



ORACLE

The AI-Powered Supply Chain

5 Practical Ways to Get Started



Table of Contents

Introduction.....3

AI agents: AI purpose-built for supply chain tasks 4

1. Order management: Pursuing the perfect customer experience5

2. Procurement: Improving margins and controlling risk.....7

3. Demand planning: Building more accurate forecasts10

4. Manufacturing: Improving uptime with predictive maintenance 13

5. Logistics: Optimizing transportation and fulfillment efficiency 15

Embrace supply chain AI with Oracle..... 17

How Oracle can help..... 18

Introduction

Supply chains are anything but back-office operations in today's business environment. There's a clear link between supply chain performance and customer satisfaction—customers expect fast and predictable production and deliveries, and businesses must navigate rising costs and global disruptions to meet these expectations. To thrive, companies need more than just hard work and efficiency.

Artificial intelligence is quickly moving from a futuristic concept to a practical tool that can help supply chain teams in businesses of all sizes. Companies are now using AI-powered systems to enhance demand forecasting, route optimization, inventory management, and other processes, helping them build smarter, faster, and more resilient supply chain operations. Generative AI services have captured the attention of C-suite executives, and software providers are building AI capabilities into their systems to help users complete analyses, create content, and even take specific actions. Meanwhile, AI agents are helping make it simpler to apply AI to answer questions or automate workflows within the supply chain.

Yet, for many organizations, getting started with AI can feel overwhelming. Where do you begin? And what kind of results can you expect?

Here are some practical business scenarios that illustrate where and how you could put AI to work across your supply chain operations to enhance order management, procurement, demand planning, manufacturing, and logistics.



AI agents: AI purpose-built for supply chain tasks

The AI technology landscape is moving fast. So before we dive into specific use cases, it's important to highlight an emerging force in how supply chain organizations will increasingly put AI to use—AI agents. Agents are generative AI-powered digital assistants that can help users simplify or automate supply chain processes or tasks. AI agents can help create their own plan of action, draw on your company's own supply chain data, tap into customer- or equipment-specific documentation, and even use other agents to assist completing tasks you assign.

For example, an AI agent might draw on your company's policy documents to help answer employee questions about purchase limits, discretionary discounts, or price changes. Better yet, it might draw up a purchase order that conforms to your company's style and policy so all you need to do is review and approve it. Or a maintenance agent might look at equipment



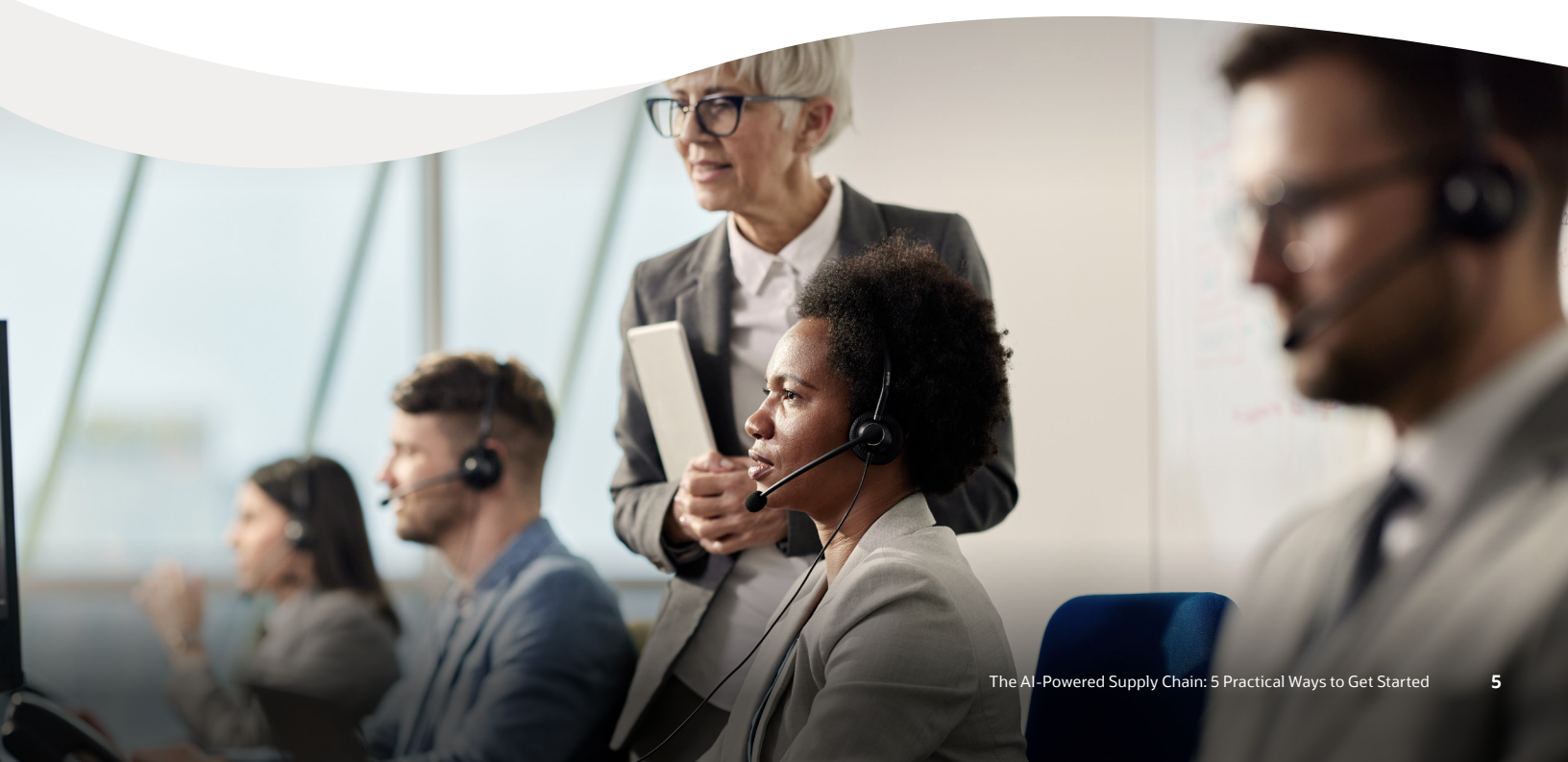
documentation and a machine's service record to help provide an answer to a technician's questions about a repair. As these examples suggest, AI agents specialize in tasks that typically require cognitive reasoning, such as answering complex questions, offering recommendations, and completing tasks on behalf of employees. Look for more of these AI agents to be built into supply chain management systems to support routine tasks and help people efficiently make informed decisions.

1. Order management: Pursuing the perfect customer experience

The scenario: A maker of industrial equipment wants to give customer service reps more complete and up-to-date information about orders and their status so they can give customers better answers.

The challenge: Customer service needs vary by industry, but the end goal is always to keep customers happy and coming back. When it comes to order management, businesses can struggle to equip customer service teams with the information they need to answer inquiries quickly and accurately. Order data can be scattered across multiple systems, and by the time it reaches the reps, it's often outdated or incomplete. Customers calling to check on their orders or request updates may face delays while reps manually piece together information from different sources. This can lead to longer resolution times, frustration for customers and employees, and ultimately diminished customer satisfaction.

The AI use case: AI technologies—and particularly generative AI—can help enhance order workflows, improve customer service, and increase overall efficiency in handling sales orders. One of the most practical applications of AI in order management falls under customer service. By automating routine tasks, learning from data, and drawing on insights gleaned from customer behavior, AI can provide customer service agents with crucial assistance, helping to significantly improve customer support from a reactive function to one that anticipates individual customer needs and priorities.



For instance, a generative AI-powered assistant can instantly access order information to help a customer service representative ascertain if something's wrong with the order their customer is asking about, and it can then suggest options for what the rep can do to fix it based on company policies and documentation. Say a customer reports a defect in two products they received. The representative can ask the AI assistant for details on the company's policy for handling defects and determine that they can advance ship the customer replacement products and offer them a tailored discount, such as expedited delivery or a free visit from a field service technician.

GenAI can also be used to help produce sales order change comments. If a customer or salesperson changes an order, an AI assistant can help summarize the changes across multiple revisions of that order, saving time and providing a succinct view of what was changed from the original order to the new order. Similarly, when a customer or salesperson creates a new order or changes one, AI can generate an order acknowledgement email based on the order description. A sales or service representative can then review the text before sending it, maintaining accuracy and oversight while boosting productivity.

One final area where GenAI may help enhance order management is writing product descriptions for use by sales and marketing teams. GenAI can create a first draft of a description based on various product data sources. A product expert can then quickly fine-tune that description based on their nuanced understanding of their customers—for example, by adding sizing or material details about which customers often ask.

Oracle Applications

✉ [Oracle Fusion Cloud Order Management](#)

✉ [Oracle Fusion Cloud Product Lifecycle Management](#)

Built-in AI agents

- Customer Sales Representative Guide
- Discretionary Discounting Advisor
- Price Change Assistant



2. Procurement: Improving margins and controlling risk

The scenario: A global electronics manufacturer looks to more clearly classify spending on components from multiple international suppliers to support better cost and quality assessments.

The challenge: Classifying corporate spending into clearly defined categories gives the business visibility into where and how money is spent, which can help facilitate better cash flow forecasts and budgeting, more thorough supplier evaluations, and stronger accountability to spending policies, among other benefits. But such spending classification is often done manually, which is a time-consuming and error-prone process that can lead to problems with data accuracy, visibility, and control. For example, one employee might classify a software subscription under “IT services,” while another might categorize it as “software licenses,” making it hard to spot spending trends.

The AI use case: Spending classification software with embedded AI can help consolidate and analyze spending data from source documents such as requisitions, purchase orders, invoices, and expense reports and automatically sort the spending into specific categories,



eliminating the need for manual classification and providing more insight into spending patterns.

With accurate classified data in hand, procurement teams can better identify potential savings and new sourcing opportunities, negotiate more effectively with their suppliers, and enforce spending policies and controls. For example, analysis of the classified data might reveal that the organization is sourcing similar products from multiple suppliers when they could be consolidating purchases with one or two suppliers to secure volume discounts. Early adopters of AI-supported spending classification have gained greater visibility and are finding significant savings—in the tens of millions of dollars for one global energy services company.

Procurement teams could also use generative AI to draft a set of questions to help them evaluate a given supplier, supporting efforts around supplier qualification management, risk management, and sustainability. Additionally, AI could analyze a company's procurement policy documents and then suggest relevant qualification criteria to assist in creating and updating supplier requirements.

Another area where generative AI can help is supplier sourcing. A GenAI model could pull key information from a request for quote that the procurement category manager has created. The model could then use that data to perform a web search, create a list of potential suppliers and their websites along with a summary of those suppliers, and draft cover pages



for a procurement manager to review and send to potential suppliers, helping procurement teams increase sourcing efficiency and reduce risk.

Procurement systems with embedded AI can also aid corporate sustainability efforts by helping map out a company's carbon impact across the value chain and providing recommendations on suppliers, materials, and other policy considerations that are important from a supply chain perspective. So if a business is factoring in carbon emissions when choosing suppliers for a new product, the GenAI model would be able to show the carbon impact for a specific component material from a specific supplier to help inform decision-making.

Oracle Applications

[🔗 Oracle Fusion Cloud Procurement](#)

Built-in AI agents

- Procurement Policy Advisor
- Supplier Portal Support Advisor
- Supplier Code of Conduct Assistant
- Sustainability Policy Guide



3. Demand planning: Building more accurate forecasts

The scenario: A consumer goods company manages an intricate supply chain and needs more accurate demand forecasts to help it determine production volumes and allocate its inventory across channels and markets.

The challenge: To accurately predict customer demand and avoid overproducing, an organization can consider numerous complicated factors, such as holiday spikes and other seasonal fluctuations, shifting market trends, new competition, and supply chain limitations. Spreadsheets and basic statistical models aren't sophisticated enough to satisfy today's complex forecasting needs. Planners need intelligent tools to help them make more effective decisions about the company's supply-demand balance and do scenario planning to prepare for situations such as new product launches, ingredient shortages, and changing customer trends.

The AI use case: AI can help businesses anticipate and respond quickly to changes in demand so they can better control inventory and costs, avoid excess stock and waste, and manage manufacturing resources. By analyzing past sales data, current promotions, regional



trends, and external factors such as competitor pricing and seasonality, AI can help give businesses access to powerful data analytics within their supply chain planning tools to help them estimate demand.

For instance, AI can spot demand pattern changes and help optimize forecast model parameters, which underpin the algorithms that planners use when creating a forecast. AI can essentially provide additional recommendations for parameter tuning to help improve demand forecast accuracy. For example, AI can automatically sample internal information such as historical and operational data alongside external data such as consumer buying patterns, help suggest possible parameter improvements, and save those suggestions for the next time the model runs.

AI-powered low-touch planning can potentially increase gross margins by 1% to 3%.

Source: KPMG

Such a system lets planners view detailed results and compare forecast accuracy before and after parameter adjustments. Planners can choose to apply these optimizations immediately or save them for later. This approach aids decision-making by allowing planners to quickly understand what's driving demand changes without spending an inordinate amount of time tending to data models, letting them focus their time on strategy and responses instead. KPMG advocates for AI-enabled integrated business planning to “help eliminate the gap between supply chain planning and execution.” It describes the strategy as “low-touch

planning,” which minimizes human intervention in planning processes while leaning on advanced analytics for deeper insights. KPMG estimates low-touch planning can potentially add 1% to 3% to gross margins¹.

Generative AI can also play a role in supply and demand planning, especially in improving collaboration. GenAI capabilities can help people on both the buyer and the supplier sides find quick answers related to company-specific policies and guidelines as they review their order forecasts and commits. For example, supply chain professionals will be able to ask GenAI whether company policy allows them to under commit or overcommit an order volume compared with the forecast.

Oracle Applications

[🔗 Oracle Fusion Cloud Supply Chain Planning](#)

Built-in AI agents

- Supply Chain Planning Process Guide



4. Manufacturing: Improving uptime with predictive maintenance

The scenario: A manufacturer of consumer packaged goods aims to improve machine uptime and make equipment maintenance and repair processes easier for technicians.

The challenge: Unexpected machine downtime drives up operating costs and can lead to production delays, inconsistencies in product quality, safety hazards, and a host of other pitfalls for a manufacturing business. Repeated equipment breakdowns and hurried repairs can reduce a machine's lifespan and negatively impact operations and ultimately customers.

The AI use case: Some manufacturers are now using AI on the factory floor to help keep operations running. There's a shift toward AI-enabled integrated systems—think robust platforms such as manufacturing and supply chain management software that can collect and connect data from various sources and subsystems to power analysis and automation in complex organizational processes. These systems can receive and assess real-time data to help manufacturers increase efficiency while still maintaining quality.

Factories do plenty of preventive maintenance based on the calendar or hours of use, but AI helps them do more predictive maintenance based on how a given machine is functioning. By analyzing large volumes of sensor data and operational patterns, AI models can help detect anomalies such as excessive vibration, unusual electrical patterns, a drop in fluid pressure, or sudden changes in temperature that may signal a looming issue or breakdown. So rather than waiting for equipment to fail, the software triggers a maintenance order before any problems occur, helping reduce unplanned downtime and extend the life of manufacturing or warehouse equipment. Research from Deloitte found that preventive/predictive maintenance can cut unplanned downtime by as much as 53%² and reduce defects



by around 80% (compared with reactive maintenance), helping businesses stay ahead of problems and avoid costly repairs or replacements. Catching equipment issues early through AI monitoring can also help enhance safety.

Preventive/predictive maintenance can help cut unplanned downtime by as much as 53%.

Source: Deloitte

Generative AI also has a role to play in improving maintenance and repair processes. Presented with a problem such as excess vibration or heat, generative AI can suggest possible resolutions based on documented maintenance procedures, troubleshooting tips, past repairs, and operating manuals. The recommendations can help repair technicians quickly understand a problem and start fixing it, without having to comb through equipment manuals.

GenAI can also draft repair summaries that outline the details of a repair or maintenance activity for the technician to review and enhance with additional nuances based on their expertise. This GenAI capability can help make work order summaries more complete and accurate, cut the time needed to write them, and steadily help build a richer knowledge library for technicians. Similar GenAI capabilities can be applied to create shift notes, which production operators use to pass information on to the next shift manager so they're aware of any issues that arose. In this use case, the GenAI model would generate relevant notes based on operating data and bullet points provided by the production operator, helping speed up end-of-shift tasks while hopefully improving the thoroughness of such notes.

Oracle Applications

[!\[\]\(a870788d6ed9b8fd294b7654a8c8526b_img.jpg\) Oracle Fusion Cloud Manufacturing](#)

[!\[\]\(de95854c7ee024cfadc48187bbb781b2_img.jpg\) Oracle Fusion Cloud Maintenance](#)

Built-in AI agents

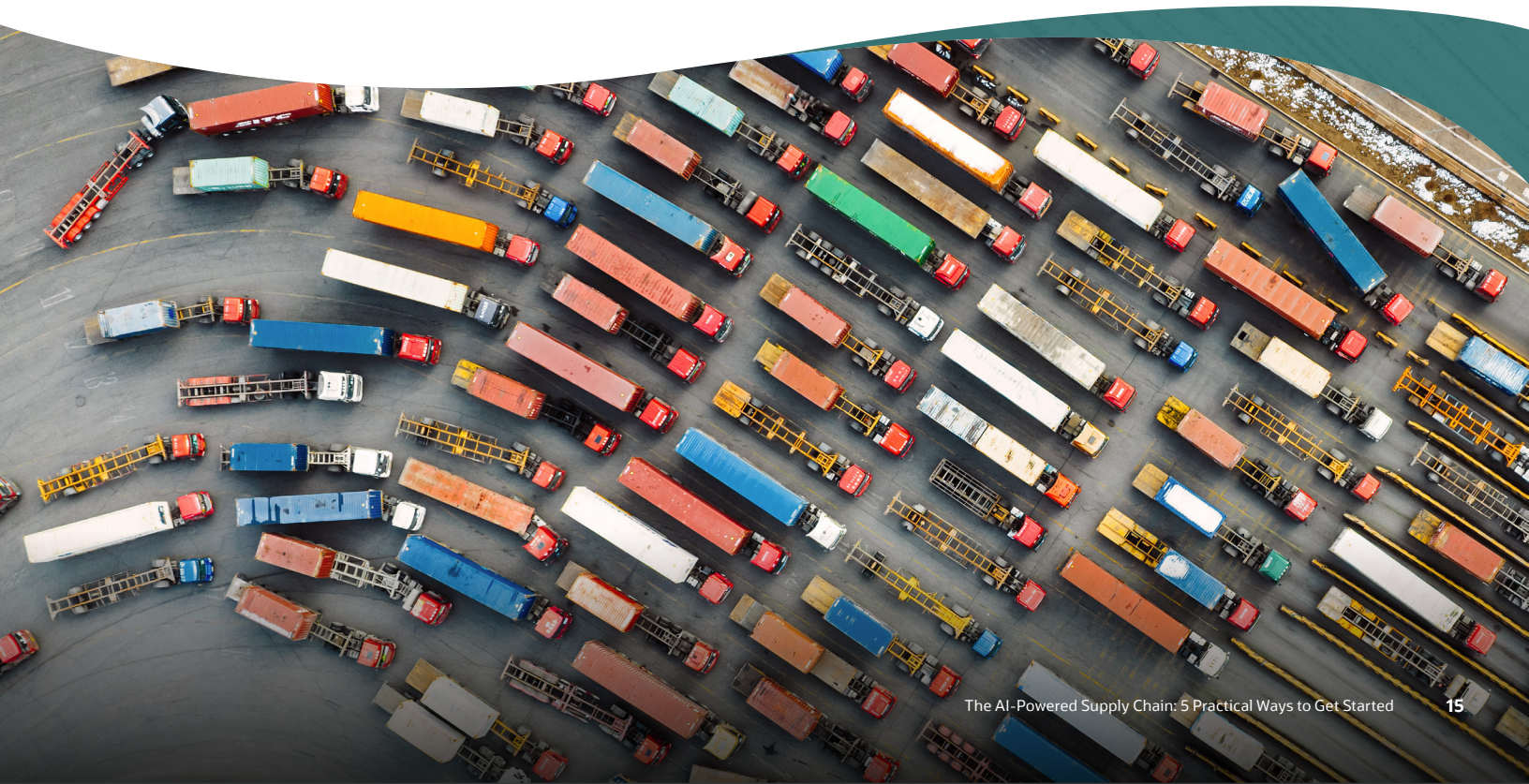
- Maintenance Troubleshooting Advisor
- Manufacturing Operational Procedure Guide

5. Logistics: Optimizing transportation and fulfillment efficiency

The scenario: A retail company operates a network of distribution centers to fulfill online orders and restock physical stores, and it wants to find ways to lower transportation costs while providing accurate and timely shipment estimates for customers and stores.

The challenge: Online buyers today expect fast delivery times and simple order tracking, even as businesses grapple with the limitations of legacy technology and rising transportation and distribution costs. Often relying on a combination of intuition and staff experience, many shippers and logistics providers still plan shipment routes manually using maps, geographical data, and spreadsheets, balancing proximity, delivery time windows, vehicle capacity, driver availability, and more. Unsurprisingly, this method is time-consuming, prone to errors, hard to scale, and less adaptable to sudden changes..

The AI use case: The ability to accurately and efficiently map out a transportation and distribution route can have major impacts on a company's customer service, profitability, and sustainability efforts, and AI is playing a growing role in this area of logistics. AI and machine learning embedded in transportation and warehouse operations software can help businesses easily detect which shipments are at risk, understand what global trade



documentation is required, and accurately predict transit lead times and ETAs, giving supply chain professionals tools to make more effective decisions as conditions change.

To recommend the optimal delivery route, AI learns from historical data and the behavior of team members when completing orders in a transportation management system. It uses this learned knowledge to suggest the ideal route, considering established preferences and other factors such as service level agreements. If a staff member needs to manually change the system-recommended routes to adjust to on-the-ground realities the model didn't consider, the AI model learns from that input and uses it to help make future recommendations. This AI capability can help reduce manual work and expedite the shipment order planning process.

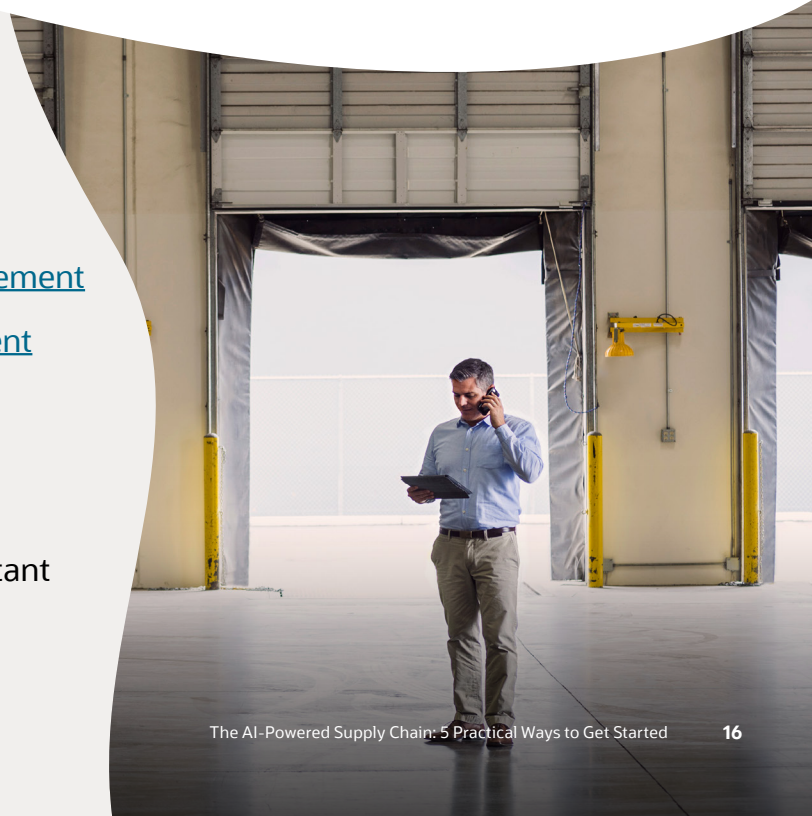
The ability to accurately predict shipment lead times is highly sought-after in logistics, and AI can help provide these estimates. An AI model can use shipment history data—breaking down each shipment leg and analyzing it against historical data, carrier information, seasonality, and other factors—to predict shipment times and improve ETA accuracy. This AI-driven approach helps companies be less dependent on carrier quotes and deliver more dynamic ETAs that adapt to real-world conditions while factoring in historical patterns. AI can also help detect orders that are at risk of being late, alerting distribution managers who can prioritize those orders. This information lets the company warn customers about potential delays, which can help improve customer service and loyalty.

Oracle Applications

- ✚ [Oracle Fusion Cloud Logistics](#)
- ✚ [Oracle Fusion Cloud Transportation Management](#)
- ✚ [Oracle Fusion Cloud Warehouse Management](#)
- ✚ [Oracle Global Trade Management](#)

Built-in AI agents

- Delivery Instructions and Restrictions Assistant



Embrace supply chain AI with Oracle

Oracle Fusion Cloud Supply Chain & Manufacturing (SCM) is a comprehensive suite of applications that helps customers maintain and optimize their entire supply chain. By providing automation, real-time visibility, analytics, and embedded AI capabilities, the suite helps businesses run an effective supply chain so they can meet customer expectations, help reduce costs, and operate more smoothly and predictably.

Oracle is embedding AI and generative AI across its Fusion Applications suite to help deliver immediate value to customers. Oracle also delivers high-speed AI infrastructure via Oracle Cloud Infrastructure (OCI).

Additionally, Oracle has announced the development of more than 50 AI agents to assist users with generative AI-powered services that are embedded into specific business processes and transactions. By using data found in Oracle Fusion Cloud Applications, customer-specific documentation, and various connected sources, these AI agents help provide up-to-date, contextually relevant information and assistance. They specialize in functions that typically require cognitive reasoning, such as answering complex questions, offering personalized recommendations, and completing tasks on behalf of employees. The dynamic and secure use of data lets Oracle AI agents deliver accurate, timely, and relevant support, helping customers enhance decision-making and improve operational efficiency across their organizations.



How Oracle can help

It's now easy to get started using AI in your supply chain operations. AI agents and generative AI are embedded in Oracle Fusion Cloud SCM, come at no added cost, and are delivered as part of regular quarterly application updates. Explore more about how Oracle AI can support your supply chain team, or request a demo today.

Learn more

Request a demo

Connect with us

Call +971 4 390 9010 or visit oracle.com/ae/

Outside the Middle East, find your local office at oracle.com/emea/corporate/contact/

1. "Supply chain trends 2024: The digital shake-up," KPMG, 2024 kpmg.com/us/en/articles/2024/supply-chain-trends-2024

2. "Predictive Maintenance: Optimize maintenance with Industry 4.0 technologies and advanced analytics," Deloitte, 2024

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