FUTURE-PROOF YOUR SUPPLY CHAIN:

Industry Trends & Automated Solutions

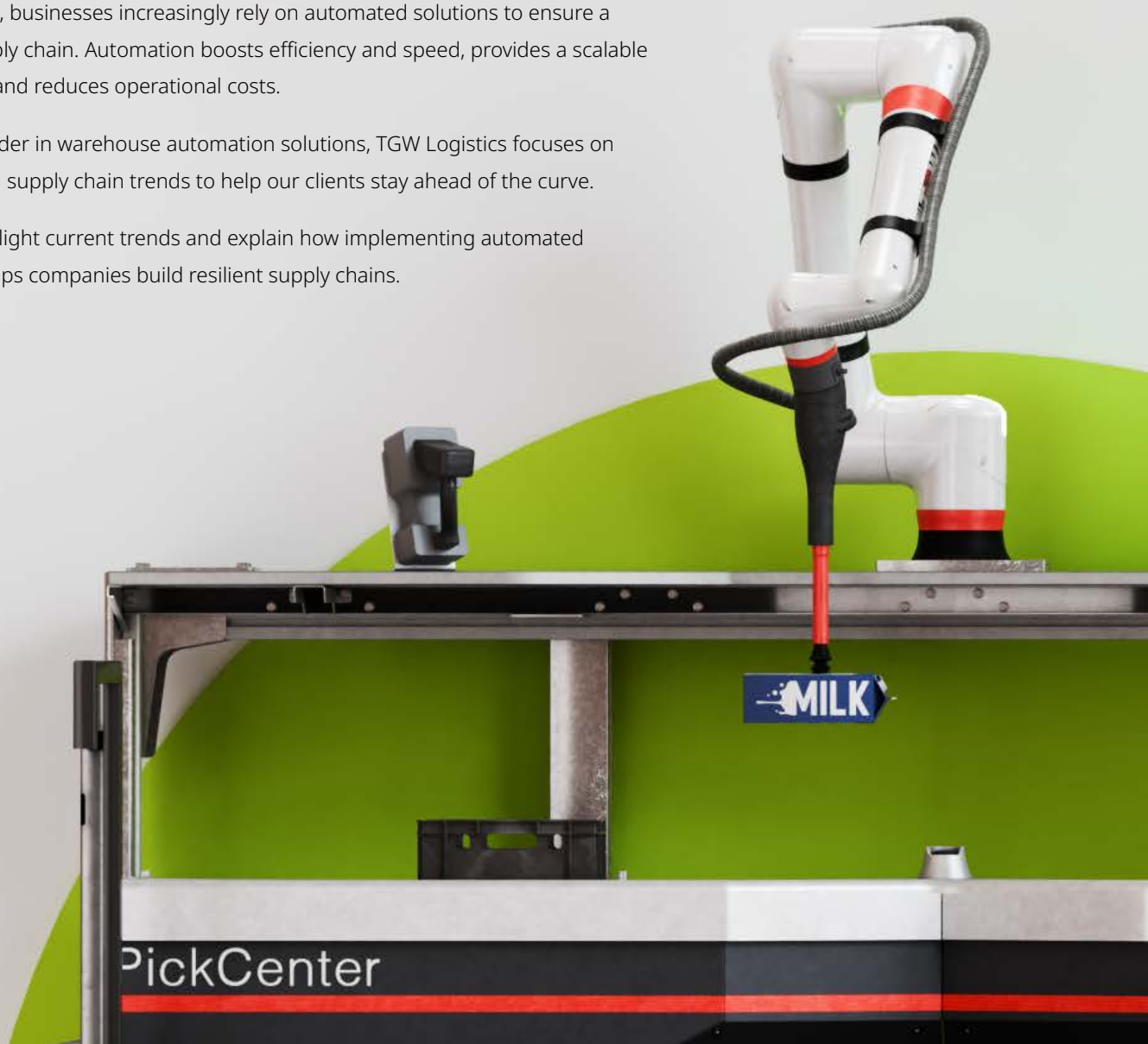
Companies across various industries face complex supply chain challenges that didn't exist years ago. Fluctuating consumer demand, geopolitical unrest, and unforeseen natural disasters are just a few obstacles adding bumpiness to the goods-to-person process.

Consumer expectations are another ongoing challenge that will continue to evolve. To stay competitive, companies must provide a seamless buying experience and back it up with fast, easy delivery. These expectations necessitate an omni channel fulfillment operation.

To achieve this, businesses increasingly rely on automated solutions to ensure a well-oiled supply chain. Automation boosts efficiency and speed, provides a scalable environment, and reduces operational costs.

As a global leader in warehouse automation solutions, TGW Logistics focuses on understanding supply chain trends to help our clients stay ahead of the curve.

Below we highlight current trends and explain how implementing automated technology helps companies build resilient supply chains.



CURRENT TRENDS INFLUENCING SUPPLY CHAIN EVOLUTION

Technology has propelled the way we think about and execute successful supply chains. Companies today use automation to streamline product throughput, improve employee workflow, and enhance storage capabilities.

However, automation technology is advancing, allowing companies to raise the bar on customer expectations even higher and create next-level logistics systems.

Here are the top trends impacting supply chain processes.

Artificial Intelligence and Machine Learning

Adapting to change is key to any successful logistics operation. AI and machine learning make this easy for logistics managers and C-suites looking to upgrade their warehouses or distribution centers.

The impact of AI-powered automation on supply chains is far-reaching. This innovative technology can transform warehouse operations by enabling predictive maintenance, optimizing delivery routes, and improving demand forecasting.

By analyzing massive datasets in real time, AI makes supply chains more responsive to changes in demand or potential equipment failures. It also reduces the reliance on manual processes, creating a faster, more efficient operation.

Autonomous Mobile Robots (AMRs)

Eliminating difficult manual requirements from warehouse logistics is crucial to supply chain efficiency. Reducing the need for human labor at every step helps speed up the movement of goods while making jobs easier on employees.

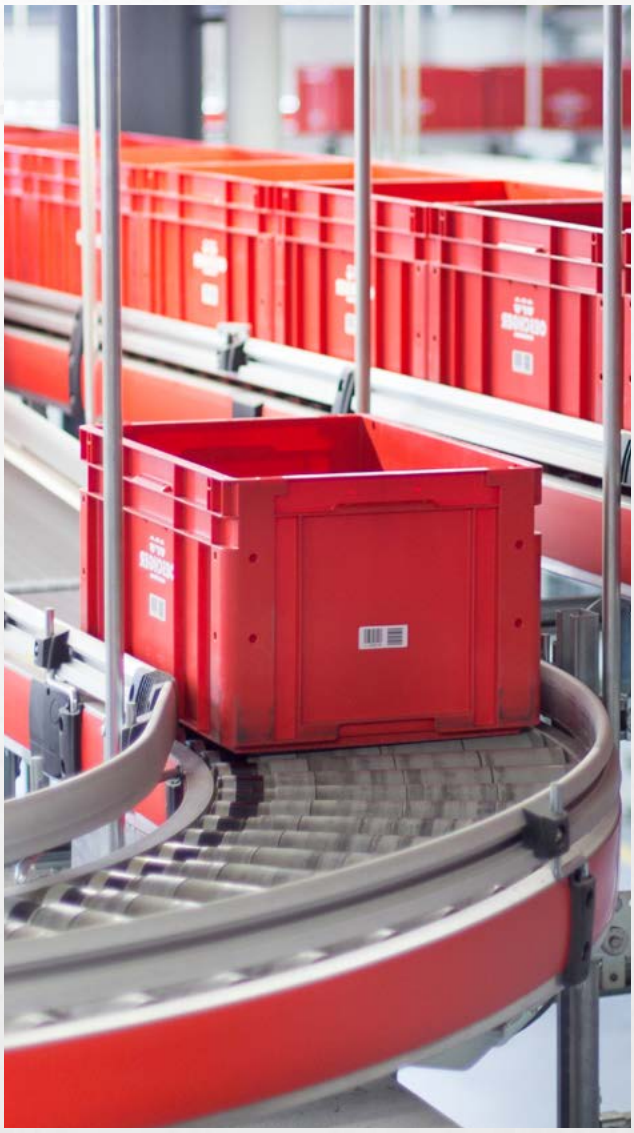
The use of AMR technology is on the rise, and for good reason. These driverless vehicles use AI to navigate their environment and make real-time decisions. In a fulfillment center, they automate the order picking and sorting process and can deliver goods across large distances.

AMRs operate 24/7, which helps reduce supply chain delays and significantly improves throughput and labor efficiency.

Digital Twins

Improving a supply chain requires extensive testing to maintain the operational workflow. Digital twins make this possible by providing a virtual replica of a warehouse's physical landscape.

An operational mirror image helps companies identify inefficiencies, test new layouts, and plan for future expansions. The real-time simulation of a logistics center helps pinpoint issues before they occur, creating an agile environment that's easily scalable.



Sustainability Innovations

Today, companies are taking a proactive approach to eco-friendly practices throughout their supply chains. This focus on sustainability is driven by consumer demand and the need to reduce operating costs.

Sustainable innovations like energy-efficient machinery help businesses strike a healthy balance between high productivity and environmental responsibility. Many companies are also switching to products like biodegradable packaging and high-performance plastics.

FUTURE-PROOFING OPERATIONS: LONG-TERM TRENDS

Companies must stay on top of market trends to fully understand how to equip a supply chain for change. Knowing what consumers expect and what methods are successful will set a company up for growth and stability.

Adapting to Changing SLAs

As customer expectations change, companies must pivot to meet their clients' needs or risk losing business to competitors. Investing in logistics automation is a great way to adapt, but companies also need to know how expectations are changing.

Here are some current trends:

- Same-day and even same-shift product delivery times
- A focus on brands that use eco-friendly materials and practices
- The expectation of an omni channel end-to-end buying experience
- Fast, accessible customer support
- Real-time order tracking
- A focus on order accuracy and high-quality products

These trends vary depending on the industry. Companies must first understand the needs of their target audience and then implement tailored automated solutions that will help them future-proof their supply chain.

The Lasting Impact of Nearshoring

COVID-19 demonstrated the vulnerability of global supply chains. This, along with changing consumer demand, a focus on sustainability, and other factors, triggered an increase in nearshoring, which is the practice of moving manufacturing centers or warehouses away from a company's headquarters and closer to key markets.

- Combined with automation, nearshoring allows businesses to maintain long-term control over their supply chain. Here's how:
- Moving logistics centers closer to key markets reduces lead times, shortens transportation routes, and allows companies to respond quickly to shifts in demand.
- Bringing a supply chain closer to suppliers makes it easier for companies to manage quality standards and ensure regulatory compliance.
- Automation reduces labor costs, allowing companies to move fulfillment operations to areas where labor may be more expensive.

Shorter delivery routes and automated technology reduce a company's carbon footprint, resulting in a more efficient logistics operation.

Human / Machine Collaboration

There's a misconception that automation will eventually replace human workers. The reality is that automated technology is all about enhancing employees' capabilities and streamlining operational workflow.

Reliable supply chains require the collaboration of humans and automated systems. Combining technology's speed and accuracy with employees' intuitive decision-making skills results in an efficient, scalable system.

Integrating automation into an existing logistics center helps companies enhance throughput, optimize storage capabilities, and speed the goods-to-person process. All this happens with the support of employees who enjoy a more comfortable, seamless workflow. It also allows workers to develop new skills in automated technology.

KEY FACTORS DRIVING AUTOMATION INVESTMENT

With consumer demand and expectations rising, companies must address pain points throughout their supply chain or risk losing business. In warehousing, labor shortages and space constraints are common issues that damage throughput and hinder growth. In response, many companies are investing in automated logistics solutions.

Let's look at what's driving these investments.

The Need for Operational Upgrades

Today, a competitive service level agreement (SLA) that includes order availability to shipment is around one day. Five years from now, same-day delivery will be the norm for many segments.

To achieve this, companies are investing in automated tools that support:

- Faster fulfillment times
- A reduction in labor costs
- Higher throughput
- Larger storage capacity
- Better space utilization

Integrating technology like smart storage systems, high-performance conveyors, palletizing systems, and ergonomic picking stations prepares a logistics center for future growth.

Return on Investment (ROI)

Implementing warehouse automation carries a significant upfront cost. However, these tools offer an attractive ROI, which is why many companies invest.

With automation, businesses can expect a tangible ROI in two to three years. The critical metrics driving financial returns and justifying an investment in automation include:

- Labor cost savings
- An increase in efficiency
- Fulfillment speed and accuracy improvements
- Reduction in error rates throughout the supply chain
- Cost per unit reductions

For example, a company may reduce labor costs by up 50% with warehouse automation or achieve an 18-month ROI after implementing mobile robotics. All ROIs vary depending on the industry, a company's short- and long-term goals, and the current infrastructure.

Barriers to Investment

Many companies face capital limitations or concerns about the cost of long-term maintenance associated with automated technology. The idea of integrating new systems into existing infrastructure or an aversion to large process and workflow changes keeps them in the supply chain dark ages.

These are valid concerns, but there are ways to overcome them.

- Undertaking a brownfield automation project with an experienced partner like TGW Logistics allows a company to upgrade an existing facility without disrupting ongoing operations.
- Investing in a maintenance package, like a TGW Logistics Lifetime Services on-site team, ensures the high performance of new automated systems, minimizes the risk of downtime, and lowers the total cost of ownership.
- Implementing flexible automation future-proofs all systems, ensuring fulfillment centers can handle changing consumer demand forecasts.

OVERCOMING IMPLEMENTATION CHALLENGES

While integrating automated solutions into an existing infrastructure can drastically improve a supply chain, there are potential obstacles. However, understanding what to expect and having a clear path to a solution helps companies overcome their growing pains and move forward with the right logistics systems.

Here are some common challenges and their solutions:

Integration With Legacy Systems

Many companies feel that to stay competitive, they must integrate automation into existing systems and processes. This often proves challenging, especially when integrating AI-driven automated solutions into warehouses with outdated software or equipment.

In these cases, companies have a few options for updating legacy systems and modernizing their warehouse.

- One approach is to start small by implementing modular solutions like automated mobile robots or scalable goods-to-person picking systems. Investing in these upgrades helps companies enhance operations and prepare their logistics centers for future growth.
- Another solution is working with an automation provider that offers seamless integration support. TGW Logistics understands companies' challenges when upgrading legacy systems and provides tailored solutions to meet current and future needs.

Skill Gaps

Implementing warehouse automation requires skilled personnel to manage and maintain new systems. Many companies need help finding employees with the technical knowledge and experience to ensure operational efficiency.

Offering training programs designed to upskill current employees so they can manage automated systems and software helps overcome skill gaps. This is more cost-effective than hiring new workers and supports employee growth and development.

The Cost of Implementation

The initial investment for automated technology can be costly, especially if a company needs to retrofit an existing facility. The good news is that automation drives long-term savings in several ways.

- The elimination of manual processes reduces labor costs.
- Energy-efficient systems cut down on power consumption.
- Higher order accuracy leads to lower customer return rates.
- Space efficiency increases storage capacity and eliminates the need for new facilities.

With careful financial planning, companies can balance the initial investment in automation with projected long-term savings.

HOW AUTOMATION SUPPORTS SUPPLY CHAIN RESILIENCE

Among fluctuating economies and unpredictable shifts in consumer demand, logistics centers need to offer more than speed and efficiency. They must support a reliable supply chain that can adapt to change.

This is an area where automation shines. By implementing innovative logistics systems, a company can maintain a resilient supply chain that supports current demand while future-proofing operations.

Boosting Flexibility and Reducing Risk

Modern automation systems can scale up or down depending on business needs. This allows companies to quickly adapt to disruptions such as labor shortages or sudden demand spikes.

Automated systems also make it easier for companies to handle sudden fluctuations in the sales channels used by their customers. For example, in an automated fulfillment environment, orders look the same whether they come from retail, wholesale, or e-commerce. If there's a spike in a certain sales channel, the fulfillment process stays the same.

Finally, investing in supply chain automation helps companies maintain competitive SLAs and enhance customer satisfaction, even in volatile markets. With consumer expectations on the rise, this is an invaluable resource.

Elevating Your Entire Technology Ecosystem

A major advantage of logistics automation is that it has the potential to enhance the environment around it. Instead of solving only one issue, automation paves the way for new technologies.

This is largely due to the advancement of highly flexible automation that's compatible with other systems. A company can integrate an automated solution into its fulfillment center to improve current operations while also setting its environment up to embrace new technologies. This creates a supply chain that's built for change.

Resilience Through Sustainability

Modern automated systems operate using sustainable practices. Energy-efficient equipment like high-performance robots and conveyors reduce energy consumption. Smart kinematics automatically slows throughput during off-peak times, reducing energy consumption and protecting systems from unnecessary wear and tear. Automated shutdowns also save energy and cut costs.

Automated systems also employ real-time inventory management, efficient packaging processes, and space-saving measures, which reduce waste.

These sustainable practices lower operating costs and ensure regulatory compliance, making a company more resilient and better equipped for future growth. Automation also helps support a safe working environment for employees.

CASE STUDIES: SUCCESSFUL AUTOMATION IMPLEMENTATIONS

Greenfield Automation for High Growth

URBN maintains a portfolio of eight global consumer brands in the fashion and lifestyle industries. They partnered with TGW Logistics to develop a primary fulfillment center in the US that would facilitate fast growth and minimize the need for additional distribution centers. URBN needed innovative automation that could help them overcome labor scarcity and fluctuations in sales channels.

Our omni channel solutions brought their 800,000 square-foot facility to life. We incorporated decanting manual workstations for inbound operations, Stingray Shuttle systems for storage retrieval, and PickCenter One workstations for efficient order fulfillment. Our systems support URBN's eight brands, allowing for maximum output and scalability.

Brownfield Automation for Omni Channel Fulfillment

Jasco Products Company LLC is a specialist in the consumer electronics and lighting industry. When they decided to expand their existing fulfillment center, they partnered with TGW Logistics to create a future-proof system that could facilitate growth and cut costs.

To improve material flow, we implemented three ergonomic, semi-automated palletizing workstations. We also provided a split case picking solution in the form of our FlashPick goods-to-person storage system. Our solutions reduced physical stress on Jasco's employees, cut operating costs, and created a scalable fulfillment environment.

LEARN MORE

PREPARING FOR THE FUTURE OF AUTOMATION

Companies must embrace automation to strengthen their supply chains and create a scalable logistics environment to stay competitive. This requires strategic investments and a shift in thinking.

Every company's automation journey looks different. However, with the right partner and an innovative approach, businesses can upgrade their systems to meet consumers' current and long-term needs. These benefits and a healthy ROI make automation a wise choice in today's marketplace.

EFFICIENT, COST-EFFECTIVE SOLUTIONS TO SUPPLY CHAIN CHALLENGES

Explore the future of warehouse automation today. Discover how TGW Logistics can help you implement cutting-edge solutions to stay ahead of the competition.

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