

NOVEMBER 2022

SPECIAL REPORT

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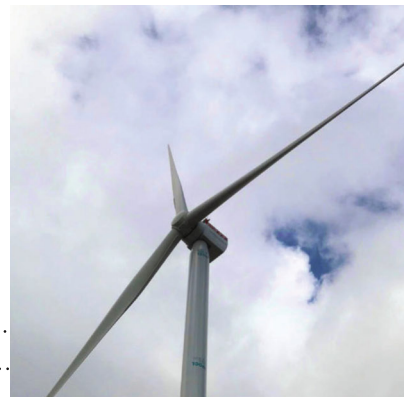
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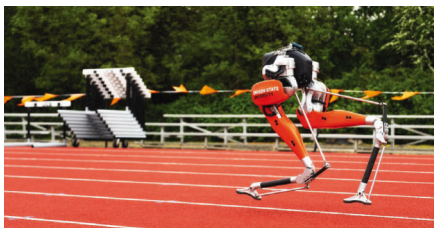
BITE SIZED SUPPLY CHAIN/LOGISTICS INFORMATION



BREAKING WIND RECORDS

Siemens Gamesa's breakthrough development in offshore wind turbine technology, the 14-222 DD offshore prototype, has set a new world record for the most energy generated over 24 hours. The prototype delivered 359 megawatt-hours in a single day—roughly enough to power 18,000 households, or keep a Tesla Model 3 charged for more than 1 million miles.

Siemens Gamesa estimates the 14-222 DD turbine will go into production in 2024, and already has preorders from wind farms off the coasts of the United States, UK, and Taiwan.



CATCH ME IF YOU CAN

Cassie, a bipedal robot designed by the Oregon State University College of Engineering and built by Agility Robotics, ran 100 meters in 24.73 seconds, officially setting a Guinness World Record for fastest time by a two-legged robot.

The robot's legs are similar to those of an ostrich and it moves without using cameras or sensors. Instead, Cassie relies on machine learning to control motion.

If Cassie the robot can continue to improve its bipedal movements, it could eventually fulfill use cases such as package delivery.

AND THAT'S ON...

Take a look at TikTok's recent job postings. They indicate that the short form video hosting service is looking to build an "international e-commerce fulfillment system" that will include warehousing, customs clearance, and supply chain systems to support e-commerce efforts in the United States and across the border.

The fulfillment systems will eventually perform parcel consolidation, transport goods from one stage to the next, and manage free returns.

—Axios

HOLIDAY SEASON: FROM CRUNCH TO GLUT

99%

of retail executives say increasing promotional activity and availability guarantees form part of their company's plans for the holiday season.

37%

say their company is stockpiling goods to ensure supply.

35%

say their companies are taking special measures or deep discounting to offload surplus stock.

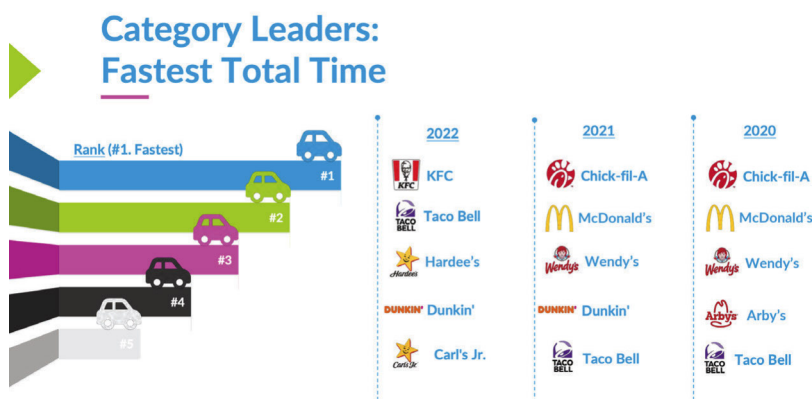
32%

are re-optimizing pricing and promotions.

—Accenture survey

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Nicole Glenn, founder and CEO of Candor Expedite, thrives on the fast pace of logistics but knows how to slow it down when it comes to growing her company thoughtfully.

CHECKING IN

Robots: Walmart Advances, Amazon Retreats



Keith Biondo, Publisher

When faced with anticipated fall-off in consumer purchases, Walmart leans into new robotic solutions. The retailer also re-tasks existing store infrastructure by attaching market fulfillment centers (MFCs)—compact warehouses inside, or tacked onto, retail stores to help fulfill pickup or delivery orders. It gets inventory closer to the customer and amps delivery velocity to serve consumers when they want.

How does Walmart do it? Robotics. To further build and expand its omnichannel fulfillment capabilities, Walmart recently acquired robotics automation company Alert Innovation.

Walmart's marriage to Alert did not happen overnight. Over the past five years, the retailer has been helping Alert fine-tune its materials handling robotics technology for use in Walmart's MFCs.

Why buy the company when you can just buy the robots? Just like Amazon did when it acquired Kiva Systems one decade ago, Walmart is bringing Alert's capabilities in-house to scale the impact of that automation and deploy additional fully operational MFCs more quickly. That 10-year head start helped Amazon write the book on same- and next-day delivery. Walmart is writing the sequel.

Alert Innovation custom-built autonomous bots to store, retrieve, and dispense orders in Walmart's MFCs. The bots move up, down, and sideways without lifts and conveyors, so they require less space—perfect for a store add-on.

Warehouse space has become increasingly expensive as many U.S. companies have larded up on inventory as a hedge against disruptions. Now, as consumption has fallen, companies large and small are faced with excess inventories and fewer less-expensive storage options. Re-tasking store infrastructure capacity by adding custom-built fulfillment robotics from Alert is brilliant.

A side benefit of robot-assisted fulfillment is it offsets the scarcity of labor for those tasks in some markets. Instead of a Walmart associate walking the store to fulfill orders from store shelves, automated bots retrieve the items from within the MFC and deliver them to picking workstations for quicker assembly, sale, and final delivery. Location and velocity combine to give Walmart competitive props over e-commerce competitors, including Amazon.

And what of Amazon? In one of those rare retail behemoth competitive coincidences, Amazon announced almost simultaneously that it is pulling back on a glamorous and much-celebrated robotic investment and will end field tests of Scout, an autonomous delivery robot. The company is "reorienting the program," it says, after certain aspects failed to meet customer needs.

Will Walmart's less glamorous and behind-the-scenes MFC robot fulfillment strategy help meet customer needs? Yup.

STAFF

PUBLISHER Keith G. Biondo
publisher@inboundlogistics.com

EDITOR Felecia J. Stratton
editor@inboundlogistics.com

SENIOR EDITOR Katrina C. Arabe
karabe@inboundlogistics.com

MANAGING EDITOR Robert Fee
rfee@inboundlogistics.com

CONTRIBUTING EDITORS

Merrill Douglas • Karen M. Kroll
Helen Mann • Amy Roach

CREATIVE DIRECTOR Jeof Vita
jvita@inboundlogistics.com

DESIGNER Nicole Estep
nicole@inboundlogistics.com

DIGITAL DESIGN Amy Palmisano
MANAGER apalmisano@inboundlogistics.com

PUBLICATION MANAGER Sonia Casiano
sonia@inboundlogistics.com

CIRCULATION DIRECTOR Carolyn Smolin

SALES OFFICES

PUBLISHER: Keith Biondo

212-629-1560 • FAX: 212-629-1565
publisher@inboundlogistics.com

WEST/MIDWEST/SOUTHWEST: Harold L. Leddy

847-446-8764 • FAX: 847-305-5890
haroldleddy@inboundlogistics.com

Marshall Leddy

612-234-7436 • FAX: 847-305-5890
marshall@inboundlogistics.com

SOUTHEAST/MIDWEST/ECONOMIC DEVELOPMENT:

Joseph Biondo

516-578-8924
jbiondo@inboundlogistics.com

NORTHEAST: Rachael Sprinz

212-629-1562 • FAX: 212-629-1565
rachael@inboundlogistics.com

MEXICO & LATAM: Guillermo Almazo

212-629-1560
mexico@inboundlogistics.com

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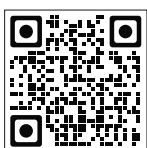




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DIALOG

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LUNCH AND LEARN



 **Frank Mullens @FrankMullens**
 Chicken bowl with @ILMagazine's feature "Technology Soups Up the Supply Chain"
bit.ly/April2022_IL_feature



Re: Good Question:
If you could invent one tool to help you do your job better, what would it be?

bit.ly/IL_GoodQuestion_Oct2022

Touchless inbound freight. This tech tool would help warehouse managers do their job better (which would, in turn, help management do their jobs better).

Essentially, the solution would enable inbound freight to be received, automatically inspected when required, and then put away or cross-docked with no human intervention. This would allow employees to focus much more of their time, energy, and know-how on the activities that matter most for their business.

—**Keith La Londe**
 VP, Systems, PathGuide Technologies

soybeans. Much of that is shipped by barges, as are other products like fertilizer, coal, oil and petroleum, and metals.

One 15-barge tow has the same freight capacity as 1,050 trucks, so with 2,250 vessels stranded, that is the equivalent of more than 2 million truckloads. This product cannot be easily moved to other modes of transportation and the deepening of the Mississippi River by the Army Corps of Engineers is a slow process.

We're already seeing the impacts of delayed deliveries with plummeting barge spot rates. It's just a matter of time before this affects the prices of the products that these commodities are used in, such as groceries or cars.

—**Bart De Muynck**
 Chief Industry Officer, project44

Fast TAKES

On the broader supply chain impacts of the drying Mississippi River

The Mississippi River dropped to record low water levels in October 2022. We didn't see an immediate major impact on the supply chain, as water transport accounts for less than 5% of overall U.S. freight volume. However, the drying Mississippi will have an extensive longer-term impact, especially for industries with concentrated use of barges like the grain and soybean industries.

The Mississippi River Basin produces 92% of U.S. agricultural exports and 78% of the world's exports in feed grains and

On the potential rail strike impact on the supply chain, as negotiations hit an impasse

Supply chain professionals must consider immediate impacts and contemplate possible implications for materials. As always, in developing internal supply chains, evaluating vendors and supplies, contingency planning, and communication will be critical.

This major challenge highlights the need for all stakeholders to have the vision to be aware of possible significant supply chain disruptions, the need to be innovative, and the need to provide leadership at all levels.

In order to minimize impacts, stakeholders need to voice concerns immediately and make contingency plans.

—**Andrew Kirk**
 Chief Revenue Officer, BioCare, Inc.



Re: Good Question:
What's the biggest supply chain silo?

bit.ly/IL_GoodQuestion_May2022

The biggest silo is psychological. We can present a solution—based on data and decades of time-tested advice—that works, but if leaders are afraid to embrace change or collaborate to find alternative solutions, they will stunt growth. Being open to new technologies or ways of thinking fosters creativity and proactivity to keep supply chains nimble and customers happy.

—**Charlie Midkiff**
 SVP, Corporate Strategy, Odyssey

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Is supply chain globalization in retreat? Why or why not?



THE ANSWER IS NON-LINEAR.

With supply chain disruptions, emerging technologies, and rising labor costs in developing countries, more firms are considering regionalizing their supply chain. Execution is the hard part. The more complex one's supply chain ecosystem, the harder it is to onshore.

-Dan Son

Head of Global Banking, U.S. Bank

YES AND NO. We've seen the rush of knee-jerk reactions to onshore more. But the longer-term norm will be to balance offshoring and onshoring as companies seek to meet their cost objectives yet learn to keep their supply chains agile to meet service-level commitments.

-Lachelle Buchanan
Vice President, Logility

NO. But select businesses are seeing a tradeoff value in a simplified system with more control and visibility from end to end. Simplified systems offer ways to identify, assess, and manage risks such as inventory irregularity and unpredictable lead times.

-Andrew Billings
*Vice President & Supply Chain Lead
North Highland*

No! Absolutely Not

It's an irreversible trend; nations rely on each other for goods and services. What's new is the trend of low-cost country sourcing; companies are looking for nearshore options, which means they are focused on securing suppliers closer to their consumption point.

-Amit Gupta, Ph.D.
Chief Product Officer, TADA

The "retreat" is more an illusion than a reality. Globalization of the economy hasn't stopped, so the supply chain can't stop, i.e., just because the United States will make microchips, it doesn't mean U.S. companies will stop buying from others, or that the United States will not sell to other countries.

-Dimitre Kirilov
President of Consumer Services, Montway Auto Transport

Globalization is not going away. It must combine with regionalization to enable supply chain flexibility. By understanding the impact of internal and external factors, supply chain stakeholders can evaluate constraints and make the decisions that create the most value for the enterprise.

-Patrick Van Hull
Senior Director, Product Marketing, o9 Solutions

NO. Today's supply chain requires both a local and global source of supply. As a result, we have shifted from a low-cost to a results-driven approach, focused on driving better customer experience.

-Matt Reddington
*CPSM, CPM, VP Operations
Procure Analytics*

SUPPLY CHAINS ARE BECOMING GLOBALIZED AND LOCALIZED

simultaneously. The perpetual search for cost savings resulted in global supply chains, and increasingly, automated manufacturing, higher transportation costs, and environmental concerns are now driving a shift toward localization.

-Matt Spooner
Industry Thought Leader, Kinaxis

IT DEPENDS ON LOCATION.

Companies that globalized their operations 20 or 30 years ago when there were major cost benefits, are now dealing with rising labor and logistics costs in many locations. They'll need to compare current globalized cost structures against the costs of onshoring to see if an advantage still exists.

-Tom McDonough
*Senior Director of
Supply Chain Solutions, Anaplan*

NO. Shippers have had to be increasingly flexible in recent years, leading to a greater reliance on international partnerships. Because these partnerships can take years to form and shippers must make

significant investments to mitigate the inherent risks, supply chain globalization is here to stay.

-David Spencer
Director of Business Intelligence
Arrive Logistics

NOT AT A MEANINGFUL SCALE. We may be in a moment of pause and tectonic shift, like tariffs growing, but globalization is a Pandora's box that won't close unless global economies shrink exponentially. Even with aggressive reshoring/nearshoring initiatives, it would take decades to displace China as the world's manufacturer.

-Ryan Lynch
SVP Marketing, OnPoint Group

MANY COMPANIES HAVE ADDED REDUNDANCIES like nearshoring to minimize their supply chain risk. However, new supply chain technological innovations being developed around the world will continue to spur globalization.

-Felix Vicknair
VP, Supply Chain Solutions
Kenco Group

SUPPLY CHAIN GLOBALIZATION IS IN RESET, not retreat. Shippers are reassessing the fundamentals of their supply chain strategies. Whether their manufacturing is situated in the United States or abroad, shippers are looking to tighten their networks to build resilience and reassert control.

-JJ Schickel
CEO, Omni Logistics

YES AND NO. When the pandemic started, many columnists wrote that everyone will be doing local and regional sourcing. What happened? People stockpiled inventory. You can't shift entire supply chains overnight. What many organizations are moving toward is multi-sourcing strategies to build resilience.

-Gordon Donovan
Director of Market Research
for Procurement and External
Workforce, SAP

NO. While sentiment has shifted on globalization, networks are too vast to localize. Raw materials, research and

Yes! But It's Complicated

It's definitely hitting some speed bumps and in the long-term picture, there are elements that are going away. Chip manufacturers have shown it is not viable to have all manufacturing located with a few sources. And we are seeing that shipping being controlled in one direction is problematic both on the shipping and receiving sides. Ultimately manufacturing is going to pick up around the world but products like steel, chips, and other complex products will take time to come online.

-Muffie Alejandro
President, Jan-AI Cases

Yes, to a degree. It is a process that will play out incrementally, over time. However, there are pressures to diminish some of these dependencies that weren't there a few years ago, including reducing reliance on lengthy inbound transportation modes that are susceptible to price spikes and capacity constraints, and, of course, geopolitical risks.

-Mark Wheeler
Director, Supply Chain Solutions, Zebra Technologies

development, and labor availability are critical to success and foreign governments will look to capitalize on these opportunities. The next black swan is unclear but it is clear that globalization is here to stay.

-Glenn Koepke
General Manager, Network
Collaboration, FourKites

GLOBALIZATION IS IN TRANSITION. We are seeing companies evaluating different operating models and how these could be impacted by varied factors—tariffs, regulatory changes, geopolitics, etc. A shift to reorient supply chains from a globalized model would be significant and would require huge investments.

-Alex Pradhan
Product Strategy Leader
John Galt Solutions

NO. It would be naive to suggest we've seen a complete pivot given the infrastructure that's already in place and the economic benefits from globalization. Additionally, hopefully there will be a de-escalation in the current geopolitical turmoil and the broader positivity of globalization will persist.

-Geoff Kelley
President & COO
Transportation Insight & NTG

NO. As supply chains adapt to market conditions, whether punitive trade barriers, geopolitical conflicts, weather events, or logistics shocks, trade flows will shift, but globalization always wins because economics always wins.

-Tom Nightingale
CEO, AFS Logistics

Have a great answer to a good question?

Be sure to participate next month. We want to know:

What's your best customer service tip for supply chain stakeholders?

We'll publish some answers.
Tell us at editorial@inboundlogistics.com or tweet us [@ILMAGAZINE](https://twitter.com/ILMAGAZINE)
#ILGOODQUESTION

10 TIPS

Becoming a Demand-Driven Enterprise

The key to becoming more agile when responding to demand signals is overcoming data and decision-making siloes that impact your ability to deliver. Here are 10 ways you can start to optimize your operations to become more predictive and proactive.

1 GET AN ENTERPRISE-WIDE VIEW OF DATA.

Artificial intelligence and machine learning can harmonize tangles of disconnected systems. Cognitive technology can crawl those systems and create a harmonized “golden data layer” that provides an up-to-date, accurate view of key metrics such as shipping lead times and inventory coverage.



2 KNOW YOUR SOURCES OF VOLATILITY.

Gain a holistic view of internal and external challenges—including market trends, competitors’ actions, supplier performance, and logistics cost drivers—and make this analysis an ongoing exercise.

3 GATHER INSTITUTIONAL KNOWLEDGE.

The Great Resignation spurred longtime employees to move on to new opportunities, while many others retired. Capture your best practices and processes today and ensure that expertise is not lost when experienced team members move on.

4 ADDRESS MASTER DATA CHALLENGES.

When neglected, issues with foundational master data—both static data (product categorizations) and dynamic data (lead times) can provide the wrong signals and impact product visibility, material

sourcing decisions, and more. Good data hygiene pays dividends in decision making.

5 FOCUS ON DECISIONS, NOT TASKS.

A focus on decisions and outcomes helps ingrain strategic thinking into day-to-day operations. Task-oriented thinking can miss the big picture. For example, how can augmenting logistics decisions with data-driven insights help reduce or avoid less-than-truckload shipments?

6 INTEGRATE OUTSIDE DATA SOURCES.

When you draw on port congestion data, logistics marketplace information, and a wide range of other

data sources that add insights beyond your own view, you can better adapt to changes in demand—for instance, by making adjustments automatically that maximize loaded miles.

7 ADD DECISION INTELLIGENCE.

With more decisions to make in a day than time or people to make them, using artificial intelligence and machine learning to support and automate decision making is a necessary source of competitive advantage.

8 MAINTAIN AN INNOVATION MINDSET.

Digital native companies and agile startups delight

their customers and disrupt markets by innovating. To keep pace, examine the value you provide and challenge yourself to find better ways to collaborate with customers, suppliers, 3PLs, and other stakeholders.

9 EMBRACE ADAPTIVE S&OP.

The Demand Driven Institute defines Adaptive Sales & Operations Planning (S&OP) as “the integrated business process that provides management the ability to strategically define, direct, and manage relevant information.” All organizations could find benefits when undertaking this process.

10 FOCUS ON CONTINUOUS IMPROVEMENT.

Response to the unexpected too often involves endless calls, slide decks, and spreadsheets. Instead of static emergency action plans, adopting digitized decision-making promotes a focus on continuous improvement. This helps improve decisions over time as your business evolves—as opposed to a “one-and-done” technology implementation mindset.



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Automotive Aftermarket



TIRE MARKET KEEPS ROLLING

At a time when the automotive aftermarket economy—like everything else—is on shaky ground, tire manufacturers feel as if their road may be a little smoother than others. The tire sector is predicted to fare pretty well, according to recent 2023 market analysis from *Tire Review* magazine.

Federal Reserve data shows U.S. industrial production of tires climbed 3.5 points in August 2022 from a month earlier, and was also up 4.2% over August 2021 levels. This increase in domestic tire production volume indicates that supply chains are being freed from historic bottlenecks, giving manufacturers an opportunity to supply tires for inventory, the analysis shows.

Three key automotive indications fuel this positive outlook for the tire sector:

1. Gas prices are coming down. The four-week moving average of gas prices was down to \$3.71 a gallon at the end of September 2022, according to data from the U.S. Energy Information Administration. While still up 17% from the same time last year, the trend is a favorable one.

2. Truck tonnage is increasing. The Truck Tonnage Index, which measures the gross tonnage of freight transported by truckers in the United States for a given month, was up sharply in June 2022, with a one-month gain of 2.9%, and a year-over-year change up 8%, according to the U.S. Department of Transportation and the American Trucking Associations. These kinds of strong increases in trucking activity help to support future heavy-duty tire sales and service.

3. Retail sales have remained strong. Retail sales at auto parts, accessories, and tire stores remained strong in July, according to Census Bureaus data. Sales were up 0.3% from the month earlier, and up a more substantial 11.1% compared to July 2021.



UNLOCKING EFFICIENCY FOR RECONDITIONED VEHICLE DEALERS

A picture may be worth 1,000 words, but photos may also help sell 1,000 vehicles.

In today's fast-paced market, auto dealers selling reconditioned vehicles need to load photos on their website's vehicle detail pages as quickly as possible, so they can boost clicks and leads. Streamlining photography and merchandising of vehicles is crucial for dealers.

A new partnership helps dealers unlock efficiencies in this area. Dealer Image Pro, a professional photo, video, and interactive software provider for automotive dealerships, recently integrated its Photo Assistant and Autoport software with reconditioning workflow software from Rapid Recon to improve time to market for reconditioned vehicles.

With the Rapid Recon status of their used vehicles displayed within the Photo Assistant and Autoport inventory dashboard, dealership sales teams can quickly identify the stage of the reconditioning process for a specific vehicle—and whether it is ready to be photographed.

Once photos are ready, Dealer Image Pro provides inventory photo feeds directly to Rapid Recon, which makes it easier for dealership staff to verify that the photos have been published on the website.



RIGHT TO REPAIR ACT: THE RIGHT MOVE FOR THE AUTOMOTIVE AFTERMARKET?

A new bill, H.R. 6570, known as the Right to Equitable and Professional Auto Industry Repair, or REPAIR Act, has the automotive aftermarket industry buzzing. Introduced into the House by Rep. Bobby Rush (D-Illinois) earlier in 2022, it centers around how making vehicle data available will spur greater competition in the aftermarket repair segment.

Here's a quick breakdown of the bill:

Overview: The bill will ensure that owners and independent shops have access to necessary vehicle repair and maintenance tools and data. It requires automobile manufacturers to provide the same information to independent repair shops as they do for dealer shops. This includes all tools and equipment, wireless transmission of repair and diagnostic data, and access to onboard diagnostic and telematics systems needed to repair a vehicle.

Supporters: Proponents of the bill include The Automotive Aftermarket Suppliers Association, Auto Care Association, Consumer Access to Repair Coalition, and Specialty Equipment Market Association.

Status: In February 2022, the Committee on Energy and Commerce referred the bill to the Subcommittee on Consumer Protection and Commerce. In June 2022, New York became the first state in the country to pass its own Right to Repair Act.

GLOBAL AUTO PERFORMANCE PARTS MARKET ON THE RISE

High expectations surround demand for automotive performance parts going forward, according to a recent report from Future Market Insights, which says the market is likely to reach nearly \$340 million by the end of 2022—and skyrocket to \$532 million by 2032. The report cites escalating demand for passenger cars and a rise in disposable income across the globe as the driving factors.

Here are some key takeaways from the report:

- The automotive performance parts market in the United States will account for 87% of the market share in North America.
- Sales of shock absorbers will grow at 4.6%.
- Sales of torque converters will hit a 5.8% compound annual growth rate (CAGR).
- The air filters segment will grow at a CAGR of 4.2%.
- Asia Pacific is projected to lead the global automotive performance parts market by 2032.

THE TRENDIEST AFTERMARKET VEHICLES

Which vehicles are the top trend-setters for the automotive aftermarket? Exhibitors at the recent Specialty Equipment Market Association (SEMA) show voted for the vehicles that represent the best business opportunities for the aftermarket.

SEMA Award finalists represent exhibiting automakers that support the aftermarket with accessory-friendly models based on their potential for customization.

The finalists are:

SEMA Car of the Year

Nissan Z
Dodge Challenger

SEMA Mid-Size Truck of the Year

Jeep Gladiator
Toyota Tacoma

SEMA Full-Size Truck of the Year

Ram
Toyota Tundra

SEMA 4x4/SUV of the Year

Jeep Wrangler
Toyota 4Runner

SEMA Sport Compact of the Year

Toyota GR86
Volkswagen Golf GTI

SEMA Electric Vehicle of the Year

Nissan Ariya
Volkswagen ID.4

LEADERSHIP

Conversations with the Captains of Industry

Leading With Candor and a Dash of Empathy



Nicole Glenn
Founder and CEO
Candor Expedite

While she thrives on the fast pace of transportation and logistics, Nicole Glenn also knows how to slow it down when it comes to growing her company thoughtfully.

by Merrill Douglas

Nicole Glenn thrives on chaos and enjoys creating solutions on the fly that make someone else—her customer—into a hero.

“Customers call with their hair on fire,” says Glenn, founder and CEO of Candor Expedite in Plano, Texas. “A shipment got routed incorrectly, someone missed something. When I tell them we can make it happen, it’s rewarding to hear their sigh of relief.”

Glenn founded Candor—a logistics company for time-sensitive shipments—in 2017. We talked with her recently to learn her history and how she’s leading Candor into its next stage of growth.

IL: Why have you made transportation your career?

I fell into it as an administrator, but then I found I loved the opportunity to talk with people. Back in 2000, we still did a lot of our work over the phone. I enjoyed crafting relationships that way. I had friends—trucking company owners—all over the country who would call me when they had shipments. Now, I don’t think I could work in any other industry. I’m too used to the fast pace.

IL: Tell us about an event that helped to shape you as a leader.

I worked for many years as a transportation sales rep. There’s a mindset in that role that you should hustle to get as much freight as you can and increase your commission check. When I was asked to become vice president, I almost turned it down because I’d trained myself to constantly ask, “What’s next?”

Leadership requires slowing down to think about the next step in the company’s journey, and slowing down wasn’t my style. But I took the position, and soon fell in love with managing people, figuring out how to help them grow. I went from having to be selfish to having to be selfless. Now that I own my own company, I get to do that every day.

IL: What changes have you seen in Candor’s business since the start of the pandemic?

In 2020, things went into radio silence for about five weeks. Then we started transporting some new commodities, such as hand sanitizer and respirators going into New York City. After a while, as e-commerce grew in importance, we started a new division that helps business-to-business companies with

final-mile service. We also started crafting creative solutions for customers with specialized needs.

For instance, one shipper struggled to find refrigerated capacity. They typically moved one pallet at a time, but they were so desperate, they were willing to pay for an entire truck. We suggested an alternative solution we called “wrap and run”: we wrapped the product in insulation and delivered it without refrigeration to distribution centers within a 300-mile radius. We also considered putting the product in coolers.

IL: What's new and interesting at Candor these days?

In 2021 we developed a time-sensitive truckload division that services a number of verticals. Responding to customer demand, we recently started to offer first- and final-mile solutions that are non-exclusive, which means we can put more than one customer's product on the truck or van.

Currently, we're launching The Circle, an online platform where carriers offer quotes to shippers who need expedited capacity. Our goal is to get a price and a truck back to a customer in 10 to 15 minutes, with all the details confirmed.

IL: What characteristics make you an effective leader?

One is empathy. I try to put myself in other people's shoes, to understand what they're going through as I coach them. I also like to challenge people. If someone tells me they can't do something, I try to instill them with the mentality that they can. They just have to break the process down into a series of steps.

IL: How do you give criticism or correction when it's required?

It's not by accident that my company is named Candor. I believe in being blunt and forthright when I express my expectations—with a dash of empathy.

IL: What makes you excited to go to work each day?

It's watching this company grow from where it was in 2017. In the beginning, I was deep into the operations, moving freight alongside my team, getting dirty. Working remotely during the pandemic taught me that I have to trust my people. That allowed me to do other things I love: make new relationships, strategize about where the company can go, put people in uncomfortable new roles so they can grow. I'm also excited about the opportunity for constant learning.

Wisdom to Share

Looking for leadership advice? Nicole Glenn has a few suggestions.

The first is a book called *The E Myth: Why Most Businesses Don't Work and What to Do About It*, by Michael E. Gerber. “It helped me through that pivotal moment when I went from the operations side to running and growing a business,” Glenn says. “It explains how you need to trust others, build a solid plan, share your vision, and keep people going on their paths.”

Next is Brené Brown's *Dare to Lead* podcast, where guests describe how they've overcome obstacles to achieve their goals. And then there's *Extreme Ownership: How U.S. Navy SEALs Lead and Win*, by Jocko Willink and Leif Babin. “It's about being very intentional, owning both the good things and the bad things that happen, and always working to be the best leader you can be in an organization,” Glenn says.

IL: What's the hardest aspect of your job?

Knowing only what I know. I'd like to have the answer for everything. Making sure I'm coaching my team in the right way is a challenge. To keep reiterating our core values, our mission, our vision for where we want to bring this company, is hard. So is generating new ideas and executing them.

IL: If you could have lunch with anyone, who would it be?

I'd like to hear Brené Brown's ideas on vulnerability and putting yourself out there. I'd also like to talk to Warren Buffet, to learn how he became a serial entrepreneur. I'm so passionate about my business, it boggles my mind to know that someone has such a huge portfolio of companies that all run successfully. I'd also want to hear about his philanthropy.

IL: Outside of work, how do you like to spend your time?

I'm one of the founders of a podcast for women in business called the Ladies Leadership Coalition (LLC). We are six women who own businesses focused on logistics. This project has given me the chance to meet some amazing people and hear their stories.

I also have three kids—twin boys who are 13 and a 17-year old daughter. I try to spend quality time with each of them, one-on-one, whether we drive go-karts or take vacations.

One unusual fact about me is that I like to crochet. It's good stress relief. My mom, my daughter, and I sit down together, get our needles out, and talk. ■

[IN FOCUS]

NOTED

The Supply Chain in Brief

> GOOD WORKS

• The **National Tank Truck Carriers** donated \$2,500 to the St. Christopher Truckers Development and Relief Fund on behalf of Highway Transport driver Thomas Frain, who was recognized earlier this year as the 2021-2022 Professional Tank Truck Driver of the Year Grand Champion. The fund helps support drivers who are out of work due to a recent illness or injury, and their families.



• **CSX Corp.** is contributing \$200,000 to support relief and recovery efforts underway in the Florida and South Carolina communities affected by Hurricane Ian. The funds will be split between the American Red Cross (\$150,000) and Florida's Disaster Fund (\$50,000).

> UP THE CHAIN

• **Hostess Brands** appointed **Adrian Poretti** chief supply chain officer to oversee the sweet snacks company's operations and supply chain. His previous experience includes nearly 30 years at Kimberly-Clark, where he most recently was vice president, global supply chain capabilities.



• **Sam's Club** named **Matt Connolly** vice president, supply chain, distribution. Previously, Connolly spent more than 30 years at Clorox in positions including vice president of global operations and logistics.



• **Greg Schwendinger** joined **American Airlines Cargo** as president. His airline and business background includes more than 15 years of experience at American, where he has held various roles leading teams across the airline.

• **West Hutchison** is the new president and CEO of **Vertical Cold Storage**, a developer and operator of temperature-controlled distribution centers. Hutchison brings 25 years of experience growing temperature-controlled businesses. Most recently, he was senior vice president of network optimization/M&A for Lineage Logistics.

> M&A



■ **SATS**, a provider of air cargo services in Asia, acquired **Worldwide Flight Services**, the world's largest air cargo handler, to create a global air cargo platform with a network of stations across Asia, the Americas, and Europe.

■ **Millwood** added its first facility in Texas and 34th location nationwide by acquiring **Austin Pallet Company**. The acquisition enables Millwood to expand distribution of its custom crates and new and recycled pallets.

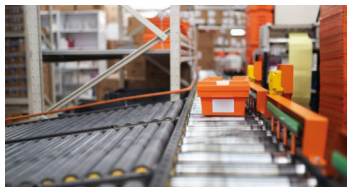
■ **Imperial Dade**, a distributor of foodservice packaging and janitorial supplies and printing paper, acquired two companies: **Dees Paper Company** and **Boudreault Packaging**, both distributors of janitorial sanitation and foodservice products.

■ **Baylor Trucking**, a truckload carrier with 200 trucks and 980 trailers, is now part of **Werner Enterprises**, one of the nation's largest transportation and logistics companies.

■ To help grow its North American market share and geographical footprint, logistics service provider **DB Schenker** acquired **USA Truck**, a capacity solutions provider.

> SEALED DEALS

- Canadian healthcare products manufacturer and distributor **A.M.G. Medical**



recently implemented a cloud-based distribution ERP and a warehouse management solution, both from supply chain management software company **Tecsys**. The solutions provide A.M.G. Medical's headquarters and distribution center with a scalable platform that accommodates business-critical complexity and drives financial performance.



- Global digital sports platform **Fanatics** tapped crowdsourced delivery platform **Roadie** to deploy a new retail logistics solution, delivering from

warehouses directly to consumers. As a result, customers in several U.S. cities can order sports team gear using local next-day delivery.

- The **Timpson Group**, a UK and Irish retailer with more than 2,100 stores offering shoe repair and other services, teamed up with package logistics and asset tracking firm **Position Imaging** to offer a self-service package pickup solution in stores. The new AI-based iPickup Courier Access Point helps the retailer capitalize on demand for in-store pickup and drop-off services.



- Tea company **ekaterra**, which manages brands that include TAZO and Lipton, has selected the **Kinaxis RapidResponse** platform for supply chain planning to create transparency across its supply chain and empower planners to make informed decisions based on up-to-date data.

- Fashion firm **Zalando** is upping its use of TORU, the mobile, intelligent picking robots from German manufacturer **Magazino**. A new deal brings Zalando's fleet of TORU robots to 57; the new units will be used for picking processes at two Zalando warehouses in Italy.



> GREEN SEEDS



- **DHL Express** will invest more than \$11 million in Canada to update its ground fleet with 110 electric vehicles over the next 12 months. The investment includes the vehicles, charging stations, and other related infrastructure. DHL Express will deploy the first 10 vehicles by the end of 2022 in Montreal.

- **A.P. Moller-Maersk** continues its green fleet transformation by adding six large ocean-going vessels that can sail on green methanol. Hyundai Heavy Industries will build the ships, which will have a nominal capacity of approximately 17,000 TEU containers.



- **Pacific Drayage Services (PDS)**, part of marine drayage firm IMC Companies, is adding six Volvo electric trucks to its fleet in 2022. PDS will deploy these Class-8 battery electric vehicles in Southern California as part of its goal to run carbon-free drayage operations by 2030.

> RECOGNITION

- **Echo Global Logistics** received two workplace accolades. The company, a technology-enabled transportation and supply chain management provider, was recognized as a great place to work by Chicago's **2022 Best and Brightest Companies to Work For**, and was also selected for the *Chicago Tribune's* **Top Workplaces** list.

- **Avetta**, a supply chain risk management software provider, received the **Gold Stevie Award** in the supply chain management solution category at the 19th Annual International Business Awards. The company was chosen from among more than 3,700 nominations for its innovative approach to reducing supply chain risk.

- The American Logistics Aid Network honored four companies with its annual **ALAN Humanitarian Logistics Award: GP Transco, Fleet Advantage, SEKO Logistics, and Vector Global Logistics**. The companies were selected for their assistance during disasters like the recent flooding in Kentucky, COVID-19, and the war in Ukraine.

[IN FOCUS]

TAKEAWAYS

Shaping the Future of the Global Supply Chain



LAND OF THE LOST AND OTHER PEAK SEASON CHALLENGES

A whopping 92% of merchants surveyed by UPS Capital report costly impacts to their business as a result of lost, stolen, or damaged shipments. Half of merchants say they lost \$50,000+ in the past year.

As peak season arrives, and more packages hit the road, businesses and carriers are becoming more aware of shipping mishaps in the delivery experience—and for good reason. These incidents range from traditional hiccups, such as late, lost, and damaged deliveries, to emerging threats like porch piracy, fraud, and climate-related issues.

Among UPS Capital's key findings on these emerging threats:

- 61% of shoppers say they won't order from a small or mid-sized business anymore after two or three delivery issues—meaning shipping incidents are not only damaging to a merchant's reputation, but also damaging to the bottom line.
- 75% of merchants experienced an increase in damaged, expired, or lost packages due to climate change over the past 12 months.
- 37% of merchants report credit card fraud is a growing risk to their business, while 31% say that return shipment fraud—such as missing merchandise and altered labels and return addresses—significantly impacts profitability.



How Macy's Avoids Inventory Glut

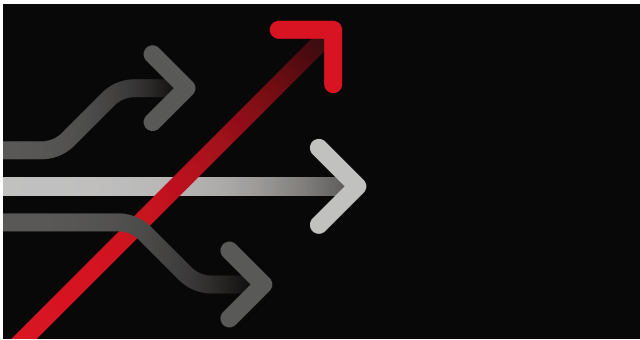
Retailers across the country are struggling with inventory pileup due to 2021's massive supply chain delays. Unloading these previous-season goods has become a top priority for the upcoming holiday and winter season. But Macy's is singing a different tune: the retailer managed to avoid most of this inventory glut, and reported to the *Wall Street Journal* that more than half of its offerings for the holiday season will be new.

Macy's inventory was up just 7% at the end of its most-recent quarter compared with a year earlier. Counterparts are not faring as well—inventory jumped 48% at Kohl's, 44% at Nike, and 37% at Gap Inc.

How did Macy's do it? Analyzing credit-card data earlier this year, the company noticed changing trends in spending patterns and, in response, cut orders and shifted inventory. Execs from finance, supply chain, merchandise, and planning departments decided together to move away from the pandemic big-sellers like comfy clothes and home décor items and instead increased orders of dresses, suits, and shoes for a return to office and formal wear.

Also helping Macy's is the fact that it does not rely as much as other retailers on private-label goods. This makes it easier to adjust inventory nimbly.

Also in store: Macy's is building its first automated fulfillment center. Located in China Grove, North Carolina, the 1.4m-sq.-ft. fulfillment center will account for nearly 30% of Macy's digital supply chain capacity and serve customers nationwide. The facility will be equipped with automation technology to increase capacity and productivity to help drive digital sales growth.



TAKEAWAYS

MANUFACTURERS FEEL THE DISRUPTION BURDEN

Supply chain disruptions over the past 12-18 months—including shipping delays and parts shortages due to truck driver issues and congested ports—have heavily impacted manufacturers (see chart, right). That’s the consensus of Deloitte’s new study, *Meeting the Challenge of Supply Chain Disruption*, which was conducted in partnership with Manufacturers Alliance.

TOP OPERATIONAL CHALLENGES



Source: Deloitte analysis of 2022 manufacturing supply chain study data

The study surveyed more than 200 U.S.-based manufacturing executives to examine how traditional manufacturing supply chains are evolving to balance costs, efficiency, and resilience. Findings include:

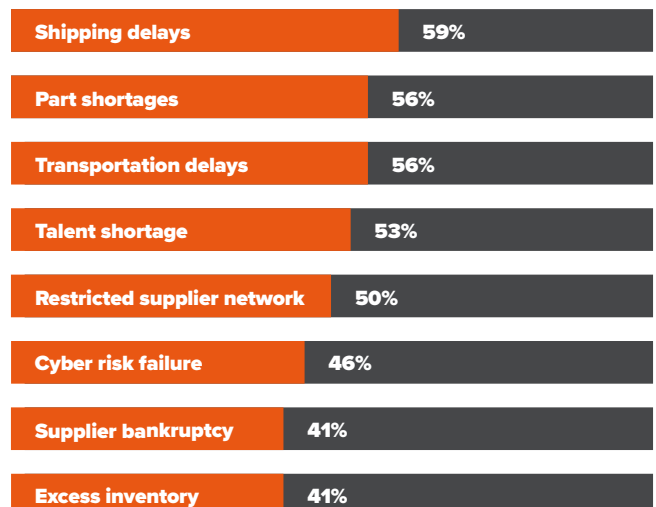
- 80% of respondents have experienced a heavy supply chain disruption in the previous 12-18 months.

- Top operational concerns when trying to fulfill contracts include:
 - Rising costs (46%)
 - Product issues from suppliers struggling to meet demand (43%)
 - Logistical challenges when implementing new supply chains or contingency planning approaches (43%)

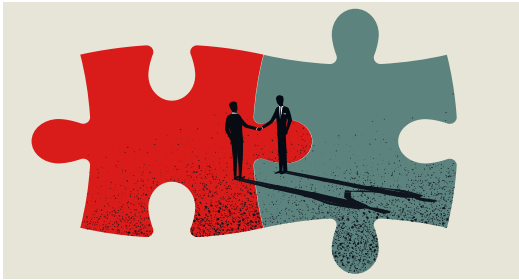
Survey respondents report turning to four key approaches to mitigate these issues:

1. **Strengthening existing relationships.** 83% of manufacturers are investing in their existing supplier relationships as part of their overall supply chain investments.
2. **Diversification of supply chains.** 81% of manufacturing executives are also working to engage multiple suppliers. However, they still struggle to implement regional diversification of suppliers, citing cost as the primary concern.
3. **Implementing digital solutions.** 78% say using digital solutions and/or monitoring tools enhances visibility and transparency through the supply network, and 76% plan to do so. However, 88% report concerns about legal, financial, privacy, IP theft or cybersecurity due to digitized supply chain ecosystems.
4. **Returning to a just-in-case inventory approach.** 65% of manufacturing executives are shifting from a just-in-time approach that capitalizes on lean inventory investment to a just-in-case approach to mitigate any upcoming issues.

CHALLENGES THAT HAD THE BIGGEST IMPACT ON MANUFACTURERS' SUPPLY CHAINS IN THE PAST 11-18 MONTHS



Source: Deloitte analysis of 2022 manufacturing supply chain study data



ACQUIRING MINDS WANT TO KNOW

A new report by Barclays Corporate Banking finds that nearly half of all UK logistics businesses are likely to make an acquisition in the next 12 months as they look to expand operations and become more competitive—the highest figure recorded in the survey’s 10-year history.

The survey also reveals that despite the challenges facing the logistics sector, three out of five companies expect their turnover to increase in the coming year. 80% of respondents are concerned with labor shortages, which are set to have a major impact.

In fact, concerns over a dearth of workers have led nine in 10 firms to improve pay and conditions for their workforce. The most sought-after roles are drivers and warehouse staff, followed by office and admin staff.

Competition for talent was so high that drivers qualified to drive the heaviest vehicles saw advertised salaries increase by an average of 25% in the past year alone (Q1 2022 vs Q1 2021).

Somewhat surprisingly, against a gloomy economic outlook, a small majority of logistics businesses are optimistic about the outlook for the coming year, compared with those who are pessimistic.

High inflation and rising costs impact profitability levels, as just fewer than half (45%) of logistics companies say their margins will improve in the next 12 months, compared with 62% this time last year.

Meanwhile, almost one-third (30%) anticipate a drop in profitability, up by 11% from 2021.



Nearshoring Picks Up Steam

All of the global supply chain snafus that have taken place over the past two years have caused many manufacturers to reexamine their supply chain and production networks. The question they all seem to be asking is: Should we bring production closer to consumption? A new report from Accenture indicates that answer is “yes.”

Gathering responses from more than 1,000 executives at companies with U.S. operations and revenues greater than \$1 billion, the report finds companies are shifting their manufacturing back onshore, nearshore, and to new “friend-shoring” (countries that are allies/friends of the United States) locations. The reasons cited for doing so include the pandemic, trade wars and tariffs, rising labor costs, tech innovation, the war in Ukraine, the climate crisis, and changing customer expectations.

Here’s a closer look at the key findings:

- 94% of companies are planning direct investment in onshoring or nearshoring.
- 85% want their factories and incoming material sources to be in the same hemisphere, while 78% want their factories to be within four time zones of the customer.
- 54% say manufacturing closer to home is key to survival.
- 1% say they can continue to grow with their current manufacturing footprint.

To make these nearshoring plans work, survey respondents report a focus on large-scale digital transformations of their supply chains as well as a switch to “smart” factories. These executives also say a new type of workforce will be required and that companies will need many more automation and robotics technicians.

“There is still such a great deal of untapped potential in the circular economy. Supply chain leaders can use the inflationary environment as a catalyst to reshape their relationship with materials. Instead of losing materials out of the economy in the form of waste, the circular economy helps capture value.”

—Sarah Watt, VP Analyst, Gartner Supply Chain Practice

BUSINESS AS UNUSUAL

A new IBM survey of 1,500 chief supply chain officers (CSCOs) reveals that supply chain leaders have accepted their fate: Business will continue to be anything but typical for the immediate future. The main focus for CSCOs now is to prepare for what happens next.

Navigating global supply chain uncertainties has become a priority for corporate boards and C-suites alike, the study shows. Over the next two to three years, CSCOs say that issues related to supply chain disruptions, technology infrastructure, sustainability, and market shifts are their greatest challenges. To cope, they expect heightened emphasis on supply chain functionalities and roles to give CSCOs the expertise, latitude, and organizational authority to innovate into a data-led future.

Here are some key data points to consider:

- 86% of CSCOs predict an increase in the importance of macroeconomic forces over the next 2-3 years.
- 95% of top-performing CSCOs are using more digitalization and AI automation than their peers.
- 36% of respondents note an increase in CEOs citing supply chain disruption as one of their greatest challenges.

Interviews with CSCOs yielded interesting advice including the following:

“I would tell a new chief supply chain officer to make sure your foundation is solid and that you’re managing the day to day, and then ask, where’s technology going?”

—Mike Corbo, Chief Supply Chain Officer, Colgate Palmolive

“The one thing that I think we need to address at scale is labor and people. And I just do not see it. Suddenly, it feels like we have lost 20% of the workforce.”

—Sophie Bechu, Chief Operations Officer, Philips

CREATIVITY IN A CRUNCH

Almost half of supply chain organizations have reacted to disruptions by adopting new technologies, including automation

48%

Rebalanced workforce



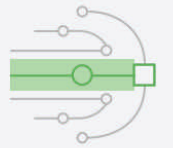
48%

Collaborated with partners to manage disruptions



47%

Adopted new technologies, including automation



42%

Rebalanced inventory to customers



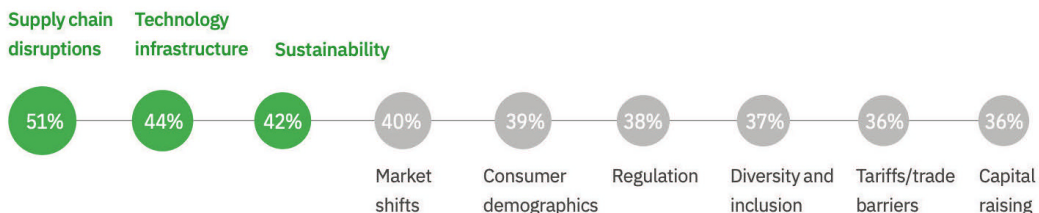
41%

Reassigned personnel to alternative functions



Source: IBM survey of 1,500 CSCOs

CSCOs ANTICIPATE A TIGHTROPE OF CHALLENGES



Source: IBM survey of 1,500 CSCOs

3PL Warehouse Rapid Deployment and Adaptation

How to easily configure business processes to meet customer-specific requirements

To be competitive, third-party logistics (3PL) providers need to quickly onboard new customers. It's that straightforward. What's not so simple is how exactly to connect and optimize all those revenue streams for the disparate services you are offering a diverse customer base.

Whether we're talking supply chain partner interactions that could be more productive, unpredictable delivery processes, or fluctuating client needs... straightforward logistical solutions aren't simple. They are, however, about **increasing continuity—from factory to customer**.

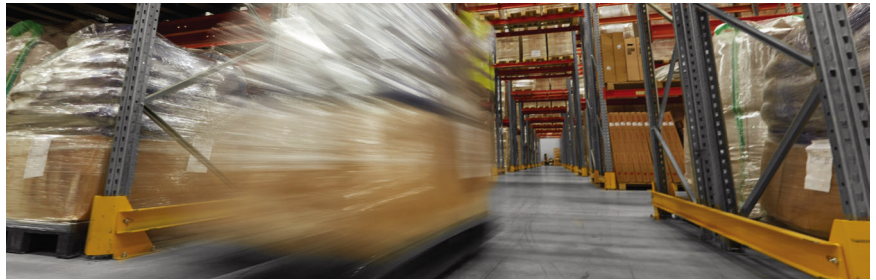
Warehouse Management's Role in Supporting 3PL Service

Even when data is lacking for direct benchmarking, a warehouse management system (WMS) can support change and growth through introducing continuity across functions and services. An effective WMS injects productivity and cost-savings into your warehouse system processes without compromising quality.

Specifically, your WMS should leverage user-configurable process flows, functional benchmarking to test performance, and real-time enterprise-wide visibility to efficiently service new and existing customers, regardless of their specific requirements.

The capacity to configure, reconfigure, and scale operations (equipment, people, space) in response to evolving customer demands is a business advantage, especially if this can be accomplished **without expensive modifications to your WMS**.

In my experience, rapid customer deployment requires a scalable agile framework, unhindered data access, and smart task interleaving.



You initiate improvements by asking pointed questions about the current WMS. Could it provide detailed answers to inquiries, like “How is handling different (or more difficult) this time?”

For many of my company's clients, this line of questioning has revealed that critical information, such as the **precise cost and time investment** to fulfill an order, is absent from decision-making protocol.

If capacity and visibility are insufficient in critical areas like these, it may be time to rethink warehouse management, execution, and controls; leveraging technology for growth should always be about connecting customer needs with solutions.

Case Study in Leveraging Technology to Grow Exponentially

For example, my company QSSI works with a privately owned and operated 3PL—an established presence in the textile warehousing industry—that is known for innovation in freight and logistics services.

They needed a direct response to increased customer demand and, specifically, to the shift in recent years to direct-to-consumer (DTC) shipping. They required a WMS capable of supporting multiple business models simultaneously.

We worked with our client to engineer fulfillment processes and procedures to position its partners to meet their online consumers' immediate expectations.

The QSSI WMS (“PowerHouse”) is a **systems integrator** for complementary supply chain management software and for all leading e-commerce, marketplace, and carrier software, including shopping carts and customer portals. Therefore, it was highly effective in handling volume fluctuations flawlessly and at a moment's notice.

Increased flexibility also translated into reduced overhead and the ability to specify a fixed cost per unit. We identified and developed optimal solutions for the full range of customer requirements, from shipping DTC via an e-commerce site to drop shipping via a carrier. Orders are now mapped specific to their type, e.g., flagged as e-commerce.

A decisive advantage, our 3PL client could now provide *its customers* with the ability to compete with the largest e-commerce outlets out there.

—By Edward Troianello



President, Chief Strategist
QSSI PowerHouse WMS
www.qssi-wms.com

Digital Supply Chain Technology Investments Spurred by Disruption

Supply chain leaders can drive impactful, lasting transformation within their organizations. Here are the digital solutions garnering attention and investment.

The supply chain challenges that arose from the pandemic have inspired a tsunami of investment in emerging and innovative technologies. That revelation was among the key findings of the 2022 MHI Annual Industry Report, researched by MHI and Deloitte Consulting LLP, “Evolution to Revolution: Building the Supply Chains of Tomorrow.”

As nearly every major company’s forecasts were impacted by continued supply chain bottlenecks and constraints, 87% of the more than 1,000 manufacturing and supply chain leaders surveyed said COVID-19 elevated the strategic importance of their supply chains.

Nearly 78% of supply chain leaders from both large (+ \$1 billion) and smaller (+\$50 million) operations say their digital transformation accelerated due to the pandemic, and 64% of them increased their digital supply chain investments.

(We’re conducting the survey for the 2023 MHI Annual Industry Report. Add your input: [surveymonkey.com/r/2023AIR](https://www.surveymonkey.com/r/2023AIR).)

Where Investments are Focused

Two out of three organizations reported plans to spend more than \$1 million in the next two years. Notably, over 2021, the biggest jump in projected spending was in the middle range of \$5 million to \$10 million. Overall, 41% of respondents plan to spend between \$5 million and up to \$100 million, while 18% plan to spend at least \$10 million.

Investment has been primarily devoted to the following innovations, and MHI’s ninth Annual Industry Report tracks the current level of adoption and the expected level over the next five years:

- 3D printing
- Artificial intelligence (AI)
- Blockchain
- Cloud computing and storage
- Driverless vehicles and drones
- Internet of Things (IoT)
- Inventory and network optimization
- Predictive analytics
- Robotics and automation
- Sensors and automatic identification
- Wearable and mobile technology

Respondents said all these digital solutions will achieve an adoption rate of 66% or higher over the next five years. Cloud computing and storage has the highest current adoption rate at 40% and will grow to 86% in the next five years.

The technology expected to grow fastest is AI, which participants said will rise from 15% current use to 73% in five years—a nearly five-fold jump.

Further, expected investment levels over the next two years are rising, with 82% of respondents saying they will spend between \$1 million and \$10 million. This is a clear acknowledgment that supply chain is now a technology-driven industry, and organizations that do not invest in transformational digital solutions will fail to meet their top 2022 challenges:

- Supply chain disruptions and shortages (57%)
- Hiring and retaining qualified workers (54%)
- Customer demands for faster response times (51%)
- Out-of-stock situations (48%)
- Forecasting (46%)

Making the Business Case

The biggest investment barrier was the lack of a clear business case for companies that have not deployed transformational technologies. Although leadership may understand their supply chains will benefit tremendously from digital supply chain innovations, they are stymied by ongoing pressure for profitable growth as well as concerns about anticipated costs and potential operational distractions.

To help build a successful digital supply chain technology investment business case, MHI offers the free Supply Chain Digital Consciousness Index (DCI) self-assessment tool (mhi.org/dci). The tool allows companies to quickly assess their digital mindset and evaluate their adoption progress.

Further, this year’s report shares a framework for building a business case that minimizes risk, creates discipline, establishes a case for change, and provides control.

.....
-By John Paxton



CEO, MHI

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 To discover the latest technologies and solutions for your supply chain, attend ProMat, the premier manufacturing and supply chain expo held March 20-23, 2023 at McCormick Place in Chicago.

You’ll find free education sessions, daily keynotes, and more than 900 exhibitors showcasing the latest technologies and solutions capable of delivering transformative change. For more information or to register, please visit promatshow.com.



[INSIGHT]

DISRUPTION MITIGATION

by *Phil Rich*

Chief Supply Chain Officer, Sweetwater
sweetwater@6a.com | 800-222-4700

Supply Chain Strain: How to Navigate Disruption

Now that we've been in a pandemic for more than two years, it's funny to look back at our optimism at the beginning. We expected brief supply chain interruptions and thought that things would be back to normal in a few short months. Then we realized it could drag on for a year or more. But almost three years?

In many ways, we are starting to see the light at the end of the tunnel. But when it comes to the supply chain and logistics, it's still pretty dark. Transportation issues and staffing concerns make it difficult for retailers to predict when product will be shipped or delivered. Ocean freight and trucking are not the only things we should keep an eye on; we also need to monitor raw materials.

Here are some factors to consider when mitigating supply chain disruptions:

Know the materials' source. To understand the supply chain is to also understand the social and economic challenges in the countries where you source your products.

For example, about half of the world's neon gas, which is critical in making computer chips, comes from two Ukrainian companies. Both ceased operations because of Russian attacks.

On the spot market, computer chip prices increased as much as 50 times pre-pandemic prices. Manufacturers that use these chips have to make tough production decisions. Putting \$300 chips into \$400 products eats at profits, which leaves some product categories and price bands empty or with little supply.

One example Sweetwater deals with is the tubes used in amplifiers. After a factory in China burned down, much of the production shifted to Russia. It is now difficult to get those tubes because of Russia's invasion of Ukraine.

Stay close to your suppliers. When you encounter bottlenecks, you must understand who is managing the congestion most efficiently. The key is having connections at all levels of the company. It is not enough to have just your logistics or product people talking to their counterparts. Relationships with all key functions in the supply chain—product developers, salespeople,

transportation, purchasing, and even the CEO—is critical. Each may provide different insight to help make decisions.

Forecast carefully and order early. In a normal year, you may place orders two or three months ahead. In today's climate, lead times can change quickly and changes in logistics can play havoc with estimated arrival times.

Inform your sales force before they communicate with customers. It is nearly impossible to over-communicate disruptions and their causes. It is a good idea to build processes that allow you to keep your sales staff informed in as real time as possible. Then, make sure the sales team shares the right message with customers, who deserve—and expect—more than simple excuses such as, "It's due to COVID" or "Ocean freight takes a long time." Customers are most understanding when you are honest and transparent.

Navigating the future may not be easy, but knowing the source of your materials, staying close to suppliers, using more than traditional data in forecasting, and communicating with everyone makes the challenges more manageable. The keys are flexibility and adaptability, since the supply chain will likely experience disruptions for some time. ■

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[INSIGHT]

TRANSPORTATION

by Aaron Galer

Senior Vice President of Strategic Partners, Arrive Logistics
arrive@nextpr.com | 267-817-9385

Winning in a Contract Market

Freight market volatility keeps us on our toes, and we can expect that to continue. Many carriers are shifting their focus from spot to contract freight, which creates a fantastic opportunity for shippers to optimize their supply chain by adapting their carrier strategy. Here are some proven practices for doing so.

Take the first step by assessing your freight needs and business goals. If you move high volumes of relatively low-risk freight and need to cut short-term costs, consider tactics like renegotiating contracts or siphoning loads to the spot market.

But remember, when the market inevitably flips and spot rates spike, this approach creates challenges to establishing profitable contracts with the carriers you steer away from now.

Alternatively, if you move premium, perishable, or otherwise sensitive products, building long-term partnerships within your carrier network will help you reap the quality, cost, and service benefits that come with them. Although this may be a more tedious and complex approach, it will likely be the most advantageous for your business in the long run.

The complexity inherent in most supply chains demands a blend of both strategies, so harness this moment to identify the right mix for your business. Although it's wise to

maintain a fluid freight management approach, I advocate building long-term carrier partnerships.

I've seen carriers reward shippers that honor contracts in tight markets with exceptional rates and service when demand swings again. I recommend you play the long game by maximizing your existing contracts and strengthening your carrier relationships to position yourself for future success.

PLAYING THE LONG GAME

Only you understand the unique needs of your business, but these tactics can help both transactional and partner shippers adapt to market volatility and win the long game.

- **Patience pays dividends.** Contract rates likely will remain higher than spot rates until peak season. Push your carriers to over-deliver on service, and share your plans with them so they can prepare to offer lower rates and high service levels to stay competitive.

You can simultaneously siphon contract freight to your spot arena to

reap savings and drive competition. This strategy sets up discerning shippers for whatever the future brings.

- **Don't rush to RFP.** If you just wrapped up an RFP, wait until peak season to rebid or renegotiate to ensure you get the best deal while contract rates continue to dip in your favor.

- **Connect with carriers.** If you pay premium contract rates, connect with your carriers and see what more they can offer while respectfully reminding them that a rebid might be on the horizon. Don't settle for lower rates either—challenge carriers to find ways to deliver additional value for your business.

- **Window shop:** Proactive, service-oriented carriers may try to get ahead of potential rebids by offering lower rates; take the meeting, but hold out if you anticipate even better rates coming with peak season.

- **Lean on your broker.** Smart brokers strategically straddle the spot and the contract market so they can find low-price options that will drive down your overall network rates. Asset-based carriers also can do this—especially if they don't factor in fuel—but they may take longer and provide fewer options.

The bottom line: Don't fear this—or any—market shift. Instead, recognize market shifts for what they truly are—an opportunity to improve your current position and fortify for the future. ■



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[INSIGHT]

SCSECURITY

by *Mike Wilson*

CTO, Enzoic

mike@enzoic.com | 720-773-4515

Four Tips to Strengthen Cybersecurity

Supply chain problems continue to dominate headlines across the globe. In response, companies seek ways to increase visibility to help build more resilient supply chains. However, increasing the pace of digital transformation opens up an array of vulnerabilities that cybercriminals actively take advantage of. Shoring up cyber defenses is critical for logistics providers and shippers in particular, where a breach can have significant consequences.

Digitizing the supply chain increases reliance on software solutions that connect the ecosystem, which widens the surface that cybercriminals can attack. This problem compounds as organizations ensure the security of their own systems and that every provider across the supply chain has taken appropriate steps to strengthen defenses.

Ocean shipping has fallen victim to several high-profile attacks, from the Mediterranean Shipping Company suffering a malware-based breach to a ransomware attack on Maersk. These incidents affected customers as systems went offline, and Maersk saw a material impact on its revenue and reputation.

In addition, the consequences of a breach in the shipping industry extends from the digital into the physical world. Carriers own a variety of heavy assets with unique vulnerabilities and risks. A network breach can create liability and safety concerns, such as

disabling a ship's navigation systems. Even worse is the potential for a bad actor to take over a vessel's autopilot system and cause deliberate damage or run the ship aground. Based on this potential for wide-scale disruption, the shipping industry must increase its cyber defenses as it accelerates the pace of digital transformation. Below are four recommendations to consider.

1. Audit the entire supply chain.

The SolarWinds breach in 2020 was a software supply chain attack. Supply chain companies need to remember to evaluate their software supply chain. Organizations must review the security of every vendor. The NIST's Cyber Supply Chain Risk Management framework offers a helpful guide to tackle this step.

2. Embrace a zero trust mindset.

As supply chains become increasingly connected, defined security perimeters no longer exist. Although businesses face this issue with a mix of work modes,

when remote workers are ocean freight vessels and trucks, they must secure every system appropriately with mandatory authentication steps.

3. Remain vigilant on security basics. Internal firewalls, endpoint detection, and password screening are security fundamentals that significantly reduce the risk of a cyber attack. Steps such as strengthening user passwords and introducing more robust authentication systems, including multifactor authentication, are basics that organizations must prioritize.

Organizations also need to prioritize routine tasks that include patches and updates; otherwise, cybercriminals may exploit these weaknesses.

4. Undertake training and disaster planning. As hackers increasingly deploy creative tactics, it is essential to educate employees so they don't fall for these tricks. In addition, disaster scenario planning spanning digital and physical is crucial. Given the potential operational implications, workers need training both on land and at sea to ensure organizations prepare for every eventuality.

As the shipping industry accelerates digital transformation to increase visibility and build more resilient supply chains, it must prioritize cybersecurity. Otherwise, the infusion of technology could result in a deluge of new problems. ■



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I WANT IT
 LATER
 NOW

TECHNOLOGY MAKES IT HAPPEN

When customers want it NOW, technology makes it click by delivering increased visibility, optimized loads and routes, data-sharing, and digitized documents.

By Karen Kroll

The pressure to move shipments more rapidly continues to accelerate. For most companies of any size, technology is essential to meeting customers' "I want it now" expectations.

Over the past few years, nearly everyone has become used to clicking a "place order" button and seeing the items they purchased arrive within a day or two—if not hours. And when consumers learn the items they want won't arrive as quickly as they'd like, they don't hesitate to act: 40% use comparison shopping sites to check for availability and 29% shift to a new retail site to access the product they want, according to a survey by consulting firm PwC (*see chart*).

It's not only consumers who expect rapid delivery. Many business professionals, accustomed to quickly receiving the items they purchase at home, expect similar speediness while on the job.

In an ideal world, shippers could meet customers' demands for rapid delivery without incurring extra costs to expedite shipments. While the world isn't ideal, however, technology can help shippers meet tightening delivery time frames. Among other capabilities, these solutions boost visibility, efficiently match shippers and carriers, optimize routes and loads, enable data-sharing, and digitize documents. New delivery devices, like electric carts, also cut time from deliveries.

Here's a look at some of the new technologies in the expedited market.

A SINGLE INTELLIGENT PLATFORM

Nearly one million trucking companies are registered with the Federal Motor Carrier Safety Administration and more than 90% operate six or fewer trucks, according to the American Trucking Associations.

Shippers that want to streamline shipments need an intelligent transportation management platform that can work across multiple modes and provide live access to the breadth of the carrier market.

"Instant access to the market from a capacity standpoint and the ability to execute transactions allow shippers to be agile and move quickly," says Jared Wilson, senior vice president, customer operations, managed transportation, with logistics company Transportation Insight.

The quicker shippers can locate the carrier for each load, the quicker those shipments can begin their journeys.



DHL Express partnered with REEF Technology to pilot the use of four new low-power electric-assist e-Cargo Cycles for deliveries across Miami.

Moreover, this technology is now available, often through the cloud, to shippers of all sizes.

VISIBILITY TOOLS

While boosting visibility doesn't make trucks or planes move faster, it can streamline communication. In

turn, that can speed decision-making, so companies can quickly determine how best to move shipments, including those already in transit.

Gaining visibility to shipments, particularly with global supply chains that involve numerous carriers and multiple product "touches", allows companies to optimize decisions and change course when needed, says Michael Tew, vice president of sales-supply chain at QAD, a provider of manufacturing and supply chain solutions.

In addition, real-time tracking and live ETA (estimated time of arrival) status helps customers and reduces back-and-forth, high-touch communication, says Kyle Humphries, pre-sales consultant with Rose Rocket, which offers transportation management solutions.

INTERNET-OF-THINGS

Internet-of-Things (IoT) solutions can work with tracking systems to enable real-time updates on inventory as shipments are in transit. IoT devices "eliminate the

SUPPLY CHAIN ISSUES DIRECTLY AFFECT CONSUMER BEHAVIORS

Even in the midst of supply chain disruption and inflationary pressure not seen in decades, consumer appetites for seamless shopping experiences have not diminished, finds a recent PwC survey.

Consumers empowered by technology are more likely to use comparison sites to seek product availability and shop across multiple retailers. However, with supply chain snarls and inflation ramping up prices and wait times for delivery—both online and in-store—consumers are switching between channels to find what they want. That could create new opportunities for companies ready to handle them.

**How frequently have you taken any of the following actions as a result of supply chain issues?
(Showing answers only from respondents answering 'frequently' or 'almost always')**

40%

Use more comparison sites to look for availability

37%

Switch to buying products online

37%

Shop at multiple different retailers to meet your needs

29%

Switch to buying products in-store

29%

Change the retail store/outlet you usually shop in to get the product you want

Source: PwC survey



BrightDrop developed the Trace eCart to reduce touches, errors, labor costs, and physical strain on the labor force. In an initial pilot, the Trace eCart enabled couriers to effectively handle 25% more packages per day.

waste of searching and locating specific inventory,” says Scott Shaw, principal consultant, consumer products supply chain lead with Clarkston Consulting. The information IoT devices provide allows shippers to adjust plans when circumstances change.

LEVERAGING DATA

While visibility is essential, it’s not enough. “You need to create a system that automatically reacts to data,” says Daniel Sokolovsky, CEO and founder of Warp, which focuses on middle-mile logistics.

Consider a driver who learns—before starting their route—that a half-dozen pallets are delayed and that waiting for them means missing the window to unload at the next stop. With a system that leverages data, the driver likely will calculate it’s best to go without the pallets, rather than continuing to add delays across the supply chain.

The driver might also shift to a smaller truck. They can communicate the changes to other parties in the supply chain, so they can also adjust.

LOAD AND ROUTE PLANNING SOLUTIONS

Both load and route planning software can speed shipments. Load building software enables efficient consolidation

and loading of shipments and equipment, so they can quickly be on their way.

Once shipments are ready to hit the road, route optimization solutions that leverage artificial intelligence can help e-commerce companies address last-mile challenges while meeting customers’ delivery expectations, says Mohit Sinha, chief business officer with Hwy Haul, which is building a digital

freight platform that connects shippers and truckers. Both routing and load optimization solutions can be part of an in-house planning or logistics solution, or managed by carriers.

Planning software also can help shippers identify the transportation service that will most effectively move each parcel to its destination. For instance, it can help shippers determine whether they need to use less-than-truckload for a shipment, or to ship in larger quantities to leverage economies of scale.

MICRO-MOBILITY

Urban residents may soon see packages delivered on electric carts or electric-assist bikes. Along with cutting emissions, carts and bikes can boost last-mile efficiency, particularly in congested metropolitan areas, as many are small enough that they can travel on sidewalks and even inside buildings.

For example, the Trace eCart from BrightDrop, which offers a portfolio of electric vehicles, smart containers, and software to decarbonize last-mile deliveries and reduce congestion, can carry several hundred pounds of packages. Because the carts are secured, drivers don’t need to worry about theft



Route planning software can help expedite shipments by generating the most efficient route for drivers and supporting scheduling and routing decisions. Most route planning solutions also optimize how drivers get to each location based on real-time traffic information.

PHOTO: LE MINH, PEXELS



Drone use is projected to grow over the next few years. Air logistics company Swoop Aero provides a technology platform for sustainable and scalable drone logistics. The solution enables two-way deliveries across multiple destinations, organizations, and providers.

if they need to leave them to enter a building. That can mean fewer trips into and outside a building to ensure the shipments remain safe.

The eCarts allowed FedEx Express couriers to increase package deliveries by 15% per hour in New York; in Toronto, FedEx couriers handled 25% more packages per day with the eCarts. “We find significant operational improvements,” Hornyak says.

Also in this space, DHL has partnered with REEF Technology to deploy electric cargo cycles across Miami. The three-wheeled cycles are equipped with an accompanying cargo container and can pull up to 400 pounds.

For the Miami pilot, a DHL straight truck equipped with a customized trailer will carry up to nine cargo containers for the cycles. The containers are delivered to the REEF hub garages, where they’re quickly connected to the cycles for last-mile inner-city deliveries.

The vehicles “significantly reduce the challenges associated with urban business deliveries, improving safety, productivity, and costs,” says Greg Hewitt, U.S. CEO of DHL Express.

MOBILE APPS FOR DRIVERS

Mobile apps can reduce paperwork and errors—and thus, time—by enabling drivers to digitally sign and manage key documents. And by maintaining a digital log of arrival and departure times, these

apps can offer shippers an accurate, unbiased view of their on-time deliveries, allowing them to address problems. For instance, the app may show that a piece of equipment fails often, causing delays, and should be replaced.

DRONES

Drones can leapfrog ground-based transportation barriers, such as traffic congestion, says Erik Peck, CEO and co-founder of Swoop Aero, an Australian drone logistics company. And by employing a hub-and-spoke model, drones allow organizations to centralize warehousing facilities, reducing operational expenses.

Peck might be expected to focus on drones’ benefits, given his position. Yet, while the market for drone deliveries is in its infancy and faces numerous regulatory and other obstacles, it’s expected to ramp up quickly. The global drone package delivery market, which generated \$0.94 billion in 2021, is projected to reach \$32.1 billion by 2031—a compound annual growth rate of 43.3%, according to Allied Market Research.

Even so, drones won’t replace traditional transport models. “By augmenting traditional transportation methods, drones serve to increase the efficiency, impact, and reach of the network,” Peck says, noting that drones

can be deployed for high-cost routes and ad hoc deliveries.

SHARED TRANSPORTATION SOLUTIONS

Shared transportation refers to loading a trailer with three or four different shipments and then using load planning technology to build a route that efficiently moves them to their destinations, says Lawrence of Fox Logistics.

This sounds similar to less-than-truckload (LTL) shipments. With LTL, however, a shipment is picked up, taken to a local dock, and then offloaded, stored, and reloaded onto a truck heading to another terminal that’s in the direction of the final destination. During the trip, the same shipment may be unloaded and reloaded at several terminals, increasing the likelihood of loss or damage.

With shared transportation, the shipment is loaded directly onto the truck that will make the final delivery. “Route planning software is key to making this work, as shipments need to be loaded in reverse order of the deliveries,” says Lawrence.

That is, the last shipment must be in the nose of the trailer. “For shippers and carriers, it’s a win/win,” he adds.

ANALYSIS AND ARTIFICIAL INTELLIGENCE TOOLS

Myriad factors can lead to the need to expedite shipments: machine breakdowns, natural disasters, and human errors, to name a few. An effective business intelligence toolset



can offer value by identifying the “why” behind decisions to expedite, and show how to do better in the future, says Sam Polakoff, founder and chief executive with BrillDog, which offers supply chain solutions for small to mid-sized businesses.

When expedited shipping is needed because of a mistake somewhere else in the operation—say, the right inventory is not in the right place at the right time—artificial intelligence and business analytics can provide insight showing how the situation might be better handled going forward, Polakoff says.

DON'T FORGET PEOPLE

Even as technology becomes more critical to meeting delivery timeframes, the insight and experience employees can offer remain key.

For example, A. Duie Pyle, a transportation and logistics provider offering LTL service and extended coverage, is data driven and leverages a routing solution to plan deliveries, says John Luciani, chief operating officer of LTL solutions.

At the same time, given the company's diverse fleet and broad customer constraints, artificial intelligence sometimes fails to return a group of efficient routes that maximizes capacity while minimizing miles.

“When we have that scenario, we find that our driver's engagement helps to improve route density and reduce miles, while satisfying the customer's delivery constraints,” Luciani says.

To really drive operational efficiency, team members need to understand the role they play and their impact on transportation. “Freight is a team sport, where most of the players are spread across multiple companies throughout the supply chain,” Humphries says.

All stakeholders need to be kept in the loop on pertinent information. “When parts of the team are left in the dark, mistakes happen, frustration grows, and expedited transportation is next to impossible,” he adds. ■

GETTING THE MOST FROM TECHNOLOGY

While technology is essential to speed transportation, leveraging its benefits typically requires several changes. First is a paradigm shift. “People need to get out of the mindset that we can live how we lived for so many years before,” says Mohit Sinha, chief business officer with Hwy Haul. Instead, executives need to consider the longer-term benefits of investing in technology that can drive improved performance and confer a competitive edge.

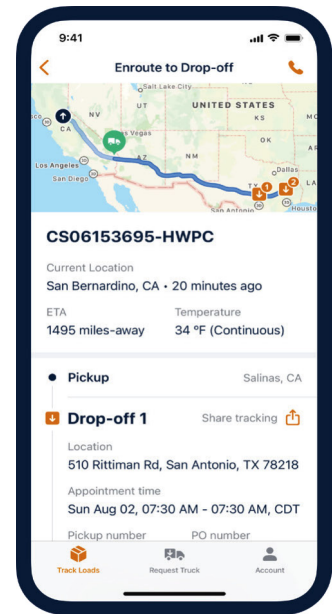
When working with freight providers, shippers should request information on the value-add tools and new features they bring to the table or plan to bring in the near future, says Kyle Humphries, pre-sales consultant, Rose Rocket. Transportation providers that still use spreadsheets are signaling they're not future-focused and that they value owning their own data over transparency, he says.

While technology can streamline processes and enhance communication, the old axiom of “garbage in, garbage out” still applies, says Sam Polakoff of BrillDog. Before implementing new technology, shippers need to check that their data is accurate and up-to-date.

Increasingly, boosting efficiency requires a willingness to share data across organizations within a supply chain. Many remain concerned about the safety of shared information, just as they did before moving to cloud-based solutions. “The willingness to share data will require a similar mindset change,” Sinha says.

That willingness appears to be gaining strength. If there's a bright side to the recent supply chain challenges, it's that they've shown how supply chains are under pressure. This realization is prompting supply chain leaders to collaborate more across the value chain, using tools like application programming interfaces (APIs), so all gain visibility.

Another way to ensure packages move to their destinations more quickly is to make sure they begin at an appropriate starting point. “The farther inventory is from customers, the less opportunity to expedite shipments without significant additional cost and manual intervention,” Shaw says. Conversely, placing inventory close to anticipated demand boosts shippers' ability to quickly ship to customers. Given the ongoing growth in e-commerce, many companies will need to rethink their distribution networks.



Load status software such as Hwy Haul enables real-time visibility.

EXPEDITED CARRIERS GUIDE 2022

With enterprises running just-in-time and e-commerce accelerating customer expectations, shipment speed is more urgent than ever. From managing time-sensitive medical shipments to meeting last-minute capacity needs, shippers seek fast services, at reasonable costs.

These carriers can answer your need for speed. Offering same-day and next-day options, ground expedite and air charter solutions, to name a few, the carriers on this list can handle tight timeframes, specialized equipment needs, and mission-critical shipments.



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freight.amazon.com

enterprisefreight@amazon.com

Shippers can leverage Amazon's supply chain capabilities and technology, in addition to more than 30,000 Amazon-owned trailers and network of vetted carriers. Provides full truckload services using 53-foot dry vans. Spot shipments are live loaded and unloaded. Online tools allow shippers to manage loads on demand.



SOLUTIONS/FEATURES:

Provides shippers with a self-service transportation management system (TMS) and can also integrate with shippers' TMS via EDI. Trailers are equipped with GPS, and carriers and drivers utilize the Amazon Relay app to ensure real-time visibility. Shippers can book loads for next-day pickup or up to 14 days out.

American Expediting

americanexpediting.com

412-321-4546

American Expediting provides specialized services, from cold chain logistics to urgent same-day ground transport. Time-critical package delivery services include next flight out and managed transportation services.

SOLUTIONS/FEATURES:

Offers real-time reporting for shipment transparency to validate the safety and quality of shipments and ensure compliance with Good Distribution Practice and other regulatory requirements.

ArcBest

arcb.com/panther-premium

800-685-0657

ArcBest provides ground expedite service for time-sensitive freight through its Panther Premium Logistics fleet

and its network of capacity providers across the United States, Canada, and Mexico. Expedited freight travels on an exclusive-use vehicle, without co-mingling. Air freight solutions available for international shipments.



SOLUTIONS/FEATURES:

Security measures include satellite tracking, in-cab panic alarms, and door sensors. Specialized equipment can accommodate oversized freight as well as temperature-sensitive shipments.

Ascent On-Demand

ascentgl.com/on-demand

800-614-1348

Ascent On-Demand provides premium mission-critical air and ground transportation solutions across North America, as well as access to major forwarders for international air freight. The company delivers time-definite supply chain solutions across all transportation modes.

SOLUTIONS/FEATURES:

Offers access to an on-demand fleet. Bid board provides multiple solutions and just-in-time cost optimization. Real-time shipment and market pricing visibility.

Averitt Express

averitt.com

866-249-8496

Averitt offers ground and air services for shippers' expedited needs—LTL and truckload, guaranteed time-critical LTL, charter flights, next-flight-out, next-day, and custom solutions.



SOLUTIONS/FEATURES:

Customized expedited solutions include complex time-sensitive distribution, project management, and event logistics. Provides specialized equipment and trailers, including reefers, flatbed and drop deck trailers, and courier vans.

Continental Expedited Services

continentalexpedited.com

855-SHIPCES

Continental Expedited Services provides expedited ground solutions, offering door-to-door services covering the United States, Canada, and Mexico. The company also offers time-critical airfreight solutions through a network of more than 200 airfreight and air charter service providers.

SOLUTIONS/FEATURES:

Ground shipment services provide direct dual-driver nonstop transit anywhere in North America and satellite-tracked vehicles updated every 30 minutes. Through-trailer service with no transloading at borders.

DHL

dhl.com

800-225-5345

Along with global expedited parcel services through DHL Express, DHL offers expedited freight solutions, including same-day airfreight services and fast, road-based solutions with dedicated ground vehicles. DHL also provides flexibility and cost savings for emergency, high-priority deliveries globally, helping shippers plan delivery schedules to meet urgent delivery needs.



SOLUTIONS/FEATURES:

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Echo Global Logistics

echo.com/services/specialized
800-354-7993

Echo offers hot-shot ground and air-cargo services for time-sensitive shipments all over the United States, leveraging its network of more than 10,000 expedited carriers. Shipments are monitored from origin to destination to ensure time-definite delivery.

SOLUTIONS/FEATURES:

Airfreight services include exclusive-use charter, next-flight-out, next-day, and timed deliveries. Ground solutions include express cargo, sprinter vans, straight trucks, and on-demand team truckload. Expedited LTL services include next-day, second-day, and time-definite guaranteed deliveries nationwide.

Estes Forwarding Worldwide

efwnow.com
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SOLUTIONS/FEATURES:

Customizable solutions, providing flexible delivery, warehousing options, and 24-hour visibility through tracking technology. Supports aerospace, automotive, e-commerce, healthcare, manufacturing, retail, and other industries.

FedEx SameDay

fedexsameday.com
800-399-5999

FedEx SameDay offers cross-country, door-to-door delivery for urgent shipments in hours, depending on flight availability. Available throughout all 50 states. Up to 2,200 lbs. per piece (or more with prior approval) and unlimited total shipment weight. For urgent deliveries to other countries, FedEx International Next Flight is available.



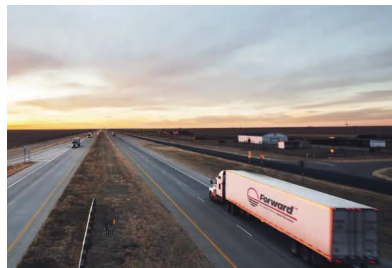
SOLUTIONS/FEATURES:

Proactive shipment monitoring and notification. API integration available: E-commerce solutions, including shipping and shopping cart software from third-party providers, can incorporate into the shipper's platform.

Forward Air

forwardair.com
800-726-6654

Leveraging a linehaul network that includes more than 100 terminals at or near major U.S. and Canadian airports, Forward Air provides expedited LTL transportation. Forward Air also offers expedited truckload services and last-mile optimization.



SOLUTIONS/FEATURES:

Time-definite delivery, late cutoffs, early recovery times, weekend service in select areas, and expedited lanes. Offers satellite tracking, online shipping visibility, and scanning systems that track inventory movement.

Holman Logistics

holmanusa.com/transportation
253-872-7140

Holman Logistics provides ground transportation and managed brokerage services include truckload, LTL, standard ground, expedited, and same-day delivery. The company's freight brokerage division offers white-glove services and expedited, night delivery 24/7/365.



SOLUTIONS/FEATURES:

Dedicated and shuttle services. Freight consolidation. Refrigerated, frozen, and temperature-controlled services. Flatbed and liftgate available. National coverage and availability. Managed shipment tracking and tracing.

Hub Group

hubgroup.com
800-377-5833

Hub Group's expedited freight services address and overcome last-minute logistics challenges. The company works with shippers to develop an expedited freight strategy, tapping into its network of regional and national carriers and end-to-end technology.



SOLUTIONS/FEATURES:

Online freight management platform Hub Connect provides shippers 24/7 access to intuitive freight management tools and AI-enabled shipment-level tracking. Shippers can schedule shipments, track loads, and review shipping documents from any device.

Landstar System

landstar.com
877-696-4507

The Landstar Express America dynamic business model gives shippers instant access to expedited and emergency shipping capacity. Landstar agents help shippers expedite cargo via a dedicated cargo or sprinter van, straight truck, or tractor trailer, with timely and accurate updates throughout the shipment's journey.



SOLUTIONS/FEATURES:

Expedited, emergency and disaster transportation services are available 24/7/365. Independent Landstar agents can expedite shipments via air using TSA-approved capacity including commercial cargo aircraft and carriers, as well as air charters at major airports.

Load One

load1.com
734-947-9440

Load One operates a dedicated 24/7/365 staffed expedited operation serving the United States and Ontario, Canada. The division operates primarily sprinters, cube trucks, and straight trucks with both singles and teams. Load One works with more than 70 expedited carriers in the United States and Canada that are fully integrated with its computer system to offer shippers seamless coverage for critical ground shipments.



SOLUTIONS/FEATURES:

GPS equipment enables real-time tracking service 24/7/365. TSA-approved drivers. In-cab scanning for fast proof of delivery. Hazmat authority.

Lynden Logistics

lynden.com
800-926-5703

As a global forwarder, Lynden works with airline partners to carry shipments to world markets quickly and efficiently. Lynden offers a variety of service levels, including charter flights, consolidations, and next-flight-out service, as well as next-day, second-day and three-to-five-day services, to meet specific requirements.



SOLUTIONS/FEATURES:

Shippers can track freight through the EZ Commerce Center. Custom ground transportation plans available to meet time and cost requirements. Proactive monitoring and notification available for urgent shipments.

Magnate Worldwide

magnateworldwide.com
971-339-7621

Magnate Worldwide is composed of logistics providers focused on expedited domestic transportation and global freight forwarding. Its Masterpiece Security Group offers expedited cargo handling and supervision, cargo escorts, and secure routing through a licensed staff and fleet of tarmac vehicles.

SOLUTIONS/FEATURES:

Time-definite LTL, customized white-glove, airfreight, and other domestic and international expedited services. Specialized service levels available for sensitive, time-definite, and high-value shipments.

Old Dominion Freight Line

odfl.com
800-637-7333

Old Dominion offers same-day, next-day, or time-specific delivery of expedited freight. From one-time to recurring shipments, Old Dominion provides must-arrive-by-date and on-time-in-full guarantees.



SOLUTIONS/FEATURES:

OD On Demand service lets shippers schedule a time-specific delivery, during normal business hours, after hours, or over the weekend. OD Guaranteed service ensures that high-value, time-sensitive orders will be delivered by 5 p.m. on the day scheduled, or freight charges revert to standard rates.

Pegasus Logistics Group

pegasuslogistics.com
800-997-7226

Pegasus Logistics Group is a global freight forwarder that specializes in expedited ground, air, and ocean services including white-glove delivery, hot shots, specialized equipment, time-critical FTL, and next-flight-out.

SOLUTIONS/FEATURES:

The 3PL manages shipments through 24/7 dedicated account teams and ensures visibility by providing satellite tracking, web services, interactive dashboards, and full-scale reporting.

Pilot Freight Services

pilotdelivers.com
800-HI-PILOT

Pilot Freight Services provides domestic air and ground freight delivery options for nearly every type of shipment traveling throughout the United States, with 24/7 customer support and integrated logistics.



SOLUTIONS/FEATURES:

Door-to-door control over shipments via a wide range of vehicles including vans, cubes, straight trucks, and tractor-trailers. First-flight, next-day a.m. and p.m., and 2-3 day shipping is available.

Purolator

purolator.com
888-302-8819

Purolator Express offers guaranteed, next-day delivery across Canada with multiple times available to meet service level needs.



SOLUTIONS/FEATURES:

Purolator can customize shipments to and from the United States and within Canada. Online tracking provides visibility into all expedited freight shipments. Special freight services include advance delivery notification/appointments and tailgate services (if no dock at the pickup site).

Quick Global Priority Logistics

quick.aero
800-488-4400

Quick actively manages logistics globally, and can help expedite delivery to anywhere in the world. Serving the aviation, biotech/pharma, and healthcare industries, among others. Relationships with the global airline network allow Quick to choose fast and safe shipment routes.

SOLUTIONS/FEATURES:

Priority services include next-flight-out, on-board courier, air charter, priority freight, and dangerous goods. Time- and temperature-sensitive and mission-critical solutions supported by logistics technology. Quick's team of logistics specialists is available 24/7 to support project requirements.

Saia

saia.com
800-765-7242

Saia offers regional and interregional LTL, non-asset truckload service, and third-party logistics. Saia Guaranteed offers shippers the ability to pick the time of delivery, either by 12 p.m. or by 5 p.m.



SOLUTIONS/FEATURES:

Saia's Custom Solutions offering provides expedited shipment delivery across a 48-state area in a shipper's specified timeframe. Saia Guaranteed service shipments are specially marked within the Saia system, providing up-to-the-minute shipment visibility and proactive handling.

Scan Global Logistics

scangl.com
45 32 48 00 00

Scan Global Logistics is a global full-service logistics provider headquartered in the Nordic that provides logistics through tailored solutions made by specialists, problem-solvers, and entrepreneurs.



SOLUTIONS/FEATURES:

Scan Global Logistics' portal provides shippers with access to its full range of import and export services, including track and trace, rates, multiple carriers, time in transit, and more.

SEKO Logistics

sekologistics.com
800-228-2711

SEKO's domestic expedited shipping service uses multiple shipment methods that include truckload, commercial airlines, charters, and hot shots via cargo van or straight truck, to ensure parcels arrive on time. Dedicated and part-charter flights are available to handle time-sensitive deliveries. Express, standard, economy, and charter services are available.



SOLUTIONS/FEATURES:

SEKO Next Flight Out is designed for situations when parcels are needed as fast as possible. Regular, accurate status and location updates provided throughout the delivery. Shipments are tracked online 24/7 via MySEKO. No weight restrictions, available 365 days per year.

Uber Freight

uber.com/us/en/freight
877-289-8237

Uber Freight is an app that matches carriers with shippers. Carriers can tap a button and book a load without back-and-forth negotiations.



SOLUTIONS/FEATURES:

Upfront pricing and visibility provide shippers with the information needed to make business decisions. Uber Freight also offers 24/7 support.

UPS

ups.com
888-742-5877

Extensive domestic ground and air network. For urgent shipments, UPS offers several guaranteed next-day and same-day delivery options, with time-definite next-day delivery by morning, noon, or end-of-day, depending on shipper needs. UPS Express Critical service allows for same-day delivery of critical shipments.



SOLUTIONS/FEATURES:

UPS offers value-added services such as pickup and delivery options, delivery notification, and special handling to meet each company's shipping needs.

Ward Transport and Logistics

wardtlc.com/expedited-2
800-458-3625

Ward's Fast ForWARD Expedite Service handles time-sensitive shipments, available 24/7. Ward provides national and international solutions for land, air, and sea transportation. Maintains a network of 20 strategically placed service centers in the Mid-Atlantic region.



SOLUTIONS/FEATURES:

Guaranteed delivery, pool distribution. Protect from freeze/full-value insurance. LTL consolidation, dedicated spot quotes.

Werner

werner.com/shippers/expedited
800-228-2240

Werner's operating area reaches throughout North America, via offerings such as transcontinental, engineered solutions with designated OD pairings, terminal-to-terminal, and lane-based. These services are designed for small parcel packages, LTL purchase transportation, OEM manufacturing, freight forwarders, retail, and pharmaceutical/technology.



SOLUTIONS/FEATURES:

Provides a total team capacity of more than 1,000 that delivers service for companies with team transit needs. Werner states that it maintains higher than 99% on-time delivery record for time-definite shipments.

WSI Supply Chain Solutions

wsinc.com/service/transportation
920-830-9155

WSI spans a nationwide distribution network with global logistics reach. WSI's transportation network and strategically located distribution centers help expedite shipments worldwide. Within the United States, WSI achieves same-day or next-day delivery to all major cities.

SOLUTIONS/FEATURES:

Parcel, LTL, FTL, same-day, and next-day service.

XPO Logistics

xpo.com
844-742-5976

With more than 30 years of experience in domestic and cross-border solutions, XPO manages time-critical shipments from origin to destination with end-to-end digital visibility and is capable of facilitating shipments of all sizes.



SOLUTIONS/FEATURES:

Coordinators are available 24/7/365. The company offers digital visibility of freight in transit and can adjust modes within its transportation range if circumstances change.

YRC Freight

yrc.com/services/time-critical
800-610-6500

Time-critical service coordinates air and ground modes to meet timelines. Specialized equipment meets most shipping requirements. North America LTL network and cross-border expertise facilitate service during shipment, while TSA-approved certified cargo screening facilities and indirect air carrier status maintain shipment integrity and avoid delays.



SOLUTIONS/FEATURES:

Time-Critical accommodates customer-defined delivery dates and times, including holidays and weekends. YRC also offers guaranteed deliveries, 24/7 customer service, and online tracking.



AIR CARGO CAPACITY COMES BACK

For more than two years, demand for air cargo vastly exceeded supply. But now, at the end of 2022, air freight capacity is approaching pre-pandemic norms. What happens now?

By Helen Mann

Anyone who has taken an introductory economics course has likely learned about the forces of supply and demand. If not, the post-2020 air cargo market could provide a lesson.

A combination of factors threw air cargo capacity for a loop in 2021. On one hand, U.S. retail sales reached \$5.6 trillion in 2020, and then added another \$1 trillion in 2021, the Census Bureau found.

On top of that, data from healthcare improvement firm Premier Inc. shows that hospitals spent more than \$3 billion on personal protective equipment (PPE) in the first two years of the pandemic.

Many PPE products had to be transported from overseas. Unfortunately, this coincided with sharp declines in international air travel. While U.S. imports rose 20.7% in 2021, according to the U.S. Bureau of Economic Analysis, data from the International Air Transport Association (IATA) shows that global passenger traffic in 2021 was only 58.4% of 2019 levels.

LOWER CAPACITY, HIGHER RATES

“When the passenger airlines stopped flying internationally, it sucked a lot of capacity out of the system,” explains Neel Jones Shah, executive vice president and global head of air freight at Flexport, a San Francisco-based freight forwarder and customs brokerage.

“Supply was nowhere close to meeting demand, so rates went up by three or four times what they historically were,” Shah adds.

More than a few conditions have changed since then. For one, many airlines added additional freighters to their fleets or converted passenger planes to mitigate passenger travel shortfalls in the wake of the pandemic.

“Airlines looked to cargo to limit their losses during COVID,” says Robert Burdette, vice president of strategy at Shapiro, a Baltimore-based customs brokerage. “They had to find ways to get the most use out of each airplane.”

MORE CAPACITY HERE TO STAY

Additional cargo capacity won't go away after air travel normalizes, Burdette warns. Domestic airlines transported 674 million passengers in 2021, according to the Bureau of Travel Statistics. That's 82.5% more travelers than in 2020, but still 27.3% fewer enplanements than in 2019.

Enplanements continued to grow in 2022. Domestic U.S. revenue passenger kilometers (a measure of actual passenger traffic) climbed 7% annually in August 2022, peak travel season, IATA reports. Global revenue passenger kilometers rose 67.7% annually that month, to reach 73.7% of 2019 levels. Air travel will recover to 94% of pre-pandemic levels in 2023, then reach 103% of it in 2024, IATA predicts.

These numbers indicate that passenger plane belly capacity—which accounts for 54% of air cargo capacity, according to Boeing—will be readily available within two years. When that happens, Burdette explains, airlines could become saturated with excess supply.

“A lot of alternatives to passenger aircraft were put in place during the pandemic,” Burdette explains. “Those aircraft won’t be thrown away. It will be interesting to watch the airline industry deal with its excess capacity.”

CARGO BOOKING EARNS INSTRUMENT RATING

It isn’t just a capacity glut that has made cargo space easier to come by. Electronic booking options proliferated in 2020 and 2021, enabling shippers and freight forwarders to compare rates and see different carriers’ availability in real time.

“Digital tools such as CargoNet and cargo.one gave freight forwarders the ability to see a carrier’s rates over several days, and make quicker decisions with fewer emails,” says Cindy Cargain, air cargo pricing supervisor at Shaparo. “These tools are like priceline.com for air cargo. They have made shippers and forwarders much more efficient at using and rating that capacity.”

In addition to cutting down the time it takes to reserve capacity, booking platforms also give shippers an opportunity to find and work with new carriers, explains Brennan O’Dowd, CEO and co-founder of 7LFreight/ WebCargo, a rate management and booking platform.



Despite lower capacity, Southwest Airlines reported solid third quarter 2022 profits and record third quarter operating revenues. Here, a Southwest Airlines ramp agent loads next-flight-guaranteed cargo in the aircraft.

Prior to the pandemic, the main way to book space with an air carrier was by going to them directly. Once freight capacity went online, shippers and freight forwarders could see and compare a wider variety of options available to them. O’Dowd likens it to using a transportation management system to look for capacity in the trucking market.

“Online booking tools give freight forwarders visibility into pricing and capacity from carriers that they might

not have used in the past,” O’Dowd says. “Right now, around 40% of global capacity is available on the 7LFreight platform for users to be able to book with. Using this technology, shippers are able to leverage available capacity in a much more intelligent way.”

A CHANCE OF TURBULENCE IN INTERNATIONAL MARKETS

As of October 2022, cargo space is readily available in import and export markets. But that could change, cautions Bogen Chi, director of air freight at C.H. Robinson, a third-party logistics provider headquartered in Eden Prairie, Minnesota.

In Europe, for example, travel protocols were mostly relaxed during the spring and summer months, and belly space flooded the market.

Even as cargo volumes sag (data from benchmarking index Xeneta shows air freight shipments from Western Europe to North America fell 1.4% between mid-March and late April), capacity climbed by 21%.

But availability to and from Europe could tighten as passenger travel demand falls in the fourth quarter. Assuming cargo demand remains steady, this would create an environment where capacity is stretched and spot rates rise, warns Chi.



Online tools offered by companies such as Flexport help air cargo shippers track goods in transit, catch issues to keep supply chains running on time, and compare costs across modes to determine landed costs down to the SKU.

Meanwhile, capacity nearly reached pre-COVID levels during the summer of 2022 in the trans-Pacific, according to IATA. Between flagging demand for goods and lower instances of ocean conversions, cargo space has been consistently available.

That said, “the market can and has shifted on a dime in the past 18 months,” says Chi.

One example of this is “zero-COVID” policies. While countries like Japan have reopened for international travel, China continues to pursue policies to check the spread of disease. As of October 2022, the U.S. Embassy to China warned that all travelers are subject to a minimum 10-day quarantine upon entering the country. This discourages travel, which, in turn, reduces the number of flights to or from the region.

“Think about how many business people, or families, fly to Asia every year under normal circumstances,” Chi explains. “That has almost come to a halt. Airlines are operating fewer flights to the region as a result. Why would they want to operate such an expensive plane if it is almost empty?”

GOODS DEMAND HAS A SOFT LANDING

Domestically, two factors impact the demand side of cargo capacity. The first is inflation. Prices rose 8.2% year-over-year in September 2022, the latest in a series of increases that kicked off in summer 2021. Food and fuel costs accelerated particularly rapidly, which led some consumers to cut back on other expenditures.

This directly impacts volumes, and in turn, demand for air cargo capacity, notes Wally Devereaux, vice president of cargo and charters for Southwest Airlines.

“Not everything that moves on aircraft is affected by economic conditions,” Devereaux says. “But certain items fall into the discretionary spend category. When the economy softens, you’ll see reduced demand and lower volumes for those types of products.”

Second, after two years of robust goods spending, consumers are venturing back into the world of experiences.

“Our air cargo operations grew 16% from 2020 to 2021,” notes Jim Szczesniak, chief operating officer for the Houston Airport System. “It was a result of the ‘Everybody’s buying stuff from their couch’ phenomenon. Passenger traffic took a nosedive during that time, but now it’s returning.”

Loosening restrictions on travel means that budgets are once again shifting toward vacations and restaurants. According to travel website Expedia’s 2022 Travel Trends Report, 68% of

Americans planned to “go big” for their next vacation.

What it adds up to is greater belly capacity, but less of a need for it.

“We’ve seen a real shift in consumer behavior toward service-oriented experiences as opposed to product-oriented experiences,” says Shah. “Demand for air cargo could stagnate through 2023.”

There’s a forecast of clear skies, with a slight chance of headwinds for air cargo markets. ■



VISIBILITY TAKES TO THE SKIES

Following the initial COVID outbreak, Collins Aerospace responded to shifting market dynamics by making it easier to convert passenger planes into freighters. The Charlotte, North Carolina-based aerospace systems provider began offering packages that could, for example, allow airlines to remove seats and add tie downs and additional firefighting equipment. In one week, an airline could reconfigure a passenger airplane into a freighter, says Joe Virtanen, senior manager of cargo systems business development at Collins Aerospace.

As travel restrictions ease, and passenger traffic returns, aerospace manufacturers are shifting their focus toward visibility. Cargo planes will utilize Internet of Things technology and automated data collection to monitor the location and status of shipments, and avionics for pilots to observe cargo while in flight.

“In the future of cargo aircraft, you’ll be able to track a shipment from the cargo loading system, to where it sits on the plane and what condition it’s in, all the way to the final destination,” Virtanen says.

SPONSORED

DCs LEVEL UP



Now that achieving efficiency is more pressing—and more challenging—than ever, distribution center operators turn to flexible automation solutions to boost productivity and optimize space utilization.

Boosting efficiency within distribution centers has become both more critical and more difficult. The pandemic, of course, drove a dramatic spike in the need for e-commerce capabilities within distribution centers, says Douglas Kent, executive vice president, strategy and alliances with the Association for Supply Chain Management.

“The industry was unprepared for this rapid shift to B2C (business-to-consumer) capabilities,” Kent says, adding that many organizations had to “compress their digital roadmap timeframe.”

Along with transportation backlogs, the rapid shift to e-commerce also upended distribution center operations. Retailers and manufacturers had to

quickly shift from managing pallets to working with parcels and smaller orders.

“That fundamentally alters the flow of product through your warehouse, as well as the supporting laboring systems,” says Kaitlin Peterson, senior director of product marketing with Locus Robotics.

Adding to the complexity is the unpredictability of consumer orders. “That’s a demand planning problem

that I don’t think anybody has figured out, and yet it completely changes how product comes into a warehouse,” Peterson says.

Retailers are used to volatility, Kent notes. Historically, however, the volatility has been relatively predictable; typically, it’s seasonal or driven by promotions. Now, retailers are confronting both volatility and unpredictability. Moreover, the traditional solution of stockpiling inventory comes with a cost.

Similarly, few distribution centers (DCs) were designed to accommodate the jump in volatility in the flow of goods moving in and out, says Mike Sansone, associate partner in the consumer practice with global strategy and consulting firm Kearney.

One indication is the drop in compliance with dock-door appointment times, which fell from about 85% to 60 to 65%.

5 WAYS TO UNLOCK DC EFFICIENCY

Companies can make these 5 moves to help ensure any technology deployments are as effective as possible in boosting distribution center efficiency:

- 1) **Rethink current processes.** Simply applying new technology to old processes likely won’t boost workflow efficiency and effectiveness, says Neil Bentley, product management director at Locus Robotics.
- 2) **Know your products.** Understanding your product mix, customer demand by item, and supply chain flows will help in pinpointing where to begin implementing any solution, says Spencer Shute from Proxima.
- 3) **Consider allocations and layout.** Review warehouse product allocations and map the floor plan and typical product pick patterns to identify ways to reduce redundant movements, Shute says. This can also help identify products that should be grouped together.
- 4) **Develop consistent measures of productivity.** For companies with multiple sites, developing consistent measures of productivity in like-for-like operations, while fostering transparency and sharing best practices, can have a tremendous impact on performance with limited investment, Kearney’s Mike Sansone says.
- 5) **Think holistically.** Taking an expansive view of distribution center operations helps in identifying where challenges are and the drivers behind them. “Collect data, employee input, and align performance expectations to ensure your solutions tackle the root cause,” Shute says. “This unlocks the potential to drive efficiencies that improve operations.”

While the market has partially recovered, volatility remains higher than pre-pandemic levels. “When coupled with more recent increases in freight and labor costs, as well as availability, shippers’ needs for efficient operations are amplified,” Sansone says.

Even as DCs were hit with supply chain bottlenecks and higher product volumes, many struggled with tight capacity and labor constraints, further hampering efficiency. “DCs often have less space to store and move products and less labor to get products out the door,” says Spencer Shute, principal consultant with Proxima, a supply chain consultancy.

ADAPTATION IS THE NAME OF THE GAME

Technology can help companies tackle these challenges. “Technology is ever evolving to make DCs more efficient,” Shute says. The best solutions for each distribution center are determined by the product types being handled.

Automating manual activities, while not a new idea, is critical to making processes more efficient and effective. Automating mundane, manual activities also can help attract candidates to distribution center and warehouse jobs, Kent says.

A driving force behind the interest in automation isn’t only reducing labor costs—although that remains key—but the lack of labor, says Don Caddy, chief executive officer with Engineering Innovation, Inc., a leader in automated equipment for parcel applications.

“The return on investment comes not from replacing labor with equipment, but from the ability to meet service level agreements (SLAs),” he adds. “SLAs don’t leave a lot of room to say, ‘Sorry, I won’t meet the agreement because couldn’t get anyone here,’” he adds.

Inflation also is driving interest in automation, says Neil Bentley, director

of product management with Locus Robotics. “One way to lower inflation is to become more efficient with your existing operations.”

A hybrid approach to automation typically offers the best value for most companies, Sansone says. Companies can enhance their existing equipment and gain efficiencies with targeted solutions, while avoiding capital-intensive systems that often provide less flexibility to meet future shifts in demand.

INCREASING ACCURACY

“Some solutions, like sort-to-light, pick-to-light, and audio-based systems, all but hand you the product,” Caddy says. They reduce training time while boosting accuracy, all without requiring a massive investment. And these systems work well with small orders that contain multiple SKUs—like many e-commerce operations.

The popularity of artificial intelligence as a tool to maintain service levels is growing. The effective use of analytics can enhance inventory control and help distribution centers more effectively manage demand and supply, Kent says. For instance, machine learning, a subset of artificial intelligence, can draw from historical data to help predict volatility levels.

Robotics is another solution. In some applications, it’s possible to develop a fully automated warehouse that

can operate 24/7 with little human interaction aside from monitoring, Shute says.

FLEXING WITH DEMAND

“Robotics allows you to flex with the ebbs and the flows of demand,” Peterson says. Especially with the robots-as-a-service model, distribution centers can scale up and down according to the volume that’s moving in and out.

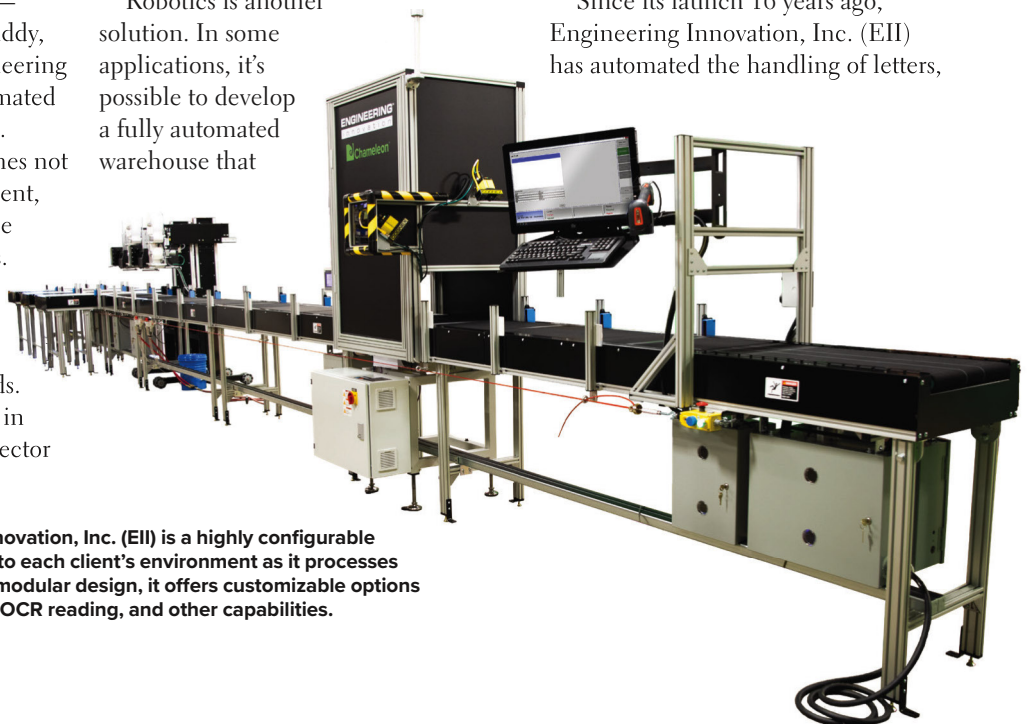
Moreover, the idea that robotics and automation are going to replace jobs isn’t generally accurate, Peterson adds. Instead, these tools are performing the jobs companies can’t fill, while also making the roles more efficient and effective. She likens it to the introduction of the sewing machine, which boosted productivity, while reducing injuries.

As important, technology solutions offer distribution center employees, including entry-level workers, the opportunity to gain critical competencies in applying digital technology or robotics to operations.

“These aren’t just jobs but an entry to careers,” Kent adds. “We need to make distribution centers more of a career choice.”

ENGINEERING INNOVATION: ADDRESSING UNIQUE CHALLENGES

Since its launch 16 years ago, Engineering Innovation, Inc. (EII) has automated the handling of letters,



The Chameleon® from Engineering Innovation, Inc. (EII) is a highly configurable parcel processing system that adapts to each client’s environment as it processes up to 4,500 parcels per hour. With its modular design, it offers customizable options for sorting, labeling, barcode reading, OCR reading, and other capabilities.



Your First Call for Startup and Cell-Level Automation Solutions

Whether you're a small to mid-size fulfillment center trying to elevate up to the next level of throughput capacity and speed, or already a high-volume operation looking to optimize a specific point or line in your processing stream, Engineering Innovation is your ideal partner.

Engineering Innovation is uniquely focused on developing custom parcel processing equipment solutions that are compact, modular, affordable and, most of all, easily scalable to grow with you—making your specific warehouse transition from manual to partial or full automation fast, seamless, cost-effective and forward-looking.



Quickly train new employees



Reduce manual processing errors



Fit automation into limited space



Increase daily throughput

ENGINEERING[™]
i n n o v a t i o n

Discover more **800.350.6450**
sales@eii-online.com | www.eii-online.com

flats, and small to mid-sized parcels for hundreds of companies. Through its work, EII has also acquired unique expertise in postal regulations, along with deep experience in site-specific process evaluations. As a result, it's able to optimize each client's throughput and boost destination accuracy.

"EII excels when customers have unique problems," CEO Don Caddy

says. "While we effectively handle standard applications, it's when someone says, 'I have a problem, and I'm not sure how to solve it,' that we tend to do well."

For example, EII has invested time and resources to handle poly-bags, which tend to scrunch up within traditional conveyors and wrinkle when the system tries to read them. Glare also

has been a challenge. So, EII makes its own camera that can read poly-bags.

The acronym EII also stands for Excellence, Integrity, and Innovation. The company offers stellar support, including preventative maintenance trips and an after-hours support line, helping clients tackle challenges and gain a competitive edge.

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AUTOMATION EVOLVES WITH DC NEEDS

By Brian Reinhart, VP of Sales & Solutions, Hai Robotics

DC efficiency is more important than it has ever been, and the premium on an efficient system has grown exponentially. By becoming efficient, distribution centers can ease the burden on labor, manual intervention, and footprint requirements. Efficient DCs can pivot faster to meet evolving customer requirements, seasonal demands, or SKU profile changes.

Helping DCs Run More Efficiently

High-performance, high-speed systems allow DCs to handle the e-commerce and omnichannel boom without adding labor. When your operators are performing 5x faster, you become more efficient and more lean.

From there, automation can attack warehouse density. By storing products to the top of a warehouse, often 30 feet high or more, and storing them in a multi-deep or grid fashion, we're able to greatly reduce the footprint needed to house products. This allows more space for growth, expansion, seasonality, or unknown surprises.

Lastly, the most recent evolution is the introduction of flexibility into the DC. With the introduction of mobile technologies to high-speed, high-density systems, we can now combine the best in speed, density, and flexibility.

That flexibility comes in numerous forms: service-based pricing models, seasonal rentals or leases, low infrastructure requirements, non-precision-based storage, to name a few.

Turn-Key Solutions

Hai is the world leader in autonomous case handling robotics (ACR). Our HAIPICK system is a high-speed (500+ tote presentations per hour per workstation), dense (10 meters tall, double-deep storage), and highly flexible

goods-to-person solution. Packaged with world-class, AI-driven, in-house software, localized engineering, project management, and support, Hai serves its partners and customers with a full suite of options.

Hai also partners with third-party suppliers to provide racking, totes, fencing, conveyors, and any other equipment needed. Hai's in-house integration capabilities can also help fill gaps for our customers or partners by adding supplemental technologies outside of the Hai system.

The Hai system is sophisticated and mature enough to serve the largest organizations in the world, while also being flexible and cost-effective to serve smaller organizations or startups. Hai's client portfolio ranges from Fortune 50 companies deploying 100-bot fleets to a facility starting its automation journey with 1 or 2 robots. All customers are treated like partners.

Global Partner

One of our longest tenured global partners, JD.com, has done numerous projects with Hai. The Hai robotics platform allows JD to hit ever-increasing volumes, including peak, with minimal workforce. The speed of the Hai system yields a 3-4x labor reduction compared to manual or semi-automated solutions. In addition, the density in the Los Angeles warehouse allows JD to handle all tote and case-based operations in a 40,000-sq.-ft. footprint of the 250,000-sq.-ft. warehouse.

Lastly, the flexibility allows JD to expand or adjust the system with minimal foresight needed. Hai's on-call support and service ensures maximum uptime for the system, and the proactive maintenance plan ensures maximum equipment lifespan.

Solve Top Efficiency Challenges with Robotic Automation

To handle both peak season volume and regular order volume efficiently, distribution centers need scalability. The robots-as-a-service (RaaS) model lets you add and subtract as needed.



Kaitlin Peterson
Senior Director of Product Marketing
Locus Robotics

What are the biggest challenges facing enterprise-level distribution centers today?

The number one challenge today is labor, and it's in a variety of forms that include labor shortage, absenteeism, and high turnover rates from walking 12 miles a day while dragging around a large, heavy cart.

The second biggest challenge is the unpredictable nature of what's coming in and leaving the warehouse.

Containers are finally off the ships that were stuck in the water. Those products are now flowing through the ports and ending up in trailers or containers outside of warehouses because the warehouses don't have the capacity to bring in that inventory and process it—making demand planning a lost cause.

The third challenge is the economical uncertainty of the world. People are concerned, so they're holding off on certain expenditures, while trying to eke a little bit more out of their current CapEx models rather than trying to sign up for new things like warehouse automation.

They know they need to automate, but they're not sure what type they need.

How can large distribution centers use automation to evolve and get past these challenges?

The biggest way that large distribution centers can get past their top challenges is to look at automation solutions that are flexible, scalable, and safe. The solution needs to be flexible due to demand changes.

If you're building a new center, do you want to build it for the number of people you need to fulfill peak season orders or do you want to build it for the number of people you typically employ every single week? It's a false dichotomy.

You need to create an environment that can handle the volume of peak season and your regular order volume without overpaying.

For scalability, you need to be able to add and subtract as needed, and you can easily do so with a robots-as-a-service (RaaS) model.

With Locus Robotics, our robots are not replacing people. Instead, the robots work alongside warehouse associates to

make their jobs better and upscale their skills to help them have a safer and more enjoyable working environment.

What competitive advantage can automation providers offer companies that operate at enterprise levels?

For 3PLs, the biggest competitive advantage provided by automation is that they can offer automation as an added service to their customers.

With automation, the cost to do business with a 3PL is significantly lower and comes with faster throughput, increased efficiency, and less errors.

For a distribution center, the biggest advantage is to handle those peak season volumes without having to hire 25-100 temporary workers.

The idea is to be better able to maintain and manage the volume changes as they go up or down and be able to better serve your customers. Automation makes your processes faster and more efficient.

How does Locus Robotics help enterprise-level distribution centers handle their challenges?

With Locus Robotics, our customers can take advantage of the benefits of automation from day one, and we can scale with you long-term.

We're not just a starter package of automation; you can start with 50 bots and go up to 500 bots on four mezzanines, for example, with our solution. Plus, we come from a logistics background so we fundamentally understand warehousing and logistics in a way that other robotics or automation providers may not.

Learn more about Locus Robotics.

www.locusrobotics.com



Several business units make up EII. The Postal automation unit offers solutions to sort letters, flats, and parcels. EII's Postal Steward eVS (electronic verification system) creates and submits eVS mailings to PostalOne!, the U.S. Postal Services' web-based suite of services geared to business mailers. And the parcel automation group includes automated parcel sorting machines, sort-by-light, pick-to-light, flats and parcel manifesting, among other solutions.

CONFIGURABLE SOLUTIONS

The Chameleon® is a key EII solution. It's a highly configurable parcel processing system that adapts to each client's environment as it processes up to 4,500 parcels per hour. With its modular design, the Chameleon® offers customizable options for sorting, labeling, barcode reading, OCR reading, and other capabilities. "Clients can tailor it to how they want," Caddy says.

That's in contrast to some systems that offer multiple functions, but tether all of them to a single controller. In contrast, because each EII module has its own controller, the modules can be rearranged or added to or subtracted from to meet customer needs. "Clients effectively gain a custom machine without the need to build it from scratch," Caddy says. "We strive to offer the most impact with the least disruption."

In addition to its hardware and software solutions, EII offers consulting services, in which it takes a comprehensive look at clients' operations. For example, if a company approaches EII with plans to automate one function, the EII team will ask how any changes will impact other processes. "Often, it helps to have

someone from outside ask the right questions," Caddy says.

If, during its consulting work, EII determines a potential client would be better served with a competitor's system, it will recommend that. "If our plan includes our system, that's great," Caddy says. "If not, we'll let the company know."

EII worked with one company that had been looking for a solution to more effectively sort packages of varying sizes and that were headed to 70 destinations. Because they had to measure and weigh each piece and also apply labels, dozens of workers were able to process only about 75 per hour.

EII worked with the company to configure a machine that could weigh and measure the packages and assist in applying labels. Now, just two people process about 1,500 packages per hour.

Results like this have driven EII's growth. Since it introduced the Chameleon® in 2018, implementations have quintupled, Caddy says.

LOCUS ROBOTICS: ROBOTS THAT CAN FLEX AND SCALE

Several years ago, many companies considered robotics a cool technology, but would start with a pilot. Only if that went well would they consider broader implementations, says Kaitlin Peterson, senior director of product marketing, for Locus Robotics.

The conversation has since shifted. "Companies are now saying, 'We

have to automate. There's no labor available,'" Peterson says.

As companies reach this conclusion, many turn to Locus, which in September 2022 announced that its LocusBots had topped one billion units picked. In total, LocusBots have traveled more than 17 million miles in customers' warehouses, or the equivalent of 35 round trips to the moon. Its solutions have been deployed at more than 200 sites around the globe.

Locus focuses on automating material movement through a facility, from goods coming in, to picking, packing, and shipping. LocusBots add the most value when handling high-volume and rainbow orders—that is, lots of lines and different items, says Neil Bentley, director of product management.

In addition, the Locus Vector is designed for high-productivity materials handling and logistics applications. Its industrial-strength chassis, omnidirectional mobility, and compact design enable it to handle products up to 600 pounds.

LocusBots free employees to handle more value-add activities. Moving a pallet or a cart between pick locations doesn't add value, and robots can do this more efficiently. "In contrast, finding the right item and right quantity

Locus solutions can be scaled up to meet peak seasons, and then scaled down once the season is over.



and getting it packaged correctly—that's where associates really add value," Bentley says.

ROBOTICS-AS-A-SERVICE: SCALABLE, DATA-HEAVY

In working with customers, Locus's engineering team seeks to understand their workflows and replenishment needs. For example, if a healthcare company needs to capture certain data to comply with regulations, Locus will work with the organization to develop an efficient, automated process that accomplishes this.

Because customers lease solutions through Locus's robots-as-a-service (RaaS) model, they gain ongoing service and maintenance expertise, as well as immediate access to software updates. These are key capabilities in today's dynamic warehouse environment.

Clients can quickly scale Locus solutions to meet peak seasons, and then scale down once the season is over. In contrast, with many other solutions,

they'd need to invest enough to meet their peak season, even if the equipment remains underutilized much of the time.

"Robots-as-a-service allows clients to right-size for their business fluctuations," Bentley says.

As important, companies don't need to re-do their distribution centers to implement Locus solutions, Peterson says. Instead, they can incorporate LocusBots within their existing infrastructure.

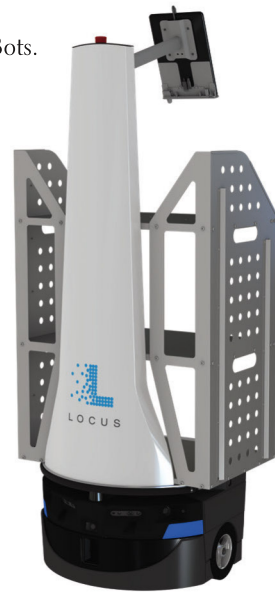
Real-time Locus dashboards provide actionable insight. For instance, they can identify areas of congestion within a distribution center, so management can assign associates to work through the bottlenecks. The reports can also provide longer-term data that companies can use to analyze performance across multiple systems.

Through its sustainability initiative, Locus refurbishes its robots. While LocusBots already are durable and long-lasting, this further extends their lives.

A global logistics provider turned to Locus Robotics to improve its customers' supply chains and boost efficiency and fulfillment. After observing the productivity improvements generated by a six-robot pilot, the company deployed 56 LocusBots. Worker productivity doubled, while cycle time was cut in half.

Robotics, and particularly Locus, are no longer baby steps to automation, nor a nice-to-have technology.

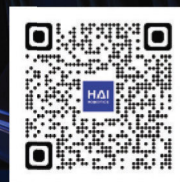
"We're proven," Peterson says. "If you're looking for a highly automated, highly efficient facility, Locus is that solution." ■



AI Driven Material Storage & Handling

- Reduces storage footprint up to 75%
- Improves workflow efficiencies by 3-4x
- Reduces labor costs
- Maximizes digital inventory management & material-picking accuracy

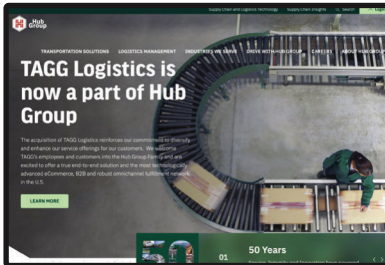
HAI
ROBOTICS



HaiRobotics.com

IN THIS SECTION: 3PLs - Air Cargo

3PLs

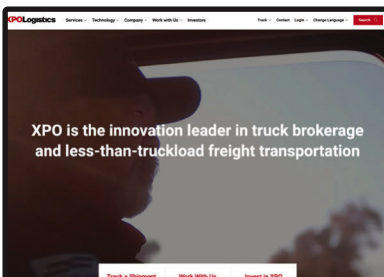
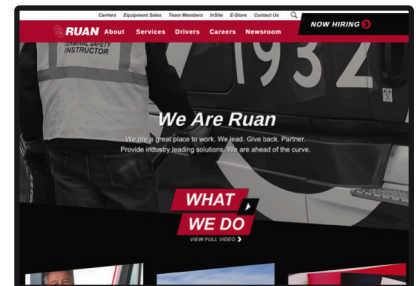


HUB GROUP • www.hubgroup.com

For nearly 50 years, Hub Group has serviced customers across multiple industries with innovative solutions and a commitment to service. We provide transportation and logistics management solutions that combine our own assets, strategic relationships and cutting edge technology to support each of our customers needs. Our reputation is built on stability, helping us deliver long-term value to our customers while continuing to add to our suite of supply chain solutions available to customers.

RUAN • www.ruan.com

Ruan's integrated supply chain solutions offer it all, including dedicated contract transportation, managed transportation, and value-added warehousing. We combine the flexibility of our non-asset and asset-based capabilities with optimal technology and superior service focused on continuous improvement, cost savings, and supply chain efficiency. The Ruan team partners with customers to evaluate, optimize, and deliver a one-source, integrated supply chain solution.



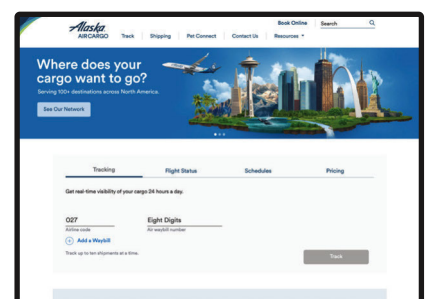
XPO LOGISTICS • www.xpo.com

XPO Logistics, a leading supply chain partner to blue-chip companies across every major industry, maintains a sole focus on freight transportation. A global network of 749 locations and approximately 43,000 employees helps shippers manage their supply chains most efficiently. XPO is a leader in transportation technology that gets the job done efficiently at the right price every time. XPO's technology gives shippers and drivers full visibility into the shipping experience and uses machine learning and data-driven insights to improve transportation.

AIR CARGO

ALASKA AIR CARGO • www.alaskacargo.com

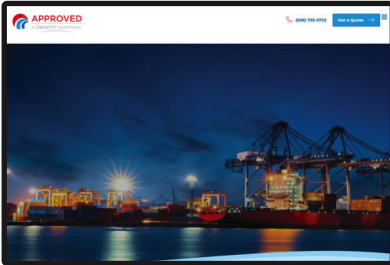
Alaska Air Cargo provides reliable air cargo services to meet your shipping needs. Whether it be small packages, full ULD shipments, or chartered freighter service, Alaska Air Cargo offers a variety of options, including GoldStreak® Package Express, a next-available-flight service for items up to 100 pounds, Priority Air Freight for time-sensitive shipments that are larger than GoldStreak and need to be at a destination by a specific time, and Animal Express, a priority express service that ensures animals a safe and comfortable journey.



IN THIS SECTION:

Air Cargo - Expedited Air

AIR CARGO

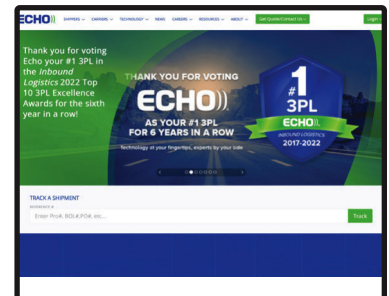


APPROVED FREIGHT FORWARDERS • www.approvedforwarders.com

Since 1991, Approved has been dedicated to the unique shipping needs of the Hawaii and Guam trades, and provides freight forwarding throughout the mainland U.S. Approved accommodates all types of commodities and all sizes of freight. Its highly trained logistics experts use advanced technology to tailor shipping solutions that fit your specific requirements. Approved works hard to ensure that your shipment arrives on time and intact, and keeps you updated every step of the way. To learn more, visit the website.

ECHO GLOBAL LOGISTICS • www.echo.com

Echo Global Logistics, Inc. (Nasdaq: ECHO) is a provider of technology-enabled transportation and supply chain management services. Echo maintains a proprietary, web-based technology platform that compiles and analyzes data from its network of more than 50,000 transportation providers to serve its clients' needs. Offering freight brokerage and managed transportation services across all major modes, Echo works to simplify the critical tasks involved in transportation management.



CROSS-BORDER LOGISTICS



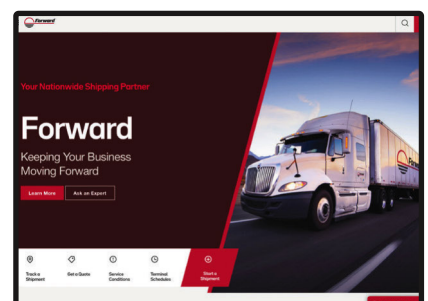
POLARIS TRANSPORTATION GROUP • www.polaristransport.com

Polaris Transportation Group is best known for scheduled LTL service between Canada and the United States. Polaris specializes in the shipment of dry goods. But it also has developed complementary transportation services including specialized movement of trade show displays and exhibits, third-party cross-border and domestic freight management, cross-border and domestic intermodal service, expedited ground and air service, and global air and ocean freight forwarding.

EXPEDITED AIR

FORWARD AIR • www.forwardair.com

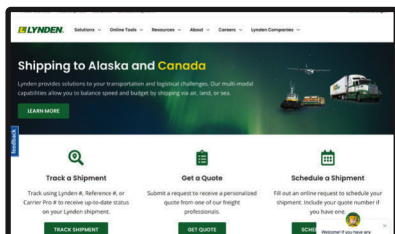
Since 1990, Forward Air has been a leading provider of ground transportation and related logistics services to the North American air freight and expedited LTL market. We offer surface shipping on an accelerated time-definite basis, delivering cargo at a specific time, but under less time-sensitive situations—supplying you with a cost-effective, reliable alternative to air transportation. We work with companies of all sizes to develop tangible advantages and build the best products to meet your specific needs.



IN THIS SECTION:

Expedited Air - Expedited Ground

EXPEDITED AIR



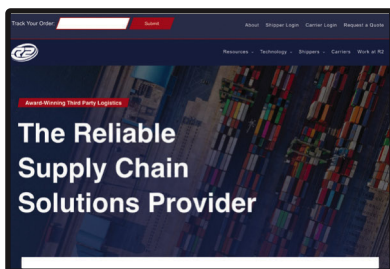
LYNDEN • www.lynden.com

Over land, on the water, in the air — or in any combination — Lynden has been helping customers solve transportation problems for almost a century. Operating in such challenging areas as Alaska, Western Canada, and Russia, as well as other areas around the globe, Lynden has built a reputation of superior service to diverse industries.

MAGNATE WORLDWIDE • www.magnateworldwide.com

Magnate Worldwide is a diversified supply chain management company, comprised of a unique portfolio of complementary, premium logistics services focused on mission critical domestic, fine arts, and global freight forwarding.

With customer service levels and operational execution second to none, each Magnate business segment—TrumpCard, Masterpiece Fine Arts, and Masterpiece ILS—provides premium services across many industries for sensitive, time-definite, high-value, and white-glove shipments.



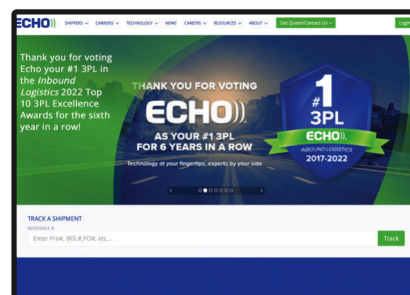
R2 LOGISTICS • www.r2logistics.com

Founded in 2007, R2 Logistics is a national provider of transportation services and logistics solutions. As a third-party logistics (3PL) company, we provide access to thousands of contracted transportation providers. With offices located across the United States, we are able to provide your company with any possible over-the-road shipping need nationwide, including Mexico and Canada. Backed by game-changing technology and our culture for Reliable Service and Relentless Passion, we've built a strong reputation as an industry leader.

EXPEDITED GROUND

ECHO GLOBAL LOGISTICS • www.echo.com

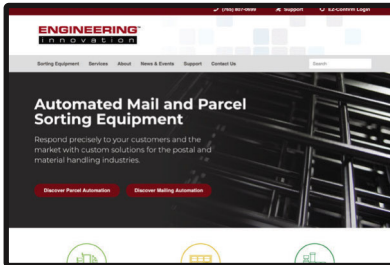
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IN THIS SECTION:

Materials Handling - WMS

MATERIALS HANDLING



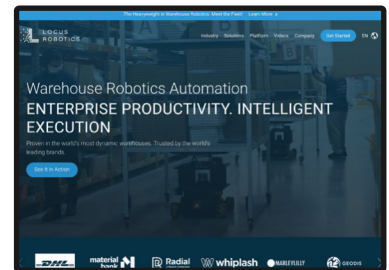
ENGINEERING INNOVATION • www.eii-online.com

Engineering Innovation specializes in designing customized automated workflow solutions for the mailing and shipping industry, in direct response to the needs of the market. Using expertise in postal and parcel automation design, Engineering Innovation develops products that work for any size fulfillment, returns, and mailing operation, and is dedicated to providing cutting-edge products that offer automated processing, maximum postage savings, and excellent service and support.

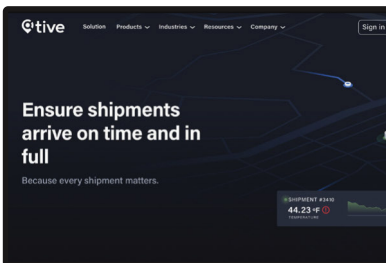
ROBOTICS

LOCUS ROBOTICS • www.locusrobotics.com

Locus Robotics' innovative autonomous mobile robots make it easy to optimize your warehouse operation, and respond to e-commerce volume growth and seasonal peaks while giving you control over your labor costs. LocusBots operate safely alongside people, making them more efficient and effective compared to traditional order fulfillment systems. Workers are able to fulfill more orders with less labor without the need to reconfigure or disrupt your warehouse.



VISIBILITY



TIVE • www.tive.com

Ensure shipments arrive on time and in full with TIVE's Tracker and Application software. These solutions capture real-time shipment data and manage products throughout the entire shipping process, providing real-time visibility on things like temperature, condition, and location. This data is also used in detailed reports to identify improvement opportunities, specify shipment constraints, and notify customers when delays arise.

WMS

QSSI • www.qssi-wms.com

PowerHouse by QSSI is the most refined and powerful WMS on the market—and the only whole systems solution. Companies can scale quickly with one of the first warehouse management applications to be entirely configurable. The only WMS to prioritize increased customer collaboration delivers real-time visibility into inventory, labor, and order information. Enhanced interface management is built-in for full ERP and third-party software integrations.



SUPPLYCHAIN *Insights*

The Latest Free Whitepapers, Videos, Podcasts, and More...

PODCAST



SUPER CHARGE YOUR SUPPLY CHAIN: REMOVING BARRIERS TO ELECTRIFICATION

Offered by DHL Supply Chain

This episode of the DHL Supply Chain All Business. No Boundaries.™ podcast features a conversation with Devin Sclater, Business Development Manager, ABB and Stephan Schablinski, Vice President of GoGreen, DHL Supply Chain. Listen in as they discuss the future of electric fleets, the benefits electric trucks could provide, and how to overcome barriers to implementation.

bit.ly/DHL1122SCI

WHITEPAPERS



FRESH IDEAS FOR ORGANIC FOOD WAREHOUSING & DISTRIBUTION

Offered by Symbia Logistics

Farmers and producers of organic products work hard for certifications while taking every measure possible to protect the integrity of their brands. When it comes to organic goods, that same level of care must be delivered throughout the supply chain. This free guide details everything you need to know about organic food warehousing and distribution.

bit.ly/Sym1122SCI



HOW 3PL FIRMS ARE HELPING DISTRIBUTORS PREPARE FOR THE FUTURE OF LOGISTICS

Offered by Wagner Logistics

Outsourcing supply chain operations to companies that use new and innovative technologies can provide visibility to how costs interact with the product at each stage of the supply chain. Discover how this information can help companies project their future level of success or failure in the marketplace.

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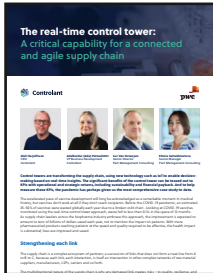
EXCLUSION: YOUR FIRST LINE OF DEFENSE AGAINST PESTS

Offered by Orkin

If you're tired of pests slipping through the cracks at your warehouse, exclusion techniques are the best way to help keep them out before they drain your mental and financial resources. This free download is filled with expert advice from Orkin Pros that teaches you what exclusion means, gives a breakdown of best practices and services, and outlines how to help guard your facility against trespassing pests.

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WHITEPAPERS



THE REAL-TIME CONTROL TOWER: A CRITICAL CAPABILITY FOR A CONNECTED AND AGILE SUPPLY CHAIN

Offered by Controlant

Controlant and PwC business leaders share insights into how the real-time control tower is transforming the pharma supply chain. With IoT to enable decision-making based on real-time insights, the control tower offers significant operational and strategic benefits. A supply chain data repository, no matter how comprehensive, is not valuable until it is presented in a practical framework of actionable insights.

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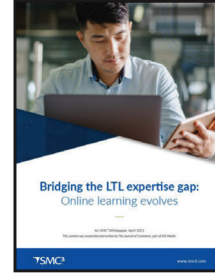


NETWORK OPTIMIZATION ON THE PATH TO IMPROVING OPERATIONS & REDUCING COSTS

Offered by Odyssey Logistics

Visibility into an organization's data is where optimization, better performance, and long-term cost savings begin. In this e-book, you will learn the five key steps to network optimization, how to build a supply chain digital twin, the impact of powerful business intelligence tools and the potential outcomes of a successful network optimization project.

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BRIDGING THE LTL EXPERTISE GAP: ONLINE LEARNING EVOLVES

Offered by SMC³

Sometimes it takes a commercial business to step back and identify a need for educational resources. For those beginning a career in freight management, there are a dozen or more respected logistics or supply chain management educational courses. But, there has been a notable gap in LTL educational resources to bring newcomers up to a competitive level of excellence or enable industry veterans to expand their knowledge base.

bit.ly/SMC1122SCI



CARDINAL HEALTH DOUBLES PICK PRODUCTIVITY WITH LOCUSBOTS

Offered by Locus Robotics

To ensure order accuracy and timing, smart healthcare and medical device fulfillment organizations like Cardinal Health are optimizing their supply chain with autonomous mobile robots. The Locus Robotics solution helps Cardinal decrease cycle times, decrease employee turnover, and get trucks out on time. Download this case study to find out how Cardinal Health and Locus Robotics work together to improve worker safety, warehouse quality, and operational costs.

bit.ly/Loc1122SCI

[IN FOCUS]

INBRIEF

New Services and Solutions

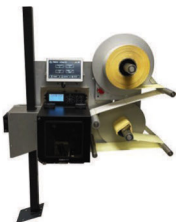
>PRODUCTS



> A stronger, lighter, refrigerated truck body on electric chassis is now available from **Bollinger Motors**, which teamed up with **Wabash**, a truck body and trailer manufacturer. Featuring Wabash's lightweight composite technology EcoNex and Bollinger's Class 4 electric chassis cab, the new truck body offers increased total payload capacity due to lower overall truck weight and thermal efficiency improvements.

> The new EASILINER release liner from **Essentra Tapes** is designed for e-commerce packaging. Available in various widths, the paper-based silicon release liners preserve adhesive qualities on packaging formats and offer seal-when-ready functionality.

> **Phoenix Labeling** unveiled its new Print & Apply labeling system designed for the final stretch of fulfillment operations, where employees scan, print, and affix labels on cartons.



> **CEVA Logistics** added five stations to its network of airfreight locations certified under the CEIV Lithium Battery program. The program confirms each facility's ability to properly handle and store lithium batteries, as well as validates the training and expertise of on-site employees. CEVA's locations in Frankfurt, Incheon, Shanghai, Singapore, and Tokyo are now CEIV certified, joining the Amsterdam and Hong Kong airfreight stations.

The solution is built around a linear applicator made of carbon fibers and can apply identification labels on packages with different heights. A laser sensor detects the height of the incoming package and instructs the applicator on the correct labeling height.

> **Trelleborg** introduced the XP700 tire for low-intensity materials handling applications. The XP700 tire features deep lugs for increased traction and a compact lateral block design to minimize vibration for forklift operators.

>TECHNOLOGY

> **6 River Systems'** (6RS) autonomous mobile robot, Chuck, can accommodate many product and tote sizes, has configurable height shelves to meet picking needs, and offers numerous accessories to increase warehouse associate productivity. 6RS, part of global commerce company Shopify, also



developed a workspace tray to make tasks like splitting cases and counting small pieces easier and faster.

> **HP's** new Metal Jet S100 Solution lets companies mass-produce high-quality 3D printed metal parts to streamline supply chains. Companies in the medical, industrial, consumer goods, and automotive industries can scale 3D metals production with this modular solution.

> Locator Studio from **Photoneo** is designed for 3D picking applications, and

can pick objects from flat surfaces like trays, conveyor belts, and racks, or localize parts for object placement, screwing, and assembly. Equipped with a 3D sensor, object localization and picking software, and a vision controller, it can provide faster picking speed than bin picking systems and can integrate with a robot system.

> **Tive's** tracker solution now covers a wide range of cold chain temperature requirements—including dry ice and cryogenic shipments. Designed for pharmaceutical, biologicals, and cell gene therapy companies, Tive's multi-sensor Solo 5G trackers capture and transmit hyper-accurate location and temperature data in real time.

>SERVICES

> U.S. e-commerce brands can more easily go global with the recent partnership between fulfillment platform **Airhouse** and **SEKO Logistics**. Through this partnership, Airhouse customers gain access to SEKO's facilities to expand their direct-to-consumer operations globally.

> The **CMA CGM Group** now offers TEUs to Trees, an early container return incentive program designed to increase climate change mitigation and help improve supply chain fluidity and velocity. Providing customers with 2.5 tons of carbon credit per container to offset emissions, the program is in effect from October 1 to December 30, 2022 and

covers both refrigerated and dry containers as well as every U.S. ocean terminal where CMA CGM receives empty containers.

>TRANSPORTATION

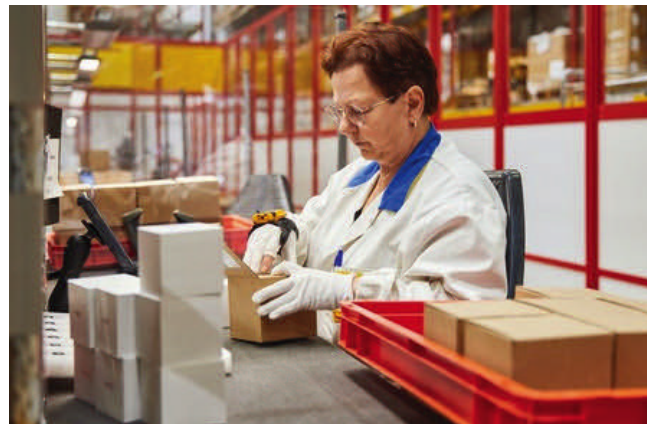
> **MSC** is developing a new air cargo solution as a complementary service to its ocean container shipping solutions. Available starting in early 2023, the solution will launch following the delivery of the first of four MSC-branded Boeing 777-200F aircraft that will be operated by Atlas Air.

> Small and mid-sized enterprises now have an economical and fast e-commerce service from Hong Kong to Singapore, Malaysia, and Thailand with **Kerry Logistics Network Limited's** new international e-commerce express solution. The service runs under its e-commerce and express division Kerry eCommerce in collaboration with S.F. Express (Hong Kong) Limited.

> **A.P. Moller-Maersk** launched a U.S.-Korea airfreight service through its cargo airline arm, Maersk Air Cargo. The service offers scheduled flights between Greenville-Spartanburg, South Carolina, and Incheon, Korea, starting with two weekly flights using the first of three newly built Boeing 767-300 freighters that have recently been purchased by Maersk Air Cargo. Cargo airline Amerijet International will operate all U.S.-Korea flights.



> The **Kivnon K55** pallet stacker is designed to move and stack palletized loads at low heights. Performing cyclic or conditioned routes while interacting with other autonomous vehicles, systems, and/or people, the autonomous mobile solution can be adapted to connect to fleet management systems.



> **DHL Supply Chain** introduced a recovery management solution to help companies reduce electronic waste. Featuring a customer portal to manage reverse logistics and technical service teams to inspect and validate returns, the circular supply chain solution helps enterprises reuse, reprocess, or recycle used electronic parts, such as processors, touchscreens, computer modules, or tech assets.

CALENDAR

Logistics Events 2023

Connect with industry peers, join thought-provoking discussions, and discover the future of supply chain.



JAN 23-25, 2023

ATLANTA, GA

Jump Start 2023

www.smc3jumpstart.com

The three-day supply chain event produced annually by SMC³ fosters networking and industry education. Shippers, carriers, and logistics providers attend this supply chain intelligence gathering for its networking opportunities, presenters, and content.

JAN 31 - FEB 2, 2023
LAS VEGAS, NV

Manifest 2023

manifest.st

This gathering of industry leaders, innovators, and investors provides networking opportunities and a lineup of speakers including more than 250 thought leaders. Discover the future of logistics technology and the players transforming the industry. Understand where the market is heading and gain visibility into companies across a range of stages and strategies.

FEB 7-9, 2023
LAS VEGAS, NV

19th Annual RLA Conference & Expo

rla.org/event/203

The Reverse Logistics Association event brings together reverse logistics professionals for two days of keynote speakers, content-driven panel discussions, and networking opportunities. Pre-event activities include golf, an academic roundtable, OEM and retailer roundtable, and women's VIP luncheon.

FEB 12-14, 2023
NASHVILLE, TN

AirCargo 2023

www.aircargocongress.com

Drawing corporate leaders and compliance managers from across the air cargo supply chain, AirCargo 2023 provides a mix of educational sessions and exhibition time. Thought leaders share proven growth

strategies and how they're navigating today's global transportation challenges. Exhibitors, from airlines to truckers to freight brokers and forwarders, seek new partners and ideas to kick their success into gear for the next season.

FEB 19-22, 2023
ORLANDO, FL

LINK2023

bit.ly/LINK2023_RILA

The Retail Industry Leaders Association conference gathers executives in the retail supply chain to network and learn from each other through case studies, best practices, and expert thought leadership.

MAR 8, 2023
SAVANNAH, GA

2023 Georgia Logistics Summit

galogisticssummit.com

The summit brings together speakers from prominent shippers in the industry, leaders in the state's infrastructure and economic development community, as well as keynote speakers from some of the world's most prominent supply chain-focused companies.

MAR 14-16, 2023
ROTTERDAM,
THE NETHERLANDS

LogiChem

logichem.wbresearch.com

Network and collaborate with Europe's heads of supply chain, logistics, planning, and customer service in the

chemical industry as they share practical insight for rolling out a successful sustainability strategy. Learn how to create a digital network that enables end-to-end visibility and build a risk mitigation strategy that addresses delays and capacity constraints.

MAR 20-23, 2023
CHICAGO, IL

ProMat 2023

www.promatshow.com

A global event for the materials handling and logistics sectors, ProMat 2023 provides a showcase for the latest manufacturing, distribution, and supply chain equipment and systems. Engage with 50,000 manufacturing and supply chain buyers who represent more than \$65 billion in purchasing power at this event.

MAR 21-22, 2023
PALM SPRINGS, CA

LogiMed

logimedusa.wbresearch.com

LogiMed attracts vice presidents and directors from both the manufacturing and provider sides of the medical device supply chain, offering an interactive and collaborative platform to connect and benchmark with peers. Bringing together stakeholders from the end-to-end healthcare supply chain, the event explores best practices to improve your supply chain, better serve customers, and minimize costs.

APR 26-27, 2023
NEW YORK, NY

2023 Business Agility Conference

bit.ly/2023_Business_Agility

The Business Agility Conference offers two days of stories, insights, practical advice, and inspiration centered on business agility. The conference brings together seasoned practitioners of business agility who have enabled supply chain innovation. Practitioners, executives, and thought leaders will share their insights through short talks throughout each day. You'll get the chance to discuss what you're learning, share insights, and brainstorm with others through deep-dive discussion groups.

MAY 1-3, 2023
SAN DIEGO, CA

TLC 49th Annual Conference

www.tlcouncil.org

The Transportation and Logistics Council's annual conference provides educational sessions with experts and experienced practitioners offering practical information and advice for your daily logistics practices. Three full-day seminars cover contracting for transportation services, freight claims, and transportation and logistics law.

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EVENTS

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PUMPKIN SPICE PANDEMONIUM

In the United States, if it's fall, it's pumpkin spice season. That seasonality, combined with limited supply, jacks up demand.

\$600,000

Amount Americans spend on pumpkin spice products every year, according to Nielsen data

66,200 acres

of pumpkins were harvested in the United States in 2020, according to the USDA

>2 billion pounds

of pumpkins were produced overall in the United States in 2020 (more than 1.5 billion pounds of them usable)

Starbucks Whips Up the Frenzy

Introduced in 2003, Starbucks' Pumpkin Spice Latte kicks off the pumpkin spice craze every year in late August and is available hot, iced, or blended at U.S. stores while supplies last (approximately November). Starbucks **sells around 20 million pumpkin spice lattes annually**—or more than 400 million since its debut.

Tis the Season

Pumpkins are grown for processing and fresh for ornamental sales through farms, farmers markets, and retail outlets. Libby's (owned by Nestlé Company) accounts for the biggest slice—almost 90%—of the North American market for canned pumpkin with **90% of it sold in only four months**, from October to January.

Pumpkin Spice Popularity

During the fiscal year that ended on July 30, 2022, Americans purchased more than **\$236 million** pumpkin-spice-flavored grocery items, a 24% year-over-year increase, according to market research firm Nielsen IQ.

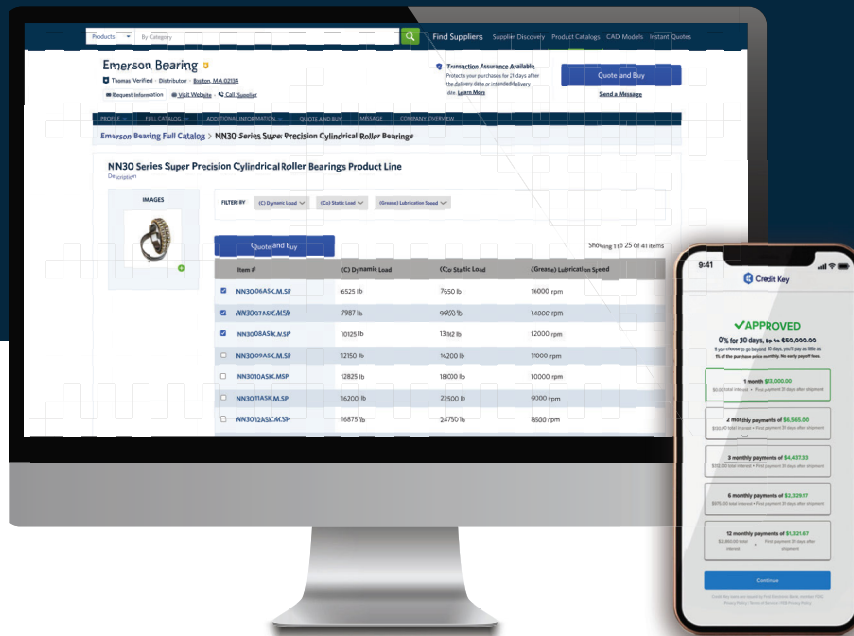
Fall Favorite

Spice company McCormick introduced pumpkin pie spice—cinnamon, ginger, nutmeg, and allspice—in 1934, around the same time canned pumpkin gained popularity. Although McCormick's pumpkin pie spice is available throughout the year, **76% of annual sales** occur between September and November.

Sources: Ag Marketing Resource Center; The Guardian; Forbes

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