

E-Commerce ENABLED

To survive—and thrive—in today’s accelerated e-commerce environment, companies are reworking fulfillment strategies and supply chain networks. These providers offer scalable solutions.

It’s not surprising many companies are reworking their e-commerce operations, fulfillment processes, and supply chain networks. While traditional retail sales declined in 2020, e-commerce orders for U.S. and Canadian retailers more than doubled, rising 129%, says Raziel Bravo, vice president, strategic management office with GEODIS in Americas, a leading supply chain management provider.

For example, the pandemic transformed grocery e-commerce. About 35% of U.S. households now buy food and beverage products online, an approximately tenfold increase from 2019, according to L.E.K. Consulting. Without the pandemic, this growth likely would have taken three to five years to achieve. And while millennials and members of Gen Z previously accounted for the bulk of e-commerce shoppers, traditional brick-and-mortar shoppers and the older generation have also shifted to online purchasing.

These shifts show no sign of stopping. In 2021, estimates the National Retail Federation, online sales will grow by 18 to 23%, to total between \$1.14 and \$1.19 trillion.

Another challenge for many U.S. companies is how warehouses typically cluster in commercial areas that can reach much of the population within a two-day drive. While that can cut delivery times, all compete for the same shrinking labor pool. “Warehouse operators have to find, attract, and keep talent,” says Karen Leavitt, chief marketing officer with Locus Robotics, a robotics firm focused on e-commerce fulfillment.

A daunting challenge before the pandemic, labor retention has become even more so, now that workers must remain socially distanced while on the job. Companies need to use their employees as efficiently—yet safely—as possible.

Together, these macro trends are forcing all businesses—but particularly retailers, consumer brands, and e-commerce firms—to revamp supply chain operations to drive productivity, flexibility, visibility, efficiency, and agility.

“To be competitive, retailers need to be able to provide products when, where, and how consumers want,” says Scott Shaw, senior consultant and consumer products supply chain practice lead with Clarkston Consulting, which provides management and technology consulting services.

Accomplishing this often requires a departure in thinking. Many traditional consumer products supply chains are well-equipped to move pallets and cases from suppliers to distribution centers and then to retail stores.

However, “in an omnichannel world, the line between distribution centers and retail locations begins to blur,” Shaw adds. Distribution centers now ship both to stores and to end consumers, while brick-and-mortar stores are packing and staging customer orders for delivery or curbside pickup. Retailers need systems that work across all channels.

Visibility and flexibility have become key supply chain attributes. “The question is not if there will be disruptions in demand and supply, but rather when they will occur,” Shaw says. Visibility allows organizations to detect disruptions, while flexibility enables them to act to mitigate the impact.



By supporting retailers and other enterprises with e-commerce sites, GEODIS can shorten the click-to-delivery timeline, reaching more than 95% of U.S. customers within one or two days.

Technology can help companies meet these challenges and compete in today's omnichannel environment. The solutions likely to play key roles include artificial intelligence and machine learning, which can help companies anticipate the channel and geography through which different orders will come so they can better prepare for them, says Suketu Gandhi, a partner and global digital supply chain leader with Kearney.

MOVING INFORMATION

While the Internet of Things (IoT) provides supply chain visibility, connecting technologies, such as cloud computing and application programming interfaces (API), enable the efficient movement of information. That's key, given the largest retailers process millions of orders per day.

Warehouse automation and speed-to-value order processing and fulfillment

will be key as supply chains adapt to meet evolving e-commerce demands, Bravo says. For instance, robotics can improve accuracy, efficiency, and cost-competitiveness, while accommodating the speed with which online orders need to be processed and delivered. Robotics technology, including automated guided vehicles, goods-to-person robotics picking, and automated racking and shelving solutions, boosts efficiency and cost-competitiveness.

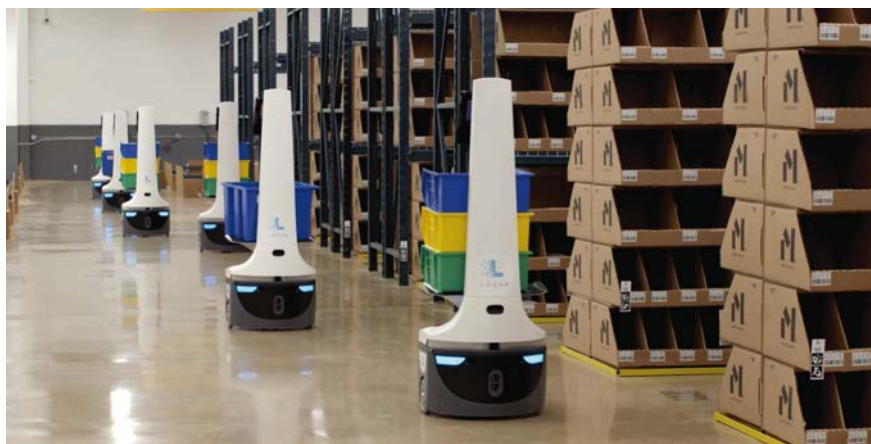
Trying to determine which technology solution will be best suited for this new and changing environment can be overwhelming. And that can make it tempting to wait for a “perfect” solution, Leavitt notes. However, continuing advances in technology make such a goal elusive.

The optimal solution is “one that can deliver value immediately, while also improving over time,” Leavitt says. For instance, robots can often double (or better) productivity from the outset. The software incorporated within robots—which are about 80% software—enable them to continually incorporate what they've learned so they can be even more effective.

“You gain an immediate jump in productivity as well as nimbleness and flexibility,” Leavitt says. “You're not locked into an unchanging system.”

Any technology solution also should offer business intelligence. “With intelligence, you can understand how to take action to improve operations in real time,” Leavitt says.

In addition to implementing



Locus Robotics offers a Robot-as-a-Service model that allows warehouses to deploy automation at a reasonable price, providing the flexibility to meet e-commerce demands.

technological solutions, many companies will need to adjust their operations to succeed in the fast-changing e-commerce environment.

This can be seen in the growing trend to use urban micro-fulfillment centers to address challenges with last-mile delivery, Bravo says. These centers, which often can be developed by reconfiguring areas within existing stores, help cut transportation costs and increase efficiencies of same-day orders in densely populated metropolitan areas.

And while machines previously handled about 30 to 40% of supply chain decisions, industry professionals will turn to machines for help with about two-thirds of decisions moving forward, Gandhi says.

That's particularly true when the decisions involve predictions, such as the number of packages that will need to be delivered over the next week. "There's no way you can scale the number of people who can do this and be efficient," he says.

The following providers offer technology solutions that can help companies succeed in the rapidly changing e-commerce landscape.

LINKING SUPPLY CHAIN FACETS

In 1904, Émile Calberson founded a rail freight company in Le Havre, France, that transported luggage and packages by passenger train to Rouens and Paris. The company then delivered the packages from the train station to end customers.

Through hard work, growth, and acquisitions, that company, today known as GEODIS, operates multiple lines of business in 120 countries. It can help companies thrive in the rapidly changing e-commerce and omnichannel environment.

"GEODIS helps companies deliver growth, optimization, and management across various supply chain segments," Bravo says.

The company's global network offers expansive resources, state-of-the-art innovation, and premium service to companies in consumer goods,



By tracking and tracing e-commerce shipments and gaining transparency, retailers can make informed decisions quickly.

retail, high tech, and other industries. GEODIS's global network and expansive offerings in air, ocean, and land allow the company to link multiple facets of its customers' supply chains.

These capabilities are becoming ever more critical. As Bravo notes, customers' purchase histories traditionally drove inventory planning. But with the growth in e-commerce, retailers need to leverage a just-in-time approach to inventory management that spans multiple distribution channels to ensure the right product is in the right place at the right time.

They also need to track and trace shipments, strategically manage inventory, and gain transparency so management can make smart decisions more quickly.

The GEODIS portfolio of technology and services offers supply chain managers the tools that allow them to navigate this change. It can provide customers a real-time view of inventory and enables them to manage orders across multiple sales channels. GEODIS also can determine the most appropriate fulfillment model, delivery method, and returns options.

By integrating complex operational systems from multiple supply chain modes into one streamlined view, this visibility can provide valuable insight, alerting managers to the processes that are working and those that aren't. Companies can use this insight to take steps to improve operations.

As COVID-19 changed consumer behavior, GEODIS flexed its operations to help companies similarly shift focus

from brick-and-mortar to e-commerce sales. GEODIS e-Commerce Logistics services drastically shorten the click-to-delivery timeline, reaching more than 95% of U.S. customers within one or two days. This can reduce a company's cost-to-serve by up to 15%.

ENHANCING PARCEL OPERATIONS

Until recently, companies looking for parcel service often focused on securing the lowest cost available through one provider. As e-commerce continues to grow, brands are taking a more strategic approach to parcel transportation, Bravo notes. They're shifting to multi-carrier solutions to ensure they'll have the capacity to expeditiously move products to end consumers.

GEODIS's expansive network of international parcel providers allows a multitude of options to identify the best small parcel provider in real time. If one parcel provider is unable to meet volume needs, GEODIS can swiftly switch to another, based on current capacity and shipping needs.

Another service, GEODIS MyParcel, is a cross-border, small parcel shipping service from anywhere in the United States to 27 European countries. It offers guaranteed delivery in four to six days.

GEODIS's new digital platform, City Delivery, allows retailers to deliver goods directly to consumers from the closest retail store by combining delivery networks of traditional carriers and private individuals, supporting retailer requirements for omnichannel fulfillment.

Is your e-Commerce
logistics supplier agile?

What about transparent?

And how about innovative?

GEODIS IS.



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Create better customer experiences at every touchpoint and accelerate your growth.

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As e-commerce growth continues, new technology will revolutionize order fulfillment and last-mile delivery.

“During COVID-19, our agile and scalable approach allowed us to provide reliable, transparent, and cost-effective solutions, enabling brands to rapidly adapt to customers’ needs,” Bravo says.

As e-commerce growth continues, new technology will revolutionize last-mile delivery and order fulfillment, particularly in the urban areas. “GEODIS plans to lead, continue to innovate, and address growing customer demands,” she adds.

QUICK-DEPLOYING BOTS BRING VALUE

The founders of Locus Robotics, based in Wilmington, Massachusetts, were early adopters of robotics technology to improve warehouse productivity in their own warehouses. With 30-plus years of warehouse distribution experience behind them, Locus founders and engineers quickly discovered what robots are capable of doing—and what they’re not.

“Robots are cool, but cool doesn’t pay the bills,” Leavitt notes. Instead, Locus has focused on engineering robots that first provide value, and also are cool. Indeed, aided by LocusBots, warehouse workers can pick two to three times as many items as they were previously.

To accomplish this, the team at Locus Robotics draws on its deep knowledge of warehouse operations and in-depth experience in warehouse automation development and evolution.

Until recently, warehouse operators looking for technology solutions that would boost productivity typically had to invest in large-scale and expensive

grid-based automation systems that would take months to plan and deploy. Locus’s intelligent automation effectively meets the needs of today’s changing and challenging e-commerce fulfillment operations without requiring a massive capital investment, nor months-long installation schedules.

“We can go into any warehouse, whether greenfield or existing, even if they’re shipping tens of thousands of units a day, and deploy within about four weeks,” Leavitt says. Operations don’t need to shut down and the infrastructure can remain largely as is.

Locus offers a Robot-as-a-Service (RaaS) purchase model that allows warehouses to add automation to their operation at a reasonable price and quickly gives them the flexibility to meet volatile demand spikes. If a company is experiencing an influx in volume they can simply rent more bots and then just as easily send them back when volume stabilizes.

“This flexibility to easily scale up or down is key, as the business environment is not predictable,” Leavitt says.

Once they are on site, LocusBots collaboratively work with warehouse associates to increase picking productivity and better manage demand growth. The key is Locus’s unique multi-bot approach to picking: Workers pick higher rates by staying within zones while a fleet of robots travels between pick destinations and the packing station. Because workers are more efficient, many companies can manage several times more volume from within the same footprint, Leavitt says.

Typically, as the volume of merchandise increases, so does the likelihood of congestion. Robots, however, are adept at maneuvering in tight spaces. “They can move more volume through a warehouse, limiting the need for additional space,” Leavitt says.

SUPPORTING LONG-TERM GROWTH

These capabilities often allow companies to postpone—at times, indefinitely—the need to invest in a larger facility to handle e-commerce growth, Leavitt says.

Robots are particularly well suited for companies that process at least about 5,000 units daily, although they can work in operations processing many times that.

“Robots also love complexity,” Leavitt says. The more stock-keeping units a company has and the greater the variety of orders and product profiles, the more benefit a company can expect from its robots, she adds.

The dashboards Locus robots populate with information on real-time operations allow workers and managers to identify areas of both productivity and congestion down to the minute. Management can determine which areas need additional workers or robots and act accordingly.

This information helps management make intelligent decisions around, for instance, slotting. “If a dashboard indicates sustained congestion in a specific aisle, the manager may redistribute inventory to alleviate it,” Leavitt says.

Many traditional automation systems required clients to purchase upgrades to gain access to security enhancements and other updates. In contrast, Locus automatically issues updates, new functionalities like put-away capabilities, and improvements—say, optimizing the way robots navigate tight quarters—through the cloud.

“We constantly use what the system is learning to help it become smarter and help warehouse operations become more productive,” Leavitt says. “Then we distribute these enhancements to our customers so they can better compete and thrive.” ■

B2B materials supplier prepares for a fast-growth future with a fleet of mobile robots

Many companies integrating robotics seek to add them to their current warehouse layout to keep the workflow moving seamlessly. Material Bank, a B2B materials supplier, saw an opportunity to build their entire business model and warehouse around the robotic solution from the very start for even more gains.

There was a specific need to find a technology that can scale as the company grows, with plans to build a facility six times larger than their 74,000ft² facility within the following 2 years.

Locus initially deployed a multi-bot solution of 10 bots that were fully up-and-running in just 14 weeks, picking up to 8 orders at a time on each robot.

Founder and CEO Adam Sandow said, “My team thought I was crazy to start with robots. Typically, you bring in robots to gain additional efficiencies. Instead, I wanted to find the right robotics partner and then build around the right robotic technology to have maximum efficiency.”



Tote configurations chosen for B2B materials picking

Multi-Tote Induction

for picking multiple orders at the same time

Seven Bin Sizes

to support various sizes of orders and product types

B2B materials supplier

74,000ft² facility
1,000,000 inventory
Highly diverse materials + sizes

Locus Multi-Bot Solution



Deployed LocusBots



Weeks for Implementation



Container configurations

Disruption is just the beginning

In just the first 7 months since go-live, Material Bank grew to over 11,000 users in the design industry, growing 30% each month with thousands on a waitlist.

Two years since the successful deployment, Material Bank tripled the amount of robots to 45 with plans to top 100+ in early 2021. They also quadrupled the number of SKUs and grew revenues by 300%. LocusBots initially processed 100,000 units per month and are now processing 3 times that amount.

Results

- 200% increase in picking robots
- 100+ Bots planned for early 2021
- 200% increase in units picked monthly
- 300% increase in inventory
- Expanding to include Putaway

The solution has also evolved to meet Material Bank’s changing inventory. LocusBots are now utilizing 7 unique tote configurations.

“Speed and accuracy are critical for us to meet customer demand especially with a guaranteed next day delivery by 10:30am” shares Sr. Director of Fulfillment and Logistics Mike Nowell. “Locus delivers a flexible solution to support our ever growing and changing business model which makes them a leader in the industry. They easily stand out above the rest as a great business and solutions partner.” Reach the Locus team at info@locusrobotics.com or (844) 562-8700 today to review your plans for improving productivity. For more case studies, visit locusrobotics.com.