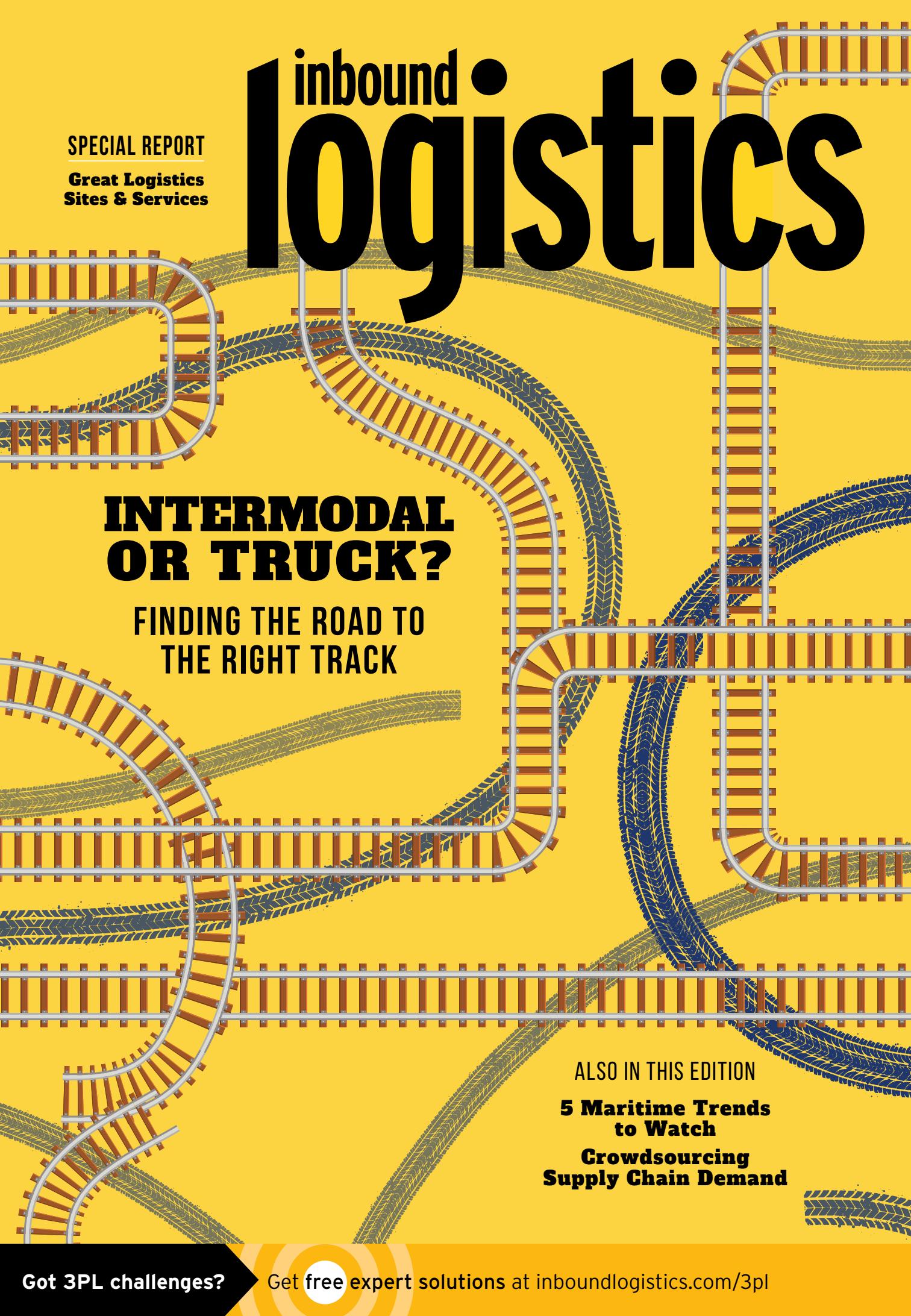


SPECIAL REPORT

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INTERMODAL OR TRUCK?

**FINDING THE ROAD TO
THE RIGHT TRACK**

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**5 Maritime Trends
to Watch**

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info snacks

BITE SIZED SUPPLY CHAIN/LOGISTICS INFORMATION

Oh, That Smarts

“You don’t hire smart people so you can tell them what to do; you hire them so they can tell you what needs to be done.”

— Vance Checketts, chief operating officer, DSCO
(see *Leadership*, p. 18)

Free Outranks Fast

91% of respondents to a Dotcom Distribution survey are likely to buy from a brand that offers free shipping; 90% say they highly value free returns when making online purchases.

(see *Trends*, p. 27)



FREE RETURNS

\$86,000 Annual Salary 21 PTO Days in 1st Year

Walmart’s new drivers earn an average annual salary well above the industry-wide norm. New drivers also get access to benefits on day one. Drivers get up to 21 days of paid time off in their first year, and enjoy perks such as safety bonuses and other incentives.

\$119.99 billion

Amount U.S. shoppers will spend with online retailers during the 2018 holiday shopping season



+15.5%

Amount online sales will increase from the estimated \$104 billion holiday shoppers spent online during the same period in 2017

16.7%

Percentage of e-commerce holiday retail spending, compared with 15.2% in 2017.

— *Internet Retailer*

Amazon the Almighty

“When it comes to Amazon, crush all assumptions. If you think Amazon can’t or won’t do something, banish the thought.”

— *Brittain Ladd*
(see p. 38)



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Tight trucking capacity, a strong economy, and ongoing rail improvements drive shippers to intermodal. But finding a container—or a truck to haul it to or from the rail terminal— isn't always easy.





Manuel Rojas
Inbound Coordinator

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Oh buoy! Here are five maritime developments that have shippers bobbing and drifting through economic riptides.



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Companies use crowdsourcing throughout the supply chain—from product design to final-mile delivery—to become the leader of the pack.

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In logistics, two Ws are most important—where and when. Choosing the right sites and services is vital in getting your products where they need to go, when they need to get there.



PHOTO: Tim Stevens/CN

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ONLINE COMMENTARY



New York City's Off-Hour Delivery Program Combats Congestion

bit.ly/Off-HourDeliveries

New York City's Department of Transportation is collaborating with shippers, carriers, and receivers to shift to off-hour deliveries. Here's why the city believes moving delivery times to less congested periods of the day provides for safe, reliable, and environmentally responsible receipt of goods.



How to Know if Your Freight Broker Is Legitimate

bit.ly/FreightBrokerLegitimate

It can be a challenge to know if your freight broker is legitimate in terms of licensing, bonding, and business operations. Here are a few ways to vet your broker to ensure you get what you pay for.



Business Intelligence Can Transform Your Business

bit.ly/UsingBI

Data proliferation and accessibility has fueled the growth of business intelligence (BI) in transportation and logistics. Here's how to adopt BI best practices to raise your business to the next level.

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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11



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Talent Gap or Training Gap?

In the past, workforce training and development for blue- and gray-collar jobs took a back seat at many businesses and academic institutions.

Schools often steered students toward white-collar career paths, while businesses put cutting costs, staying globally competitive, and turning a profit above training workers—a short-sighted focus on the next quarter rather than the next generation.

Today, we are dealing with the consequences of those inactions. A lack of high-level focus on blue- and gray-collar jobs, coupled with the realities of a booming economy, has created a training gap across the length and breadth of the U.S. economy. Many important sectors—manufacturing, transportation, supply chain, and engineering among them—face a shortage of qualified workers. Add a historically low unemployment rate, and the need for a long-term strategy and commitments of time, expertise, and money to develop the workforce of tomorrow grows even more important.

Businesses and schools across America are answering the call in a big way. Many companies are redoubling their worker training and career development efforts, while colleges, universities, and even some high schools are directing students to blue- and gray-collar entry level jobs, particularly in logistics and transportation.

One leader putting up phenomenal numbers in workforce and career development is Walmart. The retailer received some national attention for those efforts when, as part of the administration's workforce development initiative, First Daughter Ivanka Trump visited a store in Mesquite, Texas. She met with members of Walmart Academy, a two- to six-week training program for supervisors and managers that the company launched in 2016. Walmart plans to open 200 nationwide sites that would train 140,000 workers annually, with a goal of one million employees in five years, providing the skills they need to advance both within Walmart or at another job.

"The program is a very effective way of training," notes one Walmart worker. "We enjoy it, we are engaged in it, and it provides an opportunity to see things that we might not come across in the day-to-day job."

We especially need workforce and career development training in the logistics and transportation sectors, and we are on the right path. Many companies are currently following Walmart's example; many more should. We know there are other encouraging stories like Walmart's out there. Tell us yours: editor@inboundlogistics.com



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Good Question...

READERS WEIGH IN

What recent supply chain development will have the greatest impact on your job?

Tariffs create global challenges. The United States has taken a strong position in dealing with fair trade, but we have felt the same strong efforts by many governments around the world.

Michael Ford
Chief Compliance Officer
BDP International

The digitalization of the supply chain will provide the single biggest boost to transparency in what is quite an archaic system.

Ben Tyrrell
Head of Global Business
Development
MoveHub

The use of new IT such as automation/AI, analytics, and blockchain will revolutionize the way we work, by enabling new processes and operating models to help consumer goods companies redefine their linear value chains.

Mo Hajibashi
Managing Director and Supply
Chain & Operations Global
Consulting Lead, Accenture

The exponential growth in e-commerce and the labor shortage due to full employment demand greater efficiency from e-commerce fulfillment systems.

Rick Faulk
CEO, Locus Robotics

Importers are exploring options such as shifts in their supplier base to other countries, changing their designs so hard-to-source parts can be produced outside of the countries impacted by the trade war. Duty impact is now a much larger piece of the overall supply chain decision-making process.

Cedric Akion
Senior Vice President of Sales
International Freight Forwarding
Ascent Global Logistics

As UPS and FedEx push to drive oversize shipments out of their networks by significantly increasing surcharges, shippers must look for alternative shipping options—forcing USPS and other carriers to build their networks in order to meet consumer demand.

Traci Doenitz
Senior Vice President
IT and Finance
Spend Management Experts

In order to improve supply chain performance, shippers need operational visibility to drive data-based decisions. Machine learning and AI will be the innovative technologies that accelerate transformational change.

Mark McEntire
Senior Vice President
Operations
Transplace

LinkedIn Weighs In

Blockchain.

Andy Lukoff
President
Logistics Strategy and
Solutions

Brexit.

David O'Shea
Logistics Team Leader
Teva Pharmaceuticals

Trade wars and tariffs.

Levent Yazici
Logistics Manager
Viessmann

AI and autonomous supply chain planning.

David McDermaid
Logistics and Material
Supply Chain Leader
U.S. Army

HAVE A GREAT ANSWER TO A GOOD QUESTION?

Be sure to participate next month.

We want to know:

What was your first job in logistics/supply chain and what did it teach you?

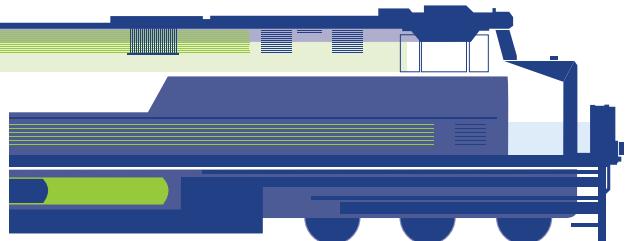
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Lower CDL Age? The Debate Continues

Re. Good Question: To address the truck driver shortage, should we lower the minimum driver age to 18?

bit.ly/CDLgoodquestion

No. There is no driver shortage, though some segments of trucking have high turnover/low retention as a result of low pay and poor working conditions. Putting in younger drivers masks those problems but more importantly, will decrease highway safety.

Danny Schnautz
Vice President
Clark Freight Lines, via email

Absolutely! We send an 18 year old to war, we trust 18 year olds to vote, and 18 is recognized as the age of majority. However, this should be coordinated with educational institutions such as technical career and vocational schools; workforce development efforts; and a deliberate marketing of this career path as viable, sustainable, and respected.

Nancy Dempsey
Manager, Customer Service
Unifrax I LLC, via email

Tariffs Disrupt Supply Chains

Re. U.S. Businesses Fight Tariff Battle

bit.ly/tariffs2018

In addition to amounting to a tax on consumers, tariffs will add considerable disruption to the supply chain; the fact that the tariffs will start at 10 percent now and will rise to 25 percent on Jan. 1, 2019 creates additional chaos in the fashion industry's supply chains. The tariffs will have a wide-ranging negative impact on consumers, companies, and jobs in the United States.

U.S. Fashion Industry Association

Transportation Management Systems: A No-Brainer?

Re. 2018 IL TMS Buyer's Guide

bit.ly/2018TMSBuyersGuide

It is mind-boggling that 65-70 percent of companies don't take advantage of TMS. Talk about throwing money away.

Andy Lukoff, President
Logistics Strategy and Solutions, Inc.

While the public perception of these solutions is they're "nice to have" for big corporations with money, in reality these tools can help any kind of business that deals with the transport of goods, no matter the size.

Ruben Martinez
MEA Regional Logistics Solutions Manager
LafargeHolcim, via LinkedIn

Stop, Thief!

Re. Reducing Cargo Theft

bit.ly/reducingcargothft

I would like to add some more advice to reduce cargo theft: 1. Start tracking your inventory, not just your warehouse. 2. Start tracking your consignment, not your fleet. 3. Know what was dropped off, and where, in your last-mile delivery. 4. Make sure the solution is scalable on demand. 5. Go for decision-enabling intelligence, not 1,000 alerts every day. 6. Be sure to act on time.

In short, if you need to achieve end-to-end supply chain security, you need a tracking solution that can monitor at a goods-level (for your warehouse and logistics), is "brownfield" (requires no additional infrastructure to setup), is scalable on demand, and enables decision-making through smart data analytics.

Jessica Chauhan, via web

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Optimizing Ocean Transport

The growth in e-commerce orders and strong economy mean companies are extending their supply chains to reach a global audience. Ocean transportation is a complex mode with unique considerations. To streamline your ocean freight process:

1 START CONSOLIDATING

Minimize less-than-containerload shipments by consolidating multiple products coming from the same area into a single container. Shipping a single container is less expensive than multiple. If you can't consolidate into a single container, then send a few larger shipments to reduce costs.

2 COMPARE COSTS OF DIFFERENT TRANSPORT MODES

Find the best way to ship your products for the lowest cost while still meeting customer service levels. You may find you can send some of your expedited air freight or over-the-road shipments by ocean instead.

3 ENSURE PROPER INFORMATION ON YOUR SHIPMENT

Any discrepancy in address, purchase order number, quantities, weights, sizes, and SKU-level information can hold up your shipment in Customs.

4 PROVIDE THE RIGHT DOCUMENTATION

Proper documentation on import/export items is needed to meet regulation requirements if you want to avoid any fines, which can be substantial. Customs is increasing enforcement of regulations and if there are any inconsistencies, your shipment can be held up or your business penalized.

5 PERFORM FREIGHT BILL AUDITS ON EVERY SHIPMENT

Many freight bills contain errors. If you don't audit, you leave dollars on the table. Sometimes the carrier misses shipping surcharges and comes back later for payment. These could prove costly since customers may not agree to pay additional charges after the business has concluded.

6 PREPARE IN ADVANCE

Provide volume and seasonality information in advance to avoid unnecessary additional costs at the last minute. The right amount of allocation is particularly important for shippers with high seasonality and big volumes. A 10,000 TEU ship has a fixed capacity and will not be able to accommodate even one more TEU.

7 IMPLEMENT TRIANGULATION TO AVOID SHIPPING EMPTY CONTAINERS

With triangulation, the same container and carrier is used for import and export—from point A to B, then immediately on from point B (or somewhere nearby) to its next destination. This also saves having to pay detention charges on a container not immediately returned to the yard.

8 REVIEW CARRIERS

With the volatility of the ocean carrier market, it makes sense to re-evaluate your carrier database to extend your closed carrier pool with additional suitably qualified providers. If you are currently tendering with a smaller than ideal carrier pool, you may not be getting the best rates.

9 USE AN AUTOMATED BID MANAGEMENT SOLUTION

The ocean freight industry is in turmoil with a record number of mergers, acquisitions, and new alliances that impact service in key lanes and reduce carrier capacity. An automated solution will save time and provide the best rates.

10 UPDATE FORECASTING VALUES

Use data gathered with digital methods to update forecasting values. This allows you to receive more granular data from other departments, creating new levels of insight, such as a realistic demand growth rate. Being able to forecast more accurately means you can identify peaks and troughs, making it easier to negotiate with carriers.

Source: Patrick Pretorius, Director of Business Development, Transporeon Group Americas



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NEWS & TRENDS IMPACTING THE

FOOD & BEVERAGE SUPPLY CHAIN

FDA NOW NAMES NAMES

The U.S. Food and Drug Administration (FDA) will now release the names of retailers associated with severe foodborne outbreaks during recalls.

The agency has not traditionally released lists of specific retailers where recalled foods may have been purchased because certain supply chain information is confidential between the supplier and retailer, said FDA Commissioner Scott Gottlieb. In most cases, the information the recalling company publicizes is sufficient for consumers to identify and avoid recalled product, he added.

But a new policy describes situations when disclosing information for products undergoing recalls is appropriate. These circumstances will particularly apply in situations associated with recalls where consumption of the food has a reasonable probability of causing serious adverse health consequences or death to humans or animals.

Based on this new policy, the FDA will publicize retail consignee lists for food recalls when the food is not easily identified as being subject to a recall from its retail packaging, or lack thereof, and if the food is likely to be available for consumption. Example: food sold directly to consumers with no UPC or barcode, such as deli cheese, pet treats sold in bulk, and fresh fruits and vegetables sold individually.

The new draft guidance also states that the FDA may disclose retail consignee lists when a recalled food is related to a foodborne illness outbreak and where the information is most useful to consumers.

A 3D SPIN ON PIZZA

To replace the freeze-dried meals astronauts consume while in space, NASA funded research for the design of a 3D printer that would produce food such as pizza, chocolate, and meat.

NASA selected food technology production company BeeHex, which had unveiled its 3D food printer in 2013 and has been working on improving it ever since. BeeHex lost NASA funding thanks to budget cuts, but decided to continue developing its printer, called Chef 3D, for use on Earth. The BeeHex technology prints pizza at public venues such as concert and sports arenas.

COFFEE FROM THE GROUNDS UP



To help brew coffee sustainability, a percentage of sales from every pound of Original Blend coffee beans sold to Dunkin' franchisees will go to World Coffee Research (WCR), a global coffee industry nonprofit collaborative research and development program.

This financial contribution, which could total \$2 million over the course of the agreement, will advance several key objectives towards coffee sustainability:

- Increase the supplies of quality coffee through innovative, collaborative research on key supply constraints, including climate change, disease and insect problems, yield and quality, and the lack of genetic diversity.
- Better understand the causes and effects of genetic, agronomic, and post-harvest factors on the quality of coffees to boost overall quality and volumes.
- Improve the livelihoods of coffee growers by providing them with better, higher revenue-earning varieties and agronomic technologies.
- Increase the capacity of coffee origin countries to execute advanced coffee research that will result in increased cup quality and volumes of quality coffee.

TOTAL RECALLS

Ten of the world's largest food supply companies—including Walmart, Nestlé, Dole, and Tyson—plan to form a blockchain that will change how the sector tracks food on a global scale. This new initiative is called the Food Trust, and its goal is quicker and more efficient recalls of unsafe or contaminated food.

Currently, food companies are required to register only a few steps, and many still use paper documents to record data, allowing for bad food to easily get into the supply chain.

Based on IBM technology, the Food Trust hopes blockchain technology will help avoid future crises like the recent E. coli contamination of romaine lettuce that affected 197 people in 35 states.

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LEADERSHIP

Conversations With The Captains of Industry

By Merrill Douglas

Vance Checketts
Chief Operating Officer
DSCO



DSCO Dancer

OVER THE COURSE OF HIS CAREER, Vance Checketts has found six words to live by as a leader: Be humble. Value diversity. Be brave.

Humility means knowing when to say, “I don’t know” and recognizing that the best ideas come from other people, Checketts explains. He values diversity because “surrounding myself with people who are diverse and high-performing, and recognizing their brilliance, has paid dividends for me.”

Bravery means taking risks. “But still have a Plan B, and maybe even a Plan C, in case A doesn’t work out,” he says. “I call this my desire to find a way to say yes, even if it’s a qualified yes.”

Checketts recently said yes to a new leadership opportunity. In August 2018, he became chief operating officer at DSCO, a technology developer in Lehi, Utah. Its inventory networking platform helps companies see, share, and sell inventory from any source. Checketts recently filled *IL* in on his career, his goals in the new job, and his leadership philosophy.

***IL:* You work at the intersection of information technology and supply chain management. What led you there?**

My first job was shipping and receiving at WordPerfect Corp., back in the days when a software company shipped its product on 3.5-inch floppy disks with printed manuals. I

eventually moved into a management position and kept that role after Novell acquired WordPerfect in 1994. When Novell started planning to implement the Oracle enterprise resource planning (ERP) suite, and asked for someone to serve on that project as the supply chain expert, I put up my hand. Some years later, Oracle recruited me to help build its supply chain management application. I guess I did a fair job of giving them input as a customer.

***IL:* Have you tackled any unusual assignments over your career?**

At Oracle, I had helped build a product called Oracle Exchange. One day before I was scheduled to go to Beijing to help sell this product to a customer, I slipped on some ice while mountain biking and hurt my leg. It was painful, but I didn’t have time to go to the hospital. I just got on the plane. When I got home, I went to the doctor and found out I had a fracture. Oracle gave me an award for that act of endurance.

***IL:* As the new COO at DSCO, what’s at the top of your agenda?**

My first initiatives have been getting to know the rest of the team, our customers, and our partners. But I also plan to focus on a huge opportunity I see for DSCO. Its technology has been used effectively for drop shipping and for moving inventory internally within a company. But there’s also a big opportunity to use the data to generate business intelligence so companies can understand and optimize their business and trading partner relationships.

IL: What are the biggest challenges facing DSCO's customers?

It's the same thing that has always been challenging—the basics of supply chain management, which means getting your house in order with visibility, communications, and integration. Today, there are more tools, more partners, a faster pace, and fewer dollars to go around.

IL: How would you describe your leadership style?

There's a saying: 'If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea.' I like that a lot. You don't hire smart people so you can tell them what to do; you hire them so they can tell you what needs to be done. You build a team, motivate them, teach them what's out there, what is possible, and then let them go achieve that. I also believe that smart, happy, and engaged teams get great customer engagement, loyalty, and satisfaction, even when a product or service isn't perfect.

IL: How do you keep a team of smart people happy and engaged?

Challenges keep smart and happy people engaged, and there are plenty of those at a fast-growing technology company. We do other things as well, such as paying for people to learn new skills. We call it 'Loot for Learning.' Someone here just went through a course to become a master naturalist. We do things like that to make sure our teams realize that we value the whole person.

IL: How do you spend your time in the course of a typical week?

I hold a one-on-one conversation with each member of my team every week, or at least every two weeks. I also hold regular meetings with the functional groups—the sales, product, and support teams. You'll also find me on the phone with prospects and customers.

IL: Have you had a mentor?

I don't like that term. I like to talk about the vast network of diverse people with whom I interact regularly. Sometimes I feel like I'm 'mentoring' them, and then on the next interaction I feel like they're 'mentoring' me. You can learn something from anyone. My little grandson 'mentors' me by reminding me of what's important in life.

IL: What makes you excited to get out of bed and go to work?

Being involved with important projects and big customers who have huge aspirations and move billions of dollars around the supply chain. These are supply chains that we all interact with as consumers. I get excited when I see the rubber hitting the road in a material way, where DSCO impacts those supply chains.

IL: If you could give one piece of advice to your 20-year-old self, what would it be?

Slow down and enjoy the journey. When I was 20, I was so anxious to get to the next big milestone. Then, when I got there, I would ask, 'What's the next milestone?' The journey can be just as valuable and rewarding as accomplishing your goals.

IL: What community organizations are you involved in?

I'm involved in Junior Achievement of Utah, the Women Tech Council, and Intermountain Healthcare. Also, I currently chair the board of the STEM Action Center, which is part of the Utah Governor's Office of Economic Development.

IL: How else do you spend your time outside of work?

I love doing anything that takes me out into nature, especially mountain biking, hiking, trail running, snowshoeing, backpacking, and skiing. My relationships with family and friends are also extremely important to me.

The Shipping Assignment That Started It All

Vance Checketts was managing shipping and receiving at WordPerfect Corp., a leader in word processing software at the time. One day, as the company conducted a technology upgrade, he was asked to dispose of several old personal computers. These were 1980s machines, incorporating Intel's 80286 and 80386 processors. To WordPerfect, they were surplus, but to Checketts they posed an exciting opportunity.

"I asked if I could have one for myself," he recalls. "They said, 'You can have a couple.' I remember taking these little 286 computers home and feeling for the first time that I had a computer to play with. Not 'play' like on an Atari game system, but 'play' as in trying to learn how a computer works."

READER PROFILE

as told to Karen M. Kroll



Dean Z. Myers is vice president, global supply chain, technical operations and business development, McDonald's division of The Coca-Cola Company.

RESPONSIBILITIES

Leading the business and relationships in supply chain, technical functions, and business development for Coca-Cola's global business with more than 35,000 McDonald's restaurants in 115 countries. Accountable for creating value for McDonald's, consumers, and Coca-Cola.

EXPERIENCE

Management positions with Coca-Cola; board member, President's Council, University of Miami; board member, Atlanta Children's Shelter.

EDUCATION

BBA, marketing, University of Miami, 1979; MBA, University of Miami, 1981.

Dean Z. Myers: Drinking It All In

THE SAYING "DO THE WORK THAT MATTERS MOST" IS popular, but almost everyone has a different idea of what matters most. Our fundamental challenge is gaining alignment on what's most important to customers so we can set relevant goals, allocate resources appropriately, and achieve meaningful results.

I once worked with a customer and believed quality mattered most to them, so that's where we focused our efforts to serve them. It turned out the customer was more concerned with something else. Once we uncovered what mattered most, we refocused our energies.

Another priority is uncovering which markets matter most to customers. It's inefficient for suppliers that serve large national or global customers to spend the same amount of time and resources on every market where the customer operates. It's important to prioritize the

markets that are most important to the customer's business.

While I'm proud of delivering great results, it's also a core expectation within a high-performance organization. I'm most excited I've created a way of thinking that, when applied, creates better and faster results, and with less stress.

Although we hire great people with vast expertise and education, projects and initiatives can still get derailed or take too long. To address this, I developed a model of applying key,

The Big Questions

Describe your high school self.

I related to many different groups. Today, in a corporation with a global footprint, valuing differences is important.

What counter-intuitive advice have you found helpful?

Never ask a question beginning with 'why,' as it can automatically create an unnecessary defensive response. I rephrase questions to avoid the word.

What's the best supply chain advice you ever received?

People do business with people. There will never be an app to develop relationships.

What book has left an impression on you?

Essentialism: The Disciplined Pursuit of Less by Greg McKeown resonated with me for all aspects of my life. It's clearly not just a business how-to book.

universal principles to my interactions with others.

One principle is “Make the invisible visible.” That is, uncover the unspoken need. Every person or company you interact with has three things in mind: things they’re for, things they’re against, and the specific situation they’re in at the time.

As powerful as those private influences are, they are almost never shared. To uncover them, you have to care enough to ask the right questions and take the time to explore the answers.

I applied this approach to discover

a customer’s need that was completely unexpected and unidentified. Once I did, I was able to make a business deal that solved the customer’s problem and increased sales of Coca-Cola products to that customer.

Twenty years ago, I took an assignment to reinvent a global juice business within Coca-Cola. It required me to become deeply engaged in the supply chain—from the orange groves in Florida and Brazil to the consumer. I loved it because it incorporated the essence of the business. If products can’t be produced at a competitive

price with the right attributes and quality, everything else is just talk.

I focus on finding new ways to create more value, faster. This can mean leading teams to become OK with saying ‘no’ to good ideas so they can say ‘yes’ to great ones. It’s a discipline.

The most important work for a supply chain leader is building a great team that is willing to be on the job 24/7. Challenges need fast solutions and don’t always happen when it’s convenient. I’m fortunate to have a great team that cares deeply about our customers and our business. ■

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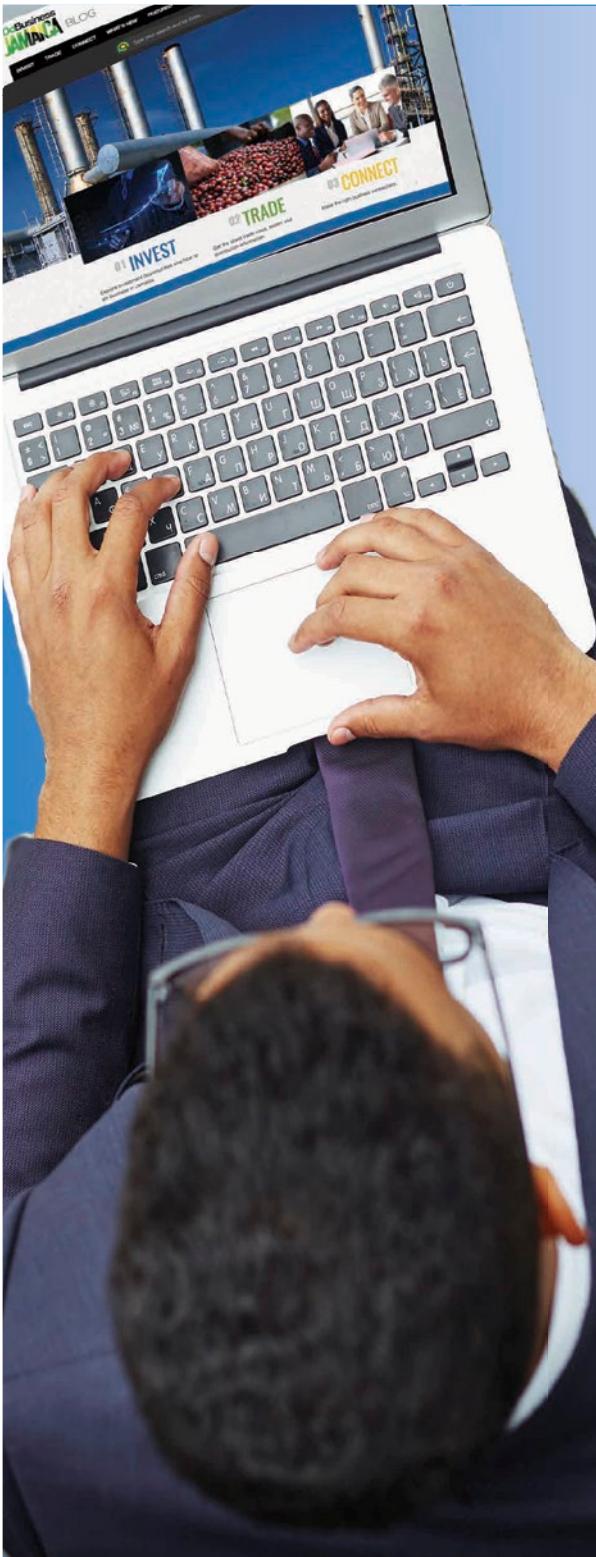
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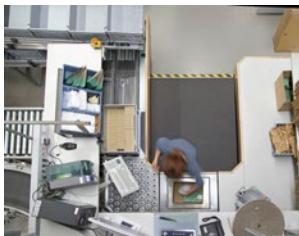
NOTED

THE SUPPLY CHAIN IN BRIEF

GREEN SEEDS

To recognize ongoing commitment to environmental sustainability throughout its global network, **UPS** was named one of GreenBiz Group's **2018 VERGE Vanguard Award** honorees. The VERGE Vanguard Award recognizes companies leading the way to a clean power grid, zero-emissions transportation system, and circular economy.

SEALED DEALS



Electronic component maker **Phoenix Contact** awarded a small parts warehouse automation and expansion project to **WITRON Logistik + Informatik GmbH**. To help Phoenix meet an increase in pick volume driven by online ordering,

WITRON added 10 multifunction ergonomic order-picking workstations (*pictured*), bringing the warehouse total to 31.

Ben E. Keith, one the largest foodservice distributors in the United States, extended its partnership with **ArrowStream**, a foodservice supply chain solutions provider, to boost inbound logistics performance. Using ArrowStream's Crossbow technology, which provides real-time data intelligence and analytics, Ben E. Keith optimizes transportation costs, boosts service levels, and increases inventory turns.

MILESTONES

Logistics services provider **Associated Global Systems (AGS)** marks 60 years in the transportation and logistics business. Founded in 1958 as Associated Air Freight, and operated primarily as a domestic and international airfreight forwarder, AGS today offers personalized and flexible logistics solutions including expedited international and domestic services, brokerage, part stock inventory, same-day delivery, and white-glove service.

m&a

To grow its e-commerce and technology solutions for retailers, e-tailers, marketplaces, and platforms, **SEKO Logistics** acquired its strategic partner **Omni-Channel Logistics**. The new SEKO Omni-Channel Logistics offers global fulfillment, delivery management, returns logistics, and e-commerce development solutions.

To add scale and expertise to its telematics and mobile solutions, **Descartes Systems Group** acquired **PinPoint**, a provider of fleet tracking and mobile workforce solutions. PinPoint enhances Descartes' ability to leverage real-time information, allowing its solutions to optimize delivery route planning, GPS tracking, vehicle telematics, and performance analytics.

GlobalTranz acquired **AFN Logistics**, a 3PL focused on truckload brokerage. The deal bolsters GlobalTranz's service portfolio and allows the technology-focused 3PL to leverage data for predictive analysis, machine learning efforts, and blockchain.

GOOD WORKS



To raise awareness for breast cancer, **Werner Enterprises** President and Chief Executive Officer **Derek Leathers**, in collaboration

with Daimler Trucks North America, unveiled the company's second Susan G. Komen Race for the Cure truck. He presented the keys to the 2019 Freightliner Cascadia truck to professional driver and ambassador **Shannon Palmer**, a breast cancer survivor who plays a vital role in training women student drivers at Werner.

GOOD WORKS

To support the J.J. Barea Foundation, VARIDESK worked with logistics provider **CEVA Logistics** to deliver nearly 500 desks and seating to four schools across Puerto Rico recovering from Hurricane María, which hit in mid-September 2017. The CEVA Logistics team organized three 40-foot ocean containers loaded with VARIDESK's donated furniture and then transported them from Dallas, Texas, to Puerto Rico before arranging final-mile delivery to the schools.



SHOVEL READY



The Container Store, a retailer of storage and organization products, is breaking ground on a 600,000-square-foot distribution center in Aberdeen, Maryland. The company's supply chain team oversees the DC's implementation, which

includes technology upgrades such as a multi-level pick module, automated sortation, voice-directed picking, and an enhanced warehouse management software suite.

Canada's **Edmonton International Airport** (EIA) and fuel tenant Shell Aviation broke ground on two new, 2-million-liter refueling tanks in EIA's Cargo Village. The new tanks will be purpose-built for handling air cargo freighters. The facilities will improve turnaround times for freighter flights because they are located closer to the airport.

recognition

J.B. Hunt Transport Services was named a **2019 Military Friendly Employer** by VIQTORY, marking the 12th consecutive year the supply chain solutions provider has received the distinction. VIQTORY evaluated institutions for the Military Friendly Employer designation using both public data sources and responses from a proprietary survey.

The ATA's Trucking Associations Executive Council recognized long-time trucking advocate **Mike Yadon** of FedEx Corporation with the **J.R. "Bob" Halladay Award**. Honored for his contributions to the trucking industry, Yadon has worked for FedEx since 2000, increasing its footprint within all 50 state trucking associations.

Penske Logistics honored 221 of its truck drivers for **outstanding safety milestones** at its locations across North America. The company debuted the next phase of its truck driver safety recognition program by naming the first-ever Platinum and Gold classes. There are 39 new members of the first Platinum class (15 consecutive years of safe driving) and 182 new members of the first Gold class (10 consecutive years of safe driving).

UP THE CHAIN

Christoph Stark joins home furnishings e-tailer **Wayfair** as head of its North America supply chain. He oversees the end-to-end supply chain, including supplier operations, transportation and home delivery, fulfillment, and supply chain analytics.



Mary Long was named the new managing director of the Global Supply Chain Institute's **Supply Chain Forum** by the University of Tennessee, Knoxville's Haslam College of Business. Long's 26-year industry career includes supply chain leadership roles for companies including Campbell's Soup, General Mills, Quaker Oats/Gatorade, Pillsbury, and Domino's Pizza.

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Start Me Up

Here are the categories of startups that are innovating supply chain and logistics, as identified by CB Insights' new market map:

Digital freight shipping. Startups such as iContainers and Flexport leverage data and software to manage end-to-end freight shipping processes.

Blockchain. By using blockchain distributed ledger technology, startups such as ShipChain and Provenance bring greater visibility and security to the supply chain.

Food supply chain. Companies such as Apeel Sciences help reduce food waste by extending the shelf life of fresh produce.

Warehousing. Startups including Commonsense Robotics

Key Trends in Shipping Innovation



Startups and corporates are leveraging data, IoT, and blockchain-related technology to gain greater oversight and control of supply chains.



Online freight rate and shipping contract exchanges enhance communication between global supply chain participants. Newly developed maritime supply chain focused incubators bring together rising industry players.



From autonomous ships to port robotics, maritime supply chain players are looking to automate their operations on and offshore.

SOURCE: CB INSIGHTS

focus on micro-fulfillment through robots for more efficient last-mile delivery.

Autonomous trucking. Investors continue to fund startups such as Kodiak Robotics, which builds autonomous long-haul trucking technology.

Do's and Don'ts of Hurricane Relief

American Logistics Aid Network (ALAN), an industry-wide organization that provides supply chain assistance to disaster relief organizations and other non-profits, offers a few practical do's and don'ts to help during a disaster.

DO make a pre-offer. If you have warehouse space, trucks, equipment, or expertise to share, offer it immediately. The more advance information ALAN has about available resources, the more quickly and effectively it can fulfill assistance requests as they come in.

DON'T assume you can't help just because your operations are nowhere near the disaster area. Often the donated materials that urgently need to get to disaster sites may be located much farther away and require more logistics support than you might imagine. The seemingly random or remote location, service, or equipment you're offering may be just the ticket.

DON'T host a collection drive for products. Although the intention behind these drives is good, they often create more challenges than they solve—including adding more products to a supply chain that is already under tremendous strain. At a time when transportation capacity to disaster-impacted markets is overloaded, the last thing we need to do is choke it even more.

DO consider helping in other ways instead. If you're looking for a tangible way to engage your employees in hurricane relief, pick a humanitarian organization and collect money for it instead. Such donations will be more useful and efficient. And unlike many post-disaster product donations—which often end up in landfills—they will not go to waste.

DON'T keep area insights to yourself. When it comes to transportation, supply chain professionals understand what normal looks like in a way that most people don't. Having these kinds of expert, private sector insights allows emergency management workers to make better informed disaster-relief decisions. So if you do business in the Carolinas, tell us what you know and what you're hearing. Survivors get what they need faster when we all work together.

In the Eye of the Storms

As the 2018 hurricane season continues to blow through, DHL Resilience360 offers these risk mitigation measures:

Pre-position essential material and stocks. By monitoring storm forecasts in real time, companies can assess potential locations and routes at risk, and initiate efforts to minimize disruption such as increasing inventory to bridge short-term supply shortages; storing fuel reserves and back-up generators for power outages; and setting up alternative communication systems such as Emergency Alert Systems, CB Radio, or social networks for employees and customers.

Draw up business continuity plans for at-risk locations. A business continuity plan addresses critical aspects such as potential alternative suppliers, alternative routes to and from crucial locations, key contacts, additional short-term transportation costs, and priority shipment identification.

Use mapping tools for supply chain risk assessments. Mapping tools create greater transparency and help companies understand interdependencies in their supply chains. By overlaying risk exposure scores and identifying locations prone to hurricanes or flooding, companies can effectively prioritize mitigation efforts for risky locations down to sub-tier supplier levels.

Diversify manufacturing and distribution locations. If alternative suppliers, production and warehouse facilities lie outside high-risk areas, companies may still be able to continue production and fulfill orders in case of a disruption. Establish alternative transportation routes from unaffected suppliers or warehouses in advance.

Establish long-term partnerships with logistics suppliers. Trusted relationships with logistics providers can help secure capacity during a disaster. Providers can book capacity on charter flights to move shipments to their final destination and from disaster areas when everybody is vying for space.

Great(er) Expectations: Meeting E-Commerce Consumer Demands

Consumers prioritize convenience, experience, and quality when making online purchases, according to an annual e-commerce study conducted by third-party logistics provider Dotcom Distribution. Data from more than 1,400 online shoppers indicates a shift from previous years, when consumers placed higher value on gift-like packaging and fast delivery.

Results also demonstrate a change in how consumers view brick-and-mortar, and that age plays a significant role in preferences.

Among the key findings:

Free outranks fast. Ninety percent of consumers highly value free returns when making online purchases; 91 percent say free shipping influences future purchases. Giveaways also positively influence consumers' future purchases. These factors outrank faster delivery times.

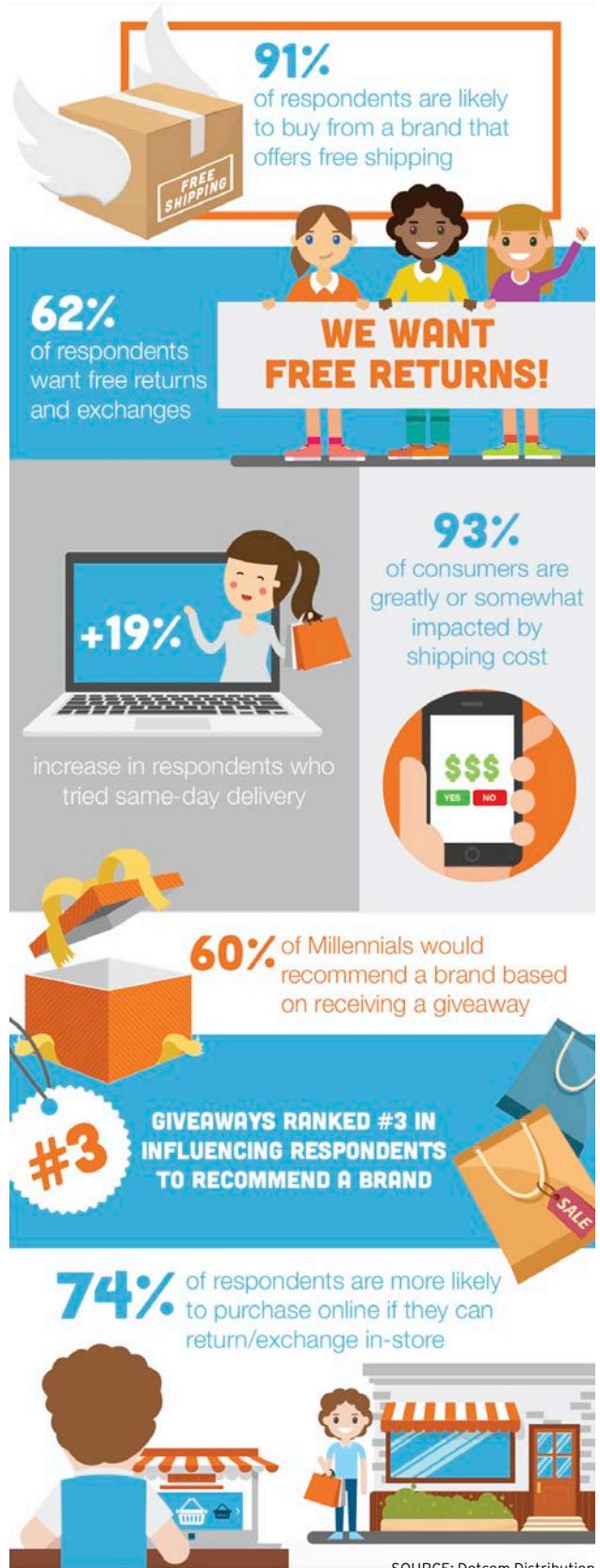
Shipping expectations rise, but not on the customers' dime. With 44 percent of respondents doing most of their online shopping on Amazon, same-day shipping's popularity is unsurprising. But while same-day delivery trials rose 19 percent since 2017 (42 percent vs. 23 percent), consumers are more interested in free shipping and on-time delivery. Only 25 percent of 2018 respondents would pay extra for faster shipping—in sharp contrast to the 47 percent who'd have paid up to \$9 more for faster delivery in 2016.

What's inside counts...if it's of value. In 2015 and 2016, unboxing was a key component in the e-commerce experience. Today, fancy ribbons and scented boxes take a back seat to value-added freebies; giveaways rank third on the list of what would motivate respondents to recommend a brand; 23 percent are more likely than not (43 percent) to buy again from brands that include a free giveaway in their order.

Omnichannel is omnipresent. Consumers buy more online now than ever, but a physical presence is still vital in the retail business model, and shoppers are drawing a stronger connection between the two. Thirty-two percent prefer buying online vs. in-store, yet 74 percent are more likely to make a purchase if they can return/exchange in-store. When asked how brands can encourage future purchases, 31 percent say "buy online, return in store"—ranking fourth of 10 choices.

Age dictates expectations and preferences. 2018 data suggests e-commerce expectations depend on age. Younger buyers prioritize convenience (flexibility of returning in-store, faster delivery). Older consumers want value (low-cost or free shipping, free returns).

Clothing, tech, beauty remain on top. For the third consecutive year, items purchased most online are clothing/apparel (77 percent), consumer electronics/technology (52 percent) and beauty products (41 percent). What consumers are purchasing online isn't fluctuating; however, while clothing/apparel also tops the list of items respondents prefer to purchase in-store (58 percent), consumer electronics and beauty products drop to eighth and sixth, respectively.



Hello, Good Buy

Today’s retail environment is more complex than ever, given the rise of e-commerce and a rediscovery of the age-old truth that the customer is king. As retailers across the globe struggle with demands for both personalization and convenience, balanced with consumer skepticism on data privacy, JDA Software and Centiro explored consumer trends in key markets in its *2018 Global Consumer Survey*.

Shopping in-store remains the most popular experience overall (preferred by 38 percent), although online options are preferred in some surveyed countries such as China, where online shopping via mobile/tablet (34 percent) is the preferred option. Regarding in-store shopping, global respondents say that having the right product in stock is the most important aspect of their shopping experience (34 percent), followed by having a variety of products to choose from (29 percent).

Regardless of where transactions ultimately occur, according to the survey, online is the first stop on the shopper journey for clothes (46 percent), home goods (48 percent) and electronics (63 percent) (see chart). Younger consumers (ages 18-34) are more likely than average to begin their shopping journeys with recommendations from friends or family; the proportion of those who start their purchase journeys with input from friends or family decreases among older consumers.

While global consumers continue to embrace new technology for both research and transactions, they are somewhat hesitant about how their personal data is being used. Overall, 75 percent of respondents say they’re concerned about their online and in-store shopping history, such as transaction history and online searches, being used to provide better, more-personalized service.

Globally, the majority of respondents who shop in physical retail stores have used some form of emerging technology while shopping, whether it’s mobile coupons or discounts

(49 percent) or individual recognition and personalized service based on loyalty programs (26 percent). However, UK consumers who shop in-store are least likely to have tried new technology in their shopper journey, with 70 percent of UK respondents claiming they have not used any emerging technology in stores, while more than 90 percent of Chinese in-store shoppers say they have used emerging technology in-store.

The convenience factor of returning items to the store continues to be the primary driver for consumers. Forty-nine percent of global respondents have used Buy Online Return In-store (BORIS) service, with half saying they’ve returned items bought online to stores because it was easier or faster, or because they would get a refund or store credit faster than by mail.

Thirty-six percent of those who have used BORIS in the past 12 months chose this option because the item purchased online was not what they expected, while 27 percent say that they bought multiple sizes or options for convenience and returned what they didn’t want or need.

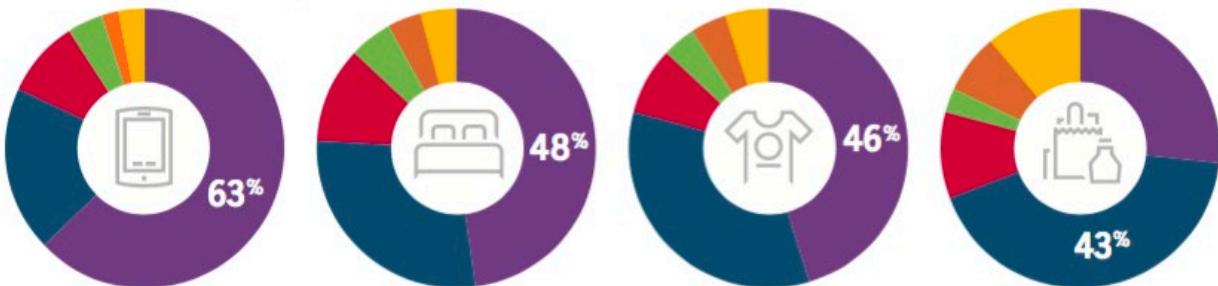
However, the ease of returns doesn’t apply just to retailers that offer brick-and-mortar return services. Eighty-one percent of those who shop online say that following a poor returns service from an online retailer, they were likely to switch to a different vendor for future purchases.

Sixty-nine percent of those who shop for products online have used a Buy Online Pick-up In-store (BOPIS) option. Respondents used BOPIS in the past 12 months to avoid home delivery charges (42 percent), get the product sooner than it would be shipped (36 percent) and for added convenience over home delivery (33 percent).

In addition, 66 percent of those who used a BOPIS service say they either frequently or sometimes make additional purchases while picking up items in-store, underscoring an opportunity for add-on sales.

WHAT'S DRIVING CUSTOMER JOURNEYS?

Shoppers looking for electronics & appliances, household goods, and clothes research products online – but grocery customers prefer to research products in-store.



Research online | Research in store | Recommendations from friends or family
 Recommendations through social media | Other | Not applicable

SOURCE: 2018 Global Consumer Survey, JDA Software and Centiro

Retailers Plug Into AI

Nearly two-thirds of retail supply chain professionals struggle with disconnects between systems, finds Symphony RetailAI's *Strengthening the Retail Supply Chain* survey of North American retailers.

The majority of retailers surveyed have confidence in their allocation and inventory planning software, but 48 percent rate their forecasting technology as average to very poor. While they would prefer that each supply chain component work together to enable harmonized demand flow across the organization, few retailers have established a unified process.

The challenge for retailers is that they lack connected systems—36 percent of respondents indicate that they have separate demand planning, replenishment, allocation, and order management systems for store and e-commerce orders. Combined with the fact that 28 percent don't manage each of their modules on the same platform, it's clear that disparate demand replenishment systems significantly burden efficiency.

The pace of innovation is a significant issue, with 43 percent of retail supply chain professionals saying their technology can't keep up with business demands. Forty-two percent describe less-than-optimal synchronization between their inventory and channels, and nearly as many worry about fulfillment complexities, stocking inefficiencies, and high product lead time.

When they do invest in needed technology, organizations are most inclined to spend on systems that increase stock availability and decrease stock holding, and 44 percent of supply chain professionals invest in new technology because their existing systems are unable to sustain new growth.

In an effort to keep reasonable service levels, retailers often tend to overstock, but then over-course correct and understock instead. The impact of this on supply chains is huge. Forty-three percent of respondents say they're challenged by lack of real-time visibility to all supply chain inventory. However, six in 10 professionals say their organization is actively taking steps to address this hurdle and increase inventory visibility.

Artificial intelligence (AI) and machine learning hold enormous potential to improve supply chain efficiency, and forward-looking retailers are already investing in these technologies. Retailers say AI's greatest potential to improve

AI's biggest impact area in the next five years



SOURCE: *Strengthening the Retail Supply Chain* survey, RetailAI

Retail supply chain professionals at the senior management level hold different expectations for AI than their manager or director-level counterparts. Senior-level respondents are more likely to list AI's potential to improve demand management and reduce internal process inefficiencies; managers/directors cite quality control and real-time supply chain updates as anticipated AI improvements.

supply chain management relates to quality and speed of planning insights, while nearly half of all respondents identify "demand management" as one of the top three areas for AI in the next five years.

One in three professionals surveyed claim to have incorporated AI capabilities into their supply chain management processes, and one in four is working toward that goal.

FREIGHT FORECAST STAYS SUNNY

Freight volumes are projected to increase 4.2 percent in 2018 and increase 35.6 percent by 2029, according to the latest edition of the American Trucking Associations' Freight Forecast.

Among the report's findings:

- Total tonnage transported will reach nearly 16 billion tons in 2018—a figure that should rise 35.6 percent to 21.7 billion tons in 2029.
- Truck volumes are expected to grow 2.3 percent per year from 2019 to 2024 and 2.2 percent annually for the next five years.

- Changes in demand for commodities—notably commodities moved by pipeline—will alter trucking's share of freight volumes. While in 2018, trucks are projected to move 70.2 percent of total tonnage, that share is expected to sink to 65.9 percent in 2029. Nonetheless, the trucking industry will remain the single largest mover of freight.
- The transport of freight by rail, including intermodal, will account for 12.6 percent of tonnage in 2018—but that figure is expected to drop to 10 percent in 2029—again, due to strength in pipeline, not falling rail volumes.

Avoiding or Reducing Increases When Duty Calls

U.S. importers and shippers can mitigate the future impact of additional tariffs on imported goods, including steel and aluminum. Here are some ways to control costs, according to Daily Hernandez of Lilly & Associates.

Exclusion requests. The Department of Commerce, the Office of the U.S. Trade Representative, and China, in particular, have implemented a process to help certain companies avoid extra tariffs. Companies can explain how and why the goods they are shipping are critical to the U.S. economy and cannot come from anywhere other than Asia. If they can do that, particularly for aluminum and steel products, then the Department of Commerce might approve the request and eliminate these extra costs. It is certainly worth applying to see what happens.

Tariff engineering. Importers can legally take advantage of classifications for imported products that have a lower fee. For example, shippers who normally import turbine generators into the United States have to face a 25-percent tariff. But they can change the products and say they are components that fall under a different category, not turbine generators. Merely moving the items they are shipping into a different category might result in lower charges.

This strategy doesn't have to apply to everything that a company is importing; it can be one or two components. If the products themselves are comprised of multiple components, each one will face a 25-percent increase in fees, and getting one or two into a different category will save a lot of money.

Operational engineering. If your company is not able to change the imported product, you might be able to change the country of origin. For example, if some parts for a motor are assembled somewhere else, you can shift the operations from somewhere in Asia to a different location where the fees you face for imports are not nearly as high.

Valuation. Using the first sale valuation, importers typically pay duty only on the price that a trading company will pay the manufacturer. Importers do not pay a duty on the higher rate that the importer has to pay the trading company. In this case, if additional fees are applied, the value will be lower and using the first sale valuation will cost companies a lot less.

Bonded facilities. Companies that manufacture goods and imports for export trade might find a bonded facility to be the best way to protect themselves against extra cost. Items that are admitted into what is called the foreign trade zone "non-privileged foreign status" get to keep the tariff classification they had initially, so they are not subject to additional fees when they enter into the United States. You might be able to take the products you have as a shipper and store them in a bonded warehouse for five years. At that point, they can enter the United States after the extra tariffs are no longer in effect or you can export them directly from the warehouse to avoid those additional costs.

Duty drawback. Drawback typically provides for a 99-percent refund of all the extra fees on goods imported into the United States. President Trump currently doesn't necessarily have the authority to eliminate the drawback under this new import law, so shippers might be able to save money using the duty drawback option.

Section 321 De Minimis. Right now, regulations allow for a duty exemption for any goods that are valued at less than \$800 in fair retail value within the country of shipment if a single person imports them on just one day. To take advantage of this, you would have to ship no more than \$800 in fair retail value worth of products per day. It might be worth it to divide the products you are shipping so that they fall under this category. Make sure that everything you have is compliant so that there are no potential seizures or cargo holds.

Apple Seeds Clean Energy Fund for China

Apple will launch a new first-of-its-kind investment fund in China to connect suppliers with renewable energy sources. As part of the company's commitment to increase the use of renewable energy within its supply chain, 10 initial suppliers and Apple will jointly invest nearly \$300 million over the next four years into the China Clean Energy Fund. The fund will invest in and develop clean energy projects totaling more than 1 gigawatt of renewable energy in China, the equivalent of powering nearly 1 million homes.

Transitioning to clean energy can be complex, especially for small companies without access to viable clean energy sources. The size and scale of the China Clean Energy Fund will give participants the advantage of greater purchasing power and the ability to attain more attractive and diverse clean energy solutions. DWS Group, which specializes in sustainable investments, will manage the fund.

Earlier in 2018, Apple announced that its global facilities are powered by 100-percent clean energy. And, since it launched its Supplier Clean Energy Program in 2015,

23 manufacturing partners, operating in more than 10 countries, have committed to powering all of their Apple production with 100 percent clean energy. Apple and its suppliers will generate more than 4 gigawatts of new clean energy worldwide by 2020—representing one-third of Apple's current manufacturing electricity footprint.

Apple is also working with suppliers to find new ways to reduce greenhouse gas emissions. The company recently reached a breakthrough with aluminum suppliers Alcoa Corporation and Rio Tinto Aluminum on a new technology that eliminates direct greenhouse gas emissions from the traditional smelting process, a key step in aluminum production.



Law and Border: 5 Ways to Boost Canadian Clearance Efficiency

To help businesses reach the Canadian market more efficiently, Purolator International offers these tips for minimizing the risk of having a shipment delayed at the border.

1 Don't underestimate the border clearance process.

Successfully moving goods into Canada—which also means exporting goods out of the United States—is a multistep process that requires detailed knowledge. Failure to successfully navigate any of the steps in the process can result in shipment delays and fines. This is why many businesses entrust compliance to an experienced customs broker or logistics provider.

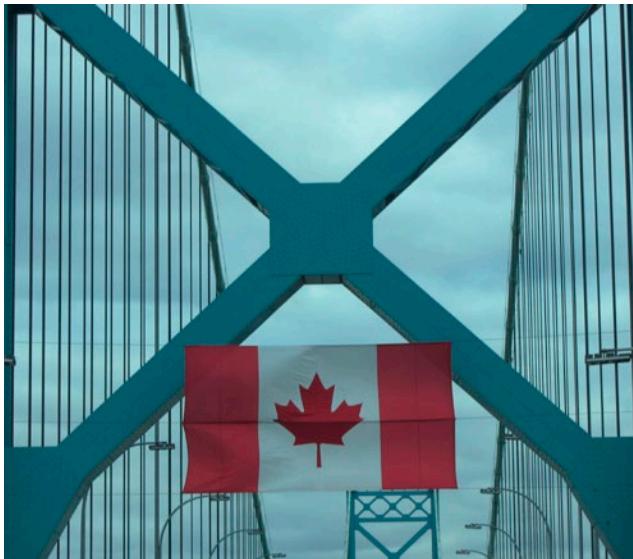
According to U.S. Customs and Border Protection (CBP), 90 percent of all import transactions are filed through a broker. But even with an experienced broker managing the clearance process, a business still has an important role to play.

Keep in mind that the shipper is ultimately responsible for all information supplied to customs. As such, CBP and/or Canada Border Services Agency (CBSA) will hold the shipper—and not the customs broker or transportation carrier—responsible for any mistake.

2 Duty paid or unpaid? Select the correct shipping terms.

Shipping to Canada can be further exacerbated when the parties involved in the transaction fail to agree on established terms of service. This can be a confusing exercise, but it is critical. International shipping operates under a uniform set of standards—known as Incoterms—that establish clear expectations and responsibilities between buyers and sellers.

Because of Incoterms, buyers and sellers have a clear understanding of what constitutes “delivery” for example, and which party is responsible for unloading a vehicle, who is liable for certain payments, and who has responsibility for customs compliance. This avoids costly mistakes and misunderstandings.



3 Become a non-resident importer.

The Canadian government does not allow U.S. businesses to collect Canadian sales tax or act as an importer of record in clearing goods into Canada. This means a business may face the highly inconvenient and unwelcome dilemma of having to collect taxes from Canadian customers at time of delivery.

Further, it is possible the Canadian customer will have to become personally involved in the customs process by retrieving the shipment from a local customs office. Neither of these situations is helpful to a U.S. business trying to build its brand in the Canadian market.

Fortunately, the Canadian government addresses this problem through its Non-Resident Importer (NRI) program, available through the CBSA. As a non-resident importer, a U.S. business is allowed to act as an “importer of record,” which offers many benefits that include:

- The ability to factor in all duties, taxes, and brokerage fees at time of purchase
- Greater control over delivery times
- The ability to compete on a level playing field with Canadian businesses
- The potential for reduced supply chain expenses
- Enhanced customer satisfaction

4 Take advantage of state and federal resources.

Many government resources are available to address business concerns and to offer a helping hand to businesses determined to enter the world of international commerce. Each state offers assistance to businesses interested in expanding sales or operations beyond the United States. Specific resources vary, but in general a business can look to its state government for services ranging from official trade mission visits to market research to funding opportunities.

5 Experience matters; choose the right logistics provider.

Partner with a logistics company that has been there before. There is no substitute for experience when it comes to understanding the clearance process.

GULFTAINER INVESTS IN DELAWARE AND IT'S A PRETTY BIG DEAL

A new port deal represents the largest operation ever run by a United Arab Emirates (UAE) company in the United States, as well as the largest U.S. investment by a private UAE company.

Gulftainer, the world's largest privately owned independent port operator and logistics company based in the UAE, finalized a 50-year concession agreement with the state of Delaware to operate and develop the Port of Wilmington, significantly expanding its global footprint and reach.

The agreement, signed by Gulftainer subsidiary GT USA, will provide an expected investment of up to \$600 million to upgrade and expand the port terminal and to turn it into one of the largest facilities of its kind on the Eastern Seaboard.

Flying in the Face of Danger: Lufthansa Handles World's First eDGD

When Lufthansa Cargo handled a shipment from global healthcare company Abbott based in Wiesbaden, it was no routine transaction. It represented the world's first dangerous goods shipment with an electronic Dangerous Goods Declaration (eDGD), using the INFr8 platform. Lufthansa Cargo, flew the shipment from Frankfurt Airport to Mexico City on board cargo flight LH8222.

The global eDGD standard was established as part of the International Air Transport Association's e-freight initiative. This completely new approach to dangerous goods shipments has been developed and evaluated through close collaboration all along the transport chain. Because its IT systems and processes can now deal with paperless dangerous goods shipments,

Lufthansa Cargo is the first and currently only airline capable of supporting the eDGD standard.

The dangerous goods process has traditionally been paper-based due to the lack of digital standards. Dangerous Goods Declarations on paper from shippers arrive at the airport with the respective cargo. Accordingly, airlines can only begin checking the documentation after handover.

Thanks to the new electronic system, however, errors in accompanying documentation can be detected and corrected before the airline ever receives the shipment. This will translate into fewer rejected shipments in the future. It will also mean faster processes and better use of resources.



CARGO AIRPORTS DO BRISK BUSINESS

Cargo airports were bustling in 2017, according to the Airport Council International's finalized list of the world's top 20 busiest cargo airports in 2017 (see chart). Total cargo volumes handled (loaded and unloaded freight and mail) increased by 7.8 percent from the previous year, to 50.6 million metric tons.

Airports in the Asia-Pacific region continued to handle the highest volumes of cargo, while Africa's airports saw the highest rate of growth from the previous year:

- **Asia-Pacific:** 47 million metric tons (increased 3 percent)

- **North America:** 33 million metric tons (increased 1 percent)

- **Europe:** 22 million metric tons (increased 6 percent)

- **Middle East:** 3 million metric tons (increased 5.9 percent)

- **Latin America-Caribbean:** 4 million metric tons (increased 4.7 percent)

- **Africa:** 2 million metric tons (increased 9.2 percent)

World's 20 Busiest Air Cargo Hubs (Total cargo)						
Rank	Region	City	Country	Airport Name	IATA Code	% Change
1	Asia-Pacific	Hong Kong	Hong Kong	Hong Kong International Airport	HKG	9.4
2	Asia-Pacific	Memphis TN	United States	Memphis International Airport	MEM	0.3
3	Asia-Pacific	Shanghai	China	Pudong International Airport	PVG	11.2
4	Asia-Pacific	Incheon	Korea, Republic Of	Incheon International Airport	ICN	7.6
5	North America	Ankorage AK	United States	Ted Stevens Anchorage International Airport	ANC	6.7
6	Middle East	Dubai	United Arab Emirates	Dubai International Airport	DXB	2.4
7	North America	Louisville KY	United States	Louisville International Airport	SDF	6.8
8	Asia-Pacific	Tokyo	Japan	Narita International Airport	NRT	7.9
9	Asia-Pacific	Taipei	Taiwan, (R.O.C.)	Taiwan Taoyuan International Airport	TPE	8.2
10	Europe	Paris	France	Aéroport de Paris-Charles de Gaulle	CDG	2.8
11	Europe	Frankfurt	Germany	Flughafen Frankfurt/Main	FRA	3.8
12	Asia-Pacific	Singapore	Singapore	Singapore Changi Airport	SIN	7.9
13	North America	Los Angeles CA	United States	Los Angeles International Airport	LAX	8.1
14	North America	Miami FL	United States	Miami International Airport	MIA	2.9
15	Asia-Pacific	Beijing	China	Beijing Capital International Airport	PEK	4.5
16	Middle East	Doha	Qatar	Hamad International Airport	DOH	15.0
17	Europe	London	United Kingdom	Heathrow Airport	LHR	9.4
18	Asia-Pacific	Guangzhou	China	Guangzhou BaiYun International Airport	CAN	7.8
19	Europe	Amsterdam	Netherlands	Amsterdam Airport Schiphol	AMS	4.9
20	North America	Chicago IL	United States	O'Hare International Airport	ORD	12.6

SOURCE: Airport Council International

Is Your Freight Broker Legit?

Thousands of licensed freight brokers operate in the United States today, and more enter the market every year. With all this competition, it is critical to vet each freight broker you plan to work with. Eric Weisbrot, chief marketing officer of JW Surety Bonds, offers the following simple steps that will keep your supply chain moving forward efficiently, without harming the bottom line of your business or the customers you serve.

1. Check for freight broker registration. All freight brokers are required to register and hold a license with the Federal Motor Carrier Safety Administration (FMCSA). This organization allows individuals to search online for freight brokers and their respective licenses. Not only does this tool allow you to quickly see if a specific broker holds a valid license, but it also provides information on if a license has ever been revoked, if and when it was reinstated, and how often that has taken place.

As an added precaution, take time to request a copy of the broker's license and credentials, and compare these details to what the database lists. If there are any discrepancies, get clarification from the broker, then proceed with caution.

You may also want to check that your broker is registered with the Unified Carrier Registration Program (UCR). This federal program is administered by each state, and brokers and carriers are required to register so that fees can be collected based on the number of vehicles in each fleet. If

brokers are not in compliance with UCR registration, they may be subject to legal action against them.

2. Is your broker insured and bonded? While insurance is not always a legal requirement, all freight brokers are mandated to hold a freight broker bond in order to operate legally. The FMCSA put this requirement in place to ensure freight brokers handle business in a safe and lawful way.

A minimum \$75,000 bond requirement is needed as part of the broker license process. The FMCSA website also lists detailed bond information for each freight broker registered, but be sure to check that the certificate provided directly from the broker matches what the site states.

3. Track your brokers' success. If you have been in transportation and logistics for some time, tracking the success of one freight broker over another can quickly become burdensome. Take the time to monitor the brokerage partnerships you have had in the past. Keep notes on the cost, the brokers' approach to managing workloads, and how often they meet deadlines. This information is simple to track over time, and can make all the difference in selecting the right freight broker for the next job.

Update your database regularly, and highlight the companies or individuals you prefer to work with moving forward.

BattleBots: Robots vs. Workers

The public is broadly fearful that automation will lead to significant job losses, with many populations skeptical that the technologies will boost economic efficiency, according to a recent Pew Research Center survey of 10 countries.

Greece, South Africa, and Argentina express the highest degree of certainty that technology will displace human workers (see chart). But large majorities in all 10 countries agree that automation will "definitely" or "probably" lead to significant job losses. The lowest percentage was the United States (65 percent).

Large majorities in all 10 countries also agree people will have a hard time finding work and inequality will worsen due to automation and artificial intelligence.

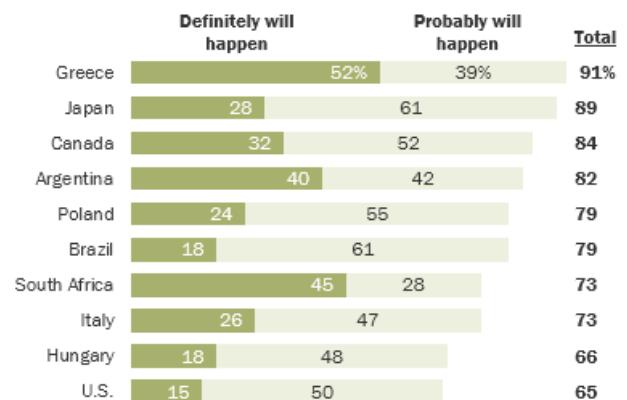
One question with a big range was whether automation would make the economy more efficient. Majorities in seven countries were wary of that upside, with just 33 percent of Italians taking that view. But majorities accepted that argument in Japan (74 percent), Poland (61 percent) and Hungary (52 percent).

Another area of variance was the government's role in preparing the workforce for the future. Argentina, Brazil, and Italy were among the countries where more than 70 percent say the public sector should assume this responsibility, a view shared by just 35 percent in the United States.

"People are much more worried about the impact on jobs and inequality than they are that automation is going to increase efficiency in the economy or create new job opportunities," says Bruce Stokes, director of global economic attitudes at Pew. "The positive argument for this whole economic trend is not resonating with at least the public we surveyed," he adds. "Simply telling people, 'Don't worry. This will be good for you' is not being accepted."

Most think robots and computers will take over many jobs now done by humans

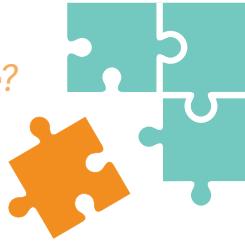
How likely do you think it is that in the next 50 years, robots and computers will do much of the work currently done by humans?



Note: U.S. data from survey conducted June 10-July 12, 2015.
Source: Spring 2018 Global Attitudes Survey. Q80.

PEW RESEARCH CENTER

Supply Chain Challenge?
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Moving a Superload Takes Experience

When Landstar had to move oversized freight through five states, it developed and executed a plan for a safe delivery.

THE CHALLENGE

When Landstar was challenged to transport a giant mobile platform used to repair jet engines, research and planning to move the over-dimensional freight started immediately. The scissor-lift platform was 94,000 pounds, 110 feet long and spanned 24 feet 6 inches—taking up two lanes of highway. Moving the superload required months of planning and logistical meetings to make the haul from Greenfield, Indiana to Jupiter, Florida happen.

THE SOLUTION

Moving the heavy-oversize load took a supersized effort and critical teamwork. Landstar and an independent agency teamed up with the customer to develop and execute a plan that would take critical coordination in five different states of:

- Dozens of state troopers
- Five permits
- Four pilot cars
- One 4-axle removable gooseneck extendable trailer



Landstar meticulously researched the routes the oversized freight could travel. With every state the load moved through, specific state and local guidelines had to be met. The platform and each road it would travel on were precisely measured to plan the transport. The trip would take the mobile scissor-lift platform through five states to arrive in Jupiter, Florida in less than a week's time.

Once the travel path was in place, the Landstar team worked closely with officials in each state to confirm proper permitting

and accurate route surveys for the haul. Each detail assured the superload traveled without disrupting traffic patterns or causing any major issues.

After six days on the road, traveling at 55 miles per hour or less, the Landstar owner-operator and load escorts made it to Jupiter, Florida for delivery.



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[E-COMMERCE]

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Rethink Fulfillment During Peak Season

Peak season is a great opportunity to determine where your warehouse priorities should lie. Here are the biggest stories to watch this holiday season.

From fast to accurate. Amazon Prime's free two-day shipping sent shockwaves through the fulfillment industry. Reaching peak productivity and keeping up with Amazon became a major topic of discussion. But it's now time to focus on a more detail-oriented, rather than always-on, warehouse.

This shift is partly caused by innovations outside faster delivery. Free shipping, even with a slightly later delivery date, makes customers feel as if they're getting a deal. Tracking keeps customers informed, relieving pressure on the delivery timeline.

With these offerings, however, come increased expectations to get the order right the first time. Alongside customer expectations are the costs associated with these mistakes: Annual mis-pick costs average \$389,000 per organization. As a result, warehouses are adopting technology to improve picking and avoid errors.

This peak season, focus on getting things right before getting

them delivered quickly. Invest time in perfecting your picking and packing processes. Falling short in these crucial areas can result in spending time and resources to make a wrong right.

Greater adoption of advanced analytics. Advanced analytics provide warehouses a base of knowledge from which to draw peak season strategy, increasing visibility into which processes to streamline before they're exposed to the holiday rush.

In addition, advanced analytics support risk management/mitigation—a growing concern in many warehouses, as e-commerce fuels unexpected demand spikes. By tracking purchase patterns over time, you can better understand what types of products sell during which months and seasons.

While you may not be able to predict this year's hottest toy, you'll gain greater insight into periods of higher demand and counteract them with extra inventory to avoid a sellout.

Better functionality in the cloud. Cloud-based solutions have become less a preference and more a necessity.

Even smaller companies new to the industry are investing in cloud services on the front end. That's because cloud capabilities grant smaller businesses access to advanced supply chain software, managing an influx of e-commerce sales, enhancing picking and packing processes, and promoting competition with larger organizations. Between the cloud and third-party logistics providers, small businesses have more options than ever to manage demand spikes.

Another benefit: Cloud computing enables paperless environments that reduce cost and increase reporting accuracy, eliminate the need for expensive and temperamental mainframes, provide remote accessibility, and enable scalability.

Maximize Your Peak Season

If your organization views e-commerce growth more as a challenge than an opportunity, it's time to rethink your operation—and consider using these trends as a guide. ■

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New Projects/Services Checklist:

- ✓ 2 Northbound Commercial Primary Lanes
- ✓ 2 Northbound Commercial Exit Lanes
- ✓ Gate to Gate/F.A.S.T. Lane
- ✓ Dock Expansion
- ✓ Cold Inspection Facility
- ✓ Regional Ag Training Center & Lab
- ✓ Ag Inspection Overtime Pay
- ✓ New State of the Art Toll System
- ✓ Bridge Building Renovation
- ✓ BridgeConnect Trade Sessions
- ✓ Unified Cargo Processing (UCP)
- ✓ New State of the Art Security Cameras System



Projects/Services Advantages:

- ★ Improved Safety and Security
- ★ Reduced Border Wait Times
- ★ Increased Capacity
- ★ Process Improvements
- ★ Streamlined Inspections
- ★ Improved Commercial Truck Throughput
- ★ Smart Technologies
- ★ Joint Inspections (U.S. & Mexico)
- ★ Competitive Logistics Network
- ★ Faster Connectivity to Port of Brownsville
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No Industry is Amazon-Proof

Amazon is now in the oil business. With the release of its Amazon Basics Synthetic Motor Oil, the mega retailer has effectively entered an industry ripe for disruption.

There isn't an industry Amazon can't enter. I'm amazed at how many executives across different industries tell me they're not concerned about Amazon for one reason or another.

Note to all CEOs: None of you are in a business that is too technical for Amazon. And I'm amazed at how many companies believe they can continue to operate alone. Such a strategy is foolish.

Why is Amazon so successful? Because far too many CEOs continue to run their companies as if Amazon doesn't exist. The CEOs of Kroger, Walmart, and Albertsons should have realized how strategic Whole Foods was to Amazon, and one of them should have made the argument to its board that it must acquire Whole Foods.

Instead, the CEOs who assumed Amazon would never acquire a grocery retailer are now struggling to prevent Amazon from taking market share.

When it comes to Amazon, crush all assumptions. If you think Amazon can't or won't do something, banish the thought.

Well-run companies with qualified and competent executives should insist that every effort be made to identify how and when Amazon can impact its business. These same CEOs will embrace big thinking and big moves.

Think Again

To paraphrase Jeff Bezos: "Your inability as CEOs to consider the fact I can enter your industry makes it easy for me to take your market share. Your unwillingness to seek out M&A opportunities reduces barriers. Think I won't acquire Target so I can open Whole Foods Markets inside the stores? Think again. Think I won't acquire Costco? Think again. If I can conceive it, Amazon can achieve it."

It's clear that Amazon is the common enemy of every company operating today. Amazon is becoming so powerful that even a company the size of Walmart can become marginalized by Amazon in as few as 10 years. Walmart should approach the federal government and make the argument that it be given approval

to make acquisitions in an attempt to ensure its ability to compete against Amazon.

Make no mistake. Amazon will become the largest grocery retailer unless Walmart can acquire other grocery retailers. Another option would be that Kroger, Albertsons, and Ahold Delhaize are given permission to merge.

I believe the federal government will approve acquisitions and mergers by Walmart and other companies as it is growing more clear how powerful and intrusive Amazon is becoming. According to Bezos, "Amazon's market size is effectively unlimited."

Why? Because Amazon is a virtual company that isn't hindered by any limitations related to physical stores or infrastructure. Amazon can become anything it wants simply by entering into another category and selling the products online.

There is also nothing to prevent Amazon from becoming a third-party logistics provider and one of the largest logistics companies in the world. Think Amazon can't or won't acquire Schneider, Ryder Logistics, XPO Logistics or J.B. Hunt?

Amazon is unlike any company that has ever existed. The rules in place related to anti-trust and monopolies no longer apply. ■



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[GREEN LANDSCAPE]

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The Supply Chain World is Not Flat

The idea that supply chain and logistics networks aren't linear is not new, and neither is the concept of the circular economy. In our globalized world, the value chain has gotten much more complicated and difficult to manage, with many more variables now part of the equation. Add in the fact that the globe's resources are diminishing at an unprecedented rate and commodity prices are rising, and we've got a perfect storm of complications on our hands.

Leading companies address these issues by aggressively adopting a circular approach to supply chain and logistics management. They identify the total impact of products and processes across the supply chain, eliminate waste, and feed outputs back into the overall value chain cycle.

Self-Sustaining Approach

Instead of making, using, and disposing of products and materials, leading companies keep components in use in the value chain and logistics process for as long as possible. They use tactics such as reducing the overall amount of packaging materials used, incorporating reusable packaging and pallets, and leveraging electric vehicles to curb greenhouse gas emissions. The

approach is self-sustaining and reduces negative impacts on the external environment.

The circularity concept is another way supply chain operations play a role in community betterment, consumer confidence, and business performance. By moving away from linear approaches toward adopting circular habits, not only are products able to be used longer—saving money and the environment—but new, innovative business models are created, bringing new growth opportunities.

Additionally, companies protect their brand image as customers and investors see the steps the organization is taking to lessen its external impact.

Several market leaders have already adopted such an approach. For example, Renault,

one of the world's largest car manufacturers, is leading the circular economy throughout its vehicles' lifecycles.

Unilever is rethinking its plastic packaging, using circular principles for climate change mitigation. Plastic producers on the whole are shifting to circular methods, and the C&A Foundation awarded funding to bridge the gap in circular business models in the fashion industry.

Continuing Commitment

These commitments will continue as corporate social responsibility becomes increasingly integrated into mainstream business strategy. Relying on diminishing resources, and not delivering on the experience customers expect, exposes companies to critical risks that reduce their ability to meet demand and put them at a competitive disadvantage.

Supply chain and logistics leaders need to support their organizations and surrounding communities by proactively working together to manage complex networks and execute on the new models that the business environment now requires. ■

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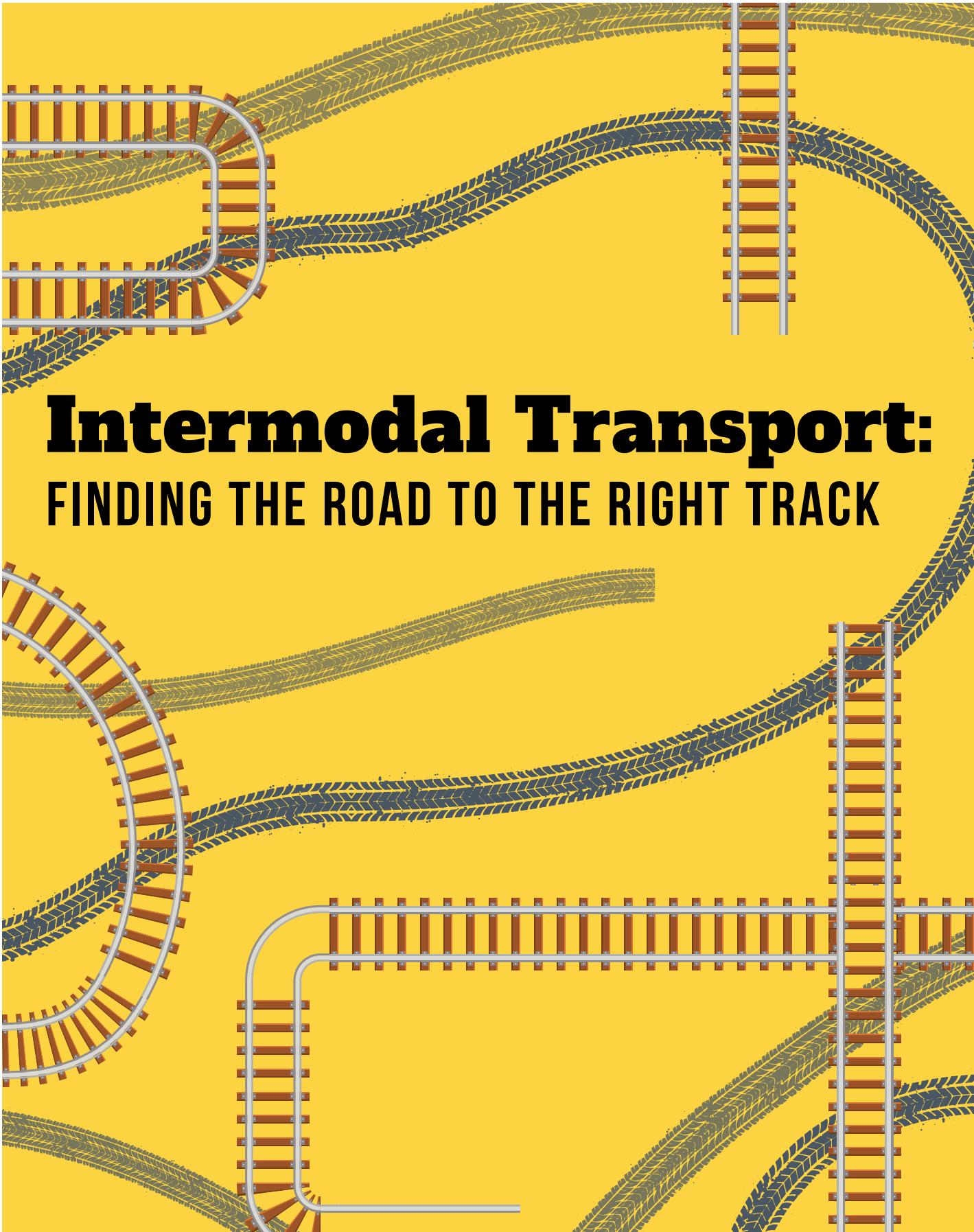
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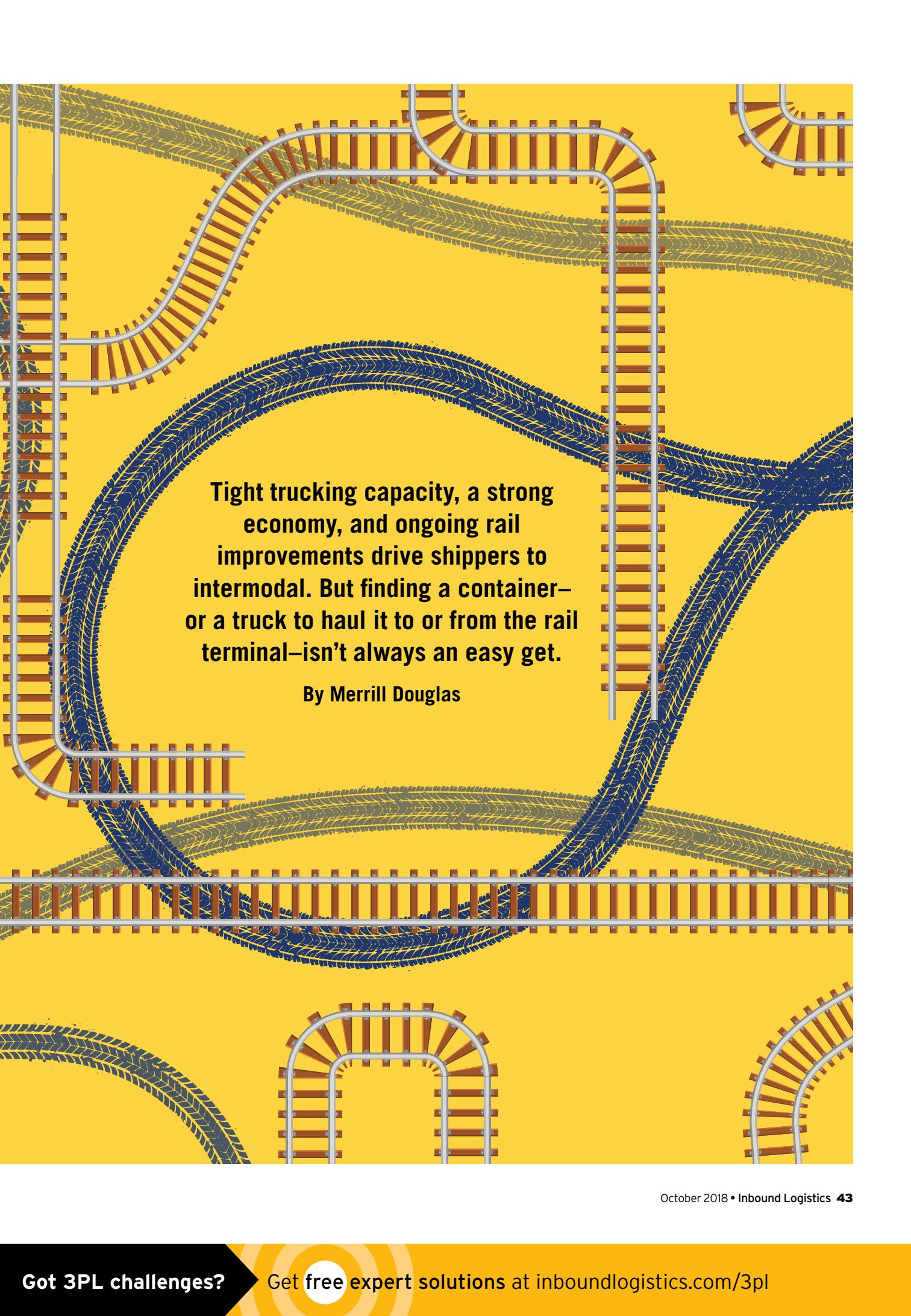
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Intermodal Transport: **FINDING THE ROAD TO THE RIGHT TRACK**



Tight trucking capacity, a strong economy, and ongoing rail improvements drive shippers to intermodal. But finding a container—or a truck to haul it to or from the rail terminal—isn't always an easy get.

By Merrill Douglas

A strong economy and ongoing driver shortage—both keeping truck capacity tight—spell good news for intermodal transportation in 2018. Intermodal shipments in the second quarter of 2018 were up by 6.2 percent, compared with the same quarter in 2017, reports the Intermodal Association of North America (IANA) (*see sidebar, page 45*).

International intermodal saw the smallest increase, with 4.8 percent more traffic in the second quarter than the year before. The volume of domestic intermodal container shipments rose by 6.1 percent, and intermodal trailer loads by 18.1 percent.

The economy deserves some credit for ongoing gains in rail intermodal traffic, says Phillip Yeager, chief commercial officer at Oak Brook, Illinois-based transportation management company Hub Group, which, among other things, is a major intermodal marketing company (IMC).

“Strong retail sales, consumer confidence, and industrial production are all good for intermodal,” says Yeager. Robust demand for imported products also puts more containers on the rails once they arrive by ship. “A lot of those imports are transloaded onto intermodal equipment and hauled across the country,” he adds.

Tight capacity in over-the-road (OTR) trucking lanes prompts more shippers to consider intermodal as well. “Couple tight capacity with rising fuel prices,” Yeager says. “That combination is increasing costs and forcing many shippers to think about alternatives to trucks.”

A Capacity Squeeze

In an ironic twist, though, the more popular intermodal grows, the more it gets squeezed by the same capacity problems that plague trucking. That’s partly because an intermodal move—even though most of it occurs on the rails—still needs a truck to pick up the container at origin and deliver it to the destination. Drayage companies face the same capacity pressures as long-haul trucking companies.

“Transportation faces a significant driver shortage all over the country today,” says Ken Kellaway, president and chief executive officer of RoadOne International Logistics, an intermodal drayage firm based in Randolph, Massachusetts. That can make it hard for shippers to get trucks to move intermodal containers.

Despite ongoing efforts to improve processes, the railroads struggle with capacity challenges, too, Kellaway says. During periods of heavy volume, it isn’t easy to position enough containers where shippers need them most. “When things are busy, as they are now, we see major tightening in places such as the Los Angeles corridor,” he says.

“Equipment availability has continued to tighten up, more so now that we’re into peak shipping season,” agrees Tony Barnes, vice president of intermodal operations at ROAR Logistics, a Buffalo, New York-based company that provides door-to-door and ramp-to-ramp intermodal service throughout North America. “That, coupled with decreased drayage capacity in

Could Numbers Be Better?

While some were celebrating the 6.1-percent rise in domestic intermodal volume during the second quarter of 2018, Anthony Hatch, principal of ABH Consulting in New York was somewhat disappointed. “While that is more or less in line with its recent trend, the tightness of capacity in the domestic transportation market suggests that growth could have, and perhaps should have, been significantly higher,” he says.

Between the driver shortage in the trucking industry, the lack of government spending to improve U.S. highways, and ongoing improvements to the rail network, the rails should be attracting even more freight than they have, he says. “I think they will be by the end of 2018, and into next year,” Hatch predicts.

One reason to expect this change is that the railroads are about to complete some important infrastructure improvements, promising even better service than they offer now. “It takes nine months from when you identify a shortage to when you solve it,” he says. “And we’re about at that point.”



Hub Group touts the benefits of intermodal compared to over-the-road transport, including lower fuel costs, increased capacity, sustainability gains, and improved transportation speed and reliability.

Leveraging the Capacity Crunch

Total intermodal volumes advanced 6.2 percent year-over-year in the second quarter of 2018, after posting 7.2-percent growth in the first quarter, according to the Intermodal Association of North America's (IANA) *Intermodal Market Trends & Statistics* report. International intermodal volumes increased 4.8 percent, domestic containers 6.1 percent, and trailers led overall growth at 18.1 percent.

"Continued intermodal volume growth was driven by the domestic market during the second quarter," says Joni Casey, president and CEO of IANA. "Higher fuel prices, tight over-the-road capacity, and strong economic performance attributed to this advance."

The seven highest-density trade corridors accounted for 63.2 percent of total volumes and were collectively up 6.6 percent. The Northeast-Midwest performed the best of the seven, with volumes gaining 12.8 percent. The South Central-Southwest, intra-Southeast, and Midwest-Northwest lanes had growth of 8.4 percent, 7.1 percent, and 6.2 percent

some key markets, will continue to present a challenge to carriers and shippers throughout the remainder of 2018, and into 2019."

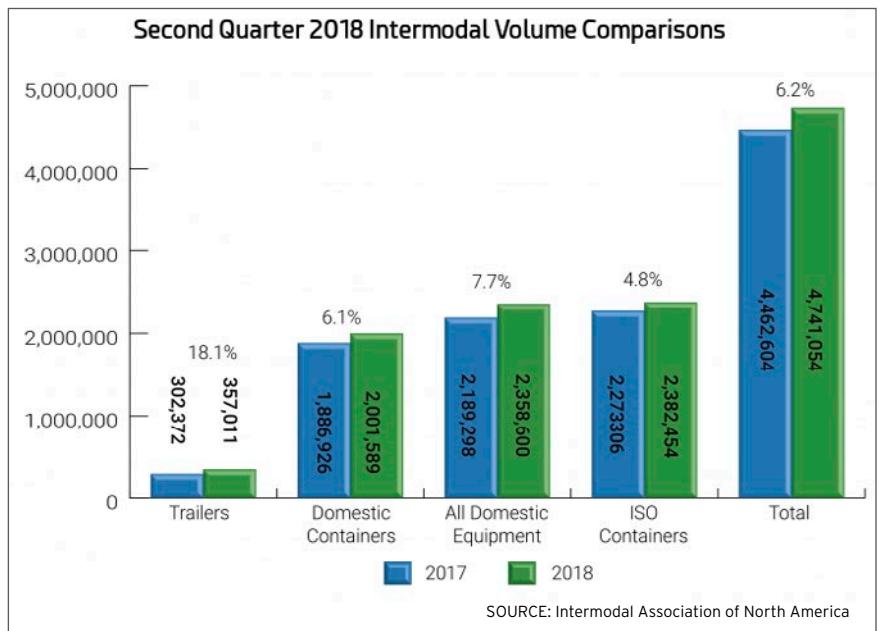
In addition, shippers that use intermodal contend with certain challenges that have marked rail transportation for a long time. One is a problem with inconsistent transit times on certain lanes, causing freight to often arrive either too early or too late. "This drives extra costs and inefficiencies in the supply chain," says Yeager.

Hub Group uses a couple of strategies to soften the effects of inefficient services. "We have GPS on all our containers and try to have the best visibility to when a train will actually arrive," Yeager says. The company also tries to offer alternative routings to avoid lanes that are particularly inconsistent.

Investments Help

The good news for intermodal shippers is that Class I railroads are working to make their services more available and more reliable. "The railroads have been investing in purchasing additional containers and adding capacity to their networks, opening new terminals, and making other improvements," says Dave Menzel, president and chief operating officer at Chicago-based Echo Global Logistics.

"The railroads are continuing to invest in overall infrastructure within their various networks and terminals," says Barnes. Railroads are also re-designing their intermodal networks,



respectively, while the trans-Canada and Midwest-Southwest came in at 4.4 percent and 4.2 percent. The Southeast-Southwest eked out 0.8 percent growth.

Intermodal marketing companies had another strong quarter, consistent with previous quarters, with total loads rising 10.6 percent, mostly on highway gains. The previous quarter posted 10.8 percent. Revenue grew by 28.6 percent compared to the 27.1 percent growth in the first quarter.

eliminating and re-routing lanes to reduce gateway bottlenecks in an effort to reduce transit times. Some of those changes will create a challenge for shippers and their third-party partners in the short term. "However, I'm optimistic that, in time, those changes will improve the overall intermodal product for us as well as for the shipping community," he adds.

Promoting Performance

CSX discussed its network changes, and the challenges they pose, in a letter to customers from Mark Wallace, executive vice president of sales and marketing. The letter also highlights measures CSX has taken to promote excellent performance during the pre-holiday peak, especially on the Chicago to Jacksonville, Jacksonville to the Northeast, and Chicago to Syracuse routes.

"We have added train capacity to support more days of service, as well as extended and new services with crews available to perform and locomotives placed strategically along our network," Wallace says. Among other moves, CSX has also added lift equipment, chassis, and personnel at its terminals, stocked replacement equipment parts, and secured local drayage.

The ongoing development of logistics parks, which put rail terminals, truck terminals, and distribution centers all within easy reach of one another, makes intermodal more attractive. "All the distribution centers and truck operations are migrating toward those logistics parks, which are typically farther

away from the metropolitan areas,” Kelloway says, pointing to development in Joliet, Illinois as an example.

New inland terminals in places such as South Carolina and Georgia also give shippers more options for using intermodal, making it a more viable choice for shorter hauls than in the past. “They’re competing with us in a lot of instances,” Kelloway says, referring to the short hauls that a drayage company such as RoadOne would traditionally handle. “But we establish locations at a lot of those terminals as well, and deliver from there.”

When Intermodal Makes Sense

As the role of intermodal continues to grow, supply chain professionals find themselves more often calculating the benefits of that mode versus OTR transportation for particular shipments or lanes. Since intermodal is usually less expensive, and OTR is faster, shippers need to weigh what they’re willing to pay against the urgency of the shipment.

“Shippers have to evaluate overall costs, and determine the production and shipping lead time they need to have in place to meet their customer’s delivery requirements,” says Barnes. If a consistent, seven-day transit by rail will do just as well as a four- to five-day transit by truck, customers can take advantages of the cost savings that intermodal can typically offer.

“Shippers are trying to balance how critical it is to the supply chain that a shipment shows up at a very specific time, and what the cost differentials would be,” says Menzel. Larger shippers tend to be more comfortable with those tradeoffs than the small or mid-sized companies that Echo primarily serves. “We can help educate and convert those companies so that maybe a component of their freight moves over the rails, which will bring their costs down,” he says.

Shippers also need to consider whether a particular commodity lends itself to rail transportation, Menzel says. Fragile items that can’t be packed to avoid jostling in transit might be a better fit for truck, whatever the other considerations.

In It For the Short Haul

Facing a capacity crunch in intermodal drayage, some transportation brokers and their customers find help from DrayNow,



an electronic marketplace focused on the intermodal first and last mile. Based in Philadelphia, DrayNow has been connecting intermodal loads with drayage haulers since May 2017.

Mike Albert, founder and CEO of DrayNow, built the service to help relieve the pressure that has been building as more shippers choose intermodal. “The industry growth trend of 7 percent year over year is not sustainable with current drayage capacity shrinking by 7 to 3 percent year over year,” he says.

Electronic load boards have been around for years, of course, but more broadly focused services aren’t designed for the short hauls required in the intermodal market. “Our DrayNow tool brings transparency and speed to a transaction that previously had little or no technology,” Albert says.

The service has been seeing double-digit growth, month over month, he adds.

As over-the-road capacity remains tight over time, intermodal may be starting to play a different role in many supply chains. The mode is starting to emerge as more than a stopgap measure that shippers can use when they can’t find trucks.

Says Anthony Hatch, principal at ABH Consulting in New York: “It’s actually a long-term part of the strategy.” ■



Ports continue to invest in improvements to serve intermodal shippers. One example: As part of the Mason Mega Rail project, the Georgia Ports Authority will add 23 miles of track on its Garden City Terminal to better accommodate 10,000-foot long unit trains.

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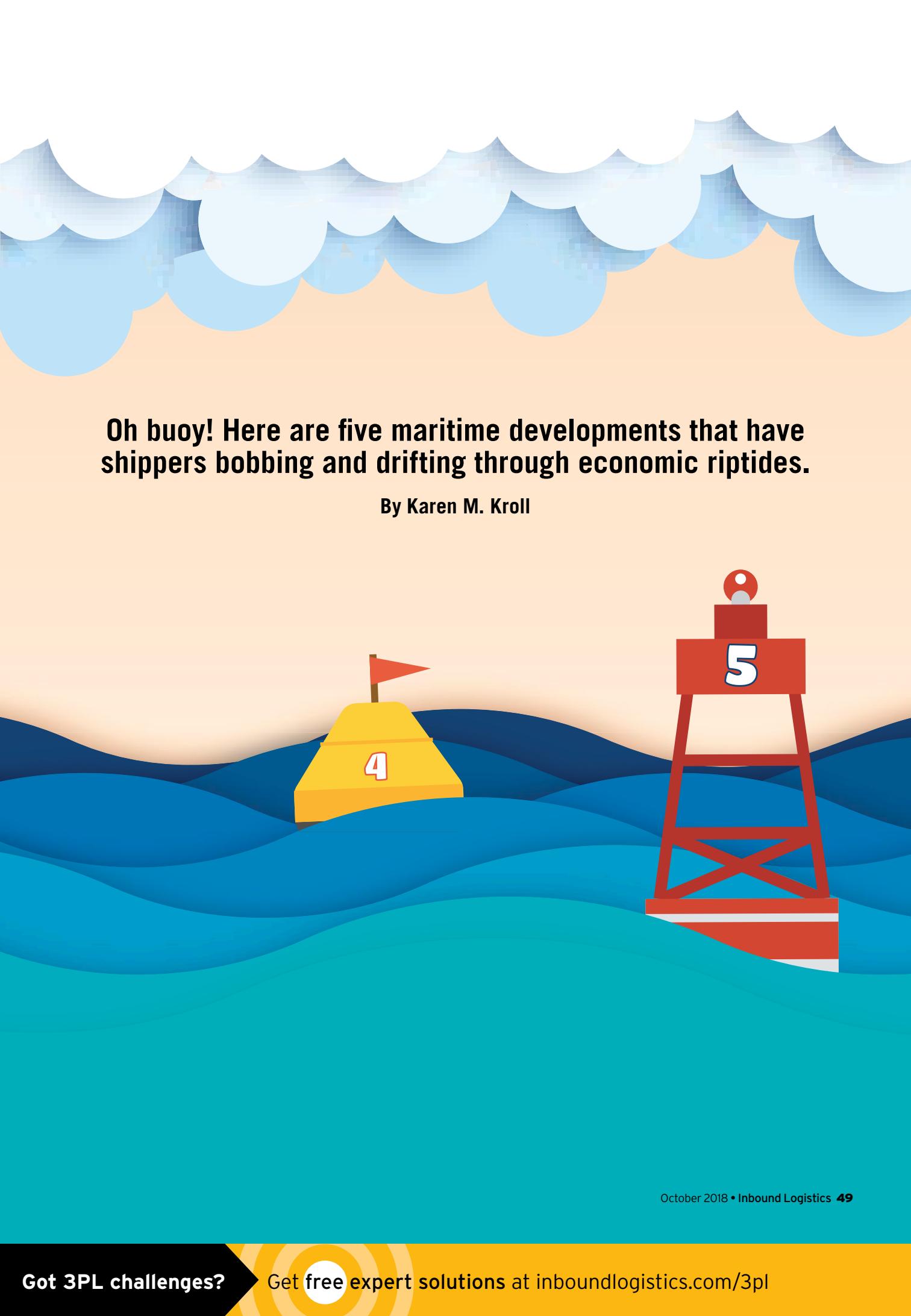
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MARITIME UPDATE:
STAYING ABOVE WATER





Oh buoy! Here are five maritime developments that have shippers bobbing and drifting through economic riptides.

By Karen M. Kroll

The international shipping industry carries about 90 percent of the world's trade, according to the International Chamber of Shipping. That means any trends impacting the maritime industry also reverberate to shippers. Here are five maritime trends to watch:

1 CARRIER CONSOLIDATIONS AND ALLIANCES

“Carrier consolidation is having a huge impact on maritime and connecting industries,” says Edward Kelly, executive director with the Maritime Association of the Port of New York and New Jersey. Among recent transactions: In late 2017, Maersk Line completed its acquisition of German container shipping line Hamburg Sud. In 2016, French shipping giant CMA CGM acquired Singapore-based NOL.

Along with outright consolidation, operating agreements or alliances between companies also have proliferated. In 2016, for instance, CMA CGM, COSCO Container Lines, Evergreen Line, and Orient Overseas Container Line announced the OCEAN Alliance. Also in 2016, Hapag-Lloyd, Mitsui O.S.K. Lines, Nippon Yusen Kaisha, Yang Ming, and several other firms formed THE Alliance to cover east-west trade lanes. The sophistication, scale, and efficiency of these operations become barriers to entry for any new competitors, Kelly notes.

In addition, as carriers join forces—through either a merger, acquisition, or operating agreement—the numbers of both steamship lines and trips typically decline. As a result, “beneficial cargo owners have fewer carrier options in terms of the number of lines and service strings available,” Kelly adds.

In the past, each shipping line typically had its own set of competitive factors, such as when it sailed and what terminals it called. That has largely dissipated. “Several lines sharing the same port of load, day of load, and port of discharge reduces their ability to differentiate themselves,” Kelly says.

So when carriers end up competing on price, “it’s a race to the bottom,” he adds.

This environment might not last forever, however. Consolidation inevitably means less competition. As in any industry, that likely will lead to higher rates.

Is yet more consolidation likely? Not among the largest carriers, according to Nils Haupt, spokesperson with Hapag-Lloyd. For starters, most of the big carriers still are digesting the mergers they’ve already completed. In addition, government authorities in different countries likely will look closely at any future transactions, out of concern that the resulting companies might become so strong they’d be able to skew the market.

2 LARGER SHIP SIZES

One reason many carriers align with former competitors is that ship sizes are generally increasing. Fifteen years ago, a ship that could carry 6,000 to 8,000 TEUs was considered huge, says Bradley Lima, dean and vice president for academic affairs with the Massachusetts Maritime Academy. Today, many ships can accommodate 16,000 to 18,000 containers.

The larger ships introduce greater economies of scale, says David White, secretary and treasurer of the National



Hapag-Lloyd is a member of THE Alliance, formed by ocean carriers serving east-west lanes to improve transit times and reliability, and provide more transport options to shippers.

Association of Maritime Organizations and executive vice president with Virginia Maritime Association and Hampton Roads Shipping Association. The upside is a generally lower per-unit cost of transportation, which may mean savings for shippers.

On the flip side, the ships have become so big that only a limited number of ports can handle them efficiently. But many ports are taking steps to accommodate larger vessels.

For instance, in August 2018, Port Houston took delivery of three 270-foot-tall large cranes that can load and unload vessels up to 22 containers wide. But even with those accommodations, shippers need to monitor the sizes of the ships that are moving their cargo, and the ports that can handle them. The goal is to find the route that allows them to access their inventory as quickly as possible, once it reaches land.

The proliferation of massive ships also contributes to overcapacity in the maritime market. “Shipping lines are adding capacity to fleet beyond demand,” White says. While the overcapacity remains, it can play to shippers’ advantage, he adds, as it acts as a lid on prices.

3 CHOKEPOINTS

Another impact of the growing number of massive ships is the greater amount of space and larger equipment they require once they dock at a port. The ports need to be deep enough to handle the vessels, and their equipment needs to be able to efficiently process the thousands of containers the ships are carrying.

Then, for the goods to quickly move to their final destinations, the ports need sufficient access to roads and rail. In the United States, “the hinterland issue is huge,” says Joan Mileski, Ph.D., professor of maritime administration and marine science with Texas A&M Galveston.

Not all ports have sufficient access to effective road and rail systems. As a result, carriers increasingly need to choose ports based not only on location, but also on who’s open. “Shippers may want to be in New York, but if they can’t get in there, they’ll go to Norfolk or Savannah,” Mileski says.

The introduction of electronic logging devices for truckers, which enforces limits on the hours each driver can work, also may impact marine transportation. “It’s the ripple effect,” White explains. “A tightening truck supply can impact the



PHOTO: Maritime Association of the Port of NY/NJ

The Port of New York and New Jersey is among those that can accommodate today's larger, environmentally friendly ships.

ability to quickly move larger volumes of goods through port facilities.”

When assessing transportation routes, shippers need to consider the ease with which different ports can access road and rail networks, as well as the distances over which their goods must travel by truck from a port to their final destinations.

4 TECHNICAL ADVANCES

For a long time, many marine carriers had little incentive to accelerate the rate at which they processed shipping documents. After all, water transportation itself takes a relatively longer time than other forms of transportation, Kelly says. Even when documents were manually processed, they typically wouldn't hold up shipments.

That's changing. More shippers are asking for greater transparency and real-time visibility to their cargo. Moreover, the increasing digitization of documents such as bills of lading within a more automated supply chain can cut costs and increase efficiency.

Blockchain may be one way to address the issue. “It has the potential to change the industry,” says Christine Isakson, assistant professor in the department of international business and logistics with California State University Maritime Academy. The World Economic Forum lists blockchain among five technologies that can change global trade forever, noting that it can make the movement of goods more efficient and reliable, and streamline trade finance.

In August 2018, IBM and Maersk created TradeLens, an initiative to apply blockchain to the global supply chain. More than 20 port and terminal operators around the globe are piloting the solution.

The challenge? “Companies need to be willing to be more transparent,” Isakson says. Some companies may balk at opening their transactions to other links in their supply chains, concerned they'll lose a competitive advantage. At the same time, few companies can afford to ignore the inroads blockchain is making.

While technology offers compelling benefits, it has a downside. Cybersecurity has become a greater concern within marine transportation. “For example, a 1,000-foot-long ship can become a floating bomb,” Lima says.

Indeed, concerns about cyber attacks prompted the Navy to reintroduce celestial navigation training in 2015. In 2017, the



Del Monte's Antwerp Trader discharges refrigerated containers at Port Manatee, Florida. The port handles about 8 million tons of cargo annually.

Coast Guard issued draft guidelines for addressing cyber risks within facilities regulated under the Maritime Transportation Safety Act. Among the recommendations: Develop a risk management team and define a cyber risk management policy. When possible, shippers need to ask carriers about the steps they've taken to protect against cyber threats.

Discussions about technology and the maritime industry inevitably lead to questions about autonomous shipping—vessels that drive themselves with a few or no human operators. Autonomous shipping is at least 20 years away, predicts Paul Szwed, associate professor of international maritime business at the Massachusetts Maritime Academy. Workload reductions resulting from automation, however, are possible before then, he adds.

5 ENVIRONMENTAL REGULATIONS

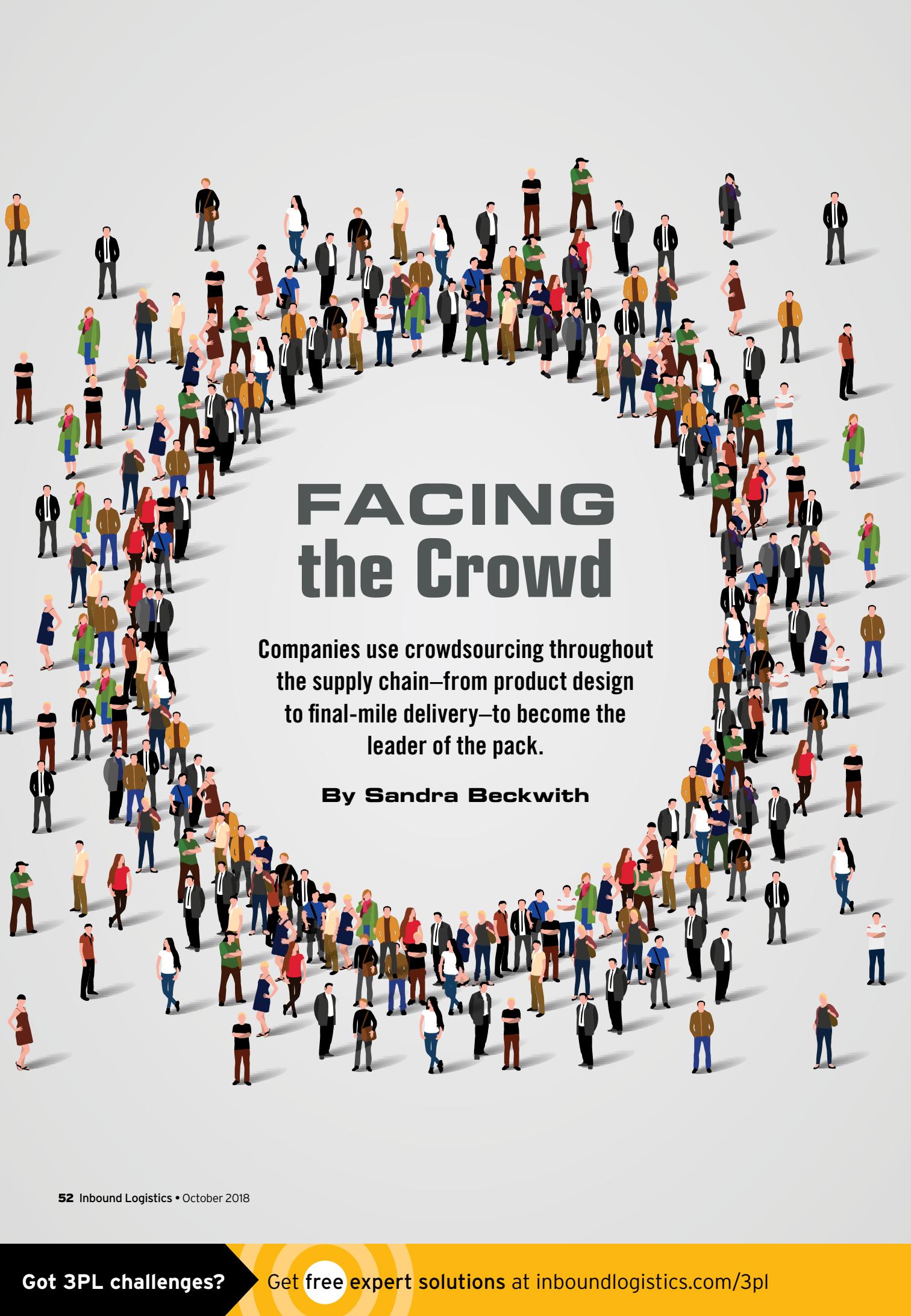
Like many other sectors of the global economy, the maritime industry faces increasing scrutiny over and restrictions on its environmental impact. “Green shipping is big,” Mileski notes.

As of January 2020, many carriers will need to comply with Annex VI to the MARPOL Convention, which reduces the global limit for the sulphur content of ships' fuel oil from the current 3.5 percent to .50 percent. Because the fuel needed to meet the new standards typically costs more to refine, carriers' costs likely will increase, Kelly says. That may mean higher costs for shippers as well.

Increased restrictions on ballast water also reverberate to shippers. Ships carry water in their ballast tanks to improve stability and balance. When a ship takes in water from one part of the world, it also picks up the organisms that live there. Then, when it discharges the water, often in another part of the world, it also introduces the organisms to the new area. That can cause environmental problems.

As of September 2017, many carriers had to comply with stricter standards for managing ballast water, as outlined in the International Convention for the Control and Management of Ships' Ballast Water and Sediments. In addition to higher costs, ships may have to allocate more time to complying with the regulations.

“The maritime industry tends to be traditional,” Isakson says. At the same time, it's changing along with the world in which it operates. That's influencing the ways in which shippers establish their supply chains. ■



FACING the Crowd

Companies use crowdsourcing throughout
the supply chain—from product design
to final-mile delivery—to become the
leader of the pack.

By **Sandra Beckwith**

Crowdsourcing Defined

“The practice of obtaining needed services, ideas, or content by soliciting contributions from a large group of people and especially from the online community rather than from traditional employees or suppliers.”

—Merriam-Webster

While much of the conversation around crowdsourcing in supply chain management today involves references to the internet and online platforms, high tech isn't necessarily required to tap into the wisdom or resources of the crowd.

Nobody knows this better than Michael Hugos, author of *Essentials of Supply Chain Management* and co-founder of SCM Globe, a supply chain simulation tool.

While employed by a restaurant supply cooperative in 2004, Hugos used crowdsourced decision-making to solve a large customer's problem—and keep the account. By brainstorming and discussing ideas via conference call with coop member leadership, the organization kept a key account by cutting the client's excess inventory by more than 50 percent, saving it \$400,000 during the holiday season.

“What's the chance that 20 to 30 street-smart professionals would make the wrong decision?” says Hugos about the crowdsourced process he instituted.

From Design to Final Mile

This is just one example of how companies are using crowdsourcing throughout the supply chain, from product design to final-mile delivery.

At one end, online platforms such as Quirky.com give inventors a way to get crowdsourced feedback on product ideas, suggestions for how to produce them, and even help bringing them to market. On the other end, a number of startups are leveraging new technology to crowdsource drivers who deliver groceries and e-commerce purchases to homes and businesses.

In between, logistics technology developments in recent years have made it possible for companies to apply crowdsourcing to product and material transportation, too. Platforms such as Uber Freight

Just Do It in Stores

Athletic footwear and apparel innovator Nike, Inc. is using crowdsourcing for inventory decisions at Nike by Melrose, its first Nike Live concept store.

Store stock will be “uniquely curated” by NikePlus members in a five ZIP code radius of the boutique in trendy West Hollywood, California. Nike also selected the store location based on insights from member activity on the company's website and various apps.

About one-quarter of the store's footwear inventory rotates every two weeks—approximately one month sooner than at other stores. Changes are based on in-store customer engagement with the product selection.

Customer engagement is measured by data generated when shoppers use the Nike App at Retail to scan barcodes for product details plus size and color availability. When data shows that visitors have lost interest in one style, it will be replaced by another style the consumer might select according to data from Nike.com or elsewhere.

The experiment is part of Nike's efforts to unite digital and physical shopping experiences. “As well as being the first Nike Live destination, we will also test services that can then roll out to other Nike stores, combining digital features with a unique physical environment to create the future of Nike retail,” says Heidi O'Neill, president of NikeDirect.



The Nike Live concept store gives NikePlus members access to shop from the Nike App, tap reserve, and pick up their product to try on and purchase in-store.

and Quickload help reduce the truckload capacity shortage by using crowdsourcing to match shipments with drivers and trucks that aren't running full.

"On one hand, shippers can't find capacity, but on the other, most trucks moving down the highway aren't 100-percent full," says Ted Stank, professor of logistics and supply chain management at the University of Tennessee, Knoxville. "Digital crowdsourcing is a timely way to help shippers find available transportation at reasonable costs."

Experts agree, however, that most crowdsourcing activity in the supply chain is focused on final-mile delivery. That's where agile startups are using technology in ways the larger, long-established shipping companies aren't—yet.

Amazon Flex set the pace, using crowdsourced drivers to deliver the last mile for some e-commerce orders in more than 50 markets.

There's also Deliv, which uses crowdsourcing to provide same-day scheduled delivery to e-commerce customers in 35 major markets. The drivers, who learn



Crowdsourced, same-day delivery startup Deliv bridges the last-mile gap between multichannel retailers and their customers.

Crowdsourcing Gets All the Credit

CreditRiskMonitor, a web-based publisher of financial information, uses crowdsourcing technology to provide supply chain, financial, and credit professionals with data and insights into thousands of large public corporations.

"By reviewing our subscribers' click patterns on our website, and analyzing that behavior using sophisticated and proprietary algorithms, we've applied those findings to aggregate data across thousands of companies," says Jerry Flum, CEO of CreditRiskMonitor.

CreditRiskMonitor subscribers—mostly corporate credit professionals at the world's largest companies—are highly trained and thus influential in assessing credit and debt risk. CreditRiskMonitor's research shows that subscribers can follow distinct, trackable click patterns when assessing companies with potentially elevated financial risk.

Getting FRISKy

When enough users start examining a particular company in similar ways over a specific time period, the system anonymizes and aggregates that data and then incorporates those crowdsource signals into the company's FRISK score. The FRISK score is a financial indicator proven to be 96-percent accurate in

predicting U.S. public company bankruptcy risk over a 12-month period.

"Credit managers are making decisions on corporate risk that affect billions of dollars of purchase and sale transactions each day, and undoubtedly they have an impact on troubled companies," says Flum.

"SEC Fair Disclosure regulations restrict the flow of financial information from public companies to outsiders, but these restrictions do not apply to credit managers, making them an invaluable resource when it comes to mitigating risk potential," he adds.

Credit Metrics

CreditRiskMonitor's crowdsourcing data makes up one of the four key metrics used in the FRISK score, which also includes a "Merton" type model using stock market capitalization and volatility; financial ratios, including those used in the Altman Z-Score model; and bond agency ratings from Moody's, Fitch, and DBRS.

Used as a first line of defense by its subscribers, every public company within the CreditRiskMonitor database has a daily updated FRISK score ranging from 1 (worst-performing) to 10 (best-performing). Companies in the lower half of the scale fall in the red zone and have higher risk for bankruptcy.

about delivery opportunities through a range of “gig” job boards such as Task Rabbit and Wonolo, are guided by an app that optimizes their route. That path is determined by pickup and delivery locations, when orders will be ready, and when customers want them delivered.

Better-known Instacart does the same with groceries, and DoorDash with restaurants.

Veho Takes Hold

Similar to Amazon Flex but on a much smaller scale is Veho Technologies, which has expanded to Denver after a successful pilot program in its home base of Boston. Like Flex, Veho’s model includes a distribution center. There, packages are sorted by ZIP code for delivery by crowdsourced drivers. Each driver works delivery routes grouped by neighborhood in the same way that a UPS or U.S. Postal Service driver does. Unlike those operations, though, Veho drivers on each route vary from day to day.

“If Amazon scales drivers and routes, it’s proof that it’s effective,” says Itamar Zur, the co-founder of Veho Technologies.

The Amazon Effect has been a little bit different for this innovator. “Since Amazon bought Whole Foods, our marketing situation has changed dramatically,” adds Zur. “Before the sale, prospective retailers would tell us to come back when we were in nine or 10 markets. Now we’re getting calls from big companies that want to learn and experiment with us.”

EpiFruit, a New York City final-mile delivery service using crowdsourced drivers, started as a solution to the founder’s problem finding an affordable way to deliver beverage alcohol from his Manhattan liquor store.

“When I learned that the minimum wage was increasing to \$15 an hour, my head started spinning,” says Rohan Duggal, tech founder of EpiFruit.

The startup, which began delivering in Manhattan in early 2018, now serves primarily wine and spirits shops and catering businesses. It plans to expand market share by focusing on attracting and training top delivery talent so its customers don’t have to. “Finding a viable professional delivery person is a massive problem for a retailer or restaurant,” Duggal says.

Is crowdsourcing drivers for final-mile delivery a sustainable model?

“Not only is it here to stay, it will grow bigger,” says Zur. “People want flexibility and freedom, and crowdsourcing will continue to tap into that.” ■



TOP: Final-mile delivery startup EpiFruit uses technology to crowdsource delivery people in Manhattan.



CENTER & BOTTOM: Instacart customers select groceries from various retailers through a web app, and a personal shopper delivers the order.



Great Logistics Sites & Services Leading the Way

In logistics, two Ws are most important—where and when. Choosing the right sites and services is vital for getting your products where they need to go, when they need to get there.

As the world continues to dot the i's (in-transit and intermodal) and cross the t's (technology and transportation) that are the distinguishing characteristics of modern commerce, consumers continue to grow in their broad-based understanding of logistics. Anyone who ever has waited for a package to be delivered—that is, virtually everyone—gets that logistics, in its simplest form, means the flow of products from Point A to Point B.

Logistics professionals, however, know the science of logistics is far more complicated than that. What happens, for example, when the package, or the truckload, arrives?

That's where great logistics sites come in. Those are the places that serve the industry as the ideal depots and turning points for products on the journey to their final destination. Such sites are the most vital links in the supply chain.

Places in Time

It is a subject of keen interest to Watson Land Company, a developer, owner, and manager of industrial properties throughout Southern California as well as on the East Coast. For more than one century, the company has served the logistics sector by delivering functional, high-quality buildings within master-planned centers.

Watson was the first industrial developer in Southern California to design and construct speculative industrial buildings in accordance with the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) guidelines.

The company's rich history encompasses more than 200 years, reaching back to the Rancho San Pedro, the first piece of land granted to a private citizen in Southern California. The property evolved into Watson Estate Company, founded in 1912, and was later renamed Watson Land Company.

Until 1963, the land owned by the company was used for agriculture and oil production.

In response to Southern California's rapidly changing business environment, the company shifted its focus to real estate development with the initial goal of enhancing the value of its holdings through the creation of master-planned centers for industrial buildings.

In the 1960s, the master-planned Watson Industrial Center in the city of Carson, California, where the company is based, would pave the way for the firm's further evolution into one of the region's most influential real estate companies, serving regional, national, and international clients.

"Our master-planned centers are developed within locations that provide immediate access to major freeways, ports, airports, and intermodal rail," says Lance Ryan, the company's executive vice president and chief operating officer. "This provides our customers speed and flexibility, whether they are transloading imports, exporting raw materials, or distributing their own manufactured products."

Drayage Costs Down, Truck Turns Up

Watson Land Company has developed millions of square feet of master-planned centers within a short distance of the Los Angeles and Long Beach ports. This results in much lower drayage costs and a significant increase in truck turns. With close to 20 million square feet of industrial, warehouse, and distribution facilities located throughout the South Bay of Los Angeles and the Inland Empire, Watson's buildings are designed and located to improve supply chain, distribution, and warehousing operations.

Watson customers have the opportunity to significantly reduce operating costs through the activation of its Foreign Trade Zone (FTZ) status granted through the Port of Los Angeles within the Watson subzone of FTZ 202. The FTZ can be activated in approximately 12 million square feet of Watson facilities. Companies can use the FTZ status to reduce operating costs for their manufacturing and inventory facilities. The non-privileged foreign position allows the duty rate for goods entering into an FTZ to be assessed according to the condition of the merchandise.

In addition, with access to product for display or exhibition purposes without customs intervention or supervision, utilizing an FTZ can significantly minimize bureaucratic regulations.

The FTZ designation also offers operational benefits that allow companies to gain a competitive edge in their markets. Companies have better inventory control with



PHOTO: Pascale Simard/Alpha Presse

Building strong relationships with shareholders, employees, governments, industry peers, customers, suppliers, and communities is central to CN's business philosophy.

lower customs supervision, and the duty payable on FTZ goods need not be included in the calculation of insurable value, which lowers insurance costs.

The FTZ may be utilized to examine product so it meets accurate specifications before duty is paid. Merchandise not meeting the requirements can then be repaired, re-exported, or destroyed without having to make duty payments. And, goods may be stored in an FTZ for unlimited periods, even if they are subject to U.S. quota constraints.

Certain types of merchandise can be imported without going through formal customs entry procedures or paying import duties until the products are transferred from the FTZ sites for U.S. consumption.

Intermodal Support

Watson Land Company is now one of the largest industrial developers in the nation. As the growth of intermodal transportation accelerates, the company continually makes investments to support intermodal's essential place in the logistics infrastructure.

Watson Land Company's logistics advantages are enhanced by the sheer size of Southern California's population. With some 22 million residents, Southern California offers an ample and willing workforce. Moreover, several logistics-focused trade schools are located in the region, and California State University, Long Beach, offers a well-respected global logistics program.

Southern California also boasts an extensive freeway network. The major highway routes providing intercity connections are Interstate 5 (north to Sacramento and south to San Diego), Interstate 15 (north to Las Vegas and south to San Diego), U.S. Route 101 (north to Santa Barbara), and Interstate 10 (east to Phoenix).

"Approximately 50 percent of the goods imported through the Los Angeles and Long Beach ports move to the local population," says Ryan. "For goods that don't, our location provides an ideal area for a land bridge for

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destinations toward the Midwest and beyond, via either rail or truck.” In addition, roughly five million square feet of buildings are in a designated overweight corridor to provide companies a place where they can break overweight loads into smaller shipments. “The overweight corridor is both a convenience and a way to save money,” says Ryan.

Watson maintains a footprint that includes facilities in Carson/Rancho Dominguez, Chino, Apple Valley, Fontana, and Redlands, California.

Covering the Continent

Logistics professionals know that “area” can mean anything from the distance from A to B, to the distance from A to Z. For CN, the term “area” encompasses more than 20,000 miles.

CN, a leader in the North American transportation services industry, has the only rail network that touches three coasts in North America, accessing the Atlantic, Pacific, and Gulf coasts. The company focuses on supply chain innovation and collaboration, offering integrated shipping solutions including rail, intermodal, trucking, freight forwarding, warehousing, and distribution. CN services 15 ocean terminals and well over 20 strategically located intermodal terminals across the network.

“We work hard with our supply chain partners to innovate, create, and implement solutions that seek to drive sustainable, long-term growth for our customers,” says Mark Lerner, CN’s vice-president-marketing and business development. “We’ve put in place groundbreaking Service Level Agreements to open communication between CN and our supply chain partners.

“These agreements allow us to improve our customers’ total supply chain, from vessel to rail to trucking, or from

warehousing to distribution, and everything in between,” he adds.

In determining how best to serve its customers, CN explores several pertinent questions: Is the rail service inbound, outbound, or both? What is the origin and destination, equipment type, the commodity being shipped, and the anticipated rail car volumes? What will the proposed facility layout and footprint look like?

From a real estate perspective, CN has seen 3PLs, retailers, manufacturers, and industrial developers take advantage of the company’s assets and reach by locating in close proximity to railroad intermodal yards, and building rail spurs off the railway’s mainline to develop rail-served properties, industrial parks, and transload facilities.

CN is making record capital investments in people, infrastructure, and equipment to support safe and efficient service to customers. In 2018, CN will invest \$3.5 billion (Canadian) in capacity growth initiatives, new equipment, improved infrastructure and information technology to meet market demands. These investments include adding more than 60 miles of double track, 11 new siding extensions, and improvements in eight intermodal yards. CN says it will purchase 260 new locomotives over the next three years.

CN continues to extend its reach and capabilities. For example, in the United States, CN has opened a 6,000-square-foot warehouse for inspection of cargo at the Port Huron, Michigan, border crossing. This warehouse enables goods to flow seamlessly across the border—as they do at CN’s facility in Ranier, Minnesota—even if individual containers are removed for inspection.

CN also has added a new intermodal ramp in Duluth and has extended its partnership with the Indiana Rail Road Company to offer Indiana importers and exporters a seamless service to the West Coast.

“All our investments continue to strengthen CN’s reach into diverse markets both on and off our main lines and beyond with our base of trusted logistics partners,” says Lerner.

In 2018, the North American transportation industry has been tested in terms of service and capacity, challenging providers to evolve and improve. The rail industry has definitely seen and reacted to capacity constraints on its own networks.

CN plans to continue to make significant investments to create more efficient, competitive freight transportation capacity to serve growing and new business. Through its continued investment in people, equipment, and infrastructure, CN will be able to hold on to this momentum and move forward into the future as a strong and robust supply chain leader. ■

CN’s 20,000-mile network spans Canada and Mid-America, connecting three coasts: the Atlantic, the Pacific, and the Gulf of Mexico.



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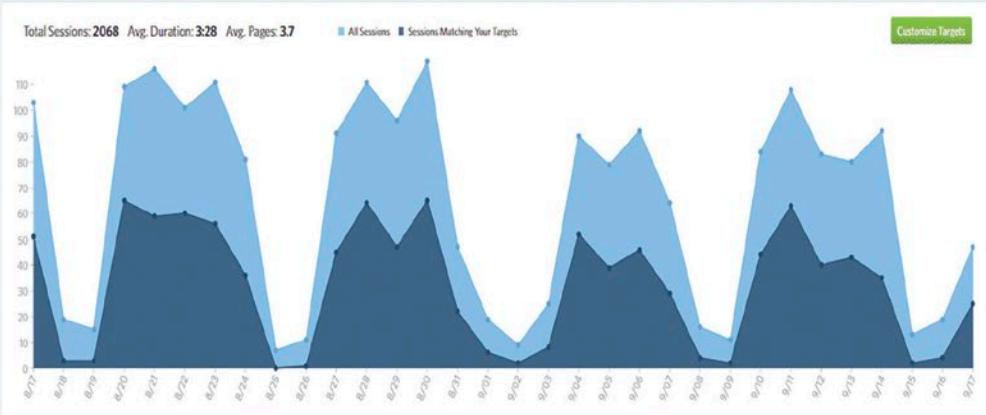


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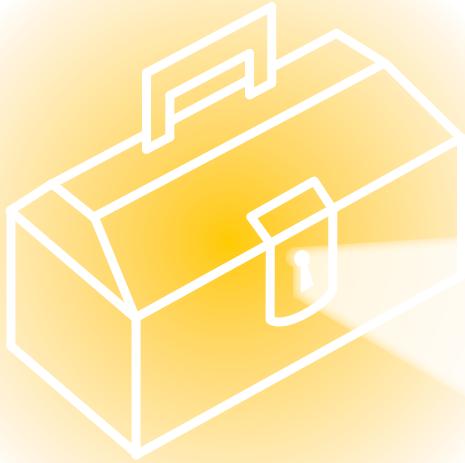
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IT Toolkit | by Jennifer Baljko

Metrolina Greenhouses sows billing accuracy, cultivates order management improvements, and grows sales with industry-specific software tools.

Rooted in Data, Business Blooms

Ever wonder how all those plants you see in Walmart, Lowe's, and Home Depot get there? Metrolina Greenhouses thinks about that every day, and even more during the peak months of March, April, and May when approximately 1,000 trucks leave its facilities every week to fill orders at big-box stores along the U.S. East Coast.

Software tools from Practical Software Solutions has made that job easier and helped Metrolina Greenhouses improve order processing, grow sales, and realize 99.98-percent billing accuracy.

A Budding Business

Family-run Metrolina Greenhouses is rooted in humble beginnings. In 1972, Tom and Vickie VanWingerden, immigrants from the Netherlands, moved to Charlotte, North Carolina, with their family, and soon after rented a 20,000-square-foot greenhouse. When business picked up, the VanWingerdens bought a small tract of land in 1973 in Huntersville, North Carolina, where they sold Mother's Day plants and Christmas poinsettias to customers such as Woolworth and other local retailers.

Today, the company, now co-owned by the VanWingerden's four sons, operates 170 acres of heated greenhouse space, the equivalent of about 7 million square feet. And after acquiring another North Carolina greenhouse company five years ago, Metrolina Greenhouses has more than 15 million square feet of indoor and outdoor growing space.

The company grows about 70 million plant cuttings annually, and triple to quadruple that number from seeds. Sales have climbed to more than \$200 million annually, says Art VanWingerden, CEO and head of operations.

In the busy spring season, about 1,000 tractor trailers weekly leave the company's Huntersville and York, North Carolina, locations and make their way around the East



The *Scan by Cart* module uses data collected by RFID-powered handheld barcode readers to generate the shipping order information, documents, and labels Metrolina needs as it loads products onto trucks.

Coast, delivering plants and flowers to Metrolina's main customers—Home Depot, Lowe's, and Walmart.

"A high volume of product comes in and out, especially during our busy season," VanWingerden says. "And we have a lot of people on site." During the high season, there are upwards of 5,000 employees in total at all locations.

The way SKUs are identified, and how primary customers change their supply chain requirements, further complicate the business. This complexity weaves into the company's existing 1,000 or so SKUs.

"One of our main products is a six-pack of plants," VanWingerden explains. "Lowe's wants them broken down by variety, so we have 20 different SKUs just under that category. Next year, Lowe's wants them to be organized by color, which will probably make it closer to 100 SKUs."

Automate or Stagnate

With their father's words "automate or stagnate" echoing in their heads, the VanWingerden brothers have managed much of this growth and the related

order, shipping, and billing work by integrating its Sage ERP platform with industry-specific tools developed by Practical Software Solutions, based in Concord, North Carolina.

Metrolina, which has been using the Sage ERP line since the early 1990s, was looking for more flexible options and horticulture-specific features that it could integrate across various departments.

Harvesting Automation

In 2006, through a recommendation by its then-IT director, Metrolina's team met with Practical and embarked on an 18-month re-evaluation of its software systems. It upgraded to the Sage 500 ERP (formerly known as the Sage ERP Mas 500) and worked with Practical to develop what eventually became the *Grower Vertical* solution, a suite Practical sells to other greenhouses and related businesses in the horticultural industry. The customized features, along with the ERP backbone, link Metrolina's sales, receiving, accounts payables, inventory, and warehouse management.

In 2011, Metrolina heard that Young's Plant Farm in Alabama was working with Practical on *Grower Vertical* modifications. That renewed its interest in further automating parts of its operation. The new warehouse automation module helped the Alabama greenhouse company improve order fulfillment, UPC syncing, and shipping requirements from one of its big-box customers.

Metrolina sent a team to Alabama to see how the *Grower Vertical* add-on module, *Scan by Cart*, could help them resolve similar issues.

Shipping Accuracy in Bloom

The *Scan by Cart* module leverages data collected by RFID-powered handheld barcode readers, automates the shipping system, and generates shipping order information.

"The module gives users all the information they need about what products are going on which trucks," explains Dylan Fulk, a sales executive at Practical. "The barcode technology allows them to rebuild the sales order and automatically repopulate the ERP system. It generates shipping labels and documents, too.

"All of this improves shipping and delivery accuracy because they are scanning shipping labels and documents as the products are loaded onto the truck," he adds. "They have extremely accurate information in the system when the trucks leave."

Tracking what was going where and when, and managing the related billing process, were the biggest issues Metrolina addressed with Practical's *Scan by Cart*.

"The software has helped us make sure that what we send to the store is what's on the invoice," says VanWingerden. "We scan every cart before it goes out to make sure every store gets what it is supposed to get. Because we scan every shelf, we know that the billing we do is correct."

"Our orders are broken down into kits so it's easier to pull, but not all the kits

are exactly alike all the time,” explains Michael VanWingerden, Metrolina’s co-owner and head of transportation and logistics. “We stage the orders after they are pulled, and we scan the front of the rack or cart. Then we scan each shelf. In a few seconds, we can verify how many plants are on each shelf and on the cart.

“We can see both what’s on the sales order and what was scanned,” he adds. “Sometimes we add or change something, but the scanning data lets us see that and match what’s on the sales order with what is going on the truck. This is why our billing goes out 99.98-percent correct.”

The scanning capabilities, which are integrated with ERP features, has sped up the outbound shipping and billing process; allowed the company to reallocate manpower and resources; improve workflow by seeing which routes and docks are ready for loading; and book more sales.

The company is also able to catch on-the-fly changes in product availability before the trucks are loaded. It’s not uncommon in the greenhouse industry for product availability and inventory to shift as multiple orders are being pulled and inventory levels fluctuate.

Driver Time is Money

The RFID-enabled scanning, instantly updated data, and back-end financial settlement also has reduced the amount of time trucks spend delivering products. Truck drivers no longer have to spend 45 minutes to one hour at each stop counting what was dropped off, getting the proper signatures, and later, in Metrolina’s back offices, reconciling what was ordered, delivered, and billed.

If between 200 and 300 trucks go out daily four times per week during the peak months, and each truck makes about three stops, the time that scanning accuracy saves multiplies quickly.

Though it’s hard to quantify all the hard and soft savings, a noticeable

difference has been the number of people involved in order processing. Where 52 people once handled this work, Metrolina now can process orders with about 30 people during the company’s busiest times, Michael VanWingerden says.

“It was a continual nightmare before,” says Michael VanWingerden of the tedious manual process previously in place. “The scanning has not only improved our billing, but it has also vastly improved our shipping accuracy rates. The whole process is so much faster from start to finish.”

Plans to Flourish

To keep up with its growing business needs, Metrolina is planning to implement the latest Sage ERP upgrade, the X3, in the next year. To prepare for that leap, Metrolina and Practical have spent the past year examining how to make existing tools compatible.

“It’s a large upgrade from the 500 to the X3; it’s a full new implementation,” Fulk says, adding that Practical’s solutions will be ready to migrate when Metrolina brings the X3 online.

“Since it’s still a Sage platform, the company will be familiar with many of the interfaces and it will be easier for them than starting from scratch,” he

adds. “But it is a large project. Anything that big takes time.”

The companies have been conducting quarterly meetings for the past year to prepare for the next phase and get everyone aligned to the coming changes. Practical, which is also a Sage authorized partner, is adding new features to its tools to complement the ERP shift.

A main characteristic will be the development of mobile-based tools and ways for Metrolina and other growers to collect more real-time in-the-field data. “The X3 will be all web-based, which has allowed us to develop more mobile apps that will help growers better utilize their time out in the field,” Fulk says. “We will have apps on their phones and tablets. That will be the biggest advantage.”

For Metrolina, the latest changes in hardware and software are already delivering improvements. Upgraded long-range handheld devices, compatible with the new software features, allow Metrolina employees to scan from farther distances and hook up faster to the Wi-Fi network. Michael VanWingerden notes the devices are scanning 25 percent faster than last year.

Metrolina expects similar gains in other areas as new features sprout up. ■

GROWING RESULTS

Challenge: Metrolina Greenhouses wanted more flexibility and deeper system integration between departments while improving its warehouse management and order fulfillment processes.

Solution: Practical Software Solutions’ *Scan by Cart*, an add-on warehouse automation module for its *Grower Vertical* solution, integrated with Sage ERP 500 to improve order processing, shipping, and billing accuracy.

Results:

- Eliminated shipping errors
- Sped up outbound shipping processes
- Reduced the amount of time truck drivers spend at delivery stops
- Enhanced workflow at loading docks
- Improved billing accuracy to 99.98 percent

Supply Chain Insights

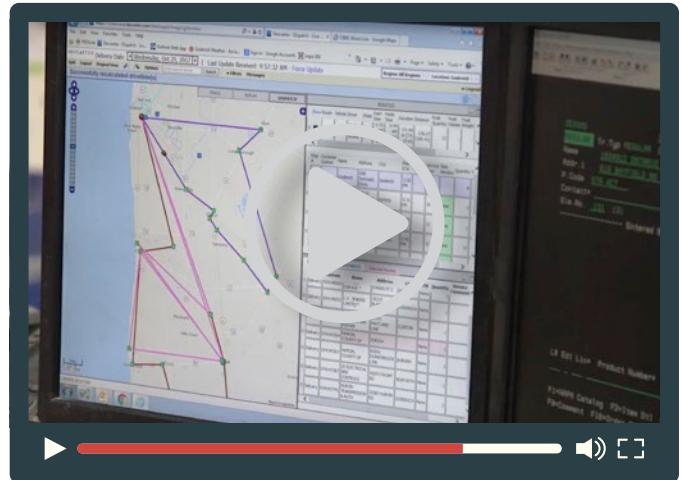
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Supply chain specialists from electrical products company Ideal Supply explain the evolution of transportation management at the 91-year-old family owned and operated business. They describe how a more disciplined approach to distribution operations, supported by Descartes' cloud-based route planning solution, translates into higher levels of customer satisfaction thanks to reliable same-day and overnight delivery of the company's products to customers across Ontario.



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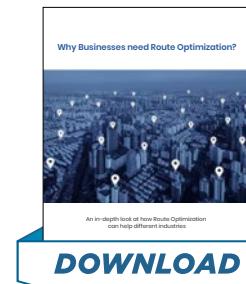


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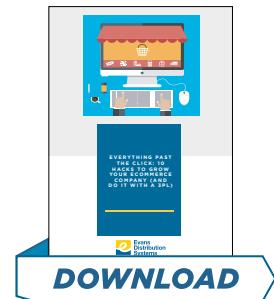


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Constantly Connected: How Cellular is Enabling the Digital Supply Chain

Tive

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podcast



Andrew Cheung

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GUEST: ANDREW CHEUNG

Vice President, Amber Road

Your supply chain is susceptible to everything from natural disaster to geopolitics, but the biggest concern that keeps logistics executives up at night is simply tracking shipments globally to ensure on-time delivery to their customers. Andrew Cheung of Amber Road discusses how digital solutions and data-driven decisions can help increase supply chain visibility and maybe help supply chain execs get some sleep.



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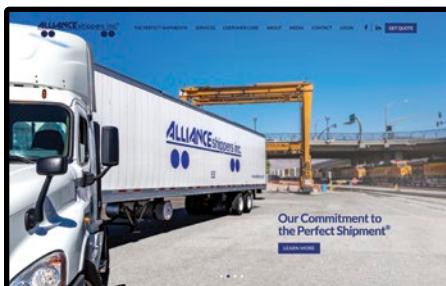
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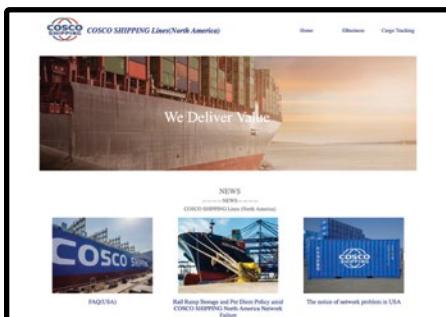
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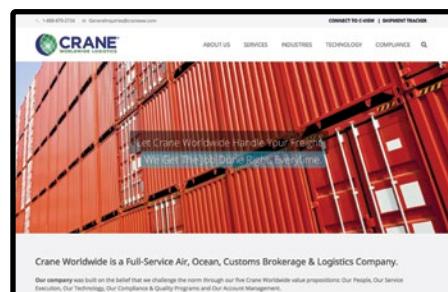


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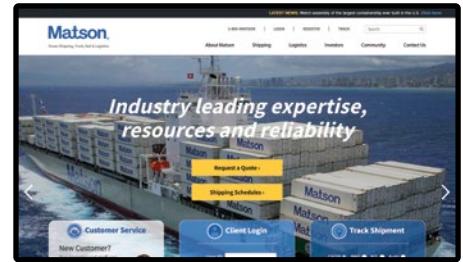
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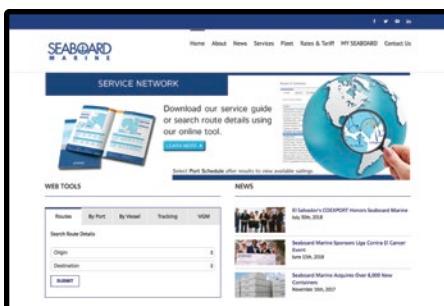
Matson • www.matson.com

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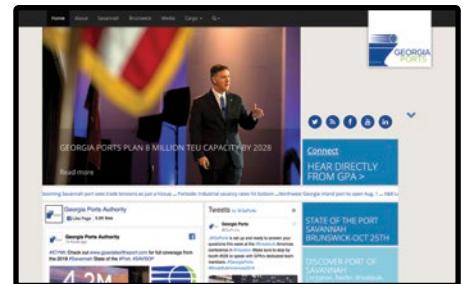
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PORTS

Georgia Ports Authority • www.gaports.com

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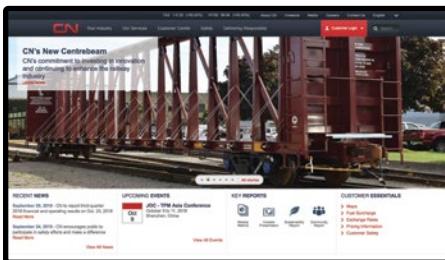
The Northwest Seaport Alliance brings together two of the nation's premier harbors to form a single, integrated gateway. Located in the Pacific Northwest, we offer shorter Asia transits and are the first and last ports of call for many transpacific services. Our combined terminals, carriers and ports of call provide flexibility to suit unique supply chain needs. And our commitment to provide cost-effective, innovative shipping solutions is unparalleled.

Port of Long Beach • www.polb.com

The Port of Long Beach is one of the world's busiest seaports, a leading gateway for trade between the United States and Asia. During the next 10 to 15 years, the Port of Long Beach plans to create at least four container terminals of more than 300 acres each, and to build at least one other large terminal. The new terminals will have dockside rail facilities, which allow cargo to be transferred directly between ships and trains. Such transfers speed deliveries between Long Beach and markets nationwide. For more information on the advantages and services offered by the Port of Long Beach, visit www.polb.com.



RAIL



Canadian National (CN) • www.cn.ca

CN's network of logistics parks are strategically located at the heart of North America to connect your business to world markets. Located in, or adjacent to, its intermodal rail yards, CN provides you with seamless and efficient transportation and easy access to major highways. CN provides access to all key logistics services—rail, intermodal, warehousing, distribution, CargoFlo liquid and dry bulk transload, and Autoport distribution facilities—in one location. As your supply chain partner, CN can help you find your new distribution home.

SITE SELECTION

Watson Land Company • www.watsonlandcompany.com

Watson Land Company is a developer, owner, and manager of industrial properties throughout southern California. With a legacy spanning more than two centuries, Watson's dedication to customers is based on delivering functional, high-quality buildings within masterplanned centers, coupled with unmatched customer service. Watson Land Company's long-standing tradition of integrity, innovation, and fiscal responsibility has made it one of the region's most respected names in commercial real estate, and one of the largest industrial developers in the nation.

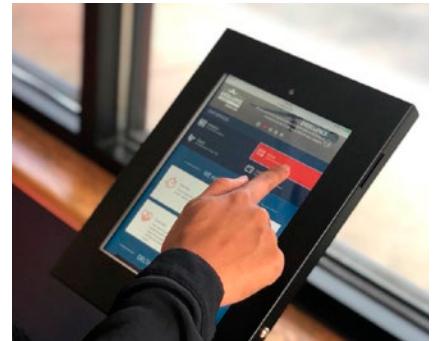


//Transportation//

Air Italy started cargo routes between India, Thailand, and the United States and Milan Malpensa airport, utilizing the 10-ton belly capacity of its A330 fleet. Now represented by Globe Air Cargo USA for all its U.S. cargo operations, the airline plans to offer direct daily flights from Miami and New York to the Milan airport.

Yang Ming Marine Transport (YM) upgraded its China-Vietnam/Thailand service network. Three 2,800-TEU container vessels—one each from YM, OOCL, and Regional Container Lines—operate the China-Ho Chi Minh Express Service, which takes 21 days roundtrip and

► Shippers can now book U.S. domestic product shipments on **Delta Cargo's** self-service iPad kiosks in Atlanta and Boston. Supporting Delta Cargo and the International Air Transport Association's efforts to transition from paper air waybills to electronic air waybills, the kiosks will soon be available in New York - JFK and Seattle cargo acceptance counters.



calls on Dalian, Xingang, Qingdao, Hong Kong, Shekou, Ho Chi Minh, and Incheon.

Launching the first-ever cargo-only route between the African continent and Miami International Airport, **Ethiopian Airlines** started

two weekly freighter flights between the Ethiopian capital of Addis Ababa and Miami. The scheduled flights operate on a route that includes stops in Spain, Colombia, and Belgium on inbound and outbound services. All flights utilize B777-200LRF freighter aircraft.



▲ These industrial-strength printable labels from **Avery Products Corporation** are designed for warehouses and engineered to adhere firmly but remove cleanly—with no scraping—from metal, glass, plastic, fiberglass, polyethylene, and polypropylene. Surface Safe ID Labels are made of a polyester material that supports barcode scanning, even from a distance.

Woodland Group extended its existing China-Europe rail route by adding a Duisburg, Germany-to-London service. The weekly connecting train from Duisburg to London leaves Thursday and arrives Friday. Total transit time from China to the UK is 20-22 days.

ZIM added a port rotation to its India-Mediterranean Express Line (IMX), providing shippers with faster transit times. The line now operates five vessels, and shortens the roundtrip to 35 days. The new rotation starts in Colombo, Sri-Lanka, then Nhava-Sheva and Mundra in India, followed by East

Mediterranean ports. Transit time to East Mediterranean ports is reduced, in some ports by one week to 10 days.

OOCL introduced four Asia-East Africa loops. The new routes provide shippers with competitive services between the Far East and East Africa with direct calls to ports such as Mombasa in Kenya and Dar Es Salaam in Tanzania.

//Technology//

U.S. shippers can now access their customs-related data through Customs Connection, a platform from **DHL Global Forwarding** that simplifies customs processes. Customs Connection offers a dashboard where shippers can view and download current and historical data, filter through commodities/origin and destination categories,

generate reports, obtain invoice information, and view a brokerage costs breakdown.

GoShip.com, an online LTL shipping exchange, added capabilities to its platform to allow shippers more control over shipments. These new features include customer profiles, increased visibility on shipment tracking, and the ability to view every shipment on one dashboard.

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The logo for Absolute Packaging & Supply, Inc. features the word "Absolute" in a bold, sans-serif font. To the left of "Absolute" is a stylized icon of a pen nib pointing upwards and to the right. To the right of "Absolute" is a stylized icon of a pen nib pointing downwards and to the right. Below "Absolute" is the text "PACKAGING & SUPPLY, INC." in a smaller, all-caps, sans-serif font.

Paterson, NJ • www.thisbagisnotatoy.com • 973.278.0202



◀ **Janam's** new Android-based rugged mobile computer XG200 is designed for mobile workers in warehouses, distribution centers, loading docks, and other areas. The XG200's 6300mAh battery is located inside the handle, which makes the device light while also allowing users to quickly hot-swap a battery to eliminate downtime.

Global supply chain stakeholders can now access an online comparison tool to assess carrier services. Freightabase from international freight marketing solutions company **Freight Media** is an online platform for comparing freight carriers, letting shippers find carriers based on price and specific criteria such as location, transportation mode, and specialization.

NEXT Future Transportation, a modular electric vehicle solutions provider, unveiled a warehouse-to-last-mile automated logistics solution that can integrate with the warehouse workflows of retailers, manufacturers, and 3PLs. After an automated warehouse loading process, individual vehicles autonomously connect to form a fleet, and in route, autonomously shift parcels among vehicles for optimal final delivery.

A new platform from **Uber Freight** provides industrial shippers an intuitive way to tender loads and take advantage of Uber Freight's carrier network. Called Uber Freight for Shippers, the free platform lets shippers create and tender loads, see instant marketplace pricing, track freight in real time, and streamline document management.

Aiming to make the freight claim process easier for shippers, **TranSolutions** integrated APIs between Salesforce and freight claim management system *MyEZClaim*. Shippers can merge key data and images directly from Salesforce into an existing *MyEZClaim* account in order to create a claim.

Maersk Line now digitally distributes its rates to shipper, freight forwarder, and NVOCC customers using CargoSphere eSUDS (electronic Smart Upload and Diagnostics Solution) and the CargoSphere Rate Mesh. Its collaboration with CargoSphere, the neutral rate network for container shipping, provides freight forwarders and NVOCCs with data accuracy, online access to timely rates, faster invoice reconciliation, and quicker quoting to customers.

To help distribution centers address e-commerce demands and resource challenges, **Honeywell** is collaborating with Carnegie Mellon University to advance artificial intelligence and robotic technologies in the supply chain. The initiative brings together Honeywell Intelligrated, a division of Honeywell Safety and Productivity Solutions, and Carnegie Mellon's National Robotics Engineering Center to develop robotics solutions to improve order fulfillment.



▲ **NewCold Advanced Cold Logistics**, a warehousing and distribution solutions provider, unveiled a deep-frozen storage and distribution center, one of the largest of its kind in the UK. The Wakefield plant will handle 3 million pallets annually, and with a total volume of more than 4 million cubic meters, the giant deep-freeze facility has the capacity to store 143,000 pallets—at a constant, -23 degrees C or -9.4 degrees F.

► The **Raymond Corporation's** new orderpicker is designed for smaller operations with light-duty cycles. The Raymond Model 5300 orderpicker has a 24-volt battery and is available with two mast options. The system allows for fewer battery changes and advanced diagnostics, reducing maintenance costs and lowering total cost of ownership.

//Products//

A new grocery pallet from reusable packaging provider **ORBIS Corporation** aims to bring safety and speed to grocery and foodservice supply chains. Cleanable and reusable, the new XpressPal Grocery pallet is designed to ship finished goods from distribution centers to retail locations.

Industrial distributors can accurately manage indirect materials and tools through the SupplySystem Scale Module from industrial materials management solutions provider **SupplyPro**. Also called SupplyScale, the module uses weight-based sensing technology to provide accountability at the item level, calculating the number of items taken, returned, or restocked.

Designed to be reused multiple times and recycled, **Litco International's** Inca Engineered Molded Wood Pallets and Core Plugs were recertified in the Cradle to Cradle Certified Products Program. Litco's molded wood products repurpose damaged logs, wood waste, and other wood byproducts in the manufacturing process.

//Services//

Shippers of highly sensitive fruits and vegetables can transport their products longer distances while keeping them fresh with the latest reefer technology from **CMA CGM: CLIMACTIVE**. Designed for organic, high-value-added products, the solution maintains sensitive commodities' freshness to destination by more quickly reducing the oxygen level inside the container.



MercuryGate International, a provider of transportation management systems, launched its Value Assessment offering, a service that helps shippers optimize their supply chain technology and processes. It includes documentation, development of a roadmap, and assistance with execution and project management.

Startups looking for supply chain financing can now turn to Flexport Capital from freight forwarder **Flexport**. While a typical bank loan takes one or two months, the service provides loans more quickly to help companies cover the upfront costs needed to buy inventory from suppliers and ship their cargo.

LeSaint Logistics, an integrated supply chain solutions provider, opened facilities in Ohio, Illinois, California, and Texas to better serve shippers in the CPG/retail, durable goods, food and beverage, and chemical industries. The facilities provide warehousing, order fulfillment, value-added, and specialty services.

◀ Materials handling solutions provider **Combilift** launched a high-capacity powered pallet truck—the Combi-PPT. Its multi-position tiller arm lets operators stand at the side of the unit rather than at the rear, giving them visibility to even the bulkiest loads and their surroundings, eliminating crush risk when working in confined areas, and preventing product damage.





National Industrial Transportation League (NITL)
2019 Transportation Summit

nitl.org | San Antonio, Texas | JAN 21-23, 2019

AUDIENCE: Logistics professionals
FOCUS: Highway transportation update; trends in rail and ocean transportation; navigating the intergenerational workforce; rail, ocean, and highway freight transportation challenges; energy trends

terminals, and the maritime community; changing legislation and new technologies impacting global trade

MAR 10-12, 2019 Savannah, Ga.
 International Warehouse Logistics Association (IWLA)
2019 IWLA Convention & Expo
 bit.ly/IWLA2019

AUDIENCE: Warehouse logistics stakeholders
FOCUS: The warehouse reimaged; incorporating partners' roles in driving logistics forward; effective warehousing strategies; the latest in warehousing innovation

APR 7-10, 2019 Tucson, Ariz.
 Express Carriers Association (ECA)
2019 ECA MarketPlace
 expresscarriers.org/events

AUDIENCE: Supply chain and logistics professionals
FOCUS: Forming logistics partnerships; finding regional and specialized carriers that can provide a viable supply chain alternative; new technologies and transportation services

APR 8-11, 2019 Chicago, Ill.
 MHI
ProMat 2019
 promatshow.com

AUDIENCE: Manufacturing and supply chain professionals
FOCUS: The latest manufacturing, distribution, and supply chain systems; optimizing the future connected supply chain; the future of drone delivery; mobile robots and their supply chain impact; new strategies for facility energy savings

CONFERENCES

NOV 6-7 Princeton, N.J.
 Worldwide Business Research
LogiChem 2018
 logichemus.wbresearch.com

AUDIENCE: Supply chain, logistics, and transportation management executives in the chemical manufacturing sector
FOCUS: Chemical industry trends; chemical logistics, transportation, and distribution challenges; accelerating the digitalization of the chemical supply chain; how to optimize planning, forecasting, and risk mitigation strategies

NOV 14 Miami, Fl.
 LAB Miami Ventures
Future of Logistics Technology Summit
 bit.ly/future_of_logistics2018

AUDIENCE: Supply chain decision-makers
FOCUS: How technology is driving rapid and unprecedented change in the logistics and supply chain sector; digitization of logistics; driving global trade with blockchain; autonomous technology in logistics

NOV 29-30 New York, N.Y.
 Progressive Railroading
RailTrends 2018
 railtrends.com

AUDIENCE: Rail industry professionals
FOCUS: State of the industry—today's economic operations and directions in rail; achieving growth at lower costs; rail vs. truck—missed opportunities; Federal Railroad Administration viewpoint; perspectives and insights from multiple industry stakeholders; short lines' competitive advantage

DEC 3-4 Houston, Texas
 University of Houston and Blockchain Technology Initiatives
XChain2: Blockchain for Supply Chain and Logistics Forum
 blockchainsupplychain.io

AUDIENCE: Supply chain stakeholders, solution providers, and business leaders, as well as technologists
FOCUS: Blockchain, AI, and IoE synergies and their supply chain impact; how these revolutionary technologies have solved real-world problems in logistics; pilot projects and the value they added; how to incorporate blockchain, AI, and IoE into business practices

JAN 21-25, 2019 ChampionsGate, Fla.
 PEX Network
OPEX Week: Business Transformation World Summit 2019
 opexweek.com

AUDIENCE: Operational excellence and business transformation executives
FOCUS: Aligning transformation strategy, OPEX, and process architecture; 3M's value-driven global transformation; harnessing intelligent technology solutions and process reengineering

FEB 3-5, 2019 Sea Island, Ga.
 Georgia Ports Authority
Georgia Foreign Trade Conference
 gaforeigntrade.com

AUDIENCE: Senior-level shippers, maritime executives, senior managers, and decision-makers
FOCUS: Current and future market conditions and growth opportunities; challenges facing shippers, carriers, ports,

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United States Postal Service Statement of Ownership, Management and Circulation

(Required by 39 USC 3685)

1. **Publication Title:** Inbound Logistics
2. **Publication No.:** 703-9903
3. **Filing Date:** October 2018
4. **Issue Frequency:** Monthly
5. **Number of Issues Published Annually:** 12
6. **Annual Subscription Price:** Request
7. **Complete Mailing Address of Known Office of Publication:**
Five Penn Plaza, New York, NY 10001
8. **Complete Mailing Address of Headquarters or General Business Office of Publisher:** Five Penn Plaza, New York, NY 10001
9. **Full Names and Complete Mailing Addresses of:**
Publisher—Keith Biondo, Five Penn Plaza, New York, NY 10001
Editor—Felecia Stratton, Five Penn Plaza, New York, NY 10001
10. **Owner:** Thomas Publishing Company LLC
Five Penn Plaza, New York, NY 10001
C.T. Holst-Knudsen, Five Penn Plaza, New York, NY 10001
J. Andrade, Five Penn Plaza, New York, NY 10001

15. Extent & Nature of Circulation	Average No. Copies Each Issue of Circulation During Preceding 12 Months	Average No. Copies of Single Issue Published Nearest to Filing Date
a) Total No. Copies	52,231	56,000
b) Paid and/or Requested Circulation	47,963	53,110
c) Total Paid and/or Requested Circulation	47,977	53,124

d) 1. Free Distribution by Mail	1,275	1,233
d) 4. Free Distribution Outside the Mail	1,261	563
e) Total Free Distribution	2,536	1,796
f) Total Distribution	50,513	54,920
g) 1. Copies not Distributed	1,718	1,080
2. Return from News Agents	—	—
h) Total	52,231	56,000
Percent Paid and/or Requested Circulation	94.98%	96.73%

17. **Signature and Title of Editor, Publisher, Business Manager or Owner:** Keith Biondo, Publisher

Combined Statement of Digital and Print Circulation

1. **Publication Title:** Inbound Logistics

	Average No. Digital Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
Printed Circulation as reported on PS Form 3526, Line 15B	47,963	53,110
Digital Circulation	18,511	19,615
Total Circulation	66,474	72,725

- Signature and Title of Editor, Publisher, Business Manager or Owner:** Keith Biondo, Publisher

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10.18

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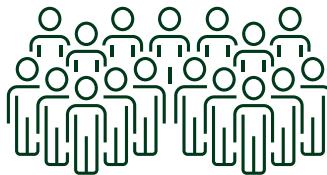
E-commerce sales are expected to rise to between **\$124 billion** and **\$134 billion**, a 17- to 22-percent year-over-year jump from 2017.

Retailers take note: Returns are expected to hit their peak in the third week of January 2019.

JANUARY 2019						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Approximately

100,000



Number of workers UPS plans to add from **November through January**, up from **95,000** in 2017.

Up to \$720.89 billion

Total projected holiday retail sales in November and December 2018 — excluding automobiles, gasoline, and restaurants. This is an expected increase of between 4.3 and 4.8 percent over 2017. The forecast compares with an average annual increase of 3.9 percent over the past five years.

Up to 650,000

Projected number of temporary workers retailers will hire in the 2018 holiday season, up from last year's **582,500**.



Last holiday season, **Target** stores fulfilled

OMNICHANNEL GROWTH

Approximately

23,500

of the 80,000 total seasonal positions Macy's plans to fill this year will be based in direct-to-consumer fulfillment facilities.



LOGISTICS SERVICE PROVIDERS GO ON A HOLIDAY HIRING SPREE

Number of seasonal workers expected

55,000 – FedEx Corp.

8,000 – XPO

70 PERCENT

of all digital orders. In 2018, that percentage will be even higher.

The retailer is hiring

120,000 TEMPORARY WORKERS

or 20 percent more people than it did one year ago.

FRIDAY, DECEMBER 21

Will see a spike in panic buying online, as it's the last day for guaranteed Christmas Eve delivery.

Sources: James and James Fulfillment; The Wall Street Journal; CNBC; National Retail Federation; Chain Store Age; Deloitte's annual retail holiday sales forecast



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