain quicker access to data and build a new level of synergy with ecosystem partners.

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AI expertise
IBM supply chain consulting services strengthen supply chain management by helping clients use advanced analytics and AI to empower their workforce and implement proactive, predictive operational strategies. Our asset-based approach, market-leading technologies and AI assistants help you respond quickly to changing market conditions and foster growth, resiliency and improved decision-making. IBM has formed a center of excellence (CoE) for gen AI, specializing in leveraging the IBM watsonx AI and data platform and IBM ecosystem partner technologies to rapidly create coherent strategies and accelerate how we solve business problems. The CoE complements more than 21,000 IBM data and AI consultants with a strong track record in AI who are already collaborating with thousands of global clients and partners to shape the future of AI.

IBM Partner Plus
IBM Partner Plus™ is an extensive partner network, backed by IBM's AI and hybrid cloud solutions and armed to meet client demands for quick tech adaptation and deep understanding. We drive innovation and growth, solving complex challenges with speed and value.

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