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December 2022

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LM management UPDATE

AN EXECUTIVE SUMMARY OF INDUSTRY NEWS

◆ **NRF's holiday sales forecast is pegged for a record year.** Amid various economic concerns, the National Retail Federation's (NRF) holiday retail sales forecast is very positive. NRF defines holiday sales as those occurring between November 1 and December 31, excluding automobile dealers, gasoline stations, and restaurants. NRF is forecasting holiday retail sales to increase 6% to 8% annually, coming in between $942.6 billion to $960.4 billion. In 2021, retail sales were up 13.5% compared to 2020, at $899.3 billion, setting a new all-time record. What's more, it said that, over the last 10 years, holiday retail sales have seen an average increase of 4.9%, with the caveat that pandemic-related spending over the last couple of years represented a large portion of those gains. Not surprisingly, NRF said that it expects e-commerce to play a significant role in 2022 holiday sales, with online and other non-store sales pegged to increase between 10% to 12%, coming in between $262.8 billion and $267.6 billion, ahead of 2021's $238.9 billion tally.

◆ **Trucking Trends 2022 takes a look back at key trucking metrics.** The "American Trucking Associations' (ATA) Trucking Trends 2022," which was released last month and serves as the ATA's annual data compendium regarding the trucking sector, was again replete with various industry takeaways. ATA reported that the trucking industry moved a whopping 10.93 million tons of freight in 2021, ahead of 2020's pandemic-driven 10.23 tons. And perhaps even more telling, trucking collected 80.8% of the entire U.S. freight bill in 2021, up modestly compared to 2020, on the road to generating $875.5 billion. On a personnel perspective, ATA reported that the trucking industry employed 7.99 million people in what ATA called "industry-related jobs," a gain of 340,000 annually, with that tally including 3.49 million drivers. And women accounted for 7.9% of drivers, which ATA said represents an all-time high.

◆ **Pilot Freight Services opens up new locations in Austin and Omaha.** Glen Mills, Pa.-based 3PL, last-mile and full-mile services provider Pilot Freight Services, a subsidiary of Denmark-based A.P. Moeller Maersk, said that it opened up new locations in Austin, Texas, and Omaha, Neb. Pilot said that these new locations will provide shippers with various services, including first-, middle-, and last-mile via air, ground and ocean integrated with Maersk's logistics and services. "We're working closely with customers to support their competitiveness and growth goals in Austin and Omaha," said Pilot CEO Zack Pollock. "These new locations bring us ever closer to businesses and consumers in growing markets, and they're designed to be a catalyst for enabling our customers' growth and high levels of service commitment."

◆ **UPS heralds new Dublin-based healthcare facility, to open in 2023.** Atlanta-based global freight transportation and logistics services provider UPS recently announced that its UPS Healthcare subsidiary is gearing up for an expansion in Ireland, with what it called a "first of its kind healthcare facility" set to open in late 2023 in Dublin. UPS said that this new facility will be comprised of 6,000 square-meters (64,583 square-feet) of dedicated healthcare space to connect Ireland's growing pharmaceutical and medical technology industries to UPS' smart global logistics network, serving customers in more than 220 countries and territories. What's more, the company added that this new facility will support Ireland's pharmaceutical and medical device industries in delivering next generation biologics, critical vaccines and vital healthcare equipment to patients around the world, and create 30 jobs initially. Big Brown said that the investment demonstrates its commitment to the Irish market and support for its long-term export growth.

◆ **Port Tracker report points to ongoing slowdown of imports.** The most recent edition of the Port Tracker report by National Retail Federation (NRF) and maritime consultancy Hackett Associates picked up where the previous edition left off, with retail container port volumes expected to see declines off of record monthly volumes posted earlier this year. "Cargo levels that historically peak in the fall peaked in the spring this year, as retailers concerned about port congestion, port and rail labor negotiations and other supply chain issues stocked up far in advance of the holidays," said Jonathan Gold, vice president for supply chain and Customs policy at NRF. "With a rail strike possible this month, there are still challenges in the supply chain, but the majority of holiday merchandise is already on hand and retailers are well prepared to meet demand." The report expects December to come in at

LM management UPDATE

AN EXECUTIVE SUMMARY OF INDUSTRY NEWS

1.9 million TEU, for a 9% annual decrease, with January pegged at 1.98 million TEU, for an 8.4% annual decrease.

◆ **Forward Air announces acquisition of Chickasaw Container Services.** Forward Air Corp. recently announced that it has entered into an agreement to acquire the assets of Chickasaw Container Services Inc. ("CCS"), a privately held intermodal drayage provider. The transaction will be funded from cash on hand and is expected to close in November 2022. CCS has been in business for over 30 years with operating terminals in Mobile, Ala., and Memphis, Tenn. In addition to drayage services, CCS also provides container storage and sales at both of its locations. The acquisition of CCS allows Forward Air to expand intermodal drayage operations in the Mobile market while bolstering an already strong presence in the Memphis market.

◆ **Werner announces its acquisition of ReedTMS Logistics.** Omaha, Neb.-based Werner Enterprises, a global freight transportation and logistics services provider and the nation's 7th-largest truckload carrier, has acquired Tampa, Fla.-based Reed Transport Services Inc. and RTS-TMS Inc., through the signing of a definitive agreement and closing on the acquisition of 100% of Reed's stock. Established in 1996, Reed Transport Services and RTS-TMS operates under the moniker of ReedTMS Logistics and is an asset-light logistics services provider and truckload carrier, offering freight brokerage and truckload services across various shipper verticals. For the 12-month period ending September 30, 2022, ReedTMS revenue came in at $372 million, with 90% coming from freight brokerage—with 65% of revenue for this segment contractual and 35% transactional—and 10% coming from trucking. ReedTMS's freight brokerage network is comprised of 19,000 active carriers and 70,000 approved carriers.

◆ **New FedEx Freight pilot focuses on simpler approach to pricing.** FedEx Freight, the less-than-truckload (LTL) subsidiary of global logistics and freight transportation services provider FedEx, announced that it's rolling out a new pilot initiative that it describes "as an industry changing space and pace pricing pilot for select customers." Company officials explained that this pilot program will provide simple quotes based on the space and pace shipper customers need to move freight, with shipper customers providing FedEx Freight with the weight, dimensions, origin zip, and destination zip of their shipments in order to get a quote. A FedEx Freight spokesperson told *LM* that this pilot has been a goal of the company for a few years. "We've been able to develop and refine our technology to capture the dimensions and weight of most shipments, so space and pace was a natural next step in simplifying our overall pricing structure," she said. "Being a part of the entire FedEx enterprise, and with the expansion of our FedEx Freight Direct e-commerce solution, we know many customers are already familiar with dimension-based pricing of our other operating companies. We believe that this will improve the customer experience by getting away from the complexities of the historical pricing classification system."

◆ **Q3 intermodal volume sees decline.** Third quarter intermodal volumes saw a slight annual decline, according to the most recent edition of the Intermodal Quarterly Report, which was issued by the Intermodal Association of North America (IANA). Total quarterly intermodal volume—at 4,535,835 units—fell 1% annually. A bulk of the decline was due to a 27.7% annual decline for the trailers segment, its lowest level on record. Domestic containers—at 2,012,662—saw a 1.5% annual increase, and all domestic equipment (comprised of trailers and domestic containers) saw a 2.2% annual decline. ISO, or international containers, eked out a 0.1% annual increase. The 1% third quarter annual decrease was preceded by a 9.8% fourth quarter 2021 annual decline; a 6.6% first quarter decline; and a 4.3% second quarter decline. The report explained that with the annual decrease down roughly 48,000 units, it "represents less than one day's volume," adding that "external factors making an impact on intermodal traffic were a potential rail strike and Hurricane Ian." While intermodal volumes were down annually for the fifth consecutive quarter, IANA noted that it represented the smallest decline over that period.

Get your logistics podcast fix. *LM* has formally rolled out a new podcast series. Group news editor Jeff Berman is interviewing industry analysts, academics, consultants, lobbyists, and executives about all things logistics and supply chain on a weekly basis. Subscribe to Supply Chain 24/7 or go to logisticsmgmt.com to start listening. •

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LM EXCLUSIVE

2022 in Review: Who's most responsive to change?

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VIEWPOINT

2022: Think, plan, act

THIS MARKS THE FIRST TIME that we've devoted the majority of the December issue toward putting the past 12 months into perspective. Considering the instability we continue to monitor here at home and around world, the editorial team felt that offering this retrospective approach will help readers plan for what's sure to be more turbulent months ahead.

And there's no better contributing editor than Brook Bentz to take pause and neatly encapsulate 2022 for the readers of *Logistics Management*. Over several decades, Bentz has had a front row seat in the freight transportation arena, early on as a senior railroad and trucking executive and then as a consultant to some of the world's leading companies.

As Bentz reports (page 16), there's little doubt that logistics and supply chain managers need to stay nimble and flexible as their supply chain operations continue to heal from the profound repercussions inflicted by the pandemic. Indeed, resiliency remains the battle cry for modern logistics professional. However, we need to stick to fundamentals and continue to do everything in our power to push for infrastructure improvement.

"We need to keep in mind that much of supply chain resilience hinges on our infrastructure capabilities, which have suffered from malnutrition for a very long time," says Bentz. "While there's been much discussion and effort to make supply chains more resilient, we came to realize the various supply chains were far more brittle than we imagined or hoped for—and those circumstances have not yet resolved themselves to an acceptable level."

As part of this year in review, group news editor Jeff Berman has combed through hundreds of news posts over the past 12 months and offers his list of the top 10 news stories that shaped 2022 (page 8). "It's important to note that this list is not based on analytics or popularity," he says. "It represents the news that best puts the roller-coaster of events that defined 2022 into perspective—and believe me, the list could have been 40 or 50 this year."

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And much in the same spirit of Berman's annual exercise, the editorial team has also selected seven features from our pages this year that we believe deserve a second read before we shift gears into 2023. You'll find a few reoccurring themes, but none stronger than the importance of putting software and technology to work in an effort to maintain and empower an existing working force.

In fact, that technology/labor theme was so prominent this year that we developed our 2022 Virtual Summit around the challenge. So, when you're done going through this month's issue, take some time to the attend the event (supplychain247.com/virtual-2022/) that puts today's game-changing strategies and automated solutions into perspective and offers practical tips for evaluating, implementing and leveraging these tools to streamline operations and retain the workforce necessary to take your operations into the future. It's now offered on-demand.

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Read the full articles at:
logisticsmgmt.com/2022TopNews

The News that Shaped 2022

IN AN ANNUAL TRADITION, *LM* group news editor Jeff Berman has taken an exhaustive review through the myriad logistics- and supply chain-related news stories reported, written, and posted by the *Logistics Management* editorial staff over the course of the calendar year in an effort to create this list below.

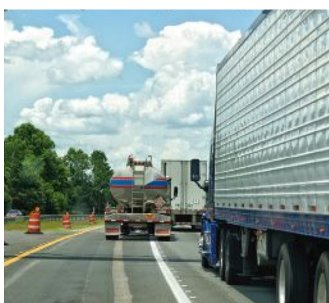
This list is not based on page view analytics to forge a "most popular" list. Instead, Berman observes that this list represents the articles that put the rollercoaster that was 2022 into perspective. "Like the past few years, to be sure, this list could have been a top 40 or top 50, rather than a top 10. These are the articles that point to some of the key developments, trends and themes of 2022," he said.

1 FedEx announces formal succession plan, with Fred Smith to shift to Executive Chairman

An official change at the top of the org chart is coming for Memphis-based freight transportation and logistics services bellwether FedEx, with the company announcing that effective June 1, Frederick W. Smith, chairman and chief executive officer, will transition to executive chairman, and Raj Subramaniam, president and chief operating officer, assume the position of president and CEO-elect.

2 Importance of logistics and the supply chain in the State of the Union address is not a surprise

Given the onus on supply chain and logistics, at both a national and global level, it is not at all surprising that the State of the Union speech by President Joe Biden was replete with key directives and positions focused on our sector, which, as is well-known, has been under a spotlight for the last two years.



3 USDOT rolls out $2.9 billion in available funding for infrastructure grants

Taking steps to put the recently-passed Bipartisan Infrastructure Law into action, the White House and the United States Department of Transportation (DOT) said this week that $2.9 billion in funding is now available through a combined NOFO (notice of funding opportunity). DOT said that this NOFO meshes three discretionary grant programs into a single Multimodal Projects Discretionary Grant and reducing the burden for state and local applicants while also increasing the pipeline of what it calls "shovel-worthy" projects.

4 U.S. Senate signs off on Postal Service Reform Act

Following approval by the U.S. House of Representatives on February 8, the Senate followed suit in also signing off on the Postal Service Reform Act—legislation that is focused on augmenting the financial health of the long-beleaguered United States Postal Service (USPS).

5 Railroad service issues examined at STB hearing

The hearing, entitled "Urgent Issues in Freight Rail Service," was comprised of feedback from executive-level officials, including operating and human resources officials, of BNSF Railway Company, CSX Transportation, Inc., Norfolk Southern Railway Company, and Union Pacific Railroad Company.

6 Biden floats possibility of dropping China tariffs

One issue, which prior to the pandemic was high on many stakeholders' list, is tariffs, something that has since been ostensibly left to the wayside. But, now, there is a chance that could be changing based on some comments made by President Biden.

7 Port Tracker report points to ongoing slowing of imports, with retailers' inventories at high levels

The Port Tracker report issued by the National Retail Federation and maritime consultancy Hackett Associates observed that retail container port volumes are expected to see declines off of record monthly volumes posted earlier this year.

8 U.S. logistics business costs rise by 22.4% to $1.85 trillion in 2021, new report says

American supply chains are out of sync while adjusting to short-term changes in demands. But logisticians continue to seek long-term solutions to supply chain issues, an authoritative new report predicts, with U.S. business logistics costs rising by a whopping 22.4% to $1.85 trillion last year. That represents 8% of 2021's $23 trillion Gross Domestic Product (GDP).

9 Presidential Emergency Board issues recommendations focused on rail carriers-unions labor issues

The Presidential Emergency Board (PEB) appointed by President Biden—and focused on resolving a labor dispute between Class I rail carriers and 12 U.S.-based rail labor unions on reaching labor accord—issued recommendations to help further quell further rail-related supply chain disruptions.

10 White House, industry associations press ILWU and PMA to get a new labor contract done

Even though the current contract has expired, the ILWU and PMA said on July 1 that negotiations on a new deal will continue to move forward.

Newsroom Notes
with Jeff Berman

Jeff Berman is group news editor for the Supply Chain Group publications. To contact Jeff with a news tip or idea, please send an e-mail to jberman@peerlessmedia.com.

Q3 GDP advance estimate points to growth, but economy still in the woods

EARLIER THIS YEAR, I wrote a column in this space with the following headline: "Are we in a recession or just living in a world of mixed economic indicators?" That column touched upon many of the same economic issues that we remain focused on today.

Record-high inflation readings, rising gasoline prices, falling home sales, and declining manufacturing output are a few that come to mind. Conversely, though, unemployment rates, now in the 3% to 3.5% range, remain close to 50-year pre-pandemic lows, while consumer spending remains solid overall, as seen in monthly retail sales data.

That said, there's still a fair amount of commentary and data pointing to a recession.

The primary reason for that has to do with U.S. gross domestic product (GDP) readings issued by the U.S. Bureau of Economic Analysis (BEA) over the course of 2022. First and second quarter GDP readings came in at -1.6% and -0.6%, respectively. Two straight months of GDP typically signal that a recession is underway. However, in this case, it was not as linear given the abundance of aforementioned mixed economic indicators.

Amid the ongoing uncertainty, though, BEA issued its advance estimate for third quarter GDP, and the data was encouraging, showing that GDP grew 0.6%—2.6% annually—a welcome shift from the previous two quarters.

BEA officials explained that the news "reflected increases in exports, consumer spending, non-residential fixed investment, federal government spending, and state and local government spending that were partly offset by decreases in residential fixed investment and private inventory investment. Imports, which are a subtraction in the calculation of GDP, decreased."

BEA also noted that the increase in exports reflected increases in goods and services. The services aspect is something that really can't be understated, with many people opting to go on vacations or to ball games, concerts, movies and other experience-based things, as opposed to buying goods—which was prevalent over the course of the pandemic.

"Amid the ongoing uncertainty, though, BEA issued its advance estimate for third quarter GDP, and the data was encouraging, showing that GDP grew 0.6%—2.6% annually—a welcome shift from the previous two quarters."

That transition to services has been evident in freight transportation volumes as well, as there's been a notable decline in imports at West Coast ports in recent months as well as flattish-to-declining truck tonnage readings. Rail carload volumes are seeing some improvements off of difficult annual comparisons, as are intermodal volumes.

Amid all of these factors, mortgage rates keep climbing, which ostensibly may not be good news for freight-related movements, coupled with ongoing aggressive moves by the Federal Reserve, as it has raised interest rates five times in 2022.

There are also high inventory levels to consider as well. Many Wall Street analysts and freight transportation and logistics executives have indicated that the combination of elevated inventory levels, especially compared to a year ago at this time, and declining imports could spell the end of the traditional peak season as we know it.

But, to be fair, peak season patterns since the onset of the pandemic have been anything but normal for a whole host of reasons. One also needs to keep in mind that freight rates have largely been on the decline, in tandem with moderating demand and import levels.

So, are we in a recession? It depends on who you ask. But it's a fair question, with a few different reasons, each of which could be well supported.

A friend of mine recently spoke with his financial

advisor and shared some interesting takeaways with me, including:

• a recession is already "priced in" and is a key factor as to why the stock market is down;

• there remains a question of whether it will be a technical or shallow recession, which is expected; and

• the market is always looking six months to 12 months ahead, with less concern on where things presently stand or in the short-term.

In the always-excellent Port Tracker report, issued by the Washington, D.C.-based National Retail Federation and maritime consultancy Hackett Associates, Ben Hackett, founder of Hackett Associates, summed things up this way:

"Consumer spending remains strong with a 0.4% month-over-month increase in September despite an increase in earnings of only 0.3%. The increase in spending runs counter to the declining import of goods, suggesting a combination of inflation driving up prices and consumers shopping early to beat further inflation before the holiday season. Large retailers have responded by holding sales sooner to clear their inventory of goods that were brought in early this year to ensure that shelves could be stocked and to beat freight rate increases that have now come to an end."

And Tom Schmitt, CEO of Forward Air, recently told me that if there is a recession, please just bring it on. "I find the *talk* about it much more paralyzing than actually just working through it," he says. "Great companies find a way to come out of recessions stronger. So, let's just bring it on, get through it, and get back out stronger. If there is a recession, let's not wait for it. Let's just assume it's there, and then let's manage it and find ways to get stronger."

What happens from here remains to be seen, given the confluence of data, sentiment, and macroeconomic trends circulating. One thing that remains certain is that the supply chain continues to remain front and center for it all. A recession could very well be coming, and we all need to be ready to ride it out. •

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ESG: Are your partners ready?

THE LAST TWO YEARS OF EXPEDITING, SCRAMBLING, and grabbing—let's call it "ESG" in the supply chain industry—have taught us that we were *not* prepared for "black swan" events like pandemics, wars (trade and military), and rapid climate change. The initial impulse has been to simply diversify suppliers and routes.

The problem appeared to be the over-reliance on a single-source company or country for products and services. Many industry analysts lamented our drive to be efficient in global sourcing that has resulted in a lack of a "Plan B." And that can kill our sustainability as players in our markets. In a multi-tiered supply chain, the answer is not that simple. In 2020 and 2021 the focus was on disease. A great deal of the pain in 2022 has been the result of actions by governments and organizations outside of our supply chains.

In a recent presentation to the World Affairs Council, Kevin Cassidy of the UN's International Labor Organization (ILO) stated that if manufacturers, distributors and service providers are to be sustainable, they need to demonstrate environmental, societal and governance (ESG) management.

Keep in mind that environmental management is broader than use of renewables and recycling. It speaks to the environment that organizations choose to set up shop in. When deciding where to source, it's important to go beyond labor, building costs and local tax incentives to look at the health of the local economy, environment and people. Find out how the local leaders react to changes in conditions.

Two key environmental factors are, first, the availability of alternate sources in raw materials, transport, and processing. A vertically integrated supplier might be efficient until they're hit with a sudden change in people, processes and technology to which they cannot easily adapt. Second, is the environment of the workplace. In 2022 we saw millions of workers leave for greener pastures. Others are forming unions and voting to strike for a better workplace.

Societal factors to be assessed include guaranteed freedoms, mobility, public perception of your business and labor laws. What's the propensity to lock down facilities or for labor strife? Are there protections against child labor and abuse of people due to their ethnic, religious, gender or economic class? In 2022, we saw huge disruptions in capacity and cooperation. When service providers with control of large portions of a market are trying to quickly adapt, they will likely affect those customers with few if any alternatives.

"Rather than insisting on multiple service and product suppliers, smart players are working with one or more key vendors to ensure their mutual supply chains are ESG compliant."

Governance touches on the rules of behavior in the broad, governmental sense, but also how parties to supply chain contracts work during the term of their agreement. When black swan events occur, how do the parties adapt and innovate together to sustain the mutual business and continue to serve the customer. Use of data to jointly monitor operations, committed resources for innovation, and transparency as to intentions and operational limitations is critical.

Rather than insisting on multiple service and product suppliers, smart players are working with one or more key vendors to ensure their mutual supply chains are ESG compliant.

All levels in the supply chain need review. After 2022, we now have three new "what if" scenarios: disease, war and climate events to "stress test" our networks. There will be more. Are you and your partners ready? How about your partners' partners? •

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Patty Riedl, Accenture,
North America supply chain
& operations lead

The supply chain of the future is connected, transparent and sustainable

SUPPLY CHAIN DISRUPTION IS CHALLENGING businesses everywhere and forcing company leaders to think differently about how they operate. Artificial Intelligence (AI), data-driven analytics, sustainability and digital transformation are not unfamiliar terms by any means—but the urgency behind them, and the advancements fueling their applicability in the supply chain will reach new levels in 2023.

For years, "digital transformation" has been a business buzzword, finding its way into Board discussions and day-to-day supply chain activities. In 2023, defining what this transformation means and sustainability executing will be key to survival. Reflecting on what has happened this year and looking ahead to 2023 will help successful logistics and supply chain operations advance digital strategies exponentially in alignment with the following trends.

Companies will prioritize targeted AI implementation to improve operations

As the world scrambles to recover from the pandemic economy and with the successes of AI boosting their confidence, companies will adopt advanced AI at faster rates than ever in 2023.

Accenture's AI Maturity research shows that only 12% of firms are using AI to outpace their competitors, for example, in terms of revenue growth. Another Accenture survey among C-suite executives found that 80% of companies plan to increase investments in responsible AI.

Many leaders have dabbled in this technology in recent years, but most have only scratched the surface of its potential. Many proven use cases for supply chain analytics and AI exist, and the number will continue to grow.

For example, companies are using AI for scenario modeling and stress-testing the supply chain with a digital twin to improve resilience. AI, analytics and the Cloud also play a powerful role in helping companies with supplier risk monitoring and resolution.

Organizations will look to gain visibility into waste

Consumers, industry partners and investors are increasing their attention on environmental, social, and governance (ESG) investments. Sustainability matters now more than ever, and that fact is influencing shifts in materials management. Technology will fuel companies as they seek ways to reduce waste in redefining "asset management."

Achieving visibility will be the first vital step toward circularity. Companies need digital tools to collect and store transactional data and advanced analytics capabilities to monitor and adjust operations continuously. This real-time view lets decision makers see how companies allocate resources and where they can reduce, reuse or recycle.

"Reflecting on what has happened this year and looking ahead to 2023 will help successful logistics and supply chain operations advance digital strategies."

Manufacturers will start building factories of the future closer to customers

Pandemic-related disruption, trade wars, tariffs, rising labor costs, climate crises and the war in Ukraine, along with technological innovation and changing customer expectations, are causing drastic changes to manufacturing.

In the Unites States, companies are making plans for bringing manufacturing closer to where their customers are—to become more resilient to unforeseen disruption, reduce emissions and better serve customers. Almost all supply chain and manufacturing leaders surveyed by Accenture (94%) said that their companies were planning to invest in new production facilities in near- and onshore locations.

These factories of the future will look and operate vastly different from those that were moved offshore decades ago. They will leverage automation, robotics, Artificial Intelligence, digital twins and a reskilled workforce for improved resilience and lower operating cost.

Looking ahead

Streamlining processes and creating digital efficiencies through AI and intelligent data analytics, bringing smarter production closer to home, and gaining absolute visibility into every resource are how businesses will transform in 2023 and build resilient and sustainable supply chains in the future. •

REMEMBERING OUR VETERANS THIS HOLIDAY SEASON

As we gather with family and loved ones this holiday season, our team at A. Duie Pyle is humbled to be among the volunteer transportation partners helping Wreaths Across America honor the veterans who forever live in our hearts. Each and every day, we thank you.

THANK YOU TO OUR VOLUNTEER DRIVERS

Drew Palmer, Navy – Portland P&D
Todd Vincent, Marine Corps – Portland, P&D
Peter Kreichelt, Air Force – Linehaul Driver
Keith Myers, Army - Allentown P&D
Legary Diggs, Army – West Chester P&D
Gary Graf, Marine Corps – Wilkes-Barre P&D
Lewis Brink, Army – Wilkes-Barre P&D

2022 in Review

Who's most responsive to change?

It has been a very volatile year, complicated by general political and economic instability around the globe. For logistics and supply chain professionals and carrier executives, it's time to respond and build a coherent, cohesive, flexible and resilient strategy in the face of rapid and continuous change.

BY **BROOKS A. BENTZ**, CONTRIBUTING EDITOR

The "Year in Review" is a new feature for *Logistics Management*'s December issue. And while it's certainly not a unique concept, we felt it was fitting to produce at this important time in history.

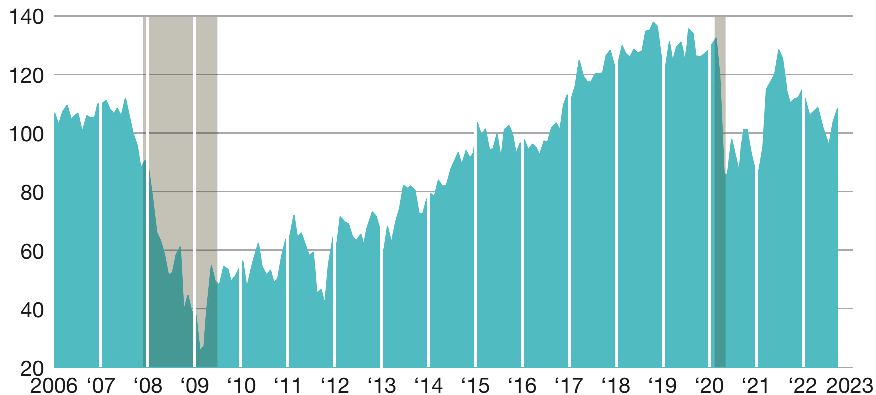
Indeed, 2022 has been a chaotic, topsy-turvy period that was quite unlike prior years. The pandemic had a deep and profound impact on most everyone, from carriers and shippers to the economy, government policies, and ultimately the consuming public. And while it's just about gone, most feel it will loom in our rearview mirror for some time as the year when new patterns started to settle into the logistics landscape.

> "All great changes are preceded by chaos."
> —*Deepak Chopra*

There were a few distinct changes in behavior stemming from the pandemic that are likely to remain with us: There was a major shift to e-commerce while people were housebound; there was a significant shift in work-a-day habits, with large numbers of people working from home; there were distinct and well-publicized problems in supply chains; and also fairly radical changes

> "It is not the strongest of the species that survive, not the most intelligent, but the ones most responsive to change."
> —*Charles Darwin*

motivation
vision
research
innovation
ideas
business
marketing
strategy
success
leadership
plan
teaching
management
manager
teamwork
2022


Consumer Confidence Index
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140
120
100
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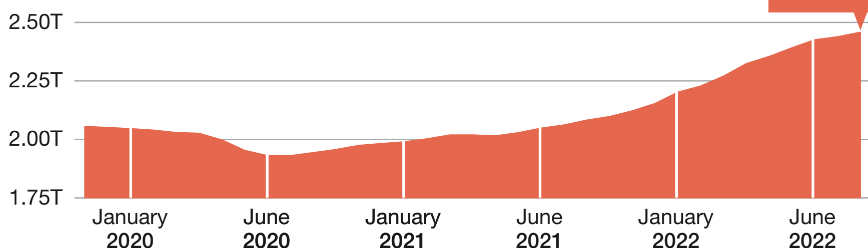
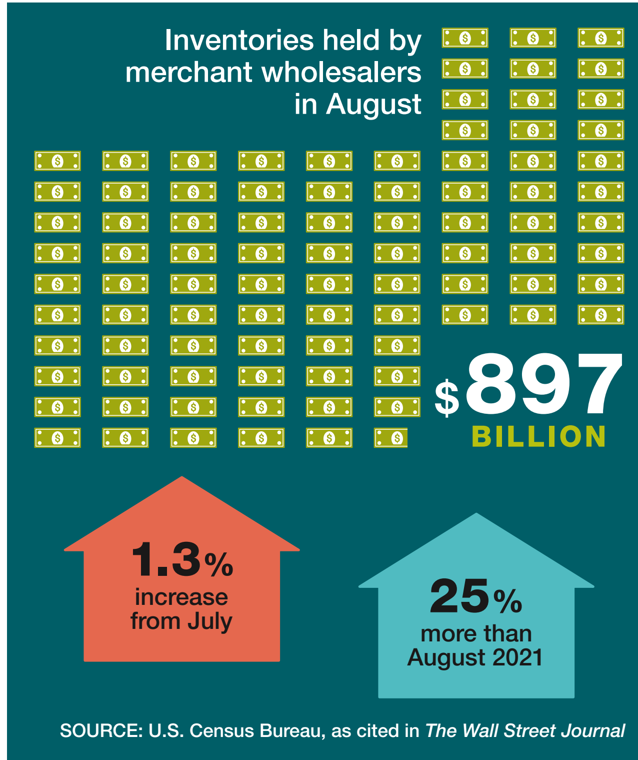
2006 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19 '20 '21 '22 2023
Source: The Conference Board, 09/27/2022


Inventory levels
3-year view
2.453T
2.50T
2.25T
2.00T
1.75T
January 2020
June 2020
January 2021
June 2021
January 2022
June 2022
Source: YCharts, 09/22

in transportation capacity at varying times—across all modes—that disrupted much of the supply chain.

We also saw the difficulties and challenges of achieving virtually full employment, yet having hundreds of thousands of jobs unfilled. The search for talent is driving wages up and the cost of everything else—most notably fuel and the cost of transportation—spiked. This helped drive up the cost of most consumables, from standard lumber to groceries and energy, leading us into a period of rapid inflation we've not seen in decades.



On top of this, the change in administration in 2020 saw us commit to major investments in infrastructure, which has been sorely needed. The American Society of Civil Engineers (ASCE) gives an annual grade on how we're doing. In 2022 it was a C- across all components, with roads receiving a D. There were a couple of bright spots, with ports receiving a B- and rail a B. This was a leap forward from five years ago, in 2017, when the overall grade was a D+, the same as it was in 2001.

Much of supply chain resilience hinges on our infrastructure capabilities, which have suffered from malnutrition for a very long time. While there has been much discussion—and effort—to make supply chains more resilient, we came to realize the various supply chains were far more brittle than we imagined or hoped—and those circumstances have not yet resolved themselves to an acceptable level.

Optimization is a word that gets thrown around with abandon in many instances. As professor Rob Leachman of the University of California, Berkeley, puts it: "The sum of local optimums is far from the global optimum." While many organizations claim to have "optimized" their supply chain, it is typically a parochial view focused on the world they can see close-up, rather than true end-to-end performance and cost.

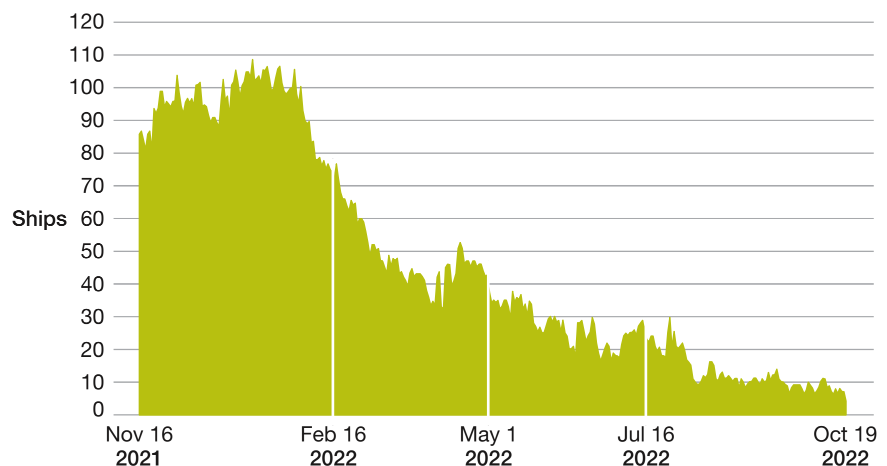
For example, ocean carriers may have optimized their efficiency with the mega-ships now plying the major trade lanes, but that has not had a positive effect on ports and inland transportation providers, such as draymen, chassis providers, third parties and railroads. End-to-end supply chain cost and performance remains difficult to truly optimize, so latent cost and service issues remain with us.

Factors to consider from 2022

First things first: The consuming public's behavior is a complicated beast, driven by a number of factors like inflation, interest rates, employment, wage rates, and consumer confidence. Much of what has been occurring in 2022—and what it portends for 2023—appears counterintuitive from reading the tea leaves just a year or two ago.

Daily backup of container ships waiting off the ports of Los Angeles and Long Beach

Before the pandemic it was unusual for more than a few ships to wait for a berth



Source: Maritime Exchange of Southern California

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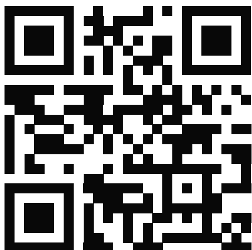

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A few important notes:

- More stores opened than closed in 2022, with vacancy rates the lowest in 15 years.
- Loaded container imports rose 5% in the first eight months of 2022, compared to the same time in 2021. This is 34% above 2020 and 27% above 2019.
- Truck spot rates have fallen 24% since the February 2022 peak and contract rates have fallen 7% since the May 2022 peak.
- Inventories spiked during the pandemic and now companies find themselves awash in excess product.
- Peak season has largely disappeared as an annual rite of passage.
- Investment in Cloud technology ratcheted up from $145 billion in 2017 to about $397 billion in 2022, which is increasingly critical with remote working.
- IoT implementation slowed during 2020, but investment is expected to ramp up from the 8.2% rate in 2020 to greater than 11% for 2022 and beyond, as reported by Unleashed.
- Growth in third-party service providers is continuing, with expected CAGR of 7.1% through 2027, according to Allied Market Research.

There's growing fear of a recession in the face of rising prices and inflation, which is making an impact on consumer confidence, although it remains relatively strong after the pandemic slide. Will it sustain reasonable strength in 2023 and beyond as we wrestle with an array of daunting factors, like energy costs, war and conflict in multiple places and how soon we can stem or reverse the rate of inflation?

Inventory management

Inventory growth has been on a tear since hitting a low point in mid-2020, as consumer demand ratcheted up through the pandemic. In fact, there's currently much consternation about excess inventory in the pipeline, with many retailers having stocked up on items, only to see demand flagging as the pandemic has ebbed.

The surge to build inventories for hungry consumers led to a flood of import cargo and large-scale tie-ups, particularly at the West Coast ports, as the infrastructure strained to keep up. The glut of inventory is leading to a slow-down in buying, with the consequent drop in shipment volumes. The backlog of ships waiting for berth space at LA/Long Beach reached 109 vessels in January of this year before declining drastically.

The problem can't be pinned on any single source. There were issues berthing ships because there were issues decongesting the ocean terminals as there was a shortage of haul-away draymen and rail capacity to move the boxes.

This was due in part because inland terminals, like Chicago, were congested because containers and chassis that were hauled to DCs had extended turn-times because DCs couldn't unload fast enough. So, they were congested with cargo they couldn't move because they couldn't get enough road and rail capacity—and the domino effect continued.

Meanwhile consumers were thrashing around retail outlets in search of product and finding empty shelves. This dramatic surge in demand drove ocean rates to the highest levels ever and led to some retailers chartering their own ships to gain capacity to move their freight.

Asia-U.S. East Coast spot rates declining in 2022

Trans-Pacific eastbound, spot container freight rates, in USD per FEU

Source: Drewry; Xeneta; Freightos

Imports

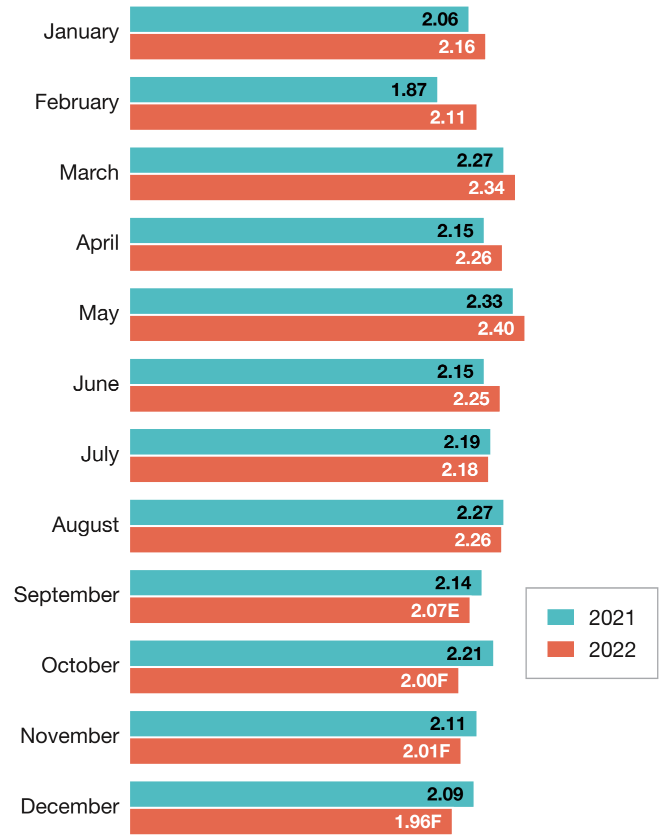
If you look at the dispersion of container imports, according to Port Tracker from the National Retail Federation (NRF) and Hackett Associates, the seasonal spikes you would expect to see just aren't there.

Last year looks pretty much like this year, just a bit smaller. *The Wall Street Journal* recently reported: "Americans are spending instead on vacations and dining out and are more tightly holding on to their pocketbooks because of soaring inflation."

Container imports in September were down 12.4% from August, an unusually sharp drop for peak season, according to research from Descartes Datamyne. Rail and trucking volumes are falling too, forcing freight operators to drop peak season surcharges and forecast lower

earnings expectations.

Interestingly, NRF predicts that "imports are expected to fall to the lowest level in nearly two years, even as retail sales continue to grow." This is in large part being driven by domestic retailers working feverishly to shrink excess on-hand inventory, along with fear of inflationary impact on spending.



Source: NRF/Hackett Associates Global Port Tracker

D&D

Another aggravating factor for beneficial cargo owners/importers is demurrage and detention (D&D), which is assessed on boxes left too long in the terminal (demurrage) or too long at the DC (detention).

In the past, this was generally an annoyance and minor percentage of the cost of goods sold. The COVID-related blast of business that accumulated in U.S. ports changed all that. These charges mushroomed significantly so that now five U.S. ports are seeing the highest in the world.

This is leading to a growing trend of behavior modification as shippers change the way they manage inland moves. Ocean carriers are reducing free-time and increasing D&D charges because they want and need the boxes returned rapidly for the next round of shipments.

At the same time, there have been a number of instances where vessels left Asia less than full. This was not because there was a dearth of freight, but rather because there was a shortage of available boxes to load, with so many stranded in the United States.

Cross-docking from international containers into domestic cans—or trailers—can alleviate much of the problem. Another recent strategy is "dray-offing" cargo by taking boxes to drop lots outside the terminals where consignees can more readily pick them up, which is designed to incent and improve turn times.

Trucking

Trucking has had its own issues, from finding enough drivers, to matching capacity to demand, all with fuel costs reaching unprecedented levels. It's no surprise that fuel has gone rogue, what with the calamitous events in Europe and the scramble to find replacement fuel sources.

Fuel cost is volatile under the best of circumstances, with daily market fluctuations and the attempts by the key players—producers, wholesalers and retailers—to gauge what pricing should be. Despite all the political blathering on the matter, most of which is ignorant or il-informed, we're playing in a global market, one which we can have some influence on, perhaps, but certainly can't control.

Rates are another matter, with spot-market rates jumping around as shippers tried to ensure sufficient capacity to move new mountains of cargo. Contract pricing only takes you so far, and then you're in the same barrel as everyone else, "dialing for diesels."

The large influx of e-commerce has been driving a marked shift to parcel during the pandemic as B2C became much more prevalent. U.S. parcel volume grew 6% in 2021, reaching a record high of 21.5 billion, up from 20.3 billion in 2020, according to a Pitney Bowes survey. They forecast U.S. volume to reach 25 billion to 40 billion by 2027, with a 5% to 10% CAGR from 2022 to 2027.

There were 159 billion parcels shipped worldwide in 2021, according to Pitney Bowes. The figure more than tripled in the past seven years, with the U.S. remaining the largest by parcel spend ($188 billion of $491 billion globally). The world's three biggest markets—China, the United States and Japan—accounted for 87% of global parcel volumes in 2021.

What does it all mean? The world keeps changing and the pace of change

keeps quickening. The strong shift to parcel will likely abate somewhat, but is unlikely to return to normal, whatever that may be. Other factors putting pressure on parcel will be the "hidden" costs of reverse logistics related to on-line shoppers. There is also a bit of a shift back to brick-and-mortar buying for those who like the act of physical shopping.

Rail

The rail industry has generally fared well financially through the pandemic. Railroads have always excelled at cost cutting, harking back to the days of regulation. The new mantra of "precision scheduled railroading" is suffering from being neither very precise nor very scheduled, so perhaps we should just refer to it as "railroading."

Management focus has been on the "cult of the OR," where Wall Street has rewarded carriers for reducing their operating ratio—the ratio of expenses to revenue. During the volume lull brought on by the pandemic, railroads could reduce costs significantly by cutting jobs, closing yards, storing locomotives and cars, reducing train starts and consolidating freight into much larger trains.

All of this improved ORs significantly, earnings did well, and it didn't hurt service appreciably, as volumes were lower and the networks remained fluid. Many, however, view it as trading long-term growth for short-term financial benefits. Operating ratios have been improving for years and are down 10.4 points since 2012.

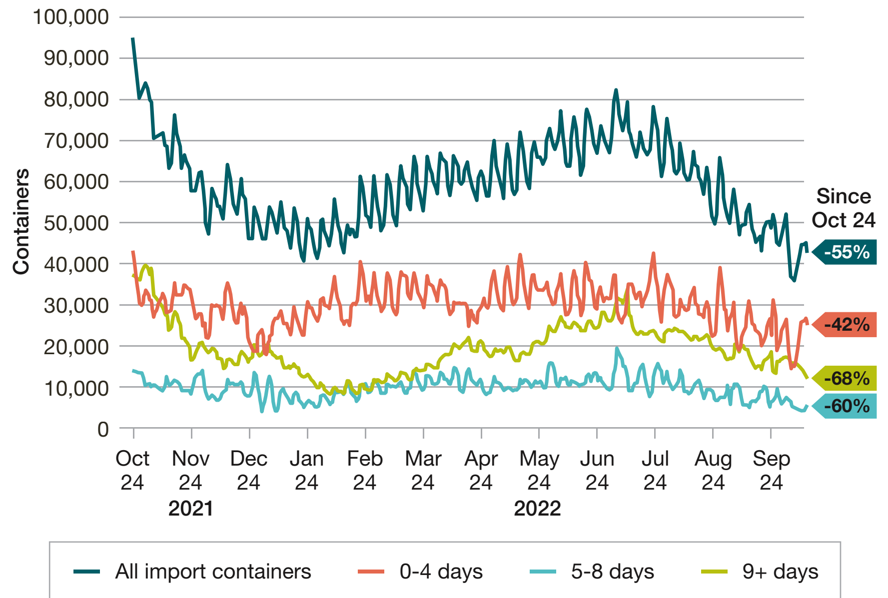
This is small comfort to shippers, who have seen a rise in pricing at the same time service was suffering. The recent resurgence in demand, both intermodal and carload, has been outstripping the ability of the railroads to recover, particularly in the recall of furloughed operating employees and hiring of new ones.

This same resurgence has impelled some carriers to begin reopening idled freight yards and adding back mainline track capacity, removed to cut costs. For the first time in recent memory, we've seen two of the western carriers embargo traffic at certain times to places like Chicago due to capacity constraints. While a good portion of difficulties were present beyond the end-points of the carriers, capacity and ability to serve remain problematic.

And keep in mind that there's still the looming possibility of a strike. While most of the issues have been resolved—at least for now—there are still hold-outs, and a strike, even a short one, would have a significant impact on the economy at a particularly difficult time.

Import containers by dwell time

All Port of Los Angeles terminals



October 14, 2022 7:10 AM

Total imported containers	0-4 day import containers	5-8 day import containers	9+ day import containers
42,945	25,148 58.6%	5,681 13.2%	12,116 28.2%

Source: Port Optimizer Control Tower

Fuel

Fuel cost is on everyone's mind, due to spiking cost. According to the U.S. Energy Information Administration, U.S. diesel inventories fell to 25.9 days of supply for the week ending October 21, 2022. The tight inventory has led some market commentators and analysts to announce a diesel shortage in the United States, especially along the East Coast in Petroleum Area Defense District 1.

"While we do expect diesel inventories will remain tight for the East Coast through winter, we don't expect there to be prolonged diesel supply outages or extended shortages at truck stops and fuel terminals at this time," says Matt Muenster, chief economist at data provider Breakthrough Fuel. "We do, however, expect tight diesel inventories

D&D charges globally

Ranking in 2022	Port locations	Average D&D charge after 14 days for standard container in USD
1	New York, US	3,182
2	Long Beach, US	2,730
3	Los Angeles, US	2,673
4	Oakland, US	2,325
5	Savannah, US	2,210
6	Taiwan	1,349
7	Hong Kong, SAR	1,062
8	Jakarta, ID	973
9	Bremenhaven, DE	841
10	Hamburg, DE	833
11	Kaohsiung, TW	819
12	Beihai, CN	759
13	Nhava Sheva, ID	666
14	Mundra, ID	666
15	Colon, PA	639
16	Santos, BR	621
17	Singapore	619
18	Rotterdam, NL	617
19	Dongguan, CN	575
20	Antwerp, BE	546

Source: Container xChange Annual Benchmark Report on Demurrage & Detention–2022

to lead to elevated prices and a continuation of volatility in the market."

Shippers and carriers should continue analyzing the past 12 months and examine energy cost expectations as motivation to improve their transportation network strategy. "Opportunities exist to create or maintain a competitive advantage while navigating one of the most challenging energy markets in decades," adds Muenster.

Final analysis

In the final analysis, 2022 has been a very volatile year, complicated by the general political and economic instability around the globe. For both supply chain professionals and carrier executives, it's very difficult to build a coherent, cohesive strategy in the face of rapid and continuous change.

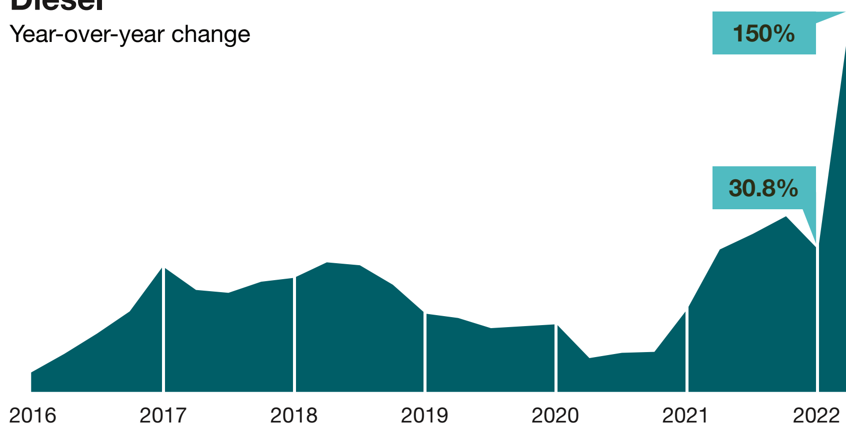
In this age of "e-everything," the transportation sector still lags behind in broadly adopting ways of seamlessly interchanging shipping and performance data in a timely, accurate and useable fashion. Blockchain was thought to be the solution, but has yet to become a dominate force, particularly in complex, multi-player international trade, where data formatting, quality, protocols, availability and accuracy vary widely. This needs to improve substantially before overall supply chain improvement can be achieved.

The best advice available: Maintain a timely and accurate pulse of the markets and take whatever steps possible to align with the shifts as far in advance as you can see them. This likely means evaluating mode shifts on a more dynamic basis and thinking "outside the box" in terms of altering operations to fit the new reality, with a continuing focus on improving service to customers. For some, this means investing in more current enabling technologies to add these capabilities. •

Brooks A. Bentz is a contributing editor for Logistics Management

Diesel

Year-over-year change



Source: Coyote Logistics

A LOOK BACK AT 2022

Taking the changing logistics and freight transportation landscape into consideration, here are seven feature stories that the editorial team of *Logistics Management* believes deserve a second look. These "must reads" from the past year will help you prepare your logistics operation for what's ahead in 2023.

State of Logistics: Out of sync

Last year was a deeply unsettled and trying time for logistics managers, as demand for freight services in all modes surged and supply chains struggled to keep inventory on hand. To return to a more balanced, long-term growth trajectory, shippers will need to invest in the ideas and capabilities that will make the industry more resilient.

BY **JOHN D. SCHULZ**,
CONTRIBUTING EDITOR

American supply chains seem to have been a representation of the country in miniature last year. They are out of sync and more expensive than ever. That's the bottom line from the 33rd Annual State of Logistics (SoL) report. The analysts and authors conclude that "volatility and inflation defined the 2021 logistics landscape," as logisticians struggled under "extraordinary pressure" to deliver goods, and often life-saving materials, around the country and the world.

The report is produced annually for the Council of Supply Chain Management Professionals (CSCMP) by the global consulting firm Kearney and presented by Penske Logistics. It was released June 21st at the National Press Club in Washington, D.C.

"Demand in all modes and nodes surged, while the people and assets needed to move and store the goods remained scarce," states the authors. "Under extraordinary pressures, the various parts of supply chains struggled to react in unison, leaving logistics out of sync."

But the biggest headline shows that U.S. business logistics costs (USBLC) rose by a whopping 22.4% to $1.85 trillion last year. That represents 8% of the U.S. 2021 Gross Domestic Product (GDP) of $23 trillion. It also marked a sharp increase from 2020 when USBLC dropped 4% of GDP. "As always, logisticians proved resourceful when the going got tougher, although the numbers suggest that many of the solutions came in the form of much higher prices for constrained supply," the report concludes.

As a result, the reports finds that shipper margins were "eviscerated" while carriers enjoyed fatter margins even in the midst of declining service levels. "Rather than rethinking logistics to get better outcomes, the priority seemed to be a rush to get any outcome at nearly any price," say the authors.

But many lessons were learned. New strategies were developed—some very short term, others taking the long view. As Josh Garrison, head of Cisco Logistics strategy, sourcing and digital transformation, observes: "Gone are the days of the 'dive and catch.'"

As it has for the past three decades, the SoL report seeks to rise above the fray and explore where innovation and investment may have positioned logistics players for enduring success—as opposed to honing bullet-dodging skills. What techniques are successful shippers and carriers using?

What may lie ahead? Let's take a deeper dive.

Chaotic conditions and rising costs

Turbulence associated with the COVID-19 pandemic continued to cause chaotic conditions for logistics professionals last year. Clogged ports and paltry capacity failed to meet surging and often "desperate demand," the report says.

"Disruptions in all logistics networks effectively destroyed capacity, as ships loitered at ports," say the authors. "Equipment waited to be unloaded. Trucks rushed out half-empty, dashing off to the next high-paying load with little regard for backhauls."

Still, for carriers it was nearly the best of times. Private or dedicated truck revenue rose 39.3% to $415 billion, the largest chunk of the $830 billion truck marketplace. Full truckload carriers' revenue rose 10.2% to $332 billion; less-than-truckload

(LTL) carriers' revenue jumped 13.2% to $83 billion; and parcel carriers enjoyed a 15.2% rise to $134.5 billion.

However, shippers, miffed by low service levels from over-stretched motor carriers, are now increasingly developing their own "captive" private-truck fleets as a more reliable, affordable alternative. "Captive fleets rose to the occasion as they became more valued, driving an accelerated adoption that remains with us today," says Andy Moses, senior vice president of sales and solutions at Penske Logistics. "We've seen shippers who have gone 10 years without a private or dedicated fleet get into them."

Other modes were not far behind trucking in posting a boom economic year. Rail revenue jumped 18.8% to $88.3 billion; airfreight had a 19.2% jump to $52.7 billion; and maritime rose 26.3% to $32.4 billion. Overall, all U.S. business transport costs jumped 21.7% to $1.205 trillion.

Read more at logisticsmgmt.com/2022outofsync

2022 Parcel Express Roundtable: Challenges persist

Three of our top parcel industry sources offer their respective takes on one of the most ubiquitous parts of freight transportation and logistics—parcel and last-mile delivery. With providers and carriers continuing to have the upper hand over shippers, they suggest to leave no stone unturned when it comes to carrier selection and leveraging partnerships.

BY **JEFF BERMAN**, GROUP NEWS EDITOR

As March 2022 marks the second full year of pandemic-driven life and business throughout the world, parcel delivery and last-mile logistics continue to reap the benefits of unprecedented levels of consumer-influenced demand.

This extraordinary period of time has ushered in new, long-term market conditions, including shippers dealing with consistent rate and pricing concerns, lack of labor availability, and historically tight capacity.

The impact of the pandemic continues to increase the relevance that the duopoly of UPS and FedEx has on the market, while Amazon continues to emerge out the shadows to grow its own impressive footprint. In the meantime, new last-mile providers continue to carve out their own niche and give shippers much-needed options.

In our annual endeavor to keep shippers current on this dynamic market, *Logistics Management* is joined by a trio of leading market analysts to provide some guidance, including Rick Watson, founder and CEO of New York-based RMW Commerce Consulting; John Haber, president of the parcel business unit for transportation and logistics services provider Transportation Insight; and Josh Taylor, senior director of professional services for Shipware, an audit and parcel consulting services company.

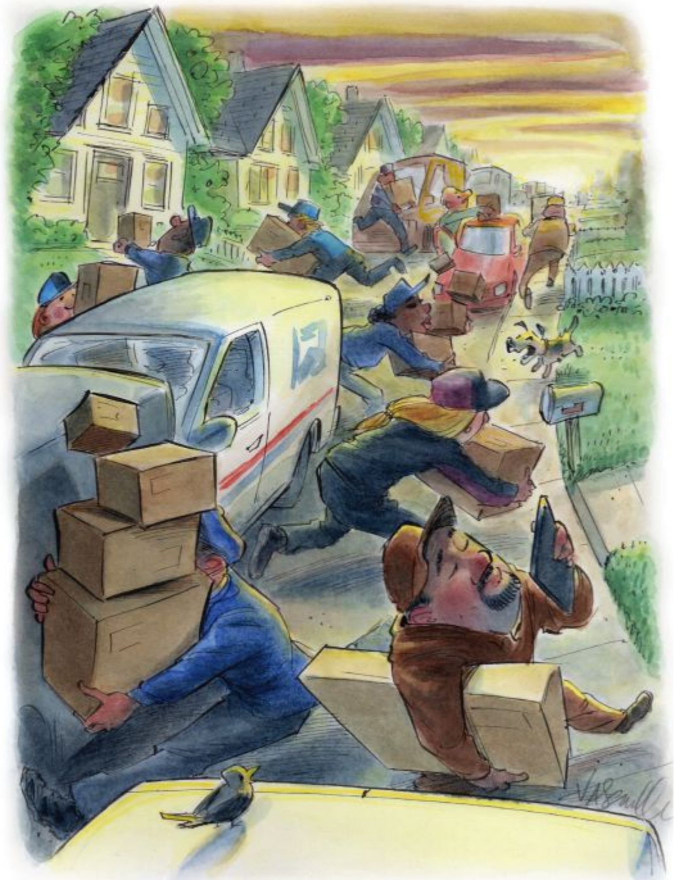


Illustration by Dan Vasconcellos

Logistics Management (LM): How would you describe the current state of today's parcel marketplace?

Rick Watson: Today, the parcel marketplace is looking very similar to where it was in 2021. There are still numerous strains concerning the carrying capacity of networks as volumes continue to climb, and there are struggles with hiring as well as rising materials costs. As a result, shipping costs are high and steadily growing.

Josh Taylor: The aggressive price increases from the legacy carriers has lowered the barrier to entry for the parcel market. They can still largely impose their will on the market, but there are many well-funded teams of capable and creative people working to create new alternatives. Frustrations are running high with UPS and FedEx, making it increasingly easy to justify trying a new carrier.

John Haber: Today's parcel marketplace is in the midst of a transformation while, at the same time, reckoning with a global pandemic. The outbreak of the pandemic brought forth a massive jump in U.S. e-commerce retail as stores temporarily closed and consumers remained hesitant to physically shop in stores once reopened. At its peak, e-commerce represented 16.1% of U.S. retail sales in the second quarter of 2020, but it has since leveled off to around 13% as of the third quarter of 2021.

Despite the leveling of e-commerce retail sales, consumers' expectations remain the same—availability of goods, online or in-store, and options in terms of delivery times and last-mile locations. Retailers have taken notice of the jump in e-commerce and have been investing in omnichannel strategies such as pick-from-store, curbside pickups, buy online/pickup in store, and other options that consumers now expect.

The sudden jump in e-commerce in 2020 stressed parcel networks, therefore causing delays as parcel carriers such as FedEx and UPS shifted their network focus from business-to-business [B2B] to business-to-consumer [B2C]. B2C is a more costly move for the parcel carriers, and as such, they introduced new surcharges and raised existing ones.

Read more at logisticsmgmt.com/2022parcel_express

Hand of regulation weighs heavy

We take our annual dive into the world of trucking regulations and explore what's happening and what could lie ahead for both carriers and shippers as they attempt to stay afloat in the jetsam of acronyms and agencies.

BY **JOHN D. SCHULZ**, CONTRIBUTING EDITOR

For an industry that's nearly entirely deregulated on the economic side, trucking faces any number of forces emanating not only from the regulators in Washington, D.C., but also from safety, economic and environmentalists in state capitals around the country.

By far, the biggest regulatory story in trucking is California's Assembly Bill No. 5 regulation—better known as AB 5—covering independent contractors. Originally designed to benefit "gig" employees who drive for Uber and Lyft, the law has been interpreted by the courts to also affect some of California's estimated 70,000 independent owner-operators who work in trucking.

David Heller, vice president of government affairs for the Truckload Carriers of America, says that AB 5 is one of those rules whose long-term impact has yet to be determined. In the meantime, the Supreme Court's early summer decision not to review

the California AB5 ruling has left the trucking industry scrambling to be in compliance and still maintain some sort of operating arrangement to use owner-operators—who are vital to supplying capacity when hiring year-round employees is not practical.

"It's not an overnight thing whose impact will be determined when the first infraction occurs," says Heller. "This will be played out in the courts. Think oversight and lawsuits."

And while shippers in and out of California will be facing higher rates in the short term, other initiatives in D.C. and elsewhere are threating the supply of qualified, compliant drivers. With this in mind, let's take our annual dive into the world of trucking regulations and explore what's happening and what could lie ahead for both carriers and shippers as they attempt to stay afloat in the jetsam of acronyms and agencies—both state and federal—that aim to regulate large swaths of this $830 billion industry.

What is AB 5?

By far, the newest, most complicated—and far-reaching—truck regulatory rule is what is know as AB 5.

Read more at logisticsmgmt.com/2022regulations

2022 Technology Roundtable: The future is now

Our panel says that all of the software and automation tools we need to meet the new supply chain challenges are right in front of us—all we need to do is put them to work.

BY **MICHAEL LEVANS**, GROUP EDITORIAL DIRECTOR

The impact of digital commerce cuts across every retail, manufacturing and distribution operation, and is putting pressure on all the major modes of transportation and the distribution center (DC) and fulfillment operations that keep supply chains fluid.

To help keep pace, savvy logistics professionals are applying more supply chain management software and technology than ever to better manage the increasing complexity—especially now as the world continues to emerge from one of the most disruptive periods in a generation.

To help us better understand where we are on this ongoing digitization journey, we're joined by Bart De Muynck, VP analyst at Gartner; Howard Turner, director, supply chain systems at St. Onge Company; Norm Saenz, partner, managing director at St. Onge Company; and Jeff Hedges, president, JHedges Consulting.

Our "2022 Technology Roundtable" covers the continued evolution of transportation management systems (TMS); the growing importance of warehouse management systems (WMS); the many roles automation plays in helping us to not only retain labor, but also to streamline operations; and how robotics has moved from a curiosity to an every-day reality.

TMS: No more excuses

Logistics Management: **Here we are in 2022 and we continue to experience hyper-tight capacity, skyrocketing rates, driver shortages and new customer expectations in both B2B and B2C. From your perspective, how would you define this current transportation management environment?**

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Bart De Muynck: Transportation has gotten more complex due to all of the disruptions that were thrown at us. Transportation costs overall have also increased significantly, and this applies to all modes of transportation and all regions. According to a recent "Gartner Risk Management Survey," logistics costs and shipping were the top two most significant disruptions to supply chains in the last two years.

As companies try to solve for these challenges and as they continue to become more digital, technology plays an even more important role as part of the overall strategy. Also, it isn't enough to simply change some processes here and there. Companies have a unique opportunity to transform their business—and those who can transform will be set up for future success.

***LM*: What would you say are the biggest transportation management pressures facing logistics managers in this current environment?**

Read more at logisticsmgmt.com/2022tech_roundtable

Risk Management: Investment in tech takes off

The supply chain took center stage during the pandemic, and now 64% of shippers are evaluating or implementing supply chain risk event monitoring tools and 73% are doing the same with supply chain visibility and multi-tier mapping applications.

BY **BRIDGET McCREA**, CONTRIBUTING EDITOR

Companies that built their business models around reducing costs and running "lean" are rethinking their approaches and focusing more on managing risk and building long-term resilience. For help, these companies are turning to technology to gain better visibility into their supply chains; identify and respond to *risks* before they even occur; and create stronger, more sustainable global networks that can endure mild shocks and respond quickly to more significant ones.

As they work to build more resilient supply chains, companies need accurate data and modern visibility platforms that support good decision-making. In absence of these tools, supply chain risk management is handled on a one-off, reactive basis—something that the pandemic proved *does not* work in today's uncertain business environment.

Koray Köse, senior director, analyst of supply chain research and advisory for Gartner, Inc., says 83% of organizations want better supply chain visibility and 64% want to be able to extract more accurate, reliable data from those networks. He says many larger organizations (i.e., those with $1 billion or more in annual revenues) have already checked these two boxes, but adds that supply chain visibility drops off significantly as the tier level of suppliers increases.

For example, Köse's recent research shows that more than

80% of companies have good visibility into the activities and status of their Tier 1 suppliers, but that percentage drops to 36% for Tier 2, 21% for Tier 3 and 19% for Tier 4. To fill in those visibility gaps, obtain more accurate data and avoid risk, he says companies are using compliance and auditing; supplier financial assessments; and supplier performance scorecards.

When it comes to supply chain risk event monitoring and supply chain visibility tools, Köse says 20% of companies

are currently using the former and 11% rely on the latter. However, the pandemic, the semiconductor shortage and other recent events are driving more organizations to invest in and use these tools.

In fact, 64% of firms are currently evaluating or implementing supply chain risk event monitoring tools and 73% are doing the same with supply chain visibility and multi-tier mapping (for obtaining better visibility over Tier 2, Tier 3 and Tier 4 suppliers) applications.

"We're seeing a lot of companies trying to gain more visibility into their overall supply chains right now and using supplier risk data as an effective overall risk management tool," says Köse. "When organizations realized that they didn't have visibility, it basically created a frenzy of technology investments, and specifically supply chain visibility, multi-tier mapping and risk event monitoring."

Read more at logisticsmgmt.com/2022risk_management

Robotics' second wave

As robotics become more widely deployed and some operations begin to use fleets from multiple vendors, more of the talk is about software-related issues like integration and less on the workings of the robot hardware itself.

BY **ROBERTO MICHEL**, CONTRIBUTING EDITOR

The first phase of warehouse robotics may be coming to close. That's because vendors today are talking more about fulfillment processes, integration and software, rather than the robots.

The types of robotics systems available has matured and diversified. Autonomous mobile robots (AMRs) can assist warehouse associates with picking efficiency. There's also AMRs that move larger loads, autonomous lift trucks, mobile goods-to-person systems, and mobile manipulation robots. In the last couple of years, rapid progress has been made with robotic pick-and-place solutions that use artificial intelligence (AI) and articulating robotic arms.

This proliferation of warehouse robotics has come pretty fast and already has brought operational benefits for DCs, but what comes next? While new robots are sure to come, one big change is that more vendors are talking about software capabilities and the imperatives that go with that, like integration and reliable yet flexible process performance.

"We are a fulfillment solution provider, not a robotics vendor," says Fergal Glynn, vice president of marketing for 6 River Systems, an AMR vendor whose bots work collaboratively with warehouse associates. "The reason being that the robot is a means to an end. What's important to our customers is the performance of the fulfillment process enabled by the robots."

Companies with fulfillment centers, meanwhile, aren't just deploying one type of robot. Some are starting to deploy robotics from different vendors. That elevates the importance of being able to more easily integrate solutions, says Dwight

AI software and related vision and perception capabilities provide this depalletizer with its intelligence and ability to handle variation.

Klappich, research vice president with analyst company Gartner.

Using application programming interfaces (APIs) from robotics vendors and from warehouse management system (WMS) providers helps with integration, but things get more complicated when multiple types of robotics, fixed automation and other systems, like manifesting or cubing and weighing, need to work in concert.

As Klappich explains, APIs help, but "the problem is when operations get to the point of deploying heterogeneous fleets of robots, then that API approach becomes increasingly difficult to do. You can end up with all these one-off integrations between

multiple systems and a WMS, knowing that every time I want to introduce a new WMS or have a major upgrade, there is this integration effort again. And, it's not just the integration work itself, it's also about wanting the ability to orchestrate work between robots of different types and with other types of automation."

The integration front

The trend toward robotics from multiple providers has given rise to a new software niche that Klappich and Gartner calls "Multirobot Orchestration." These platforms sit between and integrate with business applications and heterogeneous fleets of robots, and other forms of automation.

It's an emerging category, Klappich says, with vendors from different backgrounds involved, from providers who specialize in integration, to vendors with a WMS or warehouse execution system (WES) background, to robotics vendors who position their software as capable of orchestration.

The category also involves universal fleet managers, with one player in this area being Amazon, which has an Amazon Web Services (AWS) offering called RoboMaker.

The end goal of orchestration, explains Klappich, would be to more easily establish unified workflows using different robotics solutions, so that, for instance, a larger format AMR or autonomous lift truck can bring pallets to replenish a pick area supported by another type of robotics.

Read more at logisticsmgmt.com/2022robotics

Bringing over talent

With a smaller labor pool to pull from and e-commerce sales continuing to escalate, logistics managers need solid tactics for winning the race for talent.

BY **BRIDGET McCREA**, CONTRIBUTING EDITOR

Finding, hiring and keeping good employees have long been cornerstones for growing organizations that need human resources to keep the wheels turning. With a labor crunch in full swing right now, employers across all sectors are facing steep challenges even as they raise wages, hone their recruitment messages and improve day-to-day working conditions for their teams.

Still, labor shortages continue to impede hiring and the level of "churn"—when current employees leave and must be replaced with new hires—remains very high for many industries.

With companies like Walmart recently raising starting salaries for truck drivers to $95,000, it is clear that these roadblocks exist in the warehousing, logistics and transportation sectors.

A recent "Talent and Labor Study" from sister magazine *Modern Materials Handling* paints a picture of just how difficult the labor crunch has become and what companies are doing to address it. The survey found 81% of warehouses and DCs want to fill open positions within the next 12 months, with warehouse workers (for 61% of respondents), transportation and logistics managers (45%), and warehouse managers and supervisors (42%) as the biggest demand.

Companies are clearly worried about having enough manpower to manage their growing businesses. Less than one-third (32%) of survey respondents say that their companies are "highly prepared" to handle their workloads with current staff. Most (62%) say that they're "somewhat prepared" and 6% admit they are "not very" or "not at all" prepared.

A challenge at nearly all levels

Generally, the survey respondents felt somewhat confident in their ability to retain labor and less so about their new hire

recruitment efforts. To improve retention, companies are increasing hourly wages (66%), increasing bonuses (52%) and offering overtime pay (39%). Other actions include offering incentive pay, education and health care benefits, and bonuses for taking additional shifts or a good attendance record.

Abe Eshkenazi, CEO at the Association for Supply Chain Management (ASCM), is hearing similar feedback from companies right now. And while the labor shortage is affecting most corners of the business world, it's especially acute for any firms looking to fill warehousing, logistics and transportation positions.

"From truck drivers to warehouse workers and all points in between, recruiting and retaining talent is a challenge at almost every level," says Eshkenazi, who adds that the supply chain talent gap existed pre-pandemic, but was made significantly more prominent as a result of COVID-19 and the resulting supply chain issues.

"It's just an extraordinarily difficult time period for both logistics and warehouse management," says Eshkenazi. The "Great Resignation" and employees' desire to work from home—something that usually can't be managed feasibly in the fulfillment, warehousing or transportation settings—are also interfering with companies' ability to find and retain qualified workers.

The sweeping challenges have prompted organizations to join ASCM to broaden their focus and look beyond their historical concentration on career-oriented individuals (i.e., managers, supervisors, VPs of supply chain) and also consider entry level, mid-career and late-stage career professionals as well.

"There's a gap at almost every level now," says Eshkenazi, who points to the uptick in e-commerce, the "micro-warehouse" trend (whereby more companies are transitioning over to using smaller DCs that are closer to their end customers) and the shift to using more automation in fulfillment centers as some of the other key trends that are affecting warehouse hiring right now.

The latter trend has led to a newer human resources need for knowledge workers at the fulfillment level. "Obviously, organizations need the technology footprint to be able to respond to the demand as well as the disruptions, but it's not just about the technology," Eshkenazi says.

Read more at logisticsmgmt.com/2022labor

TRUCKLOAD: Easing back to normal?

Carrier executives continue to yearn for supply/demand equation to even out as inventory slowly rebuilds. In the meantime, capacity for fleet growth remains limited due to constraints on equipment and qualified drivers. Does this recurring news actually signal a return to normal?

BY **JOHN D. SCHULZ**, CONTRIBUTING EDITOR

Top trucking executives and analysts say that the $332 billon full-truckload (TL) market is showing signs of returning to normal levels of "seasonality" after three years of being whipsawed by COVID-affected demand levels.

"The truckload market is easing back to normal levels of growth," says Avery Vise, vice president of trucking for Indianapolis-based research firm FTR. "We're not seeing a glut of capacity. We're heading back to stability, but stability at a level where shippers are happy about it."

Vise predicts that truckload rates in 2023 will be "sticky" because of limitations on truck-building capacity. "We're not producing as many trucks as we need. But that's slowly getting better."

Top carrier executives agreed with Vise's assessment. However, they warn shippers to prepare for mid- to single-digit contractual rate increases in 2023 due to

inflation's relentless push on virtually every aspect of a truckload carrier's operation.

"We're continuing to see it every month from our vendors, suppliers, OEM's [original equipment manufacturers], everybody," says Greg Orr, president of CFI, which recently was sold to Heartland Express for $525 million to create the eight-largest TL carrier in the country. "I don't see it inflation slowing down any time soon."

At the same time, truck analysts say that they're seeing positive signs in the full-truckload market, which has been buffeted by mergers and acquisitions—especially in the second half of this year.

Vise says that TL market has "hit an inflection point," meaning freight volume will grow slightly next year and capacity usage will bottom out above the 10-year average. "But this forecast doesn't presume an economic recession, so downside risks are substantial," he warns.

With that in mind, let's take our annual late-year deep dive into factors affecting the truckload market—by far the largest sector of the $830 billion trucking industry—as we look ahead to 2023.

Capacity equations

In a perfect world, there are exactly the right number of trucks deployed around the nation to haul exactly the right amount of freight at the proper price levels so that both shippers and carriers are happy.

Ideally, yes. In reality, this is never the case. Especially

in the post-pandemic era, where truckload capacity has been unevenly matched with freight levels. At first, during the economic shutdown in the spring of 2020, there was way too much capacity.

Then came an unexpected surge in demand for some supplies, leaving truck capacity buffeted and scrambling to meet demand amid crowded ports and freight piling up due to lack of drivers.

"Capacity is a lot looser than it was six months ago," says CFI's Orr. "We're not turning down thousands of loads each week as we were early in 2022." However, he says that the unevenness in demand among various sectors—both retail and industrial—has made it nearly impossible to predict freight demand levels with any degree of confidence.

"The weird thing is, it's not consistent," says Orr. "There may be a pocket in, say, the Pacific Northwest last week, but not this week. It just seems to be hit and miss every week." He and others in the TL sector say that this is a holdover from the COVID era. For example, many shippers ordered product a year ago that's still flowing through the supply chain.

"The unbridled chaos we've been dealing with for almost three years is moderating," says Mark Rourke, CEO and president of Schneider. The Green Bay, Wis.-based carrier operates the fifth-largest truckload operation and is a huge intermodal operator in North America.

After softening a bit in mid-year, 2022 freight volumes generally settled to levels seen in July 2020 and 2019, according to Ken Adamo, chief of analytics for DAT, a trucking information services firm. "After several years of volatility, truckload volumes for van and reefer freight followed a more typical summertime pattern," he says.

"I think we're getting closer to normal," says Orr. "China is our largest importer and it just started opening up the pipeline three months or so ago. So, we're getting imports back to where it used to be."

Some North American manufacturers, tired of endless supply chain delays and outrageous trans-Pacific maritime rates during the pandemic, are moving plants closer to home in a phenomenon known as "in-shoring" or "nearshoring." Whatever it's called, it's good for large TL carriers in and out of Mexico. CFI gets more than a third of its revenue in and out of Mexico.

"There's a lot more freight down there than we have capacity," adds Orr. "We could do double the amount of volume northbound out of Mexico if I had the ability southbound to get it. They're begging us to take more, but I don't have the return loads southbound."

M&A market is hot

After a couple of quiet years, the mergers and acquisitions market in the truckload sector perked up in the second half of 2022.

By far, the largest acquisition was North Liberty, Iowa-based Heartland Express's purchase of Contract Freighters Inc.'s (CFI) non-dedicated U.S. dry van and temperature-controlled TL business and its CFI Logistica operations in Mexico from Montreal-based TFI International, Inc. for $525 million.

It was one of the largest truckload acquisitions in the full-truckload market in this century, even without CFI's dedicated and logistics U.S. brokerage operations, which were not included in the deal. It makes Heartland Express the eighth-largest TL operator in the country with 2022 revenue expected to top $1.3 billion.

"It's been great," CFI's Orr says of new ownership. "We loved being part of TFI, and it was great for us. But Heartland's purchase has allowed us to be entrepreneurial. We're owned by a company that is similar to us."

The attraction of low-cost, non-union operators such as CFI has drawn others to make their acquisitions in the TL market. Besides Heartland buying CFI,

Fort Smith, Ark.-based USA Truck was bought by DB Schenker, the German logistics giant, for $425 million in an all-cash deal last summer.

USA Truck will bolster DB Schenker's freight presence in the United States. The truckload company has approximately 2,100 employees with a fleet of 1,900 trucks. The carrier also has a strategic network of terminals across the Eastern half of the United States.

Among other TL acquisitions through June and July alone were KLLM Transport Services' acquisition of Quest Global; P.A.M. bought Metropolitan Trucking; and up north, Fastfrate acquired Challenger Motor Freight in a major Canadian acquisition.

Before its CFI acquisition, Heartland Express picked up Roaring Spring, Pa.-based Smith Transport. And Schneider, in its second acquisition of the year, bought deBoer Transportation, a regional and dedicated carrier headquartered in Blenker, Wis.

But not everyone is growing or being acquired. U.S. Xpress Enterprises (USX), the ninth-largest TL carrier, announced a corporate restructuring. It expects to improve its over-the-road (OTR) operations and generate $25 million in annual cost savings beginning in fourth quarter of 2022. Most of the savings, an estimated $20 million, will come from layoffs announced last month, the company said.

After finding "certain successes" in its vision of building a digitally enabled OTR fleet, U.S. Xpress wants "to right-size its cost structure" in what it views as a softening freight market, president and CEO Eric Fuller said in a statement. The company plans less than $100 million in capital expenditures in 2023 after spending $150 million this year.

FTR's Vise says that shippers will be marginally happy and carriers marginally less happy with their 2023 rate negotiations with truckload carriers. His forecast for 2023 TL contract rates will be about 4% lower overall in all segments, compared with a 14% drop in spot market TL rates next year.

U.S. Xpress wants more contract business after finding itself overly exposed to the spot market, which has faced softening demand and plummeting rates in recent months. The high cost of diesel is a factor at U.S. Xpress because the company has been forced to take on more in fuel costs as fuel surcharges aren't applied to the spot market.

A terminated lease for a property in Atlanta will also save U.S. Xpress $2 million per year, CFO Eric Peterson said on a recent webcast. And the carrier will cut costs by running its tractors 100,000 more miles annually beginning in 2023. That will raise the average age of its trucks from 22 months to 27 months by the end of next year.

Rates, rates, rates

Truckload shippers could be getting some breaks in their 2023 contract rates. However, analysts and carrier executives say that it's not the same for everybody, and it varies greatly by lanes, city pairs, and industry and retail segments.

FTR's Vise says that shippers will be marginally happy and carriers marginally less happy with their 2023 rate negotiations with truckload carriers. His forecast for 2023 TL contract rates will be about 4% lower overall in all segments, compared with a 14% drop in spot market TL rates next year. "We're still going to have spot rates bottoming out above 2019 levels," he says. "It's still a reasonably healthy spot market."

At CFI, 93% of freight moves under contract. Orr says he recently closed a deal with a shipper who's among CFI's five largest customers for a 7% rate increase in 2023. "I think they understood the reasons for it," he says. "While they didn't like it, getting that commitment to capacity is extremely important to them. We're trying not to play the feast or famine game, and we're not trying to take advantage of the situation."

Schneider CEO Rourke says that actions to enlarge the carrier's over-the-road fleet are nearly impossible. Besides a shortage of qualified drivers, Class 8 2023 model tractors are being allocated tightly by OEMs. "There's absolutely no relief, and that puts constraints on the industry," he says. "That's one very much negating feature, along with inflationary pressures that come with that."

Rourke says Schneider would buy 20% more new trucks—if they were available. As it is, Schneider has 11,650 company drivers, 10,120 company trucks and 33,830 trailers. "It's a bit of a game of Whack-a-Mole," he adds. •

John D. Schulz is a contributing editor for Logistics Management

2022 Supply Chain Disruptions Study

New survey reveals the top pain points that logistics and supply chain management professionals continue to manage through, including higher freight costs, capacity constraints, severe labor shortages, and port slowdowns—all disruptions that are still forcing shippers to re-engineer their supply chain operations.

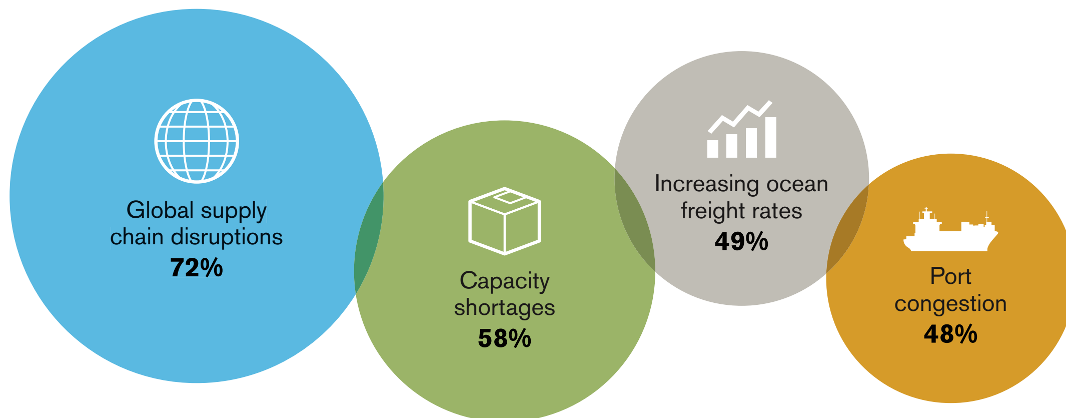
BY **BRIDGET McCREA**, CONTRIBUTING EDITOR

After a multi-year stint of dealing with the impacts of the pandemic, supply chain shortages, transportation capacity constraints, rising costs and a persistent labor shortage, logistics managers are now facing a host of new roadblocks as they finish out 2022 and look ahead to 2023. Warehouse bottlenecks, vehicle backups at inland hubs and dock worker contract negotiations were just some of the newer issues that companies were grappling with by midyear.

To learn more about these challenges, how they're affecting organizations and how companies are overcoming them, *Logistics Management* decided to survey its readers for a *2022 Supply Chain Disruptions Study.* Most (55%) of the respondents were vice presidents, general managers, logistics/distribution managers, supply chain managers or operations managers. The bulk of them work in manufacturing (43.8%), wholesaling (13.4%) or third-party logistics (10.7%), and represent industries like food, beverage and tobacco; industrial machinery; automotive and transportation equipment; and chemicals and pharmaceuticals.

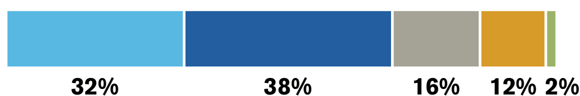
This majority of the *2022 Supply Chain Disruptions Study* respondents work for companies with less than $50 million in revenues and 16.1% have employers with over $2.5 billion in annual revenues. The rest fall somewhere between those two ends of that spectrum. The same variation can be seen in the companies' employee count, which ranges from less than 100 (for 40.2% of those responding) to more than 5,000 (21.4%). Most of the companies (63.4%) ship less than 9,999 domestic and international shipments annually.

What is your organization handling on an ongoing basis with the state of your global supply chain?

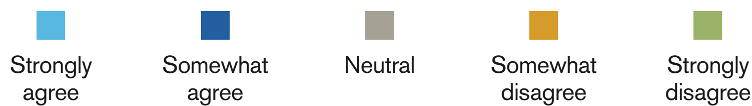


How much do you agree with the following…

Looking ahead to the second half of 2022, the pressure on global supply chains will continue well into 2023

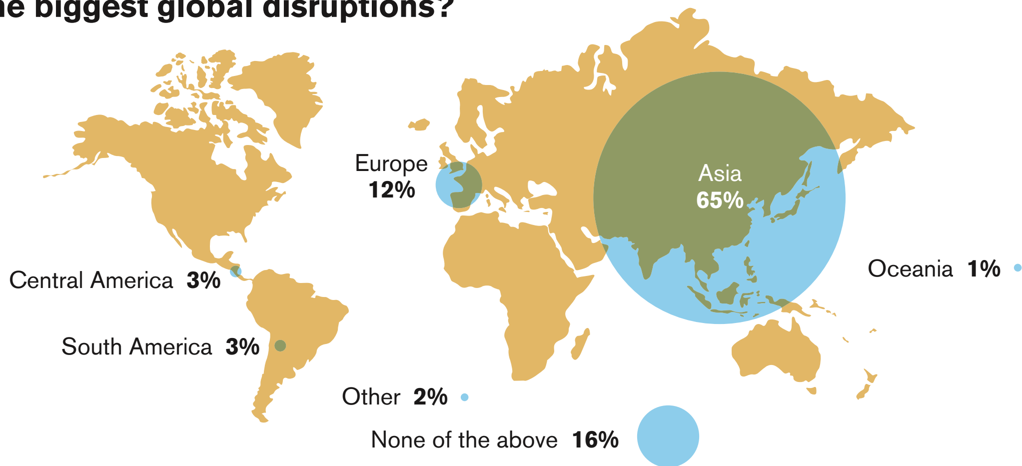


Strong global demand in the consumer goods sector will continue well into 2023



Source: Peerless Research Group (PRG)

Outside of North America, in which one region have you realized the biggest global disruptions?



Source: Peerless Research Group (PRG)

The state of the global supply chain

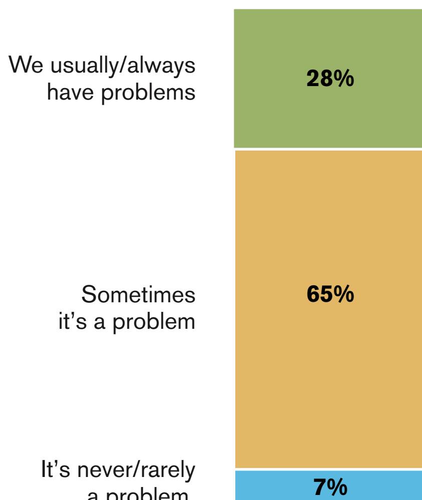
Global supply chains have faced more than their fair share of challenges since the pandemic emerged in early-2020, and the stressors haven't let up yet.

According to the survey, 71.8% of companies are dealing with global supply chain disruptions right now and 57.7% are trying to work through ongoing transportation capacity shortages.

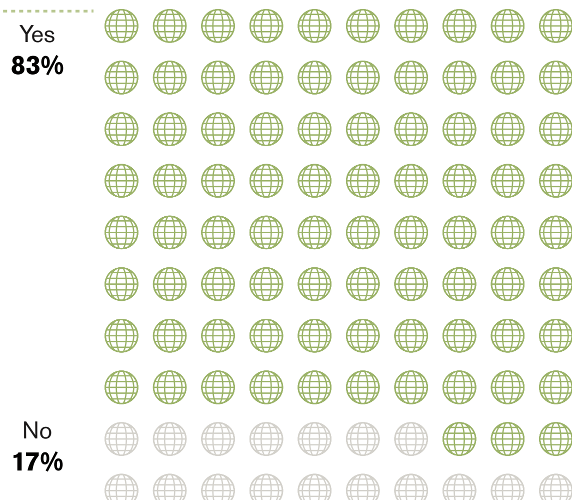
Nearly half of those surveyed (49%) are facing challenges with increasing ocean freight rates and about 48% say port congestion is one of their biggest obstacles in 2022. Russia's invasion of Ukraine has also affected global supply chains. Asked how the invasion has affected their strategies, nearly 60% of readers say their operations have either been highly or somewhat affected by the war while 40.4% have seen no such impacts.

These results align with what *Logistics Management* has been reporting throughout the year and paint a picture of a global supply chain environment that's still working to stabilize itself in the face of an ongoing pandemic, high demand for products, a persistent labor shortage and continued upticks in e-commerce sales.

How do you currently view the state of your global freight network?



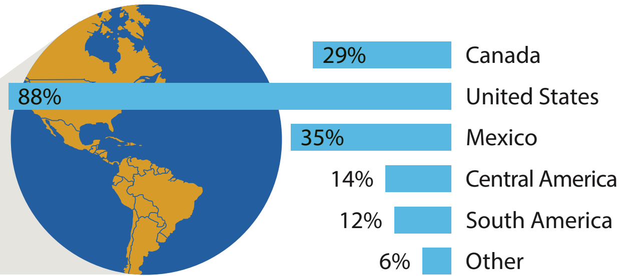
Has the last two years forced your company to rethink it's overall global supply chain operations?



Source: Peerless Research Group (PRG)

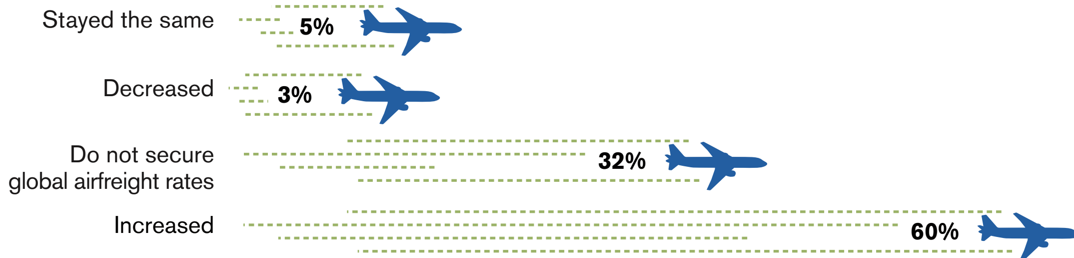
Due to the global disruptions over the past two years, has your company decided to bring more operations closer to home/nearshore?

In which geographic area(s) has your company increased operations?

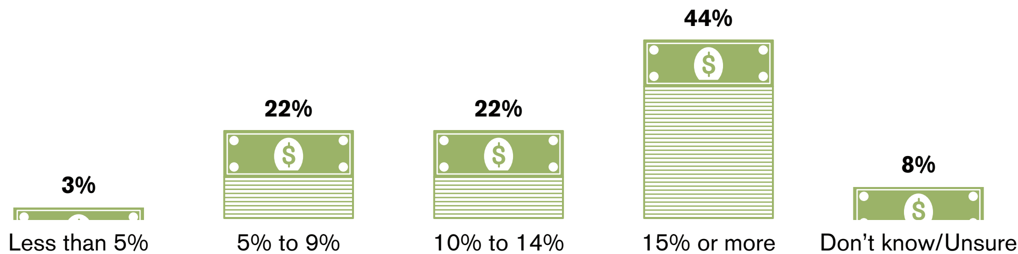


Source: Peerless Research Group (PRG)

How have the global disruptions over the past year affected your global airfreight rates?



How much did your global airfreight rates increase from 2021 to 2022?



Source: Peerless Research Group (PRG)

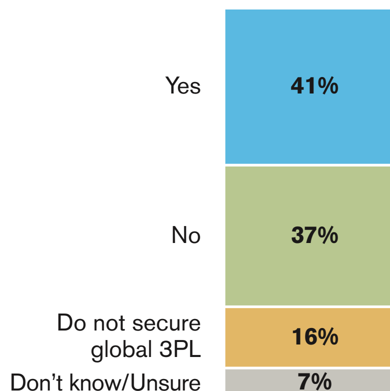
Readers aren't expecting any immediate relief to their ongoing challenges. Looking ahead, more than 93% of survey respondents either "strongly or somewhat agree" that the pressure on global supply chains will continue well into 2023. Asked whether strong global demand for consumer goods will also continue into next year, 70% of readers either "strongly or somewhat agree."

Outside of North America, most companies have realized the biggest global disruptions in Asia (64.7%), Europe (12.1%), Central America (2.6%) and South America (2.6%). More specifically, the disruption in these countries tends to take place at ports (for 80.6% of respondents), trade in general (43.9%), during the customs clearance process (20.4%) and on the road (10.2%).

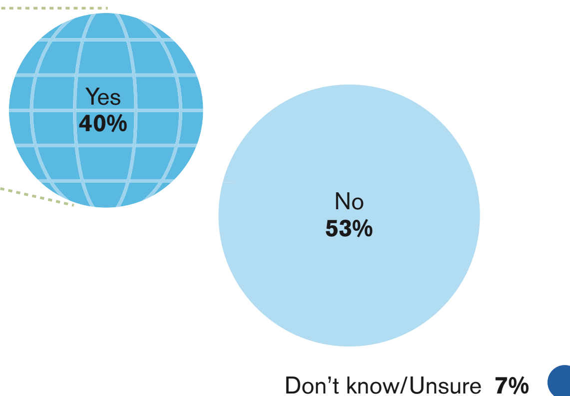
Assessing supply chain performance

The events of the last 2.5 years have forced 82.6% of companies to rethink their overall global supply chain operations. In assessing the performance of their global supply chains, nearly 96% of survey respondents say their networks are either "usually, always or sometimes" a problem. Just 4.2% of the companies surveyed have global supply chains that are either "never or rarely a problem."

Have you used a global 3PL in the past?



Over the past two years, have you increased your usage/reliance of global 3PLs?



Source: Peerless Research Group (PRG)

Global freight networks are also creating headaches for logistics, supply chain and operations managers right now. According to the survey, just over 92% of companies rely on global freight networks that are either always, usually or sometimes a problem. Just 7.6% of respondents either rarely or never have problems with their global freight networks.

To offset some of the challenges brought on by the pandemic and resultant supply chain disruptions, some companies have been moving their manufacturing and/or sourcing closer to home.

According to the survey, more than half (52.3%) of respondents have used this approach over the last two years while 36.4% have not (11.4% are unsure of whether their companies have done this).

As they bring more operations closer to home using a reshoring or near-shoring strategy, the geographic area(s) where companies have increased operations include the U.S. (87.9%),

Mexico (34.8%), Canada (28.8%), Central America (13.6%) and South America (12.1%).

Freight rates continue to rise

Along with the port congestion, container shortage and transportation delays that keep shippers from getting their goods on time, companies are also dealing with escalating ocean freight rates. By mid-2022, in fact, ocean shipping freight costs were up to eight times their pre-pandemic levels—and even higher for some routes.

According to the study, more than 70% of respondents have seen their ocean freight rates escalate over the last year. Just 4% say those rates have stayed the same and 2.4% have seen decreases.

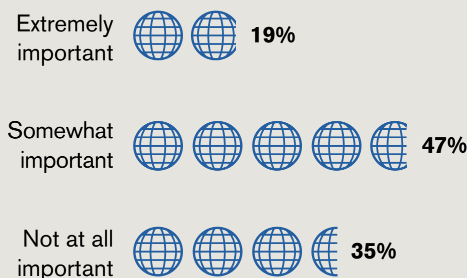
Asked exactly how much their ocean freight rates increased from 2021 to 2022, readers who reported an increase say they're currently paying 15% higher rates (50.6% of respondents), are shelling out 10% to 14% more (25.3% of readers) and 10.3% of respondents have seen their rates increase by 5% to 9%.

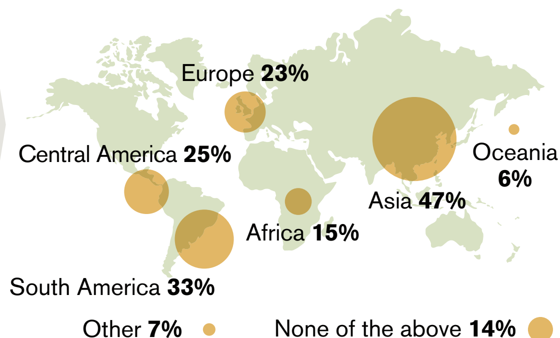
Companies using airfreight have also been paying more for transportation this year. Asked how global disruptions over the past year have affected their airfreight rates, nearly 59% of companies have experienced increases, 4.1% are paying the same that they did one year ago, and less than 1% have seen their airfreight rates go down. Between 2021 and 2022, 44.4% of respondents saw their rates jump by 10% to 14% and an equal percentage experienced rate hikes in the 5% to 14% range.

Ocean and air capacity trends

The global supply chain disruptions severely affected transportation capacity in 2021, driving up rates and forcing companies to rethink their strategies, find alternatives and seek out new modes. The situation has eased slightly this year, but the constraints remain, according to the survey findings. For ocean freight, 37.2% of companies are dealing with decreased capacity while 36.4% say that shipping capacity has either stayed the same or increased this year.

Asked to specify how much their ocean freight





Source: Peerless Research Group (PRG)

capacity increased compared to 2021, 54.6% of companies say it expanded by anywhere from 10% to 15% or more. Another 18.2% say capacity has loosened up by 5% to 9% and 13.6% feel the increase was less than 5%. Of the readers who reported ocean freight capacity decreases this year, 60% say the decrease falls into the 5% to 15% or more range, while 17.8% have watched capacity contract by 10% to 14%.

According to the survey, 19.3% of respondents have witnessed decreases in airfreight capacity this year, although nearly 40% say it has either increased or stayed the same (compared to 2021).

Nearly all companies (88.2%) reporting airfreight capacity increases say those improvements fall into the 10% to 15% range (or higher). Of those reporting airfreight capacity decreases, most (66.5%) say the declines range from 10% to 15% or more and 21.7% have seen decreases of 5% to 9%.

The role of the global 3PL

Overall, the global third-party logistics (3PL) market, worth about $1 trillion in 2020, is estimated to reach more than $1.75 trillion by 2026, according to Mordor Intelligence. This translates to a growth rate of 8% for 2021-2026.

Factors affecting that growth are the increasing number of companies that use 3PLs for major transportation and logistics services—while 3PLs are also increasingly being used to grow e-commerce. In response, third-party providers continue to find creative solutions and expand their service portfolios.

According to the *2022 Supply Chain Disruptions Study,* 40.5% of companies have used a global 3PL in the past, while 37.1% have yet to enlist the help of a global 3PL. Over the last 2.5 years, more than 40% of respondents have increased their usage of and reliance on global 3PLs, while 53.2% have not. Just over 79% have engaged such a partner for freight forwarding over the last 2.5 years and most companies (66.7%) work with just one global 3PL for these services.

Expanding their global reach

Despite the supply chain challenges brought on by the pandemic, companies continue to think globally. In fact, 65.6% of survey respondents say that emerging markets have become either an extremely or somewhat important component of their global sourcing strategies.

Another 34.5% don't consider emerging markets to be key to their global sourcing strategies. When asked which countries they've considered as channels for their growth, 46.6% say Asia is a core target for their organizations.

Some of the other markets that companies view as having good growth potential are South America (32.9%), Central America (24.7%), Europe (23.3%), Africa (15.1%) and Oceania (5.5%), the latter of which encompasses Australasia, Melanesia, Micronesia and Polynesia. •

—Bridget McCrea is a contributing editor for Logistics Management

M&A MOMENTUM: 2022's Top 20 warehouses

Demand for dry and cold chain warehousing remained strong in 2022 and is expected to continue climbing steadily in 2023. As the sectors continue to evolve, warehouse operators are attracting investor attention, consolidating, and changing their names.

BY **BRIDGET McCREA**, CONTRIBUTING EDITOR

The increased focus on all things supply chain, fulfillment, distribution and shipping propelled third-party logistics (3PL) providers and refrigerated warehousing and logistics providers through a busy 2022 and set up them up for more success in the coming year. Investors took a bigger interest in the sector, which experienced some internal consolidation as 3PL operators acquired one another.

"The big themes this year were industry consolidation and company name changes," says Evan Armstrong, president at Armstrong & Associates, a 3PL consultancy and research firm. The company tracks annual growth in the warehousing segment and reports that total commercial warehousing space for the Top 20 North American warehouses totaled roughly 842 million square feet situated in 3,461 different facilities. In 2021, 3PLs had about 767 million square feet of space and 3,214 facilities.

Top 20 North American Warehousing 3PLs

(Rank Based on 2021 Warehousing Square Footage within North America)*

2022 Rank	2021 Rank	Third-party logistics provider (3PL)	Headquarters	Warehouse Space (Millions of Square Feet)	Number of warehouses	Website
		*Amazon***	*Seattle, WA*	*232.5***	*370*	amazon.com
1	1	DHL Supply Chain North America	Westerville, OH	143.0	500	dhl.com
2	2	GXO Logistics	Greenwich, CT	90.0	316	gxo.com
3	3	Ryder Supply Chain Solutions	Miami, FL	75.2	330	ryderscs.com
4	4	NFI	Camden, NJ	60.0	162	nfiindustries.com
5	5	GEODIS North America	Brentwood, TN	52.1	144	geodis.com
6	12	CJ Logistics America	Des Plaines, IL	51.1	71	cjlogistics.com
7	6	Americold	Atlanta, GA	46.0	201	americold.com
8	7	Lineage Logistics	Novi, MI	45.0	244	lineagelogistics.com
9	9	Kenco	Chattanooga, TN	36.3	103	kencogroup.com
10	11	Saddle Creek Logistics Services	Lakeland, FL	31.0	80	sclogistics.com
11	8	FedEx Logistics	Memphis, TN	30.7	110	supplychain.fedex.com
12	10	Penske Logistics	Reading, PA	26.5	94	penskelogistics.com
13	13	DB Schenker North America	Miami, FL	23.7	91	dbschenkerusa.com
14	14	Kuehne + Nagel North America	Jersey City, NJ	18.7	87	kuehne-nagel.com
15	15	CEVA Logistics North America	Houston, TX	18.1	119	cevalogistics.com
16	17	Maersk Logistics North America	Florham Park, NJ	18.0	65	maersk.com
17	16	UPS Supply Chain Solutions	Alpharetta, GA	17.3	144	ups-scs.com
18	18	DSV North America	Iselin, NJ	16.4	65	dsv.com
19	N/A	Kintetsu World Express North America	Jericho, NY	15.0	83	kwe.com
20	19	Warehouse Services	Piedmont, SC	14.0	30	wsionline.com
20	19	WSI	Appleton, WI	14.0	52	wsinc.com

*Square footage is company reported or Armstrong & Associates, Inc. estimates.

**Armstrong & Associates, Inc. estimated space for 3PL based off of Amazon Global Supply Chain and Fulfillment Center Network, MWPVL International, Inc., May 2022

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Some of the merger and acquisitions (M&A) activity affecting warehousing started in 2021 and included XPO Logistics' spinoff of its global logistics segment, GXO. XPO has since become a pure-play contract logistics provider. Also in 2021, Maersk acquired e-commerce logistics provider Visible Supply Chain Management.

"Last year there were 25 M&A deals totaling $100+ million in the sector," says Armstrong. "It was the most acquisitive year since we started tracking it in 1999."

That M&A momentum rolled right into 2022. By late-July Armstrong & Associates was already tracking 14 new M&A transactions. "The last few years have been very good for 3PLs," says Armstrong. "We're seeing more private equity investors acquiring 3PLs which, in turn, is driving some consolidation among regional players."

The 2022 ranking

Armstrong compiles an annual list of the top North American warehousing companies. Each company has either provided square footage information or enough public information for the research firm to make a reasonable estimate of size.

With about 143 million square feet of warehousing space across 500 warehouses, DHL Supply Chain North America held onto its top spot as the largest 3PL in North America this year. And while Amazon's estimated 232.5 million square feet of space in 370 warehouses technically tops the chart, Armstrong & Associates doesn't give the company an official ranking number.

This year's top five largest warehousing 3PL rankings included GXO Logistics (90 million/316 locations), Ryder Supply Chain Solutions (75.2 million/330 locations), NFI (60 million/162 locations) and GEODIS North America (52.1 million/144 locations). Each of these organizations maintained their respective positions on the list, compared to 2021's rankings.

With 51.1 million square feet of space and 71 warehouses, CJ Logistics America (formerly DSC Logistics) took over the No. 6 spot on this year's list (moving up from No. 12 in 2021) and in doing so effectively reordered the Top 10. Americold (46 million/201 locations), Lineage Logistics (45 million, 244 locations), Kenco (36.3 million/103 locations), Saddle Creek Logistics Services (31 million/80 locations) and FedEx Logistics (30.7 million/110 locations) rounded out this year's Top 10.

The only new entrant on this year's Top 20 list was Kintetsu World Express North America, which has 15 million square feet of space in 83 warehouses.

Attractive acquisition targets

One of the larger M&A transactions in warehousing happened in October when Pritzker Private Capital announced that it was buying Kenco Logistics, the latter of which was owned by the Kennedy family.

"For more than 70 years, Kenco has thrived as a family-owned organization," said Denis Reilly, Kenco's president and CEO, in a press release. "As the demand for innovative and reliable logistics solutions becomes greater than ever," he continued, "we have found the ideal partner in Pritzker Private Capital to support our growth and advance our mission to be the preferred supply chain partner in North America."

In assessing the deal, Armstrong says Kenco was an attractive M&A target for its established platform and large, established footprint. "Private equity investors will often invest in companies that they can build out through additional acquisitions," he points out, "but Kenco already has significant operations in the United States. If they're going to build the company out, it will be about international expansion."

The outlook for 2023

Armstrong expects the North American 3PL sector's total gross revenues to grow by about 8% in 2022. Looking further out, he says growth could be "pretty flat" in 2023 as the labor shortage, lack of warehousing space and rising interest rates continue to present challenges for the industry. If demand continues to decrease, 3PLs may become more reliant on their storage revenues. Because many of those facilities are full right now, those revenues may help buoy the sector in 2023. "Next year should probably be a flat year for valued warehousing and distribution 3PLs in the United States," Armstrong says.

Cold chain trends

Each year, the International Association of Refrigerated Warehouses (IARW) publishes its North American Top 25 List of the largest refrigerated warehousing and logistics providers in Canada, Mexico and the United States.

The list is determined by total capacity—in millions of cubic feet—of temperature-controlled space operated by IARW warehouse members. The IARW is part of the Global Cold Chain Alliance (GCAA) with two other associations and one foundation. The IARW is the third-party temperature-controlled warehousing industry's association.

Throughout 2022, the temperature-controlled warehouse market also continued to see M&A activity across North America. "The pace of acquisitions remained high and shifts in the 2022 top 25 indicate that big capacity facilities were the focus," says Matthew R. Ott, GCAA president and CEO. "So much so that when this list comes out again in March 2023 a number of these companies will no longer be listed due to being acquired."

Top 20 North American Refrigerated Warehousing Companies

(Canada, Mexico and U.S.)

2022 Rank	2021 Rank	Company	Locations	2022 volume (millions of cubic feet)	2021 volume (millions of cubic feet)	Percent change
1	1	Lineage Logistics	U.S.	1,830.4	1643.1	11%
2	2	Americold Logistics	Canada and U.S.	1,161.4	1192.3	-3%
3	3	United States Cold Storage	U.S.	423.3	381.8	11%
4	4	Interstate Warehousing	U.S.	115.7	137.2	-16%
5	5	VersaCold Logistics Services	U.S.	105.5	123	-14%
6	8	Conestoga Cold Storage	U.S.	64.3	64.3	0%
7	9	Congebec Logistics	U.S.	60.9	57.7	6%
8	16	RLS Logistics	U.S.	59.0	26.1	126%
9	7	Burris Logistics	U.S.	58.9	74.9	-21%
10	10	NewCold Holdings	U.S.	47.9	47.9	0%
11	13	Confederation Freezers	Canada	34.5	34.6	0%
12	14	Trenton Cold Storage	Canada	34.3	34.3	0%
13	15	Nor-Am Cold Storage	U.S.	34.1	30.4	12%
14	19	WOW Logistics	U.S.	23.4	23.4	0%
15	n/a	Enstructure	U.S.	21.5	n/a	n/a
16	20	Interstate Cold Storage	U.S.	21.4	21.4	0%
17	n/a	SnoTemp Cold Storage	U.S.	19.0	n/a	n/a
18	n/a	Valley Cold Storage & Transportation	U.S.	18.0	n/a	n/a
19	n/a	Central Storage & Warehouse	U.S.	16.6	n/a	n/a
20	n/a	MWCold	U.S.	15.2	n/a	n/a

Source: International Association of Refrigerated Warehouses (IARW)

In the North American market, GCCA also saw an increase in interest and investment outside of the United States and expects changes in the ranking of operators outside of the continental United States in the coming year.

For 2021, the top five refrigerated warehouse operators maintained their respective positions and included Lineage Logistics (1830 million cubic feet of space), Americold Logistics (1161 million), United States Cold Storage (432 million), Interstate Warehousing (115.7 million) and VersaCold Logistics Services (105.5 million).

Rounding out this year's Top 10 list were Conestoga Cold Storage (64.3 million cubic feet of space), Congebec Logistics (60.9 million), RLS Logistics (59 million), Burris Logistics (58.9 million) and NewCold Holdings (47.9 million). With the exception of NewCold, the bottom half of the Top 10 list was completely reshuffled this year.

New entrants on GCCA's 2022 list included Enstructure (21.5 million cubic square feet of space), SnoTemp Cold Storage (19 million), Valley Cold Storage & Transportation (18 million), Central Storage & Warehouse (16.6 million) and MWCold (15.2 million).

Key refrigerated warehousing trends

Overall, Ott says GCCA is seeing trends that lead toward increased refrigerated warehousing capacity in North America. Existing operators continue to invest in new facilities and expand existing facilities. Between January 2022 and September 2022, Ott says there were also "many new entrants in this space with an interest in development."

"Construction costs and labor continue to be challenges, and continued supply chain issues mean that material is not always readily available," he

points out. "This has pushed construction timelines longer than many anticipated." And while costs have normalized and materials are now more accessible, Ott says many 2022 deliveries are now being pushed to the first and second quarters of 2023.

More value-added services

From an operational perspective, the focus on the customer is a key priority for refrigerated warehouse providers. Ott has seen an increased emphasis being put on value-added services throughout the cold chain. "Shippers are turning to refrigerated warehouses increasingly for value-added services," he says. "For instance, U.S. cold storage companies are serving the import/export border trade needs of shippers more and more often."

At the United States/Mexico border, cold storage warehouses are increasingly adding USDA-approved lab/inspection facilities to their sites to service packing houses exporting protein to the United States and Canada. Ott says the trend is being driven by shippers and warehouse providers that are collaborating to optimize supply chains.

"More and more, warehouses are looking to become a full supply chain solution for their customers," he adds, "and providing increased value-added services is an important part of this effort."

Looking ahead

Labor will continue to be a challenge across the temperature-controlled warehousing and logistics industry, but the GCCA believes the headwinds contributing to the challenging market will begin to ease in 2023. Ott expects continued growth in refrigerated capacity in 2023. Concerns about inflation and rising interest rates may slow the pace of investment and development that the sector has seen over the last two years, however, and particularly for projects that have yet to break ground.

In the ever-evolving economic environment, there's been a continued need to increase operational efficiency.

Companies are achieving this goal by making more investments in sustainability and automation—a trend that Ott sees continuing in the coming months.

"In 2023 the temperature-controlled warehousing and logistics sector will continue to do what we have been doing," he says, "ensuring that the world has access to the safest, highest quality food, pharmaceuticals and goods possible." •

—Bridget McCrea is a contributing editor for Logistics Management

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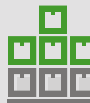

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