# Supply chain and inventory trends for 2024

An insight into what you should be thinking of to get on top of your inventory and supply chain management processes.

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# Introduction

**While watching the news can be challenging as we see reports of global events, there are things supply chain managers can do to minimise disruption and juggle price increases while keeping customers and the board happy.**

Unstable global markets have brought fluctuating prices and unstable inflation levels. While the recession that threatened to hit 2023 didn't materialise, it's still lurking in the background. The global economy is being shaken, which will likely worsen as the US and UK prepare for general elections and candidates come out fighting.

Getting bogged down in these depressing details is easy, but they are out of our control. So, it's important to focus on what we can control by getting on top of your inventory and supply chain management processes to ensure you come out of the tough times as competitive and profitable as ever.

In 2023, we reported the trends affecting supply chains and inventory management as follows:

- Economic disruption
- Getting the basics right by improving forecast accuracy and increasing supply chain visibility
- Supplier management and performance reviews along with reshoring, nearshoring and multishoring.
- Using inventory, capacity and time buffers
- Supply chain digitalisation
- Moving from reactive to proactive inventory management practices
- Sustainability.

So, what's changed this year, and what should you be aware of in 2024?

According to the Association for Supply Chain Management, the number one priority for supply chain and inventory managers is supply chain digitalisation, including artificial intelligence and cyber security. Big data, analytics and sustainability are also big topics for 2024, along with building supply chain resilience and agility to adapt to changing economic circumstances.

In this eGuide, we explore these trends in more detail to help you make 2024 a productive and profitable year.

# Supply chain digitalisation

**There's no hiding from supply chain digitalisation. You won't achieve complete supply chain visibility with manual processes that juggle bits of paper and multiple spreadsheets.**

Moving to digital systems and processes provides this supply chain visibility so you can spot issues more easily. You can then mitigate or eliminate their impact before it's too late.

As supply chain digitalisation encompasses different areas of supply chain management, attempting to digitalise everything in your supply chain can be expensive and overwhelming.

If you haven't already, review your business strategy to see where bringing in specialist tools and software will improve efficiencies and free up your time for more strategic tasks. You can prioritise your supply chain digitalisation plan once you align the opportunities with your business objectives.

Here are some areas to consider.

# Software

**Once you've identified your software needs, putting the next stage off can be easy, but implementing new software doesn't need to be a headache. Gone are the days of needing to halt business operations while setting up systems and spending a lot of money on servers or hardware.**

Thanks to technological advances, cloud-based, Software-as-a-Service (SaaS) solutions mean you can connect new software to existing business systems or Enterprise Resource Systems. Eliminating the need for hardware saves you time and money while improving efficiency.

You can use the flexibility of SaaS to pick and choose which specific inventory modules to add to your existing ERP and bring in the best systems for your needs. As SaaS solutions are ERP-independent, you can future-proof your business.

For example, if you change your ERP further down the line, you can maintain effective supply chain management by switching your SaaS connections to your new system.

Connecting the best systems for the job rather than trying to find one that does everything but not very well is a cost-effective and efficient way to access more information at different supply chain stages.

# Inventory optimisation software

**You're likely in a competitive environment if you don't have a monopoly over a particular product. With the rise of eCommerce as companies pivoted during the pandemic, customers have become more demanding than ever before. If you haven't got the items in stock when customers want them, they'll find a competitor who has.**

Keeping track of all your SKUs manually makes it hard to know whether stock levels are accurate. If you're using manual demand forecast methods or relying on a 30-day rolling average, chances are, your forecasts aren't very accurate, meaning you're seeing stockouts or have excess stock piling up in your warehouse.

Accurate forecasts are essential for maintaining the best inventory levels to meet demand. There are various forecasting methods, but they can be time-consuming and difficult if you're trying to manage with spreadsheets or paper-based methods.

Switching to specialist inventory optimisation software can remove forecasting pain. Instead of relying on manual calculations, the cloud-based software uses sophisticated algorithms to analyse data and predict demand more accurately.

Inventory optimisation software also considers historical sales data, seasonal fluctuations, trends and promotional events to help you optimise your stock levels and improve overall efficiency. The software will also help you set appropriate safety stock levels to reduce the risk of stockouts and maintain good service levels.

With cloud software, you can easily access your inventory data from anywhere with an internet connection. This allows you to make data-informed decisions to respond to market trends and changing economic conditions.

# Automation

**Companies that invest in automation can boost profitability, stay competitive and meet customer demand with more agility. Automation leads to greater efficiency in day-to-day operations like order fulfilment. When businesses automate supply chain processes, they can lower inventory and transportation costs, reduce waste and improve customer service.**

Automation is where a machine will complete tasks rather than a human, usually faster and more accurately. A person will still need to programme the relevant machinery, but the machine will carry out the tasks independently.

As explained earlier, connecting your ERP system to demand forecasting and inventory optimisation software increases supply chain visibility.

The better informed you are, the more chance you have of making the best decisions regarding stock levels and operating costs. Automation can help with tasks that might involve risk to a person, such as carrying heavy items through a warehouse or fetching items from high shelves.

Some areas that could be boosted by automation include:

# Robot automation

**Robotics will become more mainstream in 2024, mainly for repetitive tasks such as picking and palleting.**

The main use of robot automation in supply chain management is using automated guided vehicles (AGVs) and automated mobile robots (AMRs) to move materials and items around a warehouse. Robots can streamline tasks and improve efficiencies as they are more precise and accurate and reduce the risk of human error.

With continued labour shortages, supply disruptions and demand surges, robotics are making waves in supply chains. Rapid technological advancements are making robotics more affordable to support workers with warehousing, transportation and other tasks. Safer, more efficient warehouses, with fewer people in them, will drive down costs. Although the initial capital investment will be high, the cost savings could be dramatic.

# Robotic process automation

**Robotic process automation (RPA) comes from artificial intelligence and is where a computer or robot performs repetitive tasks that a human would do from a defined set of instructions. RPA bots can mimic most human-computer interactions faster and more accurately than humans at a higher volume.**

For example, you could use RPA to extract invoice data, validate it, match it to a purchase order to ensure receipt of goods, create a payment record, notify the payment team and then archive the invoice.

# Wearable technologies

**We're used to wearable technologies such as smartwatches and smart speakers for day-to-day use. Wearable technologies like barcode scanners can increase the level of data used within the warehouse. For example, they can analyse picking data to provide the shortest or fastest picking routes or sequences and other data to maximise productivity.**

As automation becomes a natural part of business, it's important not to neglect the importance of human involvement in other tasks. For example, engaging with customers and suppliers, problem-solving and taking time to understand and interpret inventory data.

# Visibility, traceability and real-time tracking

**Supply chain visibility, such as tracking items from leaving your supplier to arriving in your warehouse and being delivered to your customer, is fundamental to the smooth running of your supply chain.**

Digitising your supply chain to include new technology, automation, and wearable technologies will help. However, smart warehouses are capitalising on advanced robotics, such as artificial intelligence, Internet of Things devices and automated robotic automation. Blockchain technology also enhances supply chain visibility, which we discuss in the next section, where we look at cybersecurity.

These once-futuristic technologies can bring efficiencies in inventory management, picking, packing, and shipping while reducing errors and lead times. They can also increase visibility, traceability, and real-time tracking.

# The Internet of Things (IoT)

**The Internet of Things has transformed businesses, allowing them to track their goods and items through the supply chain in real time. While it sounds complicated, IoT connects devices or objects to a digital network for global monitoring.**

Connecting items using sensors and tracking devices such as NFC, QR codes, barcodes, and tags lets businesses know where their items are, their condition, and expected delivery times. This level of information enables companies to respond to issues quickly, save administrative time for tracking items, and reduce the risk of theft or losing items.

The insights you gain will reduce costs, increase service levels and optimise networks by highlighting areas for improvement. For example, you could identify bottlenecks in production to reduce downtimes and improve efficiency. The IoT could also help you identify cost-saving opportunities and ensure environmental regulation compliance. In service businesses, you could use IoT to track when items are likely to break so you can be prepared to repair.

# Artificial intelligence

**Artificial intelligence (AI) hit the headlines regularly in 2023 as actors went on strike to prevent it being used to take over their roles, and the Beatles released new music.**

There's no escaping from AI in everyday life, and it's been part of supply chains for a while. From chatbots that provide instant responses to queries to AI algorithms offering tailored product recommendations, the focus is elevating the customer journey at every touchpoint. Now, AI touches many of the trends mentioned in this guide, and its use will likely become even more sophisticated as it can enhance demand forecasting, optimise reorder points and automate decision-making.

## How can AI support your supply chain management?

AI and machine learning are fundamental to integrating people, processes and systems in different operational environments. While AI needs some human input, it can learn to carry out a task or complete a process over time, finding more efficient and effective ways across supply chain functions and operations.

Another subset of artificial intelligence is machine learning. Machine learning uses algorithms, software or systems to learn and adjust without specific programming intervention from a human. This comes in handy in supply chain management to analyse trends, highlight anomalies and offer insights that wouldn't be possible in spreadsheets or without time-consuming manual calculations.

Machine learning provides additional insight into improvement opportunities that a human might miss. This means you can stop potential issues before they occur and improve efficiencies by finding shorter picking routes in a warehouse, predicting machinery faults or breakdowns and optimising shipments' supply chain journeys.

We discuss using artificial intelligence and machine learning in more detail in our article, Artificial Intelligence and Machine Learning in Supply Chain Management.

# Robotics

**The use of robots in distribution centres and warehouses is expected to increase in 2024. While it's easy for your employees to see robots as replacements for their roles, they can actually support and enhance them.**

Robots can be beneficial for picking items in large warehouses, especially if there is a labour shortage. Using robots for repetitive tasks can increase efficiency and accuracy. It can also reduce the risk of injuries where items might be heavy or stacked high. This allows your employees to better use their time with other operations that need a human touch.

Another form of robotics is automated vehicles, which are more suitable for smaller warehouses. They can plan the shortest and most efficient routes to move items around warehouses, particularly where items are moving along regular routes.

While robots and AI seem expensive, there are various options to suit different business needs. As they become more common and technology advances, their costs will decrease to make them more affordable for businesses of all sizes.

# Cyber security

**While digital supply chains bring many benefits, they also make global networks more vulnerable to cyberattacks. Digitally connecting with partners increases exposure to privacy breaches, identity theft, reputation damage, financial loss, and worse.**

Protecting supply chain data and operations from cyber threats will continue to be a significant concern in 2024, and investment in cyber security measures will likely increase.

Cybersecurity is essential for supply chain managers because it helps protect the integrity and confidentiality of sensitive information, such as financial data, customer information, and proprietary business information.

You must ensure partners safeguard their networks, devices, people and programs. Investing in firewalls, anti-hacking technologies, and employee training is vital to securing your and your customers' data. This, in turn, can help them maintain customer and partner trust while reducing costs and liabilities associated with cybersecurity incidents.

As well as firewalls and anti-hacking technologies, blockchain technology can increase cyber security.

A blockchain is a digital ledger of transactions that is decentralised and distributed across a network of computers. Each block in the chain contains several transactions, and every time a new transaction is added, it is added to the most recent block in the chain. Once a block is added to the chain, it cannot be altered, making the blockchain resistant to tampering or hacking.

By creating a tamper-proof record of every transaction in the supply chain, from manufacturers to end customers, blockchain provides transparency and traceability to increase trust in supply chains.

If you haven't already, assess the risk throughout your digital supply chain and ensure you can protect yourself from attacks. Decide how you will mitigate any risks and communicate a response plan to all relevant internal and external parties.

When you review your suppliers, communicate your security needs and any minimum requirements they must adhere to, particularly where you are connecting systems. For example, ensure any software suppliers have relevant certifications such as ISO27001 and SOC 2.

ISO27001 is a standard for information security systems and their requirements and increases resilience to cyber attacks. Working to ISCO27001 standards provides a centrally managed framework that secures information in all formats, whether paper, cloud or digital.

The American Institute of CPAs developed SOC 2 to specify how organisations should manage customer data. It is based on security, availability, processing integrity, confidentiality and privacy.

Even if you have processes in place, you need to review them regularly to ensure security levels are maintained and that you consider new practices and security methods. Waiting until it breaks could be catastrophic for your company.
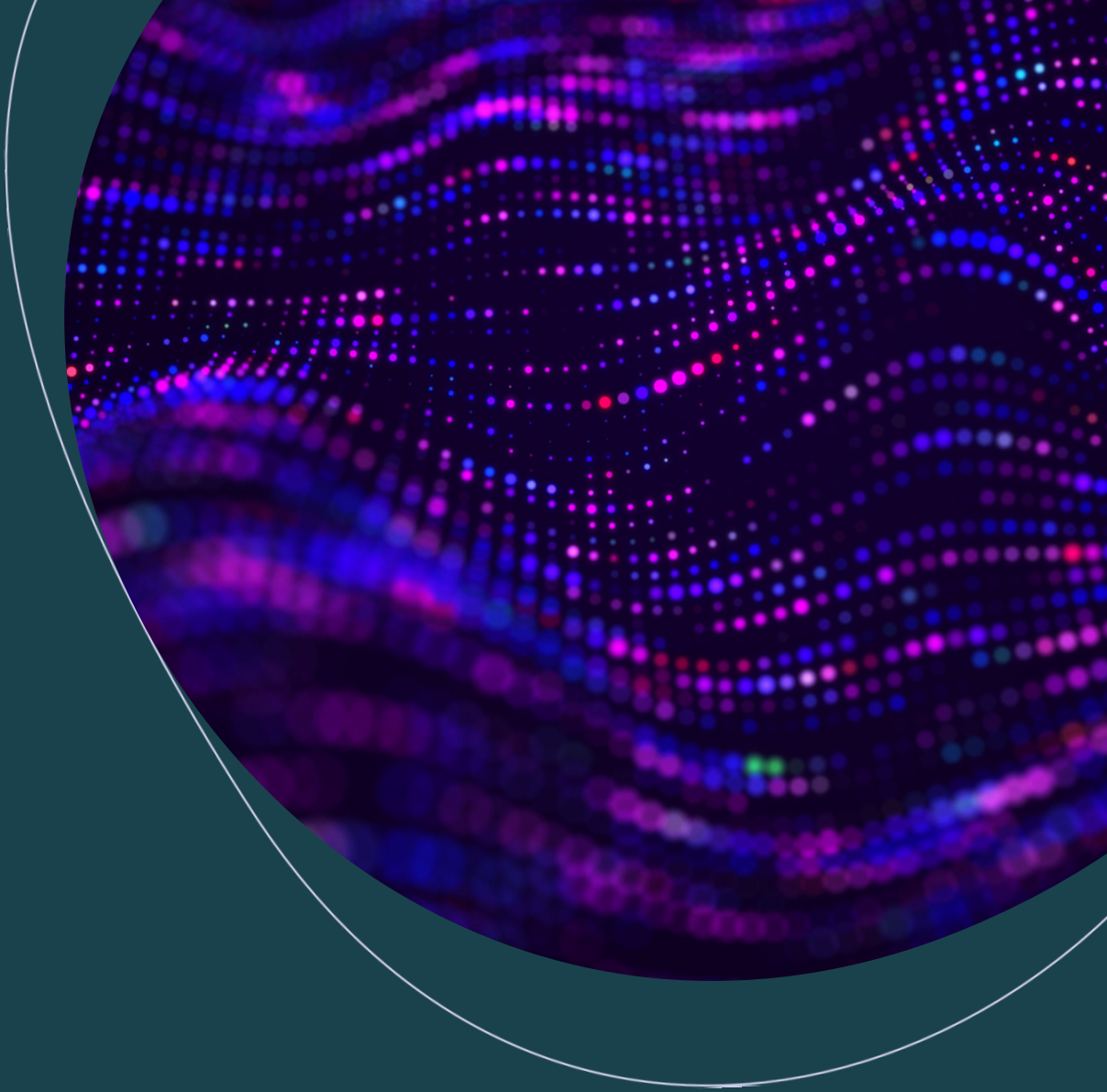
# Big data and analytics

Data is one of the most critical assets for a business. Making data-driven decisions can revolutionise a business's inventory and supply chain management. A data-driven approach allows companies to refine their offerings, develop targeted marketing campaigns, and foster greater customer loyalty.

## What's the difference between data and big data?

Data can come in many formats but is usually structured around a database architecture. Big data combines tools, processing systems and algorithms that can interpret insights from data. Big data can come from many sources and be mixed, unstructured, and continually updated.

## Using data in supply chain management

Using data analytics to track demand and analyse inventory levels can further reduce costs. Applying qualified data meaningfully can lead to better inventory planning and

management, giving businesses the flexibility to respond to market trends and create a better overall customer experience.

Traditionally, supply chain management has relied on ERPs or disparate storage systems for data. With supply chain analytics, there has been a shift from solely using automation to using forward-thinking data integration and better decision-making.

Supply chain analytics enables supplier network collaboration and true end-to-end integration in the truest sense by harnessing near real-time data and the power of volume, velocity, and variety.

Big data, analytics and automation allow companies to mitigate disruption through digital, agile supply chain management. Implementing predictive and prescriptive analytics, combined with algorithms and robotics, will provide increased visibility, synchronised planning and execution, data-driven decision-making, predictability, agility and profitability.

# Disruption and risk management

# Supply chain resilience

**In an uncertain economy, supply chains are under relentless pressure and disruption. Investing in automation will help you build resilience in your supply chain. Due to their interdependency, a problem in one part could compromise the entire global network. To ensure business continuity, it's vital that businesses can navigate the turbulent times and come out the other side thriving.**

You can forecast and anticipate disruptions with the right systems and processes, potentially avoiding them altogether. As we've explained earlier in this eGuide, you need to understand where your supply chain weaknesses are to plan how to prevent the same things from happening in the future.

A good place to start evaluating your supply chain resilience is by looking at how you've responded to previous supply chain issues. You could start by asking these questions:

- Where did disruption hit your company?
- What was your initial response?
- Did it work? If not, what did you do? If yes, did you make permanent changes?

Once you understand the opportunities to strengthen your supply chain and the consequences if you don't, you can start to plan how to prevent similar issues from occurring again.

We've discussed supply chain risk and resilience strategies throughout this eGuide, but we'll explore more in this section. Supply chain resilience strategies that can reinforce risk management and provide contingency plans include supplier diversification, alternative production capabilities and transport processes.

You can find more information about building resilience into your supply chain in our 'Building a resilient supply chain' eGuide.

# Inventory management buffers

**Introducing buffers into the supply chain can effectively eliminate variability, mitigate risk, and meet unexpected increases in customer demand.**

The three primary buffers used in supply chain and inventory management are inventory, capacity and time.

Inventory buffers are extremely common in inventory management if you have products with erratic demand or suppliers with long lead times. You can maintain high service levels by holding extra stock to cover any expected orders.

The key is finding the optimal buffer or safety stock level to meet unexpected demand while minimising expenditure. Holding too much stock will tie up money that could be spent elsewhere while risking obsolescence. Using inventory optimisation software can overcome this problem.

Capacity buffers could bring in temporary staff or pay overtime to meet extra demand. This usually happens around Christmas or when there are seasonal demand increases.

If your supplier cannot get your items to you in time, you might need to pay for an emergency order by air freight instead of sea to get them to you in time.

Finally, you have time buffers. The good side of time buffers is if you are a manufacturer and have critical items in the manufacturing process. You could order materials or stock to arrive early to avoid a bottleneck or stop production.

You can also use a time buffer to delay delivering an item to a customer if you don't have the item in stock and you want to avoid paying for an emergency order. This should only be used as a last resort, as you'll be letting your customers down, which could see them look for alternative suppliers.

# Supplier evaluation

**Global supply chains enabled companies to use international suppliers who might have a lower cost, even if there's a longer lead time. As geopolitical tensions surge and global events affect supply, businesses have been reviewing suppliers and moving to more regional supply chains to increase supply chain resilience and reduce the impact of any disruption.**

Collaborative supply chain networks and processes are new buzzwords for inventory management. Collaborative workflows around plans, forecasts, orders, shipments, and ETAs can strengthen supply chain networks to eliminate errors and inefficiencies while reducing costs and improving competitive advantage.

It might sound obvious, but suppliers are fundamental to your business's success. If they cannot deliver what you need when you need it, you risk losing customers to competitors.

If you don't already, you should implement regular supplier audits and reviews to understand their performance and keep your supply chain running smoothly. A systematic approach allows you to evaluate and rank suppliers on key criteria. You can then collaborate to build and leverage strategic relationships.

Some criteria to rank your suppliers on include lead times, price, location, minimum order quantities (MOQs), quality, compliance, environmental considerations, dependability, and alternative suppliers for the same items.

Using inventory optimisation software can support your supplier selection process. For example, by entering supplier lead times and costs into your platform, the system can recommend the best supplier to deliver your order most efficiently.

Strong supplier relationships can be the difference between success and failure, as they are more likely to prioritise you over other customers where the relationship isn't as strong.

Supplier collaboration can also see innovation in the supply chain, particularly in sustainability. Data sharing and joint decision-making can lead to more efficient and responsive supply chains. You could work together to identify new production methods, more economical and efficient transport routes, or ways to develop a circular supply chain.

# Reshoring, nearshoring and multishoring

Geopolitics and reshoring (or onshoring), nearshoring, and multishoring are still trends for 2024. Closer supply chains reduce transportation, storage and inventory, which are also good for sustainability by reducing greenhouse gas emissions.

Reshoring and nearshoring have become common as disruption continues to affect global supply chains. While items might be slightly more expensive to produce more locally, the additional cost can be offset by sales that could have been missed due to supply shortages or backlogs.

By conducting a supplier audit, you can have multiple suppliers of the same items in different locations. This is called multishoring, which allows you to hedge your risk by being able to call on a supplier in a different region if another one is experiencing issues.

# Green and circular supply chains

As we live through the impact of climate change, customers are becoming increasingly environmentally conscious. They are looking for their suppliers to focus on sustainability as well. It's a win-win for companies, as not only will they be doing their bit for the environment, but they're also likely to see an increase in profits and customer loyalty.

While many companies have implemented sustainability in their mission statements, an [Oxford Economics](#) global supply chain survey showed that only 52% of 88% have transferred these statements into action. Customers will expect suppliers to follow through on their promises and not just 'greenwash' them for sales. This could negatively impact the company's reputation and subsequent sales.

It's not just customers who are taking sustainability seriously. Environmental, social, and governance (ESG) regulations are becoming more prominent globally.

In 2024, the US will join other countries in requiring public companies to provide greenhouse gas emission reports.

ESG is about more than green practices. ESG regulations consider unjust practices and working environments as well. Increasing ESG awareness and the resulting legalities will directly impact supply chains, as we can see from these examples:

- Regulation in the US prohibits any materials mined, manufactured and produced in the Xinjiang province from being sold. It's believed the Uyghur people who live there are forced into labour.
- Due to the war between Russia and Ukraine, financial sanctions in Russia have closed transport routes, which have prevented shipments from Russia and Ukraine.
- Norway and Germany have laws to hold companies accountable for human rights violations in supply chains.
- The global implementation of climate crisis regulations to reduce emissions along global supply chains.

Brands that have proactively incorporated sustainable and ethical practices into their operations are reaping benefits in enhanced brand reputation, increased customer loyalty and improved financial performance.

We cannot overstate the importance of governance. Companies realise that adhering to robust governance principles can mitigate risks, ensure compliance, and create a culture of accountability and integrity. As we progress through 2024 to 2025, we expect more retailers to align their operations with ESG principles, driven by consumer demand and a genuine commitment to making a positive difference.

# Green supply chains

Knowing where to start when becoming more environmentally responsible can be tricky. Here, we explain some areas you can review to reduce your carbon footprint and move towards a green supply chain.

Digitalising your supply chain can reduce your environmental impact by reducing excess stock and minimising waste to impact your bottom line positively. By optimising your inventory thanks to more accurate demand forecasts and smarter ordering, you can ensure you hold the stock you need and reduce the need for rushed air orders.

With more data at your disposal, you can share consistent order information so they can combine your orders into batches to reduce the number of shipments you receive. You'll also be able to fill minimum order quantities smartly and make the most of space in shipping containers with goods that have demand.

A prominent area for reducing emissions is with fleets and company vehicles. As vehicles come up for renewal, see whether you can change these to electric or solar-powered vehicles. You could also use software and AI to optimise routes to lower fuel or energy consumption.

As the green economy grows and people adopt more green and environmentally friendly solutions, they become more affordable. Here are some other options for a more eco-friendly business:

- There are a range of specialist doors available to maintain warmth in warehouses during the winter to reduce heating and energy consumption. For example, wind- and weather-proof doors, those with high-speed closing mechanisms or extra insulation.
- Simple lighting changes can have a significant impact. You can reduce energy costs and use by switching to LED lighting and implementing motion-sensor lighting across your buildings.
- You can prevent heat and energy loss by updating your warehouse wall insulation and windows.
- Set up recycling stations to make it easy to reduce waste and recycle as much as possible.
- Review your packaging and see if more environmentally friendly options are available, particularly if you use a lot of single-use plastic.

# Circular supply chains

**Circular economies prioritise responsible, restorative, and regenerative aspects of the global ecosystem, which are imperative to reducing the impact on the planet and maintaining production schedules.**

The circular economy can help with sustainable business processes and saving money. As raw materials prices fluctuate, companies can break down finished products and return them to their natural form to reuse or resell.

Implementing a circular supply chain involves working with your suppliers and customers to develop new working practices that aren't detrimental to the item's quality and performance.

Discuss material selection with your suppliers and manufacturing teams to highlight opportunities to replace old, harmful and non-sustainable materials. Innovative materials can remove waste, reduce complexity and eliminate toxicity as they are discarded.

When exploring new materials, setting targets for the percentage of recyclable content can provide tangible examples of your sustainable commitment to your customers.

When selling large items such as air conditioning units, HVAC or others that involve significant investment, you can build circular practices into your customer service processes.
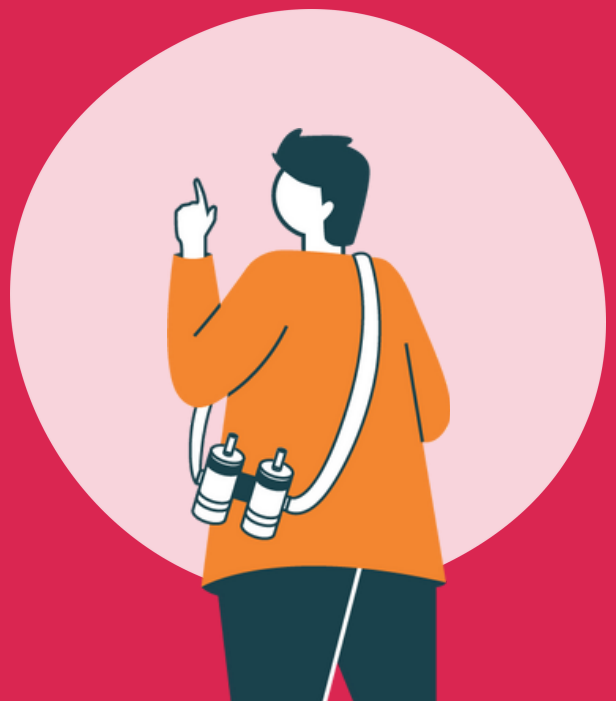
For example, your warranties could cover product repair and maintenance rather than immediate replacement. You could also have a product return system when they reach the end of their life. You could break them down into their components to reuse or recycle. This could also involve discounting product upgrades to encourage the customer to remain a customer.

IKEA is an example of a company striving towards a sustainable future and circular economy. Last year, we reported their commitment to becoming a circular business, which is growing. They are committed to being "circular and climate positive by 2030, and to inspire and enable people to live a better everyday life within the boundaries of the planet."

They have re-shop and re-use online and in-store to reduce waste as well as buyback and resell. They are also committed to choosing more sustainable materials and "continuing their journey towards only sourcing renewable or recycled materials by 2030…and to provide new solutions for our customers to prolong the life of products and materials."

# Summary

While inventory management trends will vary by industry and location, staying up to date with the latest developments is essential for businesses to remain competitive.

Supply chain leaders face multifaceted and demanding challenges, which come with opportunities for innovation and growth.

Inventory and supply chain management teams that embrace change and leverage technology like inventory optimisation software will reap the benefits. EazyStock's powerful inventory optimisation solution can automate processes, save money and increase operational efficiencies.

# eazystock

# Find out more

Contact our team for more information on how EazyStock can help you overcome supply-chain issues to thrive in 2024.

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