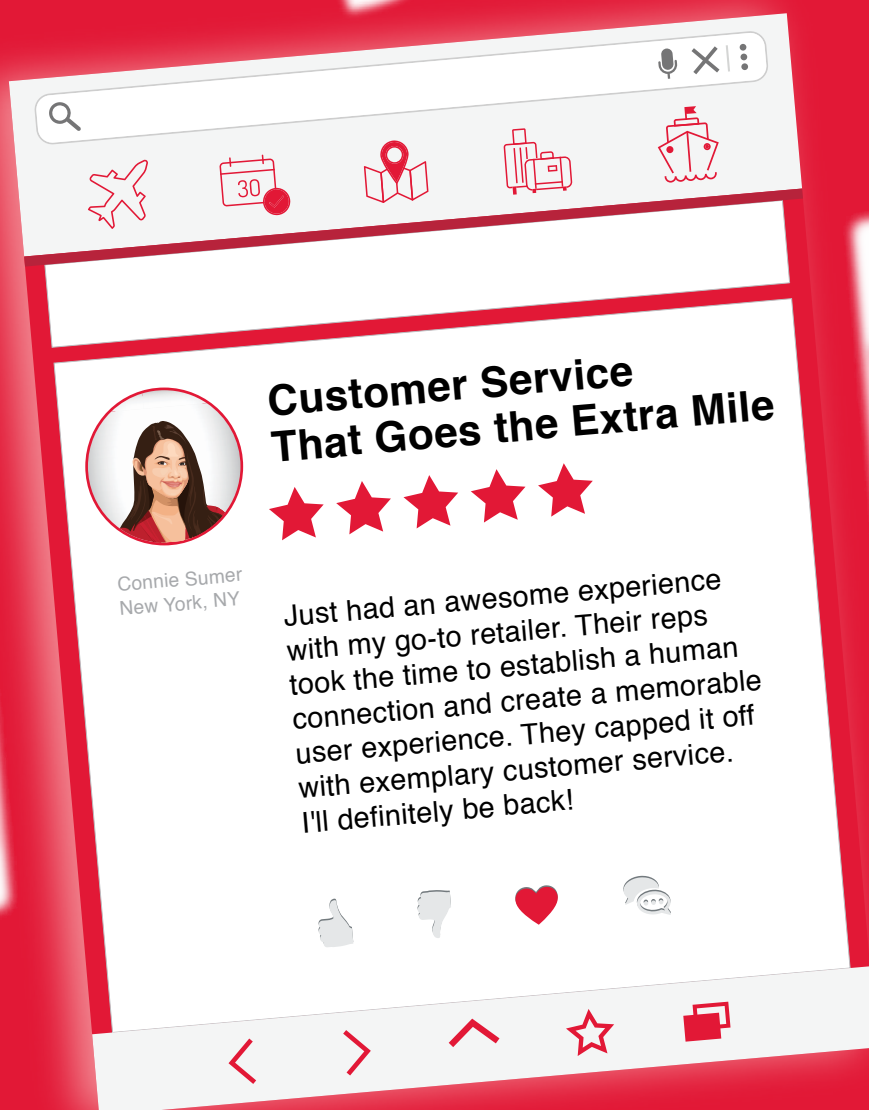


EDUCATION/CAREER SOLUTIONS

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Consumer Appetites

2018: A Supply Chain
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BITE SIZED SUPPLY CHAIN/LOGISTICS INFORMATION

And the Winners Are...

...Black Friday and mobile shopping during the crucial Thanksgiving through Cyber Monday shopping period in the United States.

- Black Friday revenue was up 13% over 2017.
- Mobile web accounted for 66% of all digital traffic to retail websites and 49% of all orders placed.

– Source: Salesforce (Data includes mobile site data only and does not include tablets or mobile apps.)



Great Expectations

U.S. logistics and transportation companies remain optimistic about the economy as well as hiring, revenues, and profitability for the near future:

- 74% are optimistic about the U.S. economy over the next three months (unchanged from Q2 2018).
- 80% expect increased revenues (up from previous quarter 75%) and 73% expect increased profitability (up from 67%).
- Inflationary pressure still strong as 56% plan to increase prices in next quarter.
- By a 2-to-1 margin, a workforce shortage remains a bigger obstacle to growth than trade tariffs.

– Source: U.S. Logistics and Transportation Q3 2018 survey, TCompanies

You're Majoring in WHAT?

"I started at Penn State as a marketing major because that's what girls did in 1985. Then I took Introduction to Business Logistics 101, and decided to change my major. My dad's reaction: 'what the heck is business logistics?'"

– Denise Kopko, vice president of operations-commercial, supply chain and logistics, Veolia North America

(see Reader Profile, p. 20)

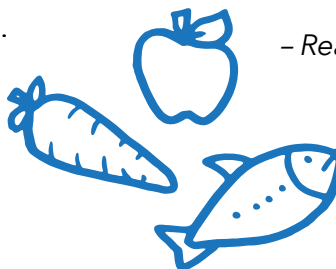
\$720 billion to \$885 billion

The funds that could be made available for state and local governments to spend on new infrastructure projects by leasing the country's largest existing U.S. toll roads, bridges, airports, seaports, water and wastewater facilities, and university parking systems to private partners.

– Reason Foundation Study
(see Trends, p. 26)

Chippy and Bevvv

Food and produce are the overall most popular and high-demand products exported to the U.K. By country, Iceland sends mostly fish fillets, New Zealand provides lamb and poultry, and Chile supplies the wine.



TRAINING

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¹2017 Mastio & Co. National LTL Carrier Report.

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KEEPING UP WITH B2B FULFILLMENT DEMANDS
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ONLINE COMMENTARY



Supply Chain Scorecards:

A Tool for the Times bit.ly/SCscorecards

Supply chain managers can optimize performance across all supply chain functions with these customizable, multi-metric assessment tools.



The Benefits of New Mobile Weighing Technologies

bit.ly/mobileweighing

By weighing packages at the point of loading and unloading, mobile technologies meet the need for speed. This article weighs in on the operational improvements they bring.



Keeping up with B2B Fulfillment Demands During the Holiday Season bit.ly/b2bfulfillment

While many business-to-business retailers are not set up to handle small orders, they can still meet peak season sales demands. Maximize fulfillment strategies by following these steps.

FOR MORE NEWS, TRENDS, AND COMMENTARY
SEE INBOUNDLOGISTICS.COM



LOGISTICS PLANNER RESOURCES

Planner Profiles

bit.ly/logisticsplannerIL

The Logistics Planner Profiles let you explore, in depth, the 3PLs, warehousing, technology, and transportation providers that can help you cut transportation and logistics costs, boost efficiency, and improve supply chain operations.

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CHECKING IN

Felecia Stratton

by Felecia Stratton | **Editor**



A Lot to Learn

In the not-so-distant past, logistics and supply chain practitioners had just a few ways to boost their skillsets and keep current on the latest best practices. The options were mostly limited to on-the-job training, or required an unrealistic investment in time.

Today, a world of resources is available to help even the busiest logistics professionals hone their skillsets. All you need is the motivation to learn, and a little time. Here are just a few options.

Flexible continuing education courseware. As the supply chain and logistics sector grows more complex, continuing education programs are adapting with new options and revised traditional offerings. The article *Continuing Education: What's on the Menu?* (page 48) features a wide variety of new and refreshed courseware designed to keep you ahead of the learning curve. Good news: Many of these new offerings are learn at your own pace or on demand.

Podcasts focused on supply chain and logistics management are a thing now. You can listen to them while walking on the treadmill or during drive time. *Inbound Logistics* offers a variety of podcasts at bit.ly/PodcastILL.

Online logistics assessment tools. Self-assessment tools help identify weak spots that may exist in your network. Zebra Technologies offers three cool ones at bit.ly/ZebraILL. Two of them address competencies that have surged in importance in today's e-commerce age: returns management and digital supply chains. The third tool measures your team's collaboration skills, which are crucial with tighter supply chain integration.

Whitepapers have been around for a long time, but the latest offerings feature higher quality content than in the past. Carriers, technology companies, and logistics providers now realize that to set their brand and solutions apart in a market crowded with messages, they have to provide solid information in their whitepapers, not just brag on their abilities. More than 200 whitepapers are available for free download at inboundlogistics.com/cms/whitepapers.

Trade shows and conferences. Industry conferences, such as the ones offered by MHI, now take a broader approach to bring value to attendees. They stay ahead of the education curve by offering workshops, roundtables, and exhibits on myriad topics relevant to managing successful global supply chains.

Many companies will be using supply chain proficiency to stay ahead of the competition in the coming years. A diverse and rich resource pool of information is available. Dive right in.

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Good Question...

READERS WEIGH IN

What are your top supply chain predictions for 2019?



Next year will see the supply chain become much smarter and more efficient by embracing the freight data visibility era.

Jesper Bennike
CEO, GateHouse Logistics

Uber Freight and other new platforms will power increasingly connected truckers and LTL providers into the gig economy.

Steve Dowse
SVP, Product Management
Blume Global

Supply chains will continue their evolution from the traditional lean standard strategy to more of a flexible and elastic supply chain to meet market and logistics fluctuations. These changes will allow supply chain managers to incorporate flexible solutions for their customers, especially in the e-commerce environment.

Mick McGrory
Vice President, Strategic Accounts
Sunset Transportation

As political uncertainty increases, we will see the resurgence of tariff engineering, along with increasing supply chain complexity. The trucker shortage will get worse, and companies will search for alternative transportation methods. Lower oil costs will help keep costs down.

Steven J. Bowen
Chairman & CEO, Maine Pointe

Businesses that have not already done so will adapt a portion of their supply chain to support the e-commerce market. Innovative tools are being developed now to merge and reduce the challenges of e-commerce coupled with traditional freight forwarding.

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

Tariffs remain, a truck driver shortage remains, and higher interest rates push global inventories down.

Jeremy Rogers, MBA, CSCP
Manager, Supply Chain Operations
Wheeler Bros.

The venture capital and private equity dollars flowing into supply chain execution and transportation integration and visibility software companies will dry up. The

truckload market is going to correct by mid-year, pick back up for peak, but rates will be down about 10 percent from where they are today. There will still be no scalable in-practice use cases for blockchain—pilots and proof-of-concepts will continue—but no clear disruptor ready for the broader market.

Geoff Milsom
Senior Director, enVista

The cold storage supply chain will face headwinds driven by capacity constraints, growing consumer demand for fresh foods, and the need for greater inventory control.

Carl Fowler
SVP, Business Development
Americold

Cost optimization and not enough drivers.

Grzegorz Pietruszka
Production & Supply Planning
Senior Specialist
Electrolux

HAVE A GREAT ANSWER TO A GOOD QUESTION?

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

What's your best supply chain tip?

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Retail Supply Chain: Artificial Intelligence Powers the Future

Re. Retailers Plug Into AI

bit.ly/plugintoAI

Brick-and-mortar retail businesses are turning their attention to AI to significantly improve customer experience, profitability, and competitiveness. In 2019, we will see the emergence of new data sources (surveillance cameras, on-the-shelf-cameras, robots) and AI models for inventory management, better customer retail experiences, targeted marketing, and new capabilities such as self-checkout.

Atif Kureishy
Vice President, Global Emerging Practices
Teradata, via email

What's Next in Last-Mile Delivery

Re. Checking In: The Last Grimy Mile

bit.ly/ILcheckingin_lastmile

Consumer expectations for conveniently timed delivery continue to skyrocket, forcing retailers to allocate more resources to innovations in last-mile delivery. As Amazon continues to experiment with last-mile delivery options like Amazon Key and delivery to the trunk of your car, retailers will have to think about how to innovate in the last mile without allocating a ton of resources from the rest of their supply chain.

Look for differentiated strategies that involve broader numbers of service providers in the mix and aggressive inventory efficiency strategies such as more brands using existing store locations as distribution centers for delivery fulfillment. Leveraging the physical store can be a real service and cost advantage.

Chris Miller
Vice President of Logistics
Narvar, via email

How to Be Practical About Advanced Technology

Re. Bridging the Gap Between Craft and Technology

bit.ly/applyingtechnSC

Well stated. Technology is definitely a disruptor, but it is how the experts in their field utilize it to understand the customer that is critical to success.

Tech is an accelerator. Not truly understanding the business objectives and challenges will only hasten the problem. A company must evolve with customer demand or be left behind. Recent examples include Blockbuster, Kodak, and Borders.

Applying tech without truly understanding the customer is also fatal. Pets.com, Webvan.com, eToys.com, Garden.com—all notable dotcom busts.

Artificial intelligence will enhance customer service, but will never truly replace person-to-person interaction to solve a complex customer problem. Business success distills into two questions: 1) Who is your customer? and 2) How well do you solve their problems?

Peter Nguyen, via online

Rising Truckload Costs: Here to Stay

Re. How to Contain Rising Truckload Prices

bit.ly/risingtruckloadprices

Typically in markets the pendulum will swing back and forth correcting itself. But as you look at labor and its competing markets, you need to have a physical driver who also has self interests; the demand for the driver is higher than the supply, and this is not going to change anytime soon. This means rates for shipping will go up, as will everything else that is affected by the supply chain.

Vinay D. Cardwell, via online

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Selecting a Cloud-based TMS

Selecting and implementing a SaaS-based Transportation Management System (TMS) requires careful thought. Future users and decision-makers need to:

1 ESTABLISH CLEAR GOALS AND PRIORITIES IN ADVANCE

Clearly understanding your priorities and goals in advance will help narrow your TMS search to only those SaaS platforms that meet your needs. Calculate the expected return on investment. Cloud-based TMS platforms may have quicker implementation times, leading to faster ROI.

2 GET KEY STAKEHOLDERS ON BOARD EARLY

Get a clear understanding of your business needs by looping in key stakeholders early in the process to avoid delays and setbacks. Think about how financial teams, procurement, and warehouse employees can leverage the TMS.

3 LOOK FOR AGILE VENDORS THAT CAN GROW WITH YOU

The TMS vendor you select should be able to scale with you as your business needs change. Some cloud-based TMS solutions offer lots of flexibility by starting with basic functionality that can be expanded through adding advanced modules. This means that you only pay for the features you need.

4 SEEK A USER-FRIENDLY INTERFACE

User experience should be a big part of your selection process; make sure that the daily users will actually be able to use it. A TMS with customizable dashboards and tools will also help keep operations flowing smoothly.

5 ASK HOW LONG THE TYPICAL IMPLEMENTATION TAKES

Long implementation times can drastically eat into your ROI. The technology won't do your business any good if implementation times last many months or even years.

6 SEE WHAT OTHERS ARE SAYING

Before you select and implement a TMS, refer to review sites such as Capterra, Software Advice, and Gartner Peer Insights to get feedback from other buyers.

7 LOOK FOR PACKAGED ERP INTEGRATIONS

Integrating your TMS with your ERP system can bring enormous efficiencies. If these integrations are out-of-the-box, they can be implemented quickly so that you can see ROI immediately. By integrating your TMS and ERP, you'll reduce the need to re-enter information between systems and facilitate the rapid creation of shipments with correct documentation.

8 ASK ABOUT THE CARRIER NETWORK AND EASE OF ONBOARDING CARRIERS.

The more carriers you have to choose from, the more likely it is that you'll find the best rate for each shipment. Check to make sure the TMS doesn't limit you to certain carriers as that could stifle your opportunities for savings and efficiency. If you can easily connect all the carriers of your choosing, you'll have a better chance of finding available trucks during the capacity crunch.

9 TAKE A TEST DRIVE

One of the best ways to get a feel for the interface and see if the functionality will fit your business needs is to test the platform yourself. Find out if there is a freemium version of the tech or if a free trial is available. Giving yourself some time to check out the tool in a risk-free environment will help you make a final decision when selecting a TMS to implement.

10 GET A DEMO

Seeing is believing and a demo can help you make a final decision on your cloud-based SaaS TMS. During the demo, you'll be able to ask all of your questions and get answers directly from an expert. You may discover features that you didn't know about or uncover obstacles you need to tackle before you get further into the process.

Source: Dan Clark, Founder and President, Kuebix

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NEWS & TRENDS IMPACTING THE

HEALTHCARE SUPPLY CHAIN

85 percent of hospital executives say that reducing supply chain waste and related costs is a top strategic priority.

—Cardinal Health

WHAT'S THE PROGNOSIS?

As the supply chain ecosystem evolves in 2019, healthcare leaders must focus on collaboration and purpose to ensure optimization, according to Steve Dowse, senior vice president of product management for supply chain solutions provider Blume Global.

Here are his predictions for the healthcare supply chain next year:

- 1. Rising tariffs.** Increasing tariffs on various products will remain a concern for the healthcare industry, forcing the C-suite to rethink its current manufacturing strategies and global operations.
- 2. Emergence of artificial intelligence.** AI and machine learning will fill the gap between information and optimization, harnessing and analyzing data generated by connected medical devices.
- 3. On-demand freight.** Uber Freight and other new platforms will push more trucking companies into the gig economy. This may affect delivery speed.
- 4. Competitive advantages.** Supply chains that have access to data, AI, and machine learning may begin to see a competitive advantage in the market.
- 5. The move to orchestration.** Orchestration is the process of arranging and coordinating automated tasks to consolidate a process or workflow. With advanced technology, "organizations will become poised to move from automation to orchestration," Dowse says.

—Alia Paavola, *Becker's Hospital Review*

Each hospital could save around \$11 million per year if it transformed its supply chain. That's equivalent to the salaries of more than 100 registered nurses, or the cost of thousands of cardiac defibrillators.

—Navigant survey of 2,300 hospitals across the United States

SUPPLY CHAIN GOES TO WASTE

The prognosis is not good: Research suggests that hospitals in the United States are expected to waste \$25.4 billion across the supply chain by the end of 2018. To remedy the situation, many healthcare leaders are now looking to demonstrate healthy financial stewardship by analyzing common causes of supply chain waste and how to best mitigate them.

Healthcare industry leadership can address several main symptoms to cut down on waste. These include:

Data silos. In many cases the abundance of data available for analysis isn't yet effectively integrated. With so many contracted vendors, it can be challenging to identify overlapping expenses or other opportunities for cost savings. Also, expensive purchase orders are often placed as the necessary supplies languish in a closet or on another floor.

Rx: Reduce the number of suppliers and contracts, rewarding those that provide the highest quality at the best rates in order to take advantage of economies of scale.

Skills shortage. A huge amount of information is available to help healthcare managers streamline and optimize supply chain processes. But the deluge of data often proves overwhelming for those who have not been trained in effectively implementing analytical tools, let alone leveraging artificial intelligence or machine learning solutions.

Rx: Automate processes where possible to reduce the potential for human error. At the same time, technology can identify anomalies in purchase orders and requisitions, and, ultimately, via predictive analytics, bring about smarter purchasing and product sourcing decisions.

Clinical variations. With a lack of integration and shortage of staff that can accurately monitor and maintain supply chain spending, there is little transparency offered for price variations or supply chain shortfalls. All too often, the goal is simply to maintain the status quo.

Rx: Standardize the type and frequency of products used to control costs while still producing clinically equivalent outcomes.

—ThomasNet



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Mark Baker
Chief Technology Officer,
Pilot Freight Services

LEADERSHIP

Conversations With The Captains of Industry

By Merrill Douglas

What Are the Possibilities?

AS CHIEF TECHNOLOGY OFFICER AT Pilot Freight Services, Mark Baker's mission is to lead the company through a digital transformation. "Like a lot of companies, Pilot has had some excellent technology solutions but still runs legacy back office systems using COBOL, FORTRAN, and RPG," he says. A business that relies on mainframe-era technology can't easily profit from modern innovations such as cloud computing and the Internet of Things.

And a company relying on legacy systems can't continue to grow at the rate that Pilot has seen in recent years, says Baker, who joined the company in 2018. Now he's working to steer Pilot into the 21st century, and to help complete the transition from a family-owned firm to a business that could one day go public.

Inbound Logistics recently caught up with Baker to learn about the forces that shaped him as a logistics technology leader and about his current activities.

IL: How have you been spending your time at Pilot since you arrived?

As in any position at this level, I spent the first three months assessing my team, the available resources, and

the applications the company was running, among other things. Today, I spend a lot of my time focused on three key areas: the enterprise applications group, which does much of the development; IT operations, which manages the infrastructure; and project management. I also interact with our business groups to understand their fast-paced, constantly shifting needs.

Because the domestic home delivery market makes up a large portion of our business, we onboard many e-commerce clients. Implementing systems to strengthen our global service offerings is a big priority. I moved my last company, JAS Forwarding Worldwide, from a legacy system written in RPG to a modern, cloud-based enterprise resource planning (ERP) system that operates in real time around the world. I'm doing something similar at Pilot.

IL: What have been your top priority projects at Pilot to date?

One is to implement the same CargoWise One ERP platform that we put in place at JAS. The legacy system at Pilot wasn't designed for the international world, with currency conversion, tax reporting, and other functions you need on a global system.

We are also examining the large collection of applications Pilot has been using to conduct business. It's like a quilt: It has been patched together. But the architectural piece was missing. As Pilot started scaling up to do billions of dollars of business, it was hitting a ceiling with its technology. We have

had to figure out how to break through that ceiling and take the business forward.

//: Tell us about an early experience that helped shape you as a leader.

In the 1990s, I worked in the IT department of the Boys & Girls Clubs of America. One day I mentioned to the CEO at the time, Tom Garth, how cool it would be if we could put technology into the hands of the 2.5 million kids the Boys & Girls Clubs were serving back then. This was in the days when we heard a lot about the digital divide, the gap between people who had access to technology and those who didn't.

Tom thought it was a great idea, so we put together a program called Club Tech, with help from Digital Equipment, Microsoft, the U.S. Department of Justice, and private funders. The program still exists in the clubs today.

That initiative defined me as a leader. I discovered that I am a visionary, the type of person who is always thinking 24 to 36 months down the road, asking, "What are the possibilities?"

//: Besides being a visionary, what other qualities make you an effective leader?

I think God put us on earth not to be mediocre. Why not be the best you can be? To do that, you need to cast a vision of where you're trying to go. This is one of the most important steps when I take over at a new company: Define what you want the IT organization to look like, in a way that lines up with the company's mission and vision.

I keep up with the latest developments in technology so I can help our engineers understand how IT enables the company's strategy, expansion, and market share. I have to think about what's important to our board, but translate those concerns to the teams I'm leading so they understand the work plans. In other words, I'm a bridge builder.

But I am also constantly creating pathways for people to work their way up into new roles. Also, my Christian faith is incredibly important to me. It keeps me grounded both in my personal life and my profession.

//: Who is a business leader you admire?

I've been a fan of Walt Disney for years. There's a picture in my office, which I've carried around through several jobs, that

shows Walt standing in front of Cinderella's Castle in the 1950s, with tractors driving around, clearing the land. It displays the word "Vision," and there's a quote: "It's kind of fun to do the impossible." I'm fascinated by how he was able to turn vision into reality. I'd love to sit down with Walt and find out what he'd be dreaming about today.

//: What has been one of your best days since you joined Pilot?

It was my first day of work. We're based near Philadelphia, and the Eagles had just won the Super Bowl the night before. As the new guy, I did a lot of meet and greet. There were a lot of happy people around here that day. Seeing their enthusiasm was great.

//: How do you spend your time when you're not at work?

I spend a lot of time with my family. Sometimes I golf with my sons, but not as often as I would like. I also love to do home improvement projects. I just completed a master bath renovation, doing all the work myself, including the plumbing and electric. Now I'm on the lookout for a beachfront bargain I can work on.

Back to the Future

Mark Baker's first experience with technology was running the Chiron generator—the system that produces scrolling graphics at the bottom of the screen—for his church's television ministry. After studying Basic programming in college, he applied his new know-how to his father's regional trucking company, buying an early-generation personal computer from Radio Shack and creating software for route optimization and billing.

After a while, Baker realized he didn't want to work in a family business. "And the world of logistics drove me crazy, how slow it was to evolve," he says. He took a long detour, holding IT positions with employers such as Shop 'n Chek, the Boys & Girls Clubs, and IBM. But then a recruiter connected him with ABX Logistics in 2003. "I went back into logistics reluctantly," he says. "It hadn't changed since the day I left. But I realized that the industry had the potential for a lot of modernization and digital transformation."

Being part of that change is a great deal of fun, Baker says. "I think of my father looking down at me and having a good laugh, because I swore I'd never get back into it."



Denise Kopko is vice president of operations-commercial, supply chain and logistics, with Veolia North America, an environmental services company that designs and provides water, waste, and energy management solutions for commercial, municipal, and industrial customers.

RESPONSIBILITIES

Profit and loss, commercial, supply chain, logistics, and the customer service within Veolia's regeneration services business.

EXPERIENCE

Global marketing intelligence leader, global demand manager, North American business; marketing manager and numerous business, supply chain and logistics positions within Chemours and DuPont.

EDUCATION

Penn State University, B.S., Logistics 1989; Drexel University, M.B.A., 1995.

Regenerating Logistics

CAME TO VEOLIA IN JANUARY 2017, ABOUT 25 DAYS BEFORE our service level agreement with Chemours was set to expire. Veolia had purchased the Regeneration Service Business from Chemours in July 2016.

My job, along with many others, was to ensure a seamless transition from Chemours to Veolia. Within my first week, we recognized we were significantly behind in transitioning our systems and logistics agreements. Through my team's hard work, we were able to stand up Regeneration Services on its own SAP system and transition all the support functions on time.

Veolia's regeneration services make for a logistics-intensive business. We have more than 1,000 rail cars in our fleet, operate several barges, and handle 21,000-plus bulk truck shipments each year.

One current focus is on driver availability. We're working to cut wait

time at our plants and our customers' facilities by pre-loading trailers so drivers can come in, check their paperwork, and go. This can save 45 minutes to one hour.

We've also worked closely with customers to ensure that when our drivers arrive, they don't sit in line for hours. When we find those situations, we meet with the customer and figure out what to do. We're not always successful, but we've made significant improvements.

We're committed to zero incidents. When one does happen, we do a root-cause investigation to figure out how to prevent future incidents. At one site, we changed out a long-standing carrier

The Big Questions

What supply chain-disrupting technology would you speed development of?

Becoming completely digital and visible from customer order to delivery, so the whole supply chain happens seamlessly.

Words to live by?

My husband's illness changed my perspective: "Don't sweat the small stuff and it's all small stuff." Also

"Live each day to the fullest. Today is not a dress rehearsal."

You're throwing the perfect dinner party. Who do you invite?

My grandmother, my dad, and my husband, who all have passed away. They were extremely important people who have had a profound effect on my life and my success. I would give anything to have one more dinner with them.

because it couldn't attract the drivers we needed to service customers reliably.

I started at Penn State as a marketing major because that's what girls did in 1985. Then I took Introduction to Business Logistics 101 with Dr. John Coyle and thought, "Wow. This is really interesting." I called home and told my parents I was going to change my major to business logistics. My dad said, "What the heck is business logistics?"

So, I graduated with a degree in logistics and supply chain before it was a popular major. It was the best decision I have ever made. I've had some great

jobs and incredible opportunities.

In 1991, I was the logistics manager for a product we had sold to a customer in Uzbekistan. We had to figure out how to get the product from the United States to Uzbekistan. It's a landlocked country, which meant going through Russia. At the time, it was illegal to ship this product through Russia to Uzbekistan.

My boss and I went to Russia to get special permits. He was the leader, but I knew the details. So as a young female, I had to convince the Russian Ministry, mostly older gentlemen, that

we could do this safely and reliably and without any environmental incidents. We succeeded.

In 2011, my husband passed away after a long battle with cancer. I have three children and needed to step back and travel less. I went into some marketing roles, but when I joined Veolia in 2017, it felt like coming home.

Veolia is a great company and I have an excellent team and co-workers. No matter what we're faced with, we pull together and accomplish whatever task we set out to do. Every day I get out of bed and can't wait to get to work. ■

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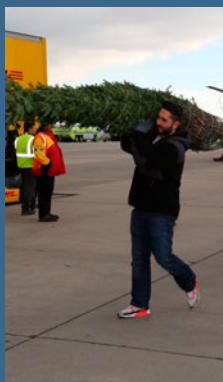
NOTED

THE SUPPLY CHAIN IN BRIEF

GOOD WORKS



DHL Express delivered hundreds of fresh-cut Christmas trees; thousands of handwritten letters; and menorahs, decorations, and gifts to U.S. military personnel stationed abroad as part of its charitable program Operation Holiday Cheer, now in its 15th year. The haul arrived at U.S. bases in Afghanistan, Bahrain, and Kuwait in time for the holidays.



SEALED DEALS



◀ Clothing retailer **Brooks Brothers** chose a **Manhattan Associates** solution to improve the omnichannel buying experience for customers across its worldwide network of 300 retail locations. Brooks Brothers selected *Manhattan Active Omni*, which combines order management and store fulfillment applications on one platform, providing the retailer with visibility into customer information and access to its inventory network.

m&a



▲ Logistics and supply chain solutions provider **Broekman Logistics** acquired the **VLS-Group's** warehousing activities in Belgium and the Netherlands. With this deal, Broekman Logistics increases its storage space and strengthens its offerings in the warehousing, distribution, and value-added logistics of packed and specialty chemicals in western Europe.

To expand its capabilities in digital supply chains, **Accenture** acquired **Intrigo Systems**, a provider of advisory and systems integration services for SAP enterprise and cloud solutions in supply chain, e-commerce, and procurement. The acquisition strengthens Accenture's capabilities in delivering end-to-end supply chain transformations that can help shippers gain visibility and make better buying decisions.

E2open acquired **INTTRA**, combining its global supply chain and logistics network of more than 200,000 users and 70,000 partner companies with the largest ocean shipping network. With this deal, customers of both companies are expected to gain improved efficiencies and ease of use across their global supply chains.

UP THE CHAIN

Koen Van Bergen was appointed director of livestock and supply chain by meat producer **Vion**. Effective January 1, 2019, he will be responsible for developing a demand-driven supply chain and for operational management of the farming department.



GREEN SEEDS

Freight forwarder **Panalpina** and shipping group **CMA CGM** signed a sustainability agreement aimed at reducing their respective carbon emissions by 2025. Utilizing newbuild LNG-powered mega-vessels with a 22,000-TEU capacity will help achieve their environmental goals.

Ryder System, a provider of commercial fleet management, dedicated transportation, and supply chain solutions, received the 2018 Green Fleet Award in the special category from the Sacramento Clean Cities Coalition, a government-industry partnership designed to reduce petroleum consumption in the transportation sector. Ryder was recognized for its efforts to help fleets move to zero-emission vehicles with less risk.

GOOD WORKS



Transportation provider **Leonard's Express** donates one penny per mile for every mile this truck (above) travels, in partnership with the Greater Rochester Parkinson's Foundation. The truck, which features a decal to create awareness to the disease, will run approximately 125,000 miles per year.

Volga-Dnepr Airlines delivered generators and a water purification system to Indonesia to support the international humanitarian mission dealing with the aftermath of the earthquake and tsunami that struck Sulawesi Island at the end of September 2018. One Volga-Dnepr Airlines freighter completed the flight from Châlons Vatry Airport in France to the Indonesian city of Balikpapan.

recognition

Werner Enterprises, a transportation and logistics company, was named one of the **Top 50 Companies for Women to Work for in Transportation** by the Women in Trucking Association. Werner was honored for its support of gender diversity, flexible hours and work requirements, competitive compensation and benefits, and professional development and career advancement opportunities.

Transportation management provider Transplace named **Dayton Freight Lines** as its **Regional LTL Carrier of the Year**. Dayton Freight is recognized for its on-time service, tender acceptance, claims, SmartWay score, customer service, invoicing accuracy, and status updates.

Logistics provider **Schneider** was honored with its ninth **EPA SmartWay Excellence Award** and named to the **EPA SmartWay High Performer List**. The awards recognize Schneider for being a leader in supply chain environmental performance, energy efficiency, and meeting the challenges of the sustainable goods movement.

SEALED DEALS



Colorado Boxed Beef Co. (CBBC), a distributor of refrigerated and frozen meat, cheese, and other food products, chose **Paragon's** route planning software

to manage its delivery network. CBBC, which makes approximately 6,000 deliveries per week, uses the software to save time and improve service to customers, including supermarkets, restaurants, military bases, and schools.

Distributor and retailer **Hancocks Wine, Spirit & Beer Merchants** selected **Logility's** Halo Forecasting and Demand Planning platform to help increase visibility, boost forecast accuracy, and improve service levels through advanced analytics.



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Freight Flow and the Economy: Asked and Answered



Arrive Logistics partnered with Transportation Analyst Donald Broughton (left), principal managing partner of Broughton Capital, to address the following crucial questions shippers need to answer about their freight.

What effect is driver retention having on truck capacity?

Normally, fleets average three- to five-percent unseated trucks (trucks without an available driver). Higher driver pay and lower driver turnover have increased capacity by reducing the unseated truck count and by eliminating the lower productivity of the first few weeks of any driver (even experienced drivers are more productive after learning the new carrier's systems).

Although freight is very strong, why is the delta between asset-based carrier volumes and third-party logistics (3PL) volumes widening? 3PL volumes have steadily decreased in the past several months whereas asset-based volumes are still extremely high.

Freight volumes still exceed capacity. Because we transitioned from very hot to cooler weather, shippers have fewer loads they need to use brokers for. Their core carriers are handling more of those loads.

What should suppliers going into RFP season expect to see in dry and refrigerated freight rates for both full truckload (TL) and less than truckload (LTL) in 2019?

The DAT Barometers are still at levels that indicate higher nominal rates for both TL and LTL in 2019. Percentage-wise, rates will be in the more normal (low-to-mid single digit) range, but still up slightly overall. Reefer rates have more room to go up than do dry van rates, and, of course, it depends on how much of a rate increase suppliers accepted in 2018.

Should we lower truck drivers' age from 21 to 18? How will that impact driver availability?

Do it. You could make the requirements more stringent—longer training, hair follicle test, more trainer team time—but there is no evidence that older drivers are safer.

Will insurance companies prevent lowering the driver age to 18 years old?

Insurance companies make money by taking risk and charging adequately for it (underwriting gains) and by investing funds paid in while they wait to pay claims (investing gains). Expanding the pool of drivers should make insurance companies more profitable, not less profitable.

Contract prices are currently higher than spot pricing. Some folks are calling for rate increases in 2019. How could this be possible as the gap between spot pricing and contract pricing continues to widen?

Contract prices are normally higher than spot prices, depending on market conditions. In 2018, spot prices shot up above contract prices before falling back below. As spot prices find a floor, and where they find that floor, will tell us much about where contract prices are headed in 2019.

Do you see any red flags in the current freight flow that concern you about the state of the economy?

While overall rail volumes are still positive, the decline in export grain volume is indicative of what can happen as a result of a trade war. If the current trade dispute with China is not settled, or expands, it could threaten a larger volume of freight flows and become increasingly problematic for our economy.

Are there specific industry freight flows to keep an eye on to better understand what is happening in the economy?

Dozens. A few worth mentioning include transpacific air freight vs. semi-conductors and transatlantic air freight vs. the U.S. dollar/euro.

What is the relationship between value, density, and disposability?

The higher the value and lower the density, the more disposable freight tends to be. The lower the value and the higher the density, the more durable it tends to be.

Which is the larger economic indicator—freight flow in relation to chemicals or to lumber?

Chemicals tell us about the industrial economy while lumber tells us about the housing industry. While there are some primary, secondary, and even tertiary relationships between industrial and housing, primary housing is about 13 percent of the GDP, durable manufacturing is about six percent of the GDP, and non-durable manufacturing is about six percent of the GDP. The simple answer is housing is the larger economic indicator by a small margin, but it is more complex than that. When the housing market is expanding through increased lending activity and improved consumer wealth/perceived wealth, it can account for as much as 20 percent of the GDP.

Why do flatbeds have a unique relationship with electronic loading devices?

The trailer-to-tractor ratio is close to 1-to-1, and the driver wants to be involved in loading and securing the freight. There is almost no drop and hook in flatbed, especially on the loading side. This means the loading process (and to a lesser degree, the unloading process) is taken 100 percent out of the driver's available drive time.



New App Drives Compliance

It can be challenging for rental trucks to meet the electronic logging device (ELD) mandate. One solution is to provide drivers with easier Hours of Service (HoS) functionality. To that end, Penske Truck Leasing has introduced Penske Driver, a fully integrated and ELD-compliant custom app for its commercial truck rental, contract maintenance, and truck leasing customers. The new app is a companion to the Penske Fleet app.

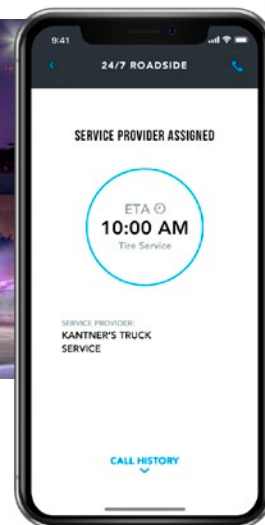
To learn more about this new offering, *Inbound Logistics* spoke with Brandie Searle, director of interactive solutions and innovations, Penske Truck Leasing.

IL: What is the Penske Driver app and who can use it?

Penske Driver was developed for our customers' drivers. Any Penske truck leasing or commercial truck rental customer can register for access to an account and provide the app to their drivers.

IL: Is there a cost? Any special equipment needed? The app is available at no cost and can be downloaded in the Apple App Store and on Google Play. There is no additional equipment required, but access to the HoS feature requires usage with a Penske vehicle equipped with an ELD-compliant system.

IL: Is the app hard to use? Penske Driver is simple to use and should not require any training. Penske does have



a dedicated customer success team available if customers have any questions.

IL: Can the app help with driver retention and compliance? The Penske Driver app can certainly help with compliance. With Penske Driver, drivers can stay compliant with federally mandated HoS rules while operating a Penske rental unit. Penske Driver provides the ability for drivers to submit their fuel receipts digitally for company fuel tax compliance. Penske Driver also provides real-time updates of the status of any roadside event, so drivers always know when they will be back up and running.

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INDUSTRIAL IoT: FRIEND OF THE ENVIRONMENT

Adopting Industrial Internet of Things (IIoT) technologies to improve environmental sustainability ranks as a crucial priority for transportation and logistics companies, according to a new Inmarsat study.

Across the transportation and logistics sector, the two largest drivers behind adopting IIoT-based solutions are monitoring environmental conditions such as emissions and air quality (61 percent) and improving resource efficiency (54 percent), the research reveals (*see chart*).

The good news is that many transportation and logistics companies are realizing their sustainability objectives through the use of IIoT. Seventy-five percent of respondents with fully deployed or trial-stage IIoT solutions report they are improving environmental sustainability.

Access to reliable and resilient connectivity is essential for IIoT technologies to function, as it enables constant data transmission to optimize operations. With many transportation companies operating in remote regions or at sea, where terrestrial networks are not available, satellite communications networks are key to achieving connectivity and the benefits IIoT offers.

Reported early successes in achieving sustainability objectives include implementing smart asset tracking, real-time route planning, environmental and fuel efficiency monitoring, and telemetry. However, the research also reveals that organizations with unreliable connectivity are far less likely to achieve improved environmental sustainability, reinforcing the importance of connectivity for successful IIoT deployments.

WHAT ARE THE MOST IMPORTANT DRIVERS FOR THE DEPLOYMENT OF IIOT-BASED SOLUTIONS FOR YOUR ORGANIZATION? (%)



SOURCE: Inmarsat

5 Ways a WMS Can Cut Supply Chain Costs

The right warehouse management system (WMS) can improve efficiency and cut supply chain costs. TECSYS, a supply chain management solutions provider, offers the following tried-and-true strategies.

1. Automate manual processes. Find every opportunity to automate repeatable and time-intensive activities, especially those prone to error. An electronic pick list is a good place to start. A WMS vendor or consultant can work with you to assess your operations and determine what to automate first. Your associates are also a good source of ideas. Evaluate material handling equipment (MHE) that can integrate with your WMS to speed operations.

2. Recognize what today's labor force needs. Today's workers are used to the simplicity of consumer technologies and expect to have similar capabilities when they step into the warehouse. Because of this, the right WMS will make a world of difference in your ability to hire, train, and retain staff. An intuitive WMS plays a large role in how your team goes about completing assignments every hour of the day. If your system is easier to work with and simplifies the process of completing tasks accurately, employee satisfaction and morale will improve. Likewise, a well-thought-out solution speeds training time for new employees.

3. Dig into inventory management. To improve inventory management and lower your holding costs, you need visibility into what's on the shelves and the rate at

which it is depleted and replenished. This is possible by using a WMS in concert with an inventory management system that tracks the ins and outs as well as prompts cycle counting and reconciliation. The ability to forecast demand is also important as you work to implement an optimum level of inventory to carry, improving your ability to lower inventory holding costs over time. Finally, if you have an issue with security such as product theft, take steps to curtail it via foolproof picking processes, security cameras, and an anonymous employee tip line.

4. Implement best practices. Learn the latest best practices regarding laying out a facility, leveraging technology, and managing your workforce to meet customer requirements and keep costs in check. When researching a WMS, select a vendor who demonstrates a deep understanding of supply chain best practices to ensure they can help you introduce the efficiency you need.

5. Measure your performance. From labor productivity to fulfillment speed and shipping accuracy, intuitive WMS dashboards help you get a handle on which areas aren't running efficiently, where cost spikes point to underlying issues, and more. You need information that can help you take action, enabling ongoing improvement and cost reduction across many areas. This may include dropping a product line that isn't performing well, reallocating staff to address performance issues, or identifying expiring products and waste.

U.S. Infrastructure Investment: A Private Matter?

Leasing America's largest existing toll roads, bridges, airports, seaports, water and wastewater facilities, and university parking systems to private partners could generate \$720 billion to \$885 billion for state and local governments to spend on new infrastructure projects, finds a new Reason Foundation study.

Leasing the 61 largest U.S. airports to private partners could generate between \$250 billion and \$360 billion for state and local governments in gross upfront lease payments, the study finds. Under the leases, the private companies would spend an estimated \$100 billion on capital improvements over the first five years, bringing the total private-sector investment in airports to between \$350 billion and \$460 billion.

As examples, the study finds Baltimore/Washington International Thurgood Marshall Airport could generate between \$1.6 billion and \$2.3 billion in net lease proceeds (after paying off existing bonds), and Louisville International Airport could be leased for more than \$600 million in net lease proceeds.

The 42 largest existing toll roads and bridges could generate \$175 billion to \$230 billion in gross upfront lease payments for state and local owners and would prompt another \$10 billion in improvements during the first five years, according to the study.

The George Washington Bridge connecting New York and New Jersey could yield between \$10 billion and \$17 billion in net lease payments, after debt repayment. Leasing the

Illinois Tollway system could generate between \$11 and \$20 billion and the Bay Area Toll Authority's seven California-owned bridges could produce between \$2 billion and \$8 billion in net upfront lease payments.

The nation's ports could be leased for up to \$50 billion and would produce an estimated \$9 billion in capital improvements over the first five years. Leasing the Port of Houston could yield net proceeds of between \$1 billion and \$1.7 billion and the Port of Tampa Bay could generate \$272 million after debt payoff, the study concludes.

Leasing aging water and wastewater systems around the country could generate \$110 billion, the report estimates. The private partners would undertake an additional estimated \$60 billion worth of much-needed improvements, bringing the total private sector investment value to around \$170 billion.

The Las Vegas Valley Water District lease could yield up to \$729 million in net lease payments and the Mobile (AL) Area Water and Sewer could net up to \$328 million.

In addition, the study estimates state university parking recycling initiatives could generate \$60 billion in net economic value.

For example, long-term parking leases could produce up to \$276 million at the University of Georgia, \$222 million at Georgia Tech, \$192 million at the University of Mississippi, \$180 million at Mississippi State University, and \$108 million at Southern Mississippi. This money could be reinvested in higher education or infrastructure projects.

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Trade Wars, Cyber Threats Top Maritime Concerns

The global maritime industry is cautiously optimistic about the global business environment for world trade, but also concerned about the potential impact of trade tensions, cyber security, fuel costs, and other headwinds to industry recovery. Those are the findings of a new benchmark survey developed by the Business Performance Innovation Network, in partnership with Navis.

Some 82 percent of survey participants anticipate either improved profitability over the next 12 months, or continued stabilization and reduced losses, according to the *Navis Business Bellwether* report. Growth is expected to come from all regions of the world, with particularly robust activity in Asia and the Middle East/Africa.

While just 12 percent of respondents are “very optimistic” about the global business environment, another 46 percent express cautious optimism. Some 41 percent say they are either somewhat or very concerned.

Topping the list of industry concerns is the rise in trade protectionism and new tariffs (see chart). One-third of all survey respondents say they are extremely concerned about trade tensions, with another 36 percent saying they are concerned. Cyber security also ranks high on the list, with 29 percent indicating extreme concern and another 37 percent expressing concern.

Only 11 percent of respondents are extremely concerned about an economic slowdown.

However, when assessing potential risks to the industry, economic growth ranks high and just below trade protectionism. Other top risks include rising fuel costs, a lack of process efficiency, continued industry consolidation, and labor disruption.

Technology investments will increase over the next 12 months, according to the survey. Some 90 percent of respondents say their organizations would raise technology spending, including 56 percent who say the increase would be 6 percent or greater. Respondents also cite adopting new technologies as one of the top three priorities for improving performance, behind only improving process efficiency and quality, and boosting customer service and satisfaction.

The top areas for increased technology spending, in

WHAT KEEPS MARITIME EXECS UP AT NIGHT?

QUESTION	Extremely Concerned	Concerned	Somewhat Concerned	Not Concerned
Economic volatility or slowdown	11%	48%	32%	9%
Trade protectionism and trade wars	33%	36%	26%	5%
International crises and geopolitical events	20%	40%	34%	6%
Terrorism	18%	22%	27%	33%
Cybersecurity	29%	37%	23%	11%
Regulations	12%	27%	42%	18%
Military conflicts	12%	19%	41%	28%
Currency or exchange rate fluctuations	6%	32%	41%	21%
Other	27%	10%	0%	63%

Industry executives and professionals are uneasy about the recent escalation of international trade tensions and increasing tariffs. Concerns about trade protectionism top the list of industry worries, but only 11 percent of survey respondents say they are extremely concerned about an economic slowdown.

descending order, include automation, business intelligence, planning and management systems, big data analytics, and SaaS applications and cloud services. Much discussed technologies, including blockchain and the Internet of Things, fall significantly lower on the priority list.

At an industry level, respondents point to the need for improved collaboration and operational planning across the supply chain as the most important priority, followed by supply chain visibility. Most see the industry’s capacity to share data as needing dramatic improvement. Respondents are virtually unanimous about the need to standardize data interfaces to improve data sharing and collaboration.

Mail Merge: China Post, Lufthansa Enter Capacity Agreement

With the goal of jointly building a more stabilized and comprehensive channel of air mail transportation connecting China and Europe, China Post Group Corporation, the official postal service of the People’s Republic of China, and cargo airline Lufthansa Cargo are partnering on a strategic capacity agreement that adds one Boeing 777 freighter on the Shanghai-to-Frankfurt route.

The companies have been working together for a long time on other major Chinese stations, with a focus on Beijing and Guangzhou. In addition to the capacity agreement, China Post and Lufthansa Cargo are jointly working on shortening transportation times, improving quality, and further developing digitalization. They are seeking further close cooperation and plan additional agreements in the future.



ECONOMIC NATIONALISM CHALLENGES GLOBAL SUPPLY CHAINS

Sixty-six percent of manufacturers responding to a new survey of global senior supply chain decision makers by software company LLamasoft say they would change their supply chains in order to tackle economic nationalism. In addition, 50 percent of respondents say economic nationalist policies will increase operational costs, and 45 percent are considering alternative suppliers, representing nearly \$3.1 trillion of business globally, according to World Bank 2017 data.

Economic nationalism is recognized as one of the most severe challenges facing manufacturing supply chains, the survey finds. When asked to choose their biggest global concerns, respondents place economic nationalism (46 percent) second only to taxes and duties (50 percent).

In the UK, the world's sixth largest economy, 64 percent of respondents are most worried about

economic nationalism, namely Brexit—but their concern is not limited to that one region. As a result of Brexit, 45 percent of respondents globally are likely to change their supply chain design. This figure increases to 53 percent in the UK, 54 percent in France, 56 percent in Germany, and 51 percent in North America.

Higher costs as a result of the current climate are also anticipated around the world, though to different degrees. When asked what impact economic policies will have on their operational costs, 50 percent of respondents globally say those costs are likely to increase. The United States is anticipating these increased costs the most, with 61 percent expecting them, closely followed by the UK (59 percent) and Germany (53 percent).

In contrast, only 37 percent of respondents in France and 47 percent in Latin America are anticipating higher costs.

Weather Forecast: Supply Chain Disruptions Ahead

Global supply chain disruptions continue to grow at an alarming rate and the potential for financial or revenue impacts is the highest it has been in three years, finds Resilinc's recent *EventWatch Supply Chain Disruption* report.

In the first half of 2018, Resilinc notified a record 1,069 events within six months, the highest since the risk management company began monitoring in 2010. Of those events, more than 300 of them directly impacted supply continuity. Among these, natural disasters and weather-related events continue to be a major source of disruption across the globe and especially in the United States, continuing a trend started in 2017.

In addition to natural disasters, factory fires continue to pose a significant threat to supply chains. More than 700 events, including tariffs, mergers and acquisitions, force majeure, price fluctuations, and cyber attacks, indirectly impacted supply chains. Factory fires were the most frequent event type in the first half of 2018.

Key report highlights include:

- Supply chain impact events occurred at a record rate in the

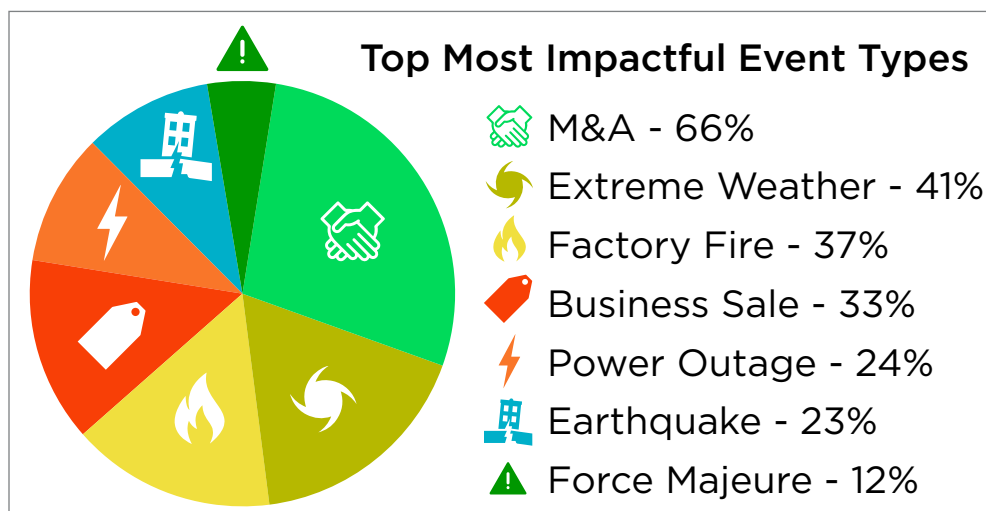
first half of 2018, reaching 29 percent, as compared to 25 percent in 2017 and 19 percent in 2016. In addition, this rate was more than 30 percent in four out of six months in 2018, which has never been seen historically.

- Factory fire/explosion represents the majority of EventWatch bulletins.
- North America continues as the leading impacted geography, receiving a total of 457 events with 301 being potentially impactful.
- Extreme weather was the single most impactful event type, occurring 41 times.
- Tariff impacts were reported 26 times, representing the most in any previous 6-month period.
- The automotive industry was particularly susceptible to factory fires, with more than 134 reports of factory fires across suppliers in this industry.

Resilinc's monitoring service analyzes millions of news stories per month across 53 languages, watches the Internet 24 hours per day, and notifies users about developments that can disrupt supply chains. Resilinc tracks these events

and their impact on manufacturing supply chains. To prepare for supply chain disruptions, Resilinc encourages companies to invest in supply chain mapping and disruption monitoring, and to work with suppliers to ensure they are similarly prepared and proactively mitigating the biggest risks.

Mergers and acquisitions, weather crises and factory fires were among the main causes of global supply chain disruption in the first half of 2018, according to Resilinc data.



Six of One: Merger Creates UK's Largest Logistics Provider

Hong Kong private equity investor EmergeVest has consolidated ownership of six of the UK's leading logistics companies to create EV Cargo, one of the country's largest providers of transport, logistics, freight forwarding services, and logistics technology, and a global supply chain company operating in more than 120 countries.

With £850 million (US \$1.067 billion) of revenue annually, EV Cargo is now the largest privately owned logistics business in the United Kingdom.

EV Cargo has been created by consolidating Adjuno, Allport Cargo Services, CM Downton, Jigsaw, NFT, and Palletforce into a single corporate structure. The new firm will feature a core asset-based UK logistics network totalling 9 million square feet of warehousing space and 20,000 delivery vehicles; a team of 5,000 UK-based logistics professionals including 2,200 truck drivers; and 175 UK operating centers and 18 overseas operations.

India Bales on Cotton Exports

India's annual cotton output could drop 12 percent to the lowest in nine years as limited rainfall in the top two producing states has slashed crop yields, potentially cutting exports from the world's top producer, according to a report in the *Economic Times*.

Fewer cotton shipments from India will allow rivals such as the United States, Brazil, and Australia to increase shipments to key Asian buyers such as China and Pakistan. It may also support global prices that have fallen 16 percent since hitting a four-year peak in June 2018.

India could produce 32.5 million bales of cotton in the 2018-2019 marketing year—the lowest since 2009-2010—as farmers in the western states of Gujarat and Maharashtra reported poor yields as a result of below-normal rainfalls during the June-September monsoon season.

India produced 37 million bales in 2017-2018 and was expected to harvest 36.1 million bales this year, according to the state-run Cotton Advisor.



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ASIA PACIFIC COMPANIES: GREEN GIANTS

Asia Pacific companies place more importance on green transportation than other regions, finds DHL's latest research report on ground transportation logistics.

Seventy-five percent of respondents from the region say electric vehicles will have a significant impact on transport in the next two years, compared to the global average of 53 percent. In addition, 82 percent of respondents from Asia Pacific state that they need help navigating legislation around mandatory carbon reporting, second only to North America.

The survey also identifies two trends that will have a significant impact on transport in Asia Pacific:

1. The rise of e-commerce. Seventy-eight percent of Asia Pacific respondents see e-commerce as a trend of significant impact in 3-5 years, compared with 69 percent globally.

2. The increasing urbanization of populations. Seventy-one percent of Asia Pacific respondents deem urbanization to be key in one to two years, versus 61 percent globally.



Companies in Asia Pacific place more importance on green transport than other regions do, finds a new DHL survey.

Combined, these trends will produce greater demands on supply chain service providers to manage increasing congestion and pollution, while simultaneously satisfying consumers' service requirements.

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Improving Supply Chain Performance by Focusing on Daily Improvement



Jon Eberly
Vice President,
Operations and
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Transplace

*OGSM
(Objectives,
Goals,
Strategies and
Measurements)
provides clear
goals and
identifies the
strategic choices
to achieve them.*

When first engaging in a partnership, shippers and their logistics providers have certain objectives in mind. Whether it's to reduce transportation costs or centralize logistics operations, both parties identify a desired outcome and work collaboratively to deliver on those promises. Unfortunately, over time, business "noise" pulls focus away from the original commitments and goals. In order to achieve the desired ROI and deliver on the promises made during the sales process, both parties need daily activities to align with that objective.

OGSM = A Disciplined Approach to Business Management

In order to establish (and maintain) a disciplined approach to business management, it's helpful to use a proven process such as OGSM (**O**bjectives, **G**oals, **S**trategies and **M**easurements). This strategic planning process provides clear goals and identifies the strategic choices to achieve them – a model for delivering alignment, transparency and metrics that truly define success.¹ OGSM has four components:

- **Objective:** Defines an over-arching breakthrough vision – while linking to company vision
- **Goals:** Stepping stones to achieving the higher level objective – S.M.A.R.T.
- **Strategies:** The choices we make to achieve our objective
- **Measures:** Numerical benchmarks to check progress and determine if strategies are working – must enable visual, exception-based management

By clearly defining these components from the beginning, all parties involved can be focused on achieving the commitment promised in the contract each and every day. Then, if there are shortfalls, they can be identified on a daily basis and accountability can be assigned to specific individuals for remedying. While this approach isn't going to magically fix anything, it does limit the period of time where issues can linger and lead to greater potential for risk and service disruptions. OGSM can help to:

- Ensure that all goals, strategies and measures directly connect to the overall objective
- Provide better standardization for processes and measurement – from the beginning
- Quickly identify shortfalls, leading to root cause analysis and the creation of a solution
- Empower employees to drive organizational change

and consistently monitor goals versus actual results.

One effective way to do this is through a methodology called Managing for Daily Improvement (MDI), in which leaders implement visual management strategies that are leveraged on a daily basis to drive continuous improvement at various levels of the organization. A key tenet of MDI is that it is led by individual contributors (at the ground level), with an emphasis on self-motivated, highly-engaged teams holding each other accountable to improve their daily processes and performance. The MDI process requires 4 key elements:

- **Standard Work:** A formally defined and documented process to deliver a quality product or service on time. This includes documenting current best practices, creating standardized work forms and defining benchmarks or baselines.
- **Daily Accountability Process:** Establishment of daily team meetings with peer-led facilitation where actual results are measured against a goal/baseline and actions are documented in order to drive improvements.
- **Visual Controls:** A formal mechanism for visually displaying information to quickly indicate wins/losses on defined KPIs on a daily basis.
- **Leadership Discipline:** Company leaders must create the framework within which MDI will operate, but will have to trust individuals to execute it.

Examining the metrics and goals each day drives incremental improvement on the important metrics within the overall strategy. Applying the OGSM process can help better standardize the approach to account management across all operations, and create a culture of accountability and visual management in order to drive improvement every day.

¹OGSM: Developing, Aligning and Deploying Strategy; ArchPoint Consulting

Managing for Daily Improvement

Developing an OGSM is the first step, but in order to be successful long-term – and achieve the desired results – organizations need to establish daily tactical processes

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Tis the Season to be Agile



Jose Minarro
Director of Client
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WSI – Supply Chain
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*If you work
with a capable
3PL, you may
rest assured
that you already
have the supply
chain agility
needed to meet
any challenges
the New Year
may bring.*

The holiday season came early this year—and not just because the neighbors down the street started putting up decorations the day after Halloween. As the trade war continues to heat up between the United States and China, retailers have been left scrambling to stuff their peak season stockings before each new series of retaliatory tariffs takes effect. As a result, Los Angeles, Long Beach, Oakland, and other West Coast ports have been posting record volumes of inbound cargo from Asia since June.

The question now remains: Will there be a slowdown? Tariffs or no tariffs, retailers have continued to import products at steady rates to meet peak season demand. But what happens in 2019? Some experts claim that the increased traffic will continue into the first quarter of 2019, but others say orders from Asia will drop dramatically at the start of the New Year.

Only time will tell who is right. Meanwhile, commerce rolls on and shippers must find ways to adapt. It's times like this when third-party logistics (3PL) partnerships shine. When the experts at your 3PL leverage their considerable expertise to support your operation, supply chain fluctuations and disruptions can be more easily mitigated. A 3PL can provide the following to help you address any number of tariff-related concerns, such as:

- **Cost savings.** New tariffs may drive up the cost of some raw materials and finished products by as much as 25 percent, which means you'll need to find other areas to cut costs. A 3PL can help you find affordable warehousing, leverage other relationships to help you consolidate shipments, and use state-of-the-art technology to optimize routes and delivery—all of which may assist you in offsetting not only the cost of the 3PL, but the increased tariff expenditures associated with your products.

- **Capacity.** Whether you're frontloading shipments into the nearest available port in advance of the next round of tariffs or simply find yourself struggling with the ongoing capacity crisis, a 3PL partner may well be able to secure capacity that you cannot find on your own. Your 3PL will have carrier partners across multiple modes to get your cargo from point A to point B.

- **Scalability.** If you spent the past six months ramping up for peak season, dialing your supply chain back down can be a challenge. By their nature, 3PLs are flexible and capable of scaling your services, capacity, storage space, and workforce up or down with your demand far more easily than you can do with your own internal assets.

- **Technology.** To remain competitive, 3PLs must stay updated with the latest supply chain technologies. As a partner to your logistics provider, you gain the benefits of this technology without the investment or overhead. This can be particularly useful when you're planning to move more shipments than usual, or if you're trying to navigate shifting regulations and tariffs associated with international trade.

Don't let a trade war ruin your holiday season or your New Year. If you work with a capable and trustworthy 3PL, you may rest assured that you already have the supply chain agility needed to meet any challenges the New Year may bring head on.



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[E-COMMERCE]

BY NICK MCLEAN

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Not So Fast: Rethinking Multi-Item Orders

In the name of speed and satisfaction, many retailers think they're doing the right thing by delivering products to customers as quickly as possible, shipping partial orders, but that isn't always the case.

High on the list of shopper frustrations is placing a multi-item order online only to have it arrive in multiple shipments over several days. It's possible to delight convenience-seeking shoppers while still guaranteeing logistical efficiency, and it starts by assessing your retail shipments to orders ratio, or RSO.

RSO measures order fulfillment efficiency by calculating the number of packages a retailer ships for every digital order. The ideal RSO is 1.00—for every order received, only one package is shipped to the customer. Order routing business rules can affect RSO, and so can demand planning and forecasting accuracy, among other business strategies.

A growing number of digital orders are placed online via a variety of devices. Now add the complexity of merchandise spread across store locations or distribution centers around a continent. The RSO metric is important because you want to

avoid excessive shipping costs and materials that hit your bottom line, while still delivering on promises made to customers.

There is a linear relationship between the out-of-stock (OOS) ratio and RSO. Out-of-stocks increase the number of shipments for any given order.

For example, with a retail OOS rate of 8 percent, you can expect the RSO to be 1.33. In this scenario, for every digital order received, the retailer sends 1.33 packages due to out-of-stocks. When OOS is at 0, you can achieve an RSO of 1.00. That means the location from which orders are fulfilled has a zero percent probability of being out of stock, resulting in each order being fulfilled in a single package.

Rather than single-rule order routing—routing all orders from a distribution center—omni-channel retailers can use multiple fulfillment options. A ship-from-store strategy can push inventory out of the DC

and into more stores as localized inventory hubs. Using stores to fulfill orders can speed inventory turnover within a given store.

However, this can also unintentionally increase your RSO, if done without an order management system that can consolidate orders.

To keep RSO in check, route the order to the best fulfillment location. Determining that location will be the result of business rules you set up in your system.

If you focus on driving a ship-from-store strategy, more orders will flow to your stores. Then, switch on your consolidation engine to bring in inventory to the ship-from location, allowing that fulfillment hub to consolidate the order into one shipment.

Consolidating orders relies on the fact that most retailer internal delivery services cost far less than last-mile delivery charges. Get your ducks in a row before the box is sealed and sent along to its final destination, and you'll realize the cost-saving benefits.

Regularly check in on the health of your order fulfillment efficiency. Shoppers want their whole order fulfilled, not partial deliveries. ■

★ PHARR AHEAD OF THE REST ★



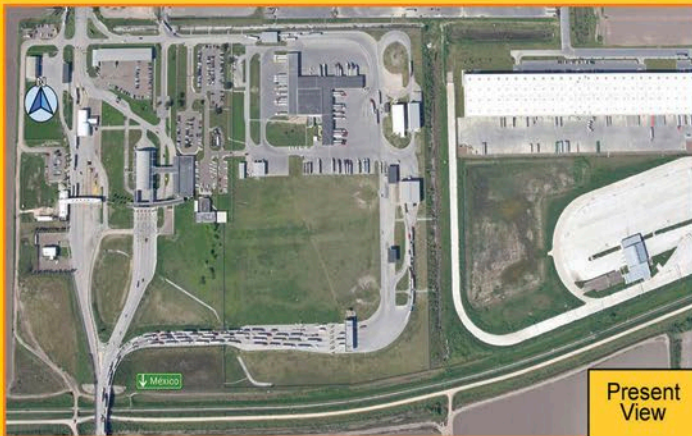
New Projects/Services Checklist:

- ✓ 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
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[VIEWPOINT]

BY BEN TYRRELL

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Why Millennials Deserve Our Attention

By 2020, global millennial spending power will total \$20 trillion plus. Not paying attention to the needs of this burgeoning demographic is business suicide.

The sooner supply chains can adapt to millennial attitudes, the better placed they are to thrive in the future. Agile logistics buyers who can secure providers offering millennial-focused services will reap the rewards.

Only 19 percent of millennials believe that others can be trusted, compared with 40 percent of boomers and 31 percent of generation Xers, finds a recent Pew study. This widespread mistrust in organizations and individuals has led to increased demand for transparency and traceability at every level. Millennials want to know exactly where their goods and services are coming from, how they will be transported, and the exact time they will arrive.

Transparent Tracking

Introducing Simplicity as a Service into the supply chain sector is a step in the right direction, with some consultancies already pre-empting the shift to millennial style services by suggesting faster response times to

changing customer demands. To stay ahead of the competition, choose providers that offer reliable and transparent tracking services; it's the smart, millennial-ready choice.

Despite claims that "snowflake" millennials are not tough enough, it's my opinion that they have demonstrated much resilience. Many in the United States and UK have been hit hard by the effects of the financial crash, student debt, and astronomical property prices, but they have adapted and found ways to be successful.

This agile approach to life is reflected in the expectations millennials place on the goods and services they buy into. Innovation and resilience are a pairing that millennials know only too well. As such, their favored brands are ones that constantly bring them new and improved iterations of products and smart updates to services they have subscribed to.

If competitors spring up, millennials expect brands to innovate fast and come back

stronger, with better services. To tap into this mindset, choose providers that pioneer innovation and are not afraid of some healthy competition.

Personalized Experience

Millennials are the "experience generation" and it's important that the supply chain is considered essential to their customer experience, not just an invisible support function. This hands-on demographic demands bespoke goods and services, tailored to their needs from well before the point of sale until well after.

Personalized marketing has skyrocketed since millennials established themselves as the consumers to impress. However, it's not easy to get the attention of a group that is constantly bombarded with information. A personalized approach is vital to cut through the noise of generic internet ads and spam emails.

To mitigate, businesses should aim to choose logistics providers that are committed to understanding the millennial psyche and have invested in technology and marketing to make millennials the world over feel personally catered to. ■

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[IT MATTERS]

BY DIANE FANELLI

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Pushing Blockchain Past the Hype

Businesses across the supply chain are finally embracing blockchain as an asset capable of unlocking tremendous value, especially as supply chains grow more globalized and susceptible to compromise.

Yet many companies still approach blockchain with apprehension. Misinformation and lack of clarity loom over businesses curious about blockchain.

Supply chain companies are understandably wary of having to pause and overhaul current operations for any change. Without a clear vision and guidance throughout the implementation phase, companies may choose to defer to existing IT systems, even when blockchain could theoretically enhance operations.

Breaking through the noise of blockchain and its implications doesn't have to be a daunting task. For supply chain companies unsure of the way forward, the channel partner community can make a substantial difference.

Channel partners are, in essence, advisers charged with helping businesses of all sizes and industries understand and implement next-gen

technologies in ways that match their unique challenges and amplify performance.

By its nature, the channel community is well-positioned to bridge information gaps and help businesses implement next-generation innovation to their advantage. From technology deployment consultancies and distributors to systems integrators and supply chain-specific, value-added resellers, channel partners offer implementation and hosting services, local market knowledge, and digital expertise.

Embrace the Channel

Companies need to take a few key steps along the way to blockchain implementation. They should conduct an extensive audit of current IT processes, then strategize with their IT team and financial leadership to get a sense of how to improve. With a more holistic view of company operations, businesses can then

turn to the channel community to identify real-world, impactful blockchain applications.

Luckily, extensive resources for connecting with channel partners are available. Many enterprise software providers house connection services and information on their home pages, making it easy to identify potential partners with industry-specific expertise.

Once these partnerships are established, supply chain managers can be more prepared to transition toward using blockchain without worrying about interrupting business operations.

Arguably the biggest challenge to adopting any technology is awareness and education. If you don't understand complex technologies or how they can fit into your operation, chances are low you'll adopt them.

Channel partners are well-positioned to function as ambassadors for widespread blockchain adoption. Those caught up in the blockchain news cycle looking for the determining factor that will bring blockchain deeper into the mainstream need look no further than this value-driven ecosystem. ■

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[RISKS AND REWARDS]

BY PAT LARKIN

Senior Regional Sales Executive, Motus
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Keeping Truckers Safe on the Road

Keeping drivers safe is important for everyone on the road, especially with 115 million cars and trucks hitting U.S. streets every day. Not everyone who drives will get into an accident. However, the risk is much higher for truckers who drive every day for work.

A range of factors can cause crashes. One of the most worrisome—and most easily avoidable—is distracted driving. That could be eating, taking a call, or any other number of distractions, but more often than not it's texting. Despite laws prohibiting it, 42 percent of drivers admit to reading text messages or emails while driving.

Supply chains that employ truckers feel the monetary strains associated with those hazards. Beyond lost productivity, accidents cost companies \$56 billion in 2017. Not only is an accident expensive for the supply chain, but it also puts a trucker's safety at risk.

Supply chain managers can identify risky drivers, reduce liability, and protect their truck drivers in several ways:

MVRs. Understanding how to efficiently obtain Motor Vehicle Record (MVR) information on drivers might be a challenge since each state jurisdiction has

its own criteria for carrying out MVR checks.

No matter how tedious the process, MVRs are an important tool to ensure that drivers act responsibly behind the wheel. These checks provide information about expired licenses, moving violations, and other traffic infringements concerning potential new hires.

Further, the U.S. Department of Transportation has deployed its Smart Roadside system to improve the safety, mobility, and efficiency of truck operations on the road. Key to this program is its Electronic Screening to identify the "safe and legal vehicles that are allowed to continue on their route."

If the government is investing its resources into a program such as this, then it only makes sense that individual companies also do their part to utilize MVRs to ensure they hire reliable drivers.

Telematics. MVRs provide only initial information such as

a history of citations and accidents. They do little to offer a complete picture of a driver's good or risky behavior.

Telematics help even more by utilizing sophisticated technology such as GPS systems and plug-in devices that track specific data from trucks. If a driver frequently swerves between lanes or accelerates rapidly, telematics would record and report this information.

Training. Training programs identify each driver's areas of focus and then provide engaging and up-to-date training modules to make the most of their learning process. The right program involves regular training sessions, and as the lessons continue, progress is tracked in reports, allowing employers to see advancements or implement areas for improvement.

Mitigating Risk

There is always some risk associated with keeping truckers safe while on the road. But with the right set of solutions and training, supply chain managers can mitigate risk and decrease the likelihood of their truckers getting into serious and costly accidents while on the job. ■

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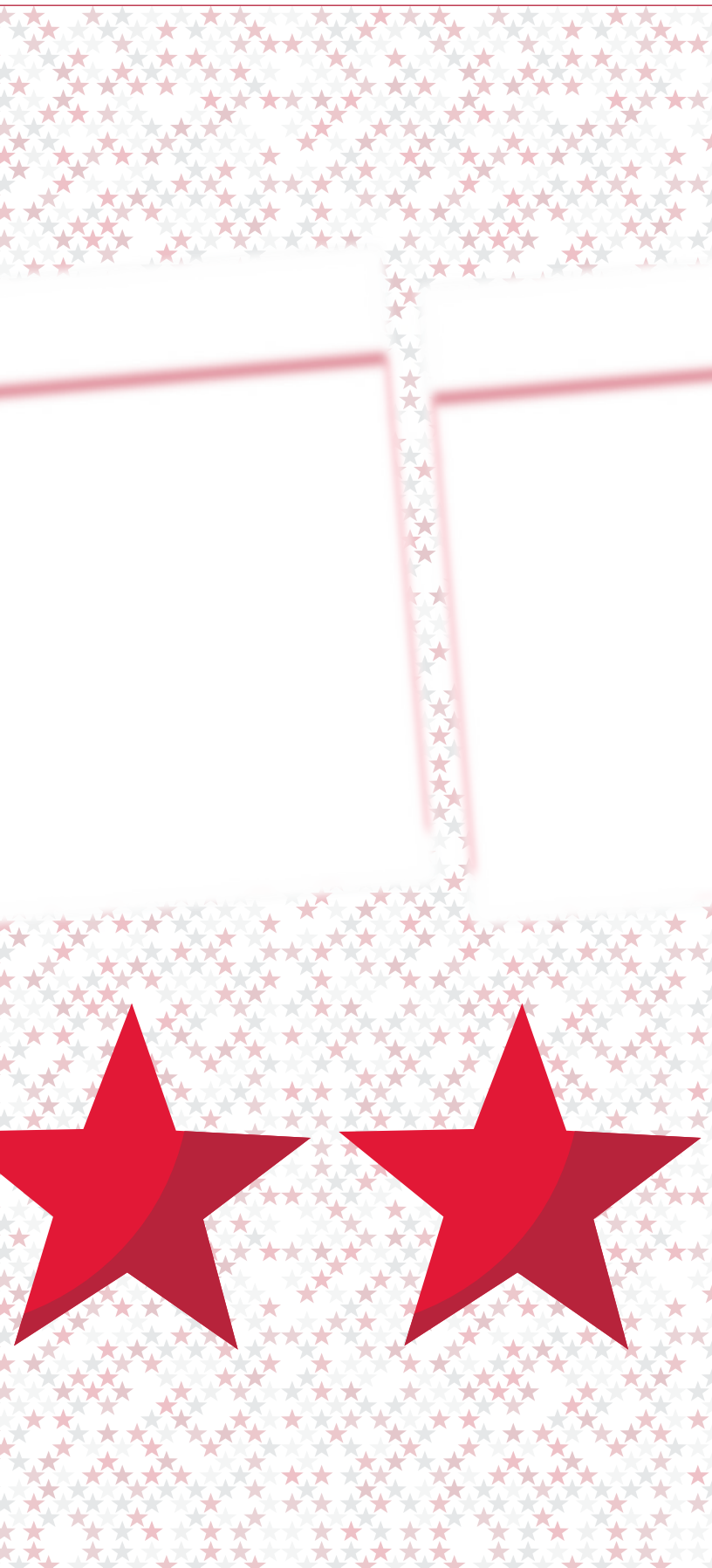
CUSTOMER SERVICE

How Retailers Earn 5-Star Reviews

**The human touch, product education,
smooth delivery, sturdy packaging, and
good cup of coffee help retailers
rate high with customers.**

by Merrill Douglas





Speed is a given in retail these days. Consumers want their products right away (if not sooner), and leading retailers all seem to be trying to set fulfillment records. Whether they're shipping to customers at home, providing in-store pickup for online orders, or stocking physical shelves for in-person shopping, merchants can no longer rely on near-instant gratification to make them stand out from the crowd.

That's why many companies today use outstanding customer service to win attention, customer loyalty, five-star reviews, and more sales.

For some born-digital retailers, that might mean following the lead of Amazon, Zappos, and others into the brick-and-mortar realm to offer more personal service. As these e-commerce leaders show with their forays into in-person shopping, brick-and-mortar is not dead.

"Humans want connections, with people as well as with products and sensory experiences," says Alice Fournier, the Norwalk, Connecticut-based vice president of e-commerce and digital at London-based Kantar Consulting. Besides getting up close and personal, e-commerce merchants also open physical locations so they can provide in-store pickup, plus services aligned with their products.

Some retailers that operate traditional stores are adopting a similar model, opening brick-and-mortar locations devoted exclusively to service. Fournier points to Nordstrom's new Nordstrom Local outlets in California, which offer e-commerce pickup, returns, and exchanges, plus alterations, shoe repair, a chance to work with a stylist, and more—but carry no inventory.

Whether consumers come to a store to browse the merchandise, pick up the items they ordered online, or get expert advice on what to buy next, retailers that delight customers in brick-and-mortar stores excel in three areas: convenience, a great experience, and service. "Shoppers are looking to do as many of the things they need to do as possible in a given space," Fournier says. For example, many larger retailers now offer health and wellness services. A big box store might provide flu shots and eye care; a shoe store might serve hydration needs by handing out bottled water.

Coffee and Comfort

Among retailers that emphasize experience, Will Leather Goods is a standout. Each of the company's eight stores—in Houston and Austin, Texas; Portland and Eugene, Oregon; Venice, California; Denver; San Francisco; and Detroit—highlights the beauty of a restored building.

Natural wood, original cement, and other attractive features complement fine leatherwork, says

Shane Adler, brand director at Will Leather Goods, which is headquartered in Eugene. So does another important element of the Will Leather experience: coffee. Walk into Will Leather Goods and you'll be offered a cup of fresh espresso. The Detroit store features a full-service coffee shop where guests can get at least one cup on the house.

Staff encourage visitors to sit down with their coffee and hang out in the store as long as they like. "Because we sell a higher-end product, it's not always about buying the first time. There are a lot of stories to explore and things to smell," Adler says. "Customers have to pick up everything and see what is hidden."

Reaching Out Online

Of course, Will Leather can't serve either coffee or a multi-sensory experience to customers who buy online. "It's hard. How do you smell the leather through the website?" Adler says. The company compensates with high-touch customer service. For example, if a customer wants an item that isn't currently available through the e-commerce channel, a customer service representative will connect that customer with a store that has the item in stock.

The customer service team also makes phone calls to customers who leave reviews online. "If it's a five-star review, they'll get a response from us," Adler says. "If it's a two-star review, they'll certainly get a response from us so we can figure out and resolve the issue."

For example, one customer recently posted a review that said a belt purchased from Will Leather was peeling. "Our belts don't peel," Adler says. Most likely, the customer just needed to learn the right way to condition the leather. The customer service team was ready to oblige. "We can turn a two-star review into a five-star review because of our service and education," she says.

Both online and in its stores, Will Leather uses education, plus a lifetime guarantee on all products, to keep customers happy and loyal. "Leather is an ever-evolving material that dries out, ages, and can stretch," Adler says. "We can help customers take care of it by teaching them about oiling, conditioning, and cleaning the product."

Handle With Care

Despite the appeal of touching and trying, the success of e-commerce proves that plenty of customers will commit to products they have experienced only on a website. But when the product is a major item—say, a washing machine or a big-screen TV—e-commerce requires a leap of faith. That makes outstanding customer service all the more important.

Nashville-based Electronic Express sells a wide variety of consumer electronics, furniture, appliances, and other products through its 16 retail locations in Tennessee and Alabama. But in its e-commerce channel, the big sellers are TVs. A while ago, Electronic Express was having trouble shipping some of those TVs to customers.

"TVs are very fragile," says Gregory Rohan, director of



By highlighting the beauty of its restored buildings and serving coffee, retailer Will Leather Goods creates memorable in-store experiences.

marketplace sales and operations at Electronic Express. In the past, when the company sold TVs through its website, or through Amazon, eBay, and other marketplaces, 3 to 4 percent of them arrived with some kind of damage.

A damage claim is a customer service problem. "We have to apologize, tell customers that obviously we will take care of it and send a replacement TV," Rohan says. "But they will wait another seven or eight days to have another TV shipped."

Rohan attributed the damage to the use of traditional less-than-truckload (LTL) networks to ship the TVs. "The shipments would move from dock to dock," he says. "Every touch created a chance of something happening."

Not only did it cost money to resolve claims, but damaged products created a poor experience, and some customers mentioned the problem in online comments. The service issue also hurt relationships with some e-commerce marketplaces.

"E-commerce companies hold us to specific metrics so we can maintain our standard as a highly respected seller on their platforms," Rohan says. "The order defect rate (ODR) is one of those metrics."

In early 2018, Electronic Express started using a new solution to ship TVs. Called Airfreight + Final Mile, the solution from Seko Logistics in Itasca, Illinois, combines air cargo transportation with ground delivery to get larger, bulkier items to customers in two or three days.

Seko Logistics' Airfreight + Final Mile service helps e-commerce merchants deliver bulky items quickly, improving customer service.



Seko developed Airfreight + Final Mile largely to help e-commerce merchants deliver bulky items quickly, without opening numerous fulfillment centers. But the solution also addresses service issues that don't apply to small packages.

White-Glove Service

Bulky items require white-glove delivery, says Rick Lee, chief operating officer at Seko. "It might involve the extra touch of a phone call or an electronic communication to confirm a timely appointment."

Electronic Express chose the Seko service largely because it reduces the number of transfers a TV goes through on its journey from the distribution center (DC) in Nashville to the customer. Instead of moving through a network of LTL terminals, the TVs now travel from the DC to nearby Nashville International Airport, to an airport and Seko hub in the customer's region, and then to the customer.

Besides using air transportation to simplify a large product's journey, Seko limits damage by working with merchants on packaging. "We've reduced the number of claims being filed over the past three years by 50 percent," Lee says.

Electronic Express has reduced its own damage claims for TVs since it started using Airfreight + Final Mile, and that improvement translates into better online reviews, Rohan says. That's an important benefit for e-commerce sales.

"How do you satisfy a customer who wants to buy a 40-inch TV and is unsure about going online, versus buying it in a store?" Rohan asks. Online feedback plays a big role. "We want them to see nothing but positive experiences," he adds.

Chilled, Fresh, and Friendly

At 5 a.m., six days a week, a driver arrives at a facility in Falls Church, Virginia, to pick up bottles of freshly squeezed juices with names such as Wake Me Up, Detox, and Glow. Each juice brims with nutrients. But the product can lose its value over time, and if not kept cold and handled correctly, it may spoil.

"Getting it to the customer is critical," says Rob Yealu, director of operations at juice and nutrition company JRINK. For this company, customer service is inextricably bound up with reliability and speed.

JRINK sells its juices, plus a line of plant-based "pharmaceuticals" called Apothékary, from seven retail shops in and around Washington, D.C. It also sells the fresh juices online, with deliveries within a 25- to 30-mile radius of Falls Church. Since 2016, it has relied on a company called DeliveryCircle to keep those juices cold and fresh

while delivering them on schedule to customers.

Based in Newark, Delaware, DeliveryCircle uses small courier companies and independent drivers to make local deliveries for retailers. "The retailers use us because they get a consistent model," says Vijaya Rao, DeliveryCircle's chief executive officer. That model blends the on-demand, just-in-time service one gets from a company such as Uber with the solid logistics platform one would get with UPS or FedEx, she explains.

JRINK takes orders for juices, sold singly or in kits, through its e-commerce site. It collects those orders in its own internal management system and uploads the data to DeliveryCircle. Then DeliveryCircle takes over.

"DeliveryCircle makes sure that on every delivery, they contact the customer in whichever way the customer prefers," Yealu says. Customers choose one of two delivery windows, 6 to 8:30 a.m. or 9 a.m. to noon. "It's critical that the juices get there on time," he says. "People create their schedules around our product."

Dedicated Driver

To keep the juice moving and the customers happy, DeliveryCircle has assigned JRINK a single driver, who makes sure the product stays cold throughout the ride and arrives on schedule. The driver builds good relationships with customers, and serves as a conduit for communications. "If there's something wrong on our end, or if there's an issue with the consumer, the driver reaches out immediately and follows up," Yealu says.

All DeliveryCircle customers get dedicated drivers or, if the need is larger, pools of drivers, Rao says. Some drivers have specific training; for example, those who deliver automotive parts or do deliveries for medical facilities earn hazardous materials certification. Also, business owners rate their drivers on performance. "We constantly look for four- or five-star drivers for a business," she says.

Having a dedicated driver helps JRINK provide excellent customer service, says Yealu. "It's about building relationships, creating that feedback loop, making sure the customer knows that not only will the product be delivered, but the delivery service will remain consistent."

Whether the product is a bottle of cold-pressed beet-carrot-orange-apple blend, a leather tote, or a smart TV, customers want to be delighted from the moment they make the purchase until they take the first sip, fill the

bag with their belongings, or settle in to binge a favorite series. Retailers and their logistics partners keep finding innovative, five-star ways to make their customers' dreams come true. ■





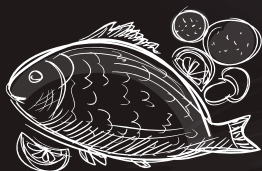
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Continuing Education: What's on the Menu?

No matter how skilled or credentialed, today's supply chain managers are hungry to learn—and want a variety of options to choose from. With the marketplace growing more complex, continuing education professionals are cooking up new programs and remaking old standbys.

By Tamara Chapman

Amere two decades ago, you didn't need a lot of specialized credentials to embark on a supply chain career. "Companies just looked to hire smart people," says Gregory Maloney of the Ryder Center for Supply Chain Management at Miami's Florida International University (FIU). "They knew they could teach employees the skills they needed."

Today, smart people are as coveted as ever, but it's a given that they need opportunities to learn outside their day-to-day jobs. And increasingly, their employers are ensuring that they get that opportunity.

"Corporate investment in supply chain continuing education is definitely on the rise, because companies see direct impact to their bottom-line profitability," says Lisa Sallstrom, a vice president responsible for certification and membership at professional association APICS. "They're able to make the tie between educated, productive employees and the impact that has on supply chain efficiency and effectiveness."

With demand for continuing education on the rise, universities, colleges, and associations have recently unveiled new programs and initiatives. They've also revamped some old standbys. Just as important, they're tailoring curricula to help newcomers to the profession get up to speed and veterans optimize their know-how.

Keeping Up With New Insights

In today's complex marketplace, supply chain managers need to embrace ongoing, career-long learning—for themselves and their direct reports.

"We are seeing more and more enterprise-wide employee training," says Sallstrom. That's largely because corporations and department supervisors want to raise the level of productivity across the entire organization. They think one way to do so is to ensure that their teams are trained consistently.

That's the idea driving the newly launched Association for Supply Chain Management (ASCM), an outgrowth of APICS' 60-plus years of logistics education programming. Introduced to the logistics community in September 2018, the ASCM focuses on driving innovation by sharing "the newest insights on all aspects of supply chain."

To that end, the ASCM has created the Supply Chain Learning Center, which is expected to kick into high gear in early 2019. At full speed, it will offer everything from recorded webinars and online courses to onsite training seminars. Emphasis on onsite. That reduces reliance on a problematic paradigm, in which employees are dispatched to an off-site training in hopes they'll return to the workplace and spread around their newly acquired knowledge.

The ASCM's Supply Chain Principles on Demand offerings, meanwhile, are geared toward people who need to update their skills or cross-train for newly acquired responsibilities. A Supply Chain Leadership on Demand sequence develops the people skills and resiliency needed for directing organizational progress.

Programs like these make it easier for corporations to weave instruction throughout the enterprise. And that's important, Sallstrom says, because it helps ensure that everyone is on the same page, using the same terminology and practicing the same concepts.

"Having a consistent vocabulary through the enterprise is so important," she explains. "People can get tripped up on even common words."

As the ASCM evolves, Sallstrom expects it will explore everything from tried-and-true foundations to emerging topics—artificial intelligence, for example, or the Internet of Things and sustainable practices. Regardless, ASCM will present the information in a variety of ways, allowing for self-directed study or group exchanges of ideas and information.

Soft Skills for a Networked Supply Chain

Throughout her years in supply chain education, Mary Long, managing director at the Global Supply Chain Forum at the University of Tennessee, Knoxville, has held countless conversations with industry leaders. Time and again, they beat a particular drum with gusto: "One clear message is that their best candidates are equally comfortable with people and data," she says.

"Today's corporate executives understand that supply chains swim in tons of data," Long says. "But they also understand that data and analytics only get you so far. You have to also engage with people, whether that's asking great questions of your suppliers, asking great questions of your customers, or asking great questions of your team members."

The people skills—among them, leadership, communication, and negotiation—can be the hardest to teach. But, in the networked, as opposed to hierarchical, environment that characterizes today's market-savvy businesses, "these are skills that people have to learn to be more trusted leaders," she explains.

FIU's Gregory Maloney echoes Long's observations about industry's interest in different skills. He got a similar message when helping to design FIU's recently debuted Master of Science program in logistics and supply chain management, the first such program in Florida, where supply chain studies typically are the purview of engineering programs.

"As we developed this program, we talked to a lot of companies across the country," Maloney says. "It was

interesting that they told us that within logistics and supply chain what they need now is some of the 'soft' skills."

With those soft skills in mind, FIU devised a program that puts the expected heavy emphasis on optimizing technology and data, but also gives prime time to the art of negotiations, the essentials of marketing, and the craft of building business relationships with professionals from different cultures and countries.

Building relationships across cultures and countries is increasingly important in the Florida marketplace, says Ron Mesia, executive director of FIU's Ryder Center for Supply Chain Management and an architect of the new master's program. Because Miami is a gateway to Central and South America, the curriculum is fused "with a Latin American flavor," he says, ensuring that supply chain managers can handle the technicalities of customs in, say, Costa Rica while nurturing a beneficial relationship with a business partner in Santiago.

So far, Maloney says, Florida's supply chain talent pool is welcoming the opportunity to plunge into this medley of courses. "When we conduct informational sessions for this program, we can barely find space in the room for everybody," he says.

Online Courses Adjust to Learning Styles

Many university-level certificate and degree programs—FIU's among them—require that students come to campus for face-to-face interaction. That's the best way for a professor to gauge whether a student has grasped a difficult concept, Maloney notes.

But more and more programs are offering hybrid programs that blend in-person interaction with online instruction. In fact, "the biggest trend in continuing supply chain education is to provide online courses," says Nancy Taylor, director of the master's program in supply chain management at Michigan State University's Broad College of Business.

That's because many busy professionals don't have time for traditional delivery platforms. Whether they are mid-career millennials just starting families or older professionals changing career tracks, they need fast-paced programs that they can complete remotely.

Taylor's own program, in existence for about 15 years, is "a combination of on site, in person, and online," she says. Over the course of 20 months, the cohort of students comes to campus for occasional three-day weekends, which allows them to get to know faculty members and their classmates. Between these campus visits, students work remotely, exchanging ideas and questions online.

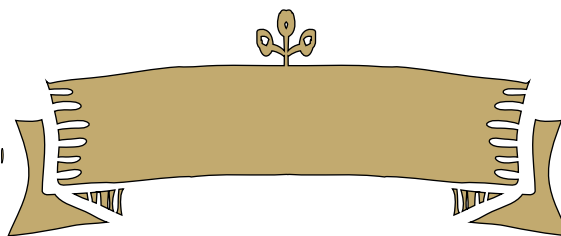
Professor David Closs, an architect of the MSU program who has expertise in logistics operations and planning, considers online education a boon to professionals who need flexibility in their lives. The programs that work best, he points out, rely on a few best practices to make the experience friendly and effective.

Too many online programs err by plopping existing curricula and existing syllabi into a digital environment. Worse, they fail to customize instruction for the online attention span. It's not uncommon, Closs notes, for an online program to require students to sit through hours-long YouTube videos of classroom lectures.

Recognizing that this isn't conducive to learning, many college and university programs have begun partnering with an outside company that understands the online universe. For example, MSU's online supply chain master's program works with Tampa-based Bisk, which employs instructional designers who can help a professor distill complex points into user-friendly presentations.

"When you create education programs for an online setting," Closs says, "you have to think differently."

Whether you're just launching a supply chain career or looking to boost your skillset, there is a lot to learn and a lot of ways to learn it. ■



Serving Up Today's Specials

While degree and certificate programs can provide the latest thinking on everything from enterprise resource planning to storage life-cycle policy, other critical topics are still making their way on to the syllabus. Depending on your responsibilities and aspirations, it makes sense to start tracking some emerging topics now, whether by reading the business press or engaging in what's-up chats at networking events.

■ Artificial intelligence, autonomous systems, and robotics

Self-driving vehicles, robots, and the automated warehouse are on the way. Savvy managers will want to start thinking about how this will affect everything from worksite culture to employee morale and staff dynamics. After all, these technologies may replace some workers, while others will have to interact with them.

■ Blockchain fundamentals

Offering what the Brookings Institution describes as a "secure transaction ledger database," blockchain makes sense for some organizations and no sense for others. Learn as much as you can, so "you can logically think through the value proposition of blockchain," suggests David Closs, a professor at Michigan State University's Broad College of Business.

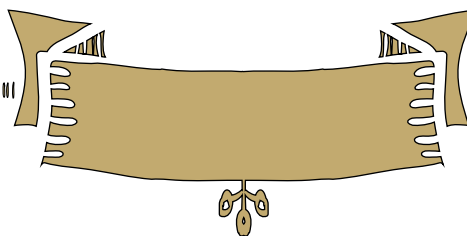
■ Sustainability

Lisa Sallstrom, a vice president responsible for certification and membership at APICS, sees eco-awareness as a critical part of the supply chain manager's strategic outlook. "Consumers are becoming more conscious of and demanding sustainable business practices," she says.

With that in mind, the newly formed Association for Supply Chain Management, an outgrowth of APICS, has created the SCOR-E (Supply Chain Operations Reference for Enterprises) designation for corporations. It aims to raise the bar on ecological, as well as ethical and economic, practices. That means expertise in, or at least familiarity with, the circular economy, climate strategy, energy use, water and waste, material usage, and product life-cycle stewardship.

■ The Internet of Things (networked systems)

A networked approach to supply chain requires a different skill set and mindset. "When supply chains are networked, you need to be able to embrace data analytics and a facts-are-friendly approach," says Mary Long, managing director of the Global Supply Chain Forum at the University of Tennessee, Knoxville. "Everybody can see your data. You can't hold it back and piecemeal it out." What's more, when other entities within an organization have access to supply chain data, they're likely to have different interpretations of it. These could well inform decision making.



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THE CHANGING LOGISTICS
OF GROCERY DELIVERY

IT'S IN THE BAG

Food retailers are working to satisfy consumers' growing appetite for rapid delivery of everything from tomatoes to orange juice. To feed this demand, they're educating personal shoppers, developing new technologies to handle the last-mile, rethinking distribution networks and inventory planning, and partnering with technology companies.

By Karen M. Kroll

Depending on your age, you might recall a milkman making stops at homes around town. By the 1950s and 1960s, however, home delivery of milk and other dairy products largely died out, a victim of the popularity of supermarkets, better refrigeration, and suburban sprawl, which forced milkmen to drive longer distances, increasing their costs.

Fast forward to 2018, and home delivery of all types of groceries is surging. Many consumers head online, order just about any grocery item from just about any grocer, and either pick it up or have it delivered, often within hours.

This shift in consumer behavior shows no sign of slowing down. Seventy percent of consumers will engage in online grocery shopping within the next five to seven years, according to *Digitally Engaged Food Shopper*, a 2018 study by the Food Marketing Institute (FMI) and Nielsen Holdings plc. Online food and beverage spend could reach \$100 billion by 2022, says Mark Baum, FMI's senior vice president of industry.

MANAGING CONSUMER PREFERENCES

Even as the convenience of online grocery shopping attracts consumers, many grocers are struggling to determine how to satisfy this surging demand without decimating their bottom lines.

The challenges are daunting. For starters, consumers are notoriously picky when it comes to food and other consumables. That makes it difficult for a store's personal shopper to know, for instance, exactly how ripe a particular consumer prefers their bananas.

Education and technology can help. At Shipt Inc., an online delivery service company, Shipt Shoppers receive instruction on identifying the best produce and meat, says spokesperson Julie Coop. They shop frozen and refrigerated items last to ensure they'll be fresh

at delivery. To maintain cold-chain integrity, shoppers store all items in separate insulated bags while choosing items and during delivery.

Technology also comes into play. At grocery delivery service Instacart, a data science team reviews historical data to most efficiently route its shoppers through stores. The company also leverages machine learning and real-time location technology to most effectively batch deliveries and route drivers.

Such training and technology require both time and money, which can cut into grocers' bottom line. Yet grocery margins already are thinner than for many other products.

Some delivery companies charge membership fees and/or require minimum order levels to gain free shipping. For instance, as of early November 2018, Shipt was offering an annual

membership for \$99, or a monthly plan for \$14. It delivers orders of more than \$35 for free.

Another challenge is the last mile. Moving food from a warehouse or retail location to a consumer remains a complicated, expensive endeavor. Unlike fashion or other merchandise, grocery deliveries must be made within a narrow time window, given the perishability of the items, notes Natan Reddy, analyst with CB Insights, a research and analysis firm.

MAINTAIN THE CHAIN

Cold chain integrity must be maintained throughout delivery. Today, that typically means the consumer must be home to accept the groceries, which reduces the convenience of online delivery. "The first retailer that can crack the code to affordable last-mile grocery delivery will win," Reddy says.

One potential solution is micro-fulfillment centers, Reddy suggests. These compact warehouses are small enough to fit into dense urban areas, where they're close to many consumers. They rely on artificial intelligence and robotics to efficiently fill orders.

In November 2018, Albertsons

Consumers using online delivery service Shipt order groceries from a local store via the Shipt app or website, and schedule a delivery in as soon as one hour. Delivery workers can unpack the orders into the customer's cabinets or refrigerator.



Companies announced a partnership with TakeOff Technologies to pilot a micro-fulfillment center that will streamline e-commerce fulfillment. TakeOff's technology, enabled by artificial intelligence, will handle much of the fulfillment process, reducing the time required to process orders.

Another option is BOPIS—buy online, pick up in store. This offers most of the online convenience, but eliminates the hassles of last-mile delivery, Reddy notes.

Autonomous vehicles may eventually help grocers tackle last-mile challenges. Because the vehicles are designed to carry cargo rather than people, they tend to be smaller and less expensive to fuel than traditional delivery vehicles. And, of course, they lack drivers who need to be paid.

“Autonomous ground delivery can fundamentally move the needle forward by shedding the cost of human delivery drivers,” Reddy says. In June 2018, Kroger and Nuro, a maker of self-driving vehicles, entered a partnership to pilot autonomous last-mile deliveries.

An especially confounding part of the last-mile challenge is “the last 10 yards,” or moving groceries from the vehicle to inside the consumer's home, while maintaining temperature controls. In a future with autonomous vehicles, consumers may go to the vehicle, flash an identification tag, and then retrieve their groceries, says Joe Bobko, vice president of transportation with Boxed.com, an online bulk shopping market.

In the next evolution of this technology, the autonomous vehicle may actually house a smaller autonomous vehicle that brings a customer's groceries to the front door or garage, or to a lock box. Further into the future, new homes may come equipped with robots that retrieve the groceries.

MANAGING THE DISTRIBUTION NETWORK

Grocers also need to determine where best to fill online orders. Obviously, retailers and delivery service companies can use physical stores, as the inventory and locations already exist. However, using stores this way presents its own challenges. To start, “retail real estate is expensive,” says Yemisi Bolumole, associate professor of supply chain management at Michigan State University. In addition, most retail workers aren't trained to efficiently pick items.

Yet moving the process to a warehouse, and layering online

orders on top of traditional pallet orders becomes cumbersome and inefficient. “It's mixing two very different types of work—that of a personal shopper and a traditional warehouse function,” Bolumole says. As the volume of online grocery orders grows, more retailers should find it easier to justify an investment in a separate network for this part of their business, she adds.

Another challenge that arises as grocery shopping straddles both the online and physical worlds is accurately planning inventory. Most retailers determine their replenishment system based on their ability to build a reasonably accurate demand profile, Bolumole says. The growing number of consumers shopping through multiple channels adds complexity.

DISHING UP E-COMMERCE SUCCESS

The FMI-Nielsen Digital Readiness Assessment Survey and in-depth interviews across many grocery retailer and manufacturer operational functions reveal six organizational imperatives that can help food retailers and manufacturers accelerate omni-channel success.

1. Merge digital and in-store shelf capabilities. Manage the physical shelf and its digital counterpart to create a seamless shopping experience, where consumers see the same information both online and offline.

2. Align organizational structures. Integrate digital offerings in parallel with brick-and-mortar operations.

3. Address discrepant datasets. Scrub master data files for discrepancies; strong data and accuracy are critical components to successfully support online sale efforts.

4. Integrate forecasts to increase operational efficiencies. Integrate online and offline forecasting so the right amount of inventory is available to meet orders through either channel.

5. Optimize shopper insights. Bring retailer and manufacturer shopper information together into a single, comprehensive view of customer insights.

6. Improve marketing and promotions. Optimize the management of omni-channel marketing and promotions.



Kroger entered a pilot program with self-driving car startup Nuro to use its robotic vehicles for on-demand grocery delivery.



Albertsons Cos. partnered with Takeoff Technologies to fulfill e-commerce orders. The solution uses AI-enabled technology and a system of totes and conveyors to deliver items to Albertsons employees, who then prepare the order for the customer.

One solution is to develop online subscription services, particularly for laundry detergent and other bulky items that consumers prefer not to lug around, Bolumole says. Of course, for these to work, online consumers have to maintain their shopping patterns.

"This falls apart if consumers buy online today, and go into a store next week," she says. To minimize this risk, retailers may offer incentives to keep customers online.

TECH PARTNERS

In their efforts to develop reliable, cost-effective delivery capabilities, some retailers are partnering with technology companies—Albertsons' partnership with TakeOff Technologies is one example. These partnerships enable retailers to scale more quickly than most could by building capacity.

"We're in a golden age of experimentation," Baum says. Many retailers are both building their own capabilities and partnering with other firms that can bring technological expertise.

And even as many grocers build out their online options, most still are keeping their brick-and-mortar stores. "Brick-and-mortar stores are essential to business," Baum says.

One reason is the impulse shopping that often occurs once consumers are inside a store. Consumers tend to be more disciplined about sticking to their lists when shopping online, especially if they're replenishing basics such as milk and flour.

"We haven't yet found the silver bullet," says Florian Neuhaus, partner with consulting firm McKinsey & Company. Industry players are still searching for the right balance between cost and service levels.

Ultimately, it's likely that several grocery delivery options will prevail, says Vishwa Chandra, a McKinsey partner with a focus on grocery and retail. Consumers likely will vary their orders, depending on whether they need groceries immediately or in a few days. "There won't be one dominant solution," he adds.

It's a lot for grocery retailers to chew on moving forward. ■

AUTOMATION THAT DOESN'T CRUSH THE BERRIES OR BREAK THE EGGS

The 600,000-square-foot distribution center Walmart will open in Shafter, California in 2020 will be able to move about 40 percent more freight than similar centers, says Michelle Malashock, spokesperson. That translates to about 770,000 bananas per day. The center will handle perishable groceries for areas of California and Las Vegas.

The work completed in most distribution centers today tends to be mostly manual. "Workers unload trucks, get products on conveyor belts, break packs apart, pick items, and create pallets," Malashock says. It's laborious, grueling work; an associate may pick up boxes that weigh upwards of 60 pounds hundreds of times each day, often in refrigerated chambers.

The Shafter center will deploy WITRON materials handling equipment to automate many of these jobs. The equipment will bring products to Walmart associates, rather than associates having to walk to retrieve products, saving time.

The equipment also will stack boxes and pallets, using algorithms to ensure, for instance, that a gallon of milk doesn't crush a container of blueberries. The algorithm also will "create tighter, smarter pallets," Malashock says.

At the same time, what had been mostly manual jobs will be "upskilled," and require associates with strong technical and analytical skills who can develop the algorithms the machines will use, based on the weight, size, and other attributes of approximately 8,000 products, as well as the items each store orders.

"The equipment will create a pallet that meets the criteria without breaking the eggs," Malashock says.



Walmart is breaking ground in Shafter, California, to build its first high-tech distribution center for fresh and frozen groceries.

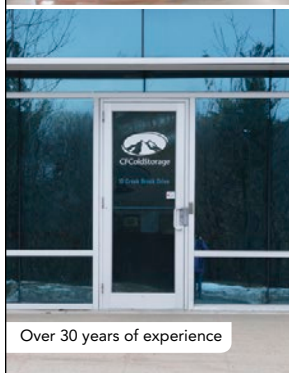
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2018 A Year to Remember



Most Likely to HAVE A LASTING IMPACT



Jose Minarro
Senior Vice President
of Customs in Mexico
Transplace

The new NAFTA

With the United States-Mexico-Canada Agreement (USMCA), don't expect major shifts in how North American supply chains are managed. Trade among the three countries should be robust, and the outcome should be a win-win-win for all parties involved as global corporations are expected to continue to invest in North America.

Commerce has evolved since NAFTA was created and the trade agreement will reflect the world we live in today, not 25 years ago. This new agreement will provide clarity around the future of North American trade and allow shippers to properly prepare for capital investments and supply chain changes. Some sectors and products—such as automotive, dairy, eggs, and poultry—will likely be impacted more than others.

"The rules of origin for several industries will change. Revisit eligibility to claim NAFTA or USMCA duty rates in the future and perform a comprehensive rules of origin and regional value content analysis for every product."

Amazon effect and consumer impatience extend to B2B

The Amazon effect continued to extend well past retailers in 2018. As business-to-business customers become accustomed to order status updates from their consumer experiences, they expect them in the business environment, as well. This impacts manufacturer priorities as companies examine how their systems and processes can meet new expectations for communication and speed. Better, faster, smarter is no longer a luxury—it's a requirement.

The need for speed is also spawning a new category of last-mile delivery entrepreneurs that rely on ever-evolving technology to find new and affordable ways to deliver products quickly to consumers and businesses. Whether new models that rely on crowdsourced drivers for delivery are sustainable, however, remains to be seen.

3PLs remain valued partners

Shipper demands, customer expectations, and third-party logistics (3PL) capabilities are increasing as the supply chain is pushed to the forefront, notes the 2018 Third-Party Logistics Study. This comes as shippers continue to refocus efforts on their core strengths and rely more on 3PL providers.

At the same time, 3PL growth in 2018 has been fueled by implementing technology that allows for enhanced fulfillment capabilities, efficient supply chains, and data that can help shippers improve operations in their own organizations as well as for clients. This is due in part to the fact that total logistics expenditures as a percentage of sales revenues have increased, reaching 11 percent in the 2018 study from 10 percent in the previous year.



Most POPULAR

Capacity shortage

With the first quarter of 2018 representing the largest shortage in history, the ongoing truckload capacity crunch is the result of what insiders call the "perfect storm." Factors range from a booming economy that's producing more goods that need transporting to fewer trucks available because of recession-triggered fleet reductions a decade ago.

In addition, with the average age of the commercial truck driver at 55, more are retiring at the same time that companies struggle to attract younger talent to a profession that has lost its appeal.

As a result, many shippers are changing how they do business to make sure they have the capacity they need. Emerging efforts to help include developing technology that helps match carriers and drivers with goods, especially on backhauls.

Finding labor

With the U.S. unemployment rate averaging 3.9 percent during the first three quarters of 2018, and hitting a record low of 3.7 percent in September heading into the busy holiday fulfillment season, the labor shortage has affected all aspects of the supply chain. It's not limited to warehouses having trouble finding seasonal employees—manufacturers and trucking companies need more help, too.

The workforce shortage is forcing all segments of the supply chain to be more resourceful with recruiting, whether it's locating new fulfillment centers in more populated areas so there's greater access to talent, offering more competitive wages and flexible hours, or attempting to attract drivers through TV ads.

ELD mandate

The electronic logging device (ELD) mandate that went into effect at the end of 2017 and limits the number of hours a driver can be on the road has had a notable impact on truckload capacity. Considering the driver shortage, placing limits on the existing workforce, while appropriate, exacerbated the problem.

The industry is addressing the driver shortage in a number of ways, including actively recruiting military veterans with driving experience, being more flexible with warehouse pickup and delivery times so drivers can avoid rush-hour congestion, and lobbying for improved infrastructure and more highway rest areas with room for tractor-trailers.

China tariffs

In 2018, President Trump used tariffs to deliver on a campaign promise to crack down on what he describes as years of unfair trade practices between the United States and China. The tariffs on Chinese imports included a 25-percent fee on nearly \$50 billion in goods during the summer while September brought a 10 percent tariff on \$200 billion in goods. The lower fall percentage, intended to reduce the impact on holiday demand, will increase to 25 percent on January 1, 2019. While November brought talk of a truce in the trade war, companies continue to feel the impact.

Chinese exporters aren't the only ones affected; U.S. businesses are feeling it as well. More than half of American companies were affected by the tariffs with China, finds AsiaInspection's mid-year survey. That number increases to nearly two-thirds of small and mid-sized businesses. As a result, many companies are continuing to shift some sourcing away from China.

Trendsetters



Tarek Sultan
CEO
Agility

New trade agreements

I've long said that even in a world of Brexit and anti-trade sentiment in the United States, free trade agreements will quietly continue to proceed at the bilateral, regional, and global level—because they are needed.

And 2018 seemed to bear that out.

Emerging Asia is rallying even without the United States. The Regional Comprehensive Economic Partnership (RCEP), a proposed free-trade agreement between countries in the Asia Pacific region that together account for almost 40 percent of the world's GDP, is expected to be agreed to before the end of 2018.

Naturally, we can't ignore the U.S.-China trade dispute, which is worrisome on many levels. It's likely that the face-off between the world's two biggest economies will see higher prices for U.S. consumers, an economic hit for China, and a squeeze for European manufacturers with heavy capital expenditure investments in China and market exposure in the United States.

"The EU-Japan Economic Partnership Agreement is set to create a free-trade relationship that covers about one-third of global GDP."

Weather, natural disasters, strikes

It has never been more important for manufacturers, shippers, and carriers to have a supply chain risk management plan. With NASA and other sources reporting that climate change is making hurricanes stronger and more intense, supply chain stakeholders still reeling from 2017's devastating hurricane season had to expect more of the same in 2018.

Every significant natural disaster, whether Hurricane Florence in September or Indonesia's recent earthquake and tsunami, affects the global supply chain. Non-weather disruptions that include Brazil's spring labor strike and significant changes in trade deals—think Brexit—also mean that players know they must prepare for a range of potential disruptions.

STARS OF THE Future



Cyrus Hadavi
CEO
Adexa

Artificial intelligence

Supply chain planning systems are no longer just pre-defined optimization algorithms relying on a static model of the world. Nowadays, systems can constantly monitor tens of millions of variables that constitute the supply chain model, recognize hidden patterns, and generate correlations or causations not readily apparent to humans.

Today, most vendors are focused on use of machine learning in demand-planning technology; i.e. how systems can learn from results of past policies to produce improved forecasts. However, on the supply side, there are increasing opportunities to identify hidden gems in the supply chain that result in more accurate models and proactive decisions to avoid risk.

"Examples are variability in supplier delivery patterns based on seasonal changes, or how we can proactively avoid, for example, low inventory based on economic indicators, or avoid capacity shortages by constantly monitoring patterns in all the internal and external data."



Melanie Nuce
Senior Vice President
of Corporate
Development
GS1 US

Blockchain

In 2018, blockchain brought new energy to the conversation around supply chain data sharing, which lacked a sense of urgency for many years. While it remains to be seen whether blockchain is as widely applicable as speculated, the barrage of pilot programs this year have helped clarify its potential for specific use cases, including food traceability and product authentication. The launch of IBM Food Trust and Walmart's new requirement for some suppliers to use blockchain are key indicators that this technology is moving at an unprecedented pace.

While blockchain discussions and implementations are moving fast, it's not a shortcut. To achieve the optimal level of data sharing between organizations, companies need to adopt standards that enable systems interoperability and data accuracy. Technology providers and piloting companies have discovered these are indispensable prerequisites to blockchain's success. Without standards-based collaboration, we risk creating immutable blockchains that are simply faster at sharing bad data.

TIME CAPSULE: HALLMARKS *of the year*



Steve Raetz
Director
Research & Market
Intelligence
C.H. Robinson

"2018 will be known as the year of the driver. In 2018, electronic logging devices (ELD) highlighted the importance of drivers and their relationships with shippers."

Thanks to the strongest truckload shipping market since deregulation, demand outstripped the supply of trucks, and drivers didn't have to take on the costs of the ELD mandate as predicted. Drivers passed along costs to shippers to compensate for the lost flexibility of hours of service and inefficiencies in dwell times at load and drop sites.

In turn, shippers focused more on creating strong relationships with drivers on their docks and worked to get them back on the road as quickly as possible.



Evan Armstrong
President
Armstrong &
Associates

Many international transportation management third-party logistics providers and domestic transportation management/freight brokerage (DTM) operations have deployed Lanetix CRM for logistics to better manage projects and request for proposal processes. Machine learning is being utilized to automate back-office document processing in DTM operations with applications such as HubTran. In addition, visibility solutions are streamlining shipment status communications among shippers, carriers, and DTMs.

The price of using autonomous robots in warehousing has decreased to a point where they are becoming more commonplace in operations over and beyond just Amazon. Artificial intelligence solutions are making significant inroads into DTM 3PL operations and are enabling the automation of reading and extracting information from emails and matching loads to carriers.

"In my opinion, 2018 will go down as the year of innovation. Significant automation in almost every aspect of supply chain management is driving significant operational change and operating efficiency."



Doug Waggoner
CEO
Echo Global Logistics

2018 will be known for its visibility and efficiency. Visibility into load transit times and potential delays is more important than ever. Shippers are anxious to get their loads covered, and carriers are placing greater importance on working with 'shippers of choice' who can ensure drivers get loaded, unloaded, and back on the road as quickly as possible. Visibility helps uncover inefficiencies,

including identifying facilities that have longer-than-average wait times so solutions can be implemented.

"With efficiency, transportation costs are rising to a boardroom-level issue. You may have noticed a growing trend on earnings calls where companies reference increased transportation costs as a reason for missing profitability targets. Any chance to gain efficiency in the supply chain has now become a top priority. A key area of focus for improving efficiency and driving down costs includes optimizing modes, networks, and routes. Artificial Intelligence and machine learning support efficiency by recommending optimizations and automating manual tasks."

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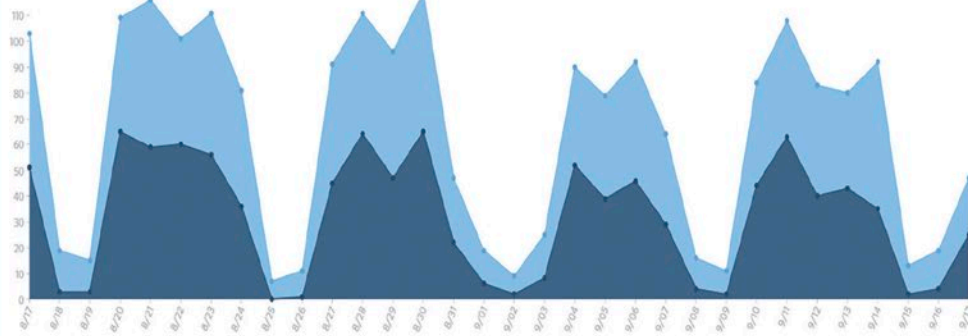
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Organization	Industry	Revenue Range	Company Size	City	State	Session Count	Pages Viewed
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Casebook | by Jennifer Baljko

Golden State Foods
warms up to a cold chain
performance monitoring
solution that meets
customer compliance
requirements.

Food Distributor Plays It Cool

When McDonalds, Starbucks, and Chick-fil-A are your main customers, expertly monitoring in-transit fresh, refrigerated, and frozen food temperatures is a valuable competitive asset.

Food services distributor Golden State Foods (GSF) feels that pressure every day. The company operates 26 dedicated distribution centers across the United States. It ships frozen, refrigerated, and dry food, along with packaging and operating supplies, to 9,361 restaurants. GSF makes 38,600 weekly deliveries with its fleet of 800 tractors and 1,000 trailers.

“Our customers are high volume and rely heavily on our just-in-time routing,” says Tim Bates, corporate quality systems director, logistics.

To meet these demanding requirements, GSF invested in a telematics solution from Coretex to monitor air and food product temperatures inside the trailers, and to better understand cold-chain performance from order

pickup at the distribution center to delivery at the restaurant.

In 2012, Golden State Foods Distribution, a division of Golden State Foods, a \$9-billion company based in Irvine, California, faced a dilemma. Its existing Hours of Service (HOS) platform was being sunsetted, and dedicated customer McDonalds, which it has served since the 1950s, kept upping its already high standards for food safety from warehouse pickup to restaurant delivery.

To keep pace with the industry’s food monitoring compliance requirements, GSF needed more in-depth visibility into the trailers’ air and food product temperatures, as well as temperature fluctuations in the frozen and refrigerated trailer compartments.



Golden State Foods uses the Coretex platform to monitor and improve its cold chain performance.

Improved monitoring and compliance were baseline requirements, but GSF also wanted to find ways to improve overall efficiencies and operations. After reviewing various options, the company shortlisted five solutions providers. Coretex was on that list.

At the time, Coretex, a fleet management services provider headquartered in Auckland, New Zealand, with U.S. operations co-based in San Diego and Fort Lee, New Jersey, was building its North American presence. Its relationship with Gateway Industrial Power, a refrigerated equipment dealer, earned it an introduction to GSF, and helped the solutions provider win the contract, recalls Craig Marris, executive vice president of mixed fleets for Coretex.

Pilot Programs

Coretex started with two years of pilot programs aimed at ensuring that robust and reliable technology capabilities were being embedded to meet GSF's

customized needs. It followed through with a full rollout about five years ago, circa 2013, says Marris.

The initial solution, Coretex's IBRIGHT platform, focused on complying with HOS at the driver level, harvesting data to monitor GSF Distribution's cold chain performance, and meeting McDonald's' continuous temperature monitoring requirements.

QCD Gets Into the Act

As the GSF Distribution rollout was happening, Marris was invited to participate in joint presentations with executives from GSF's Quality Custom Distribution Services (QCD) division. QCD provides distribution services for restaurant chains; Coretex now provides solutions for that part of the business as well.

"We constantly work with GSF executives to see what areas we can focus on to drive even more efficiencies," Marris says, adding that the GSF parent company is now able to monitor cold chain performance and operations at both divisions through one platform.

As the GSF Distribution and Coretex relationship evolved, new functionality has been layered onto existing technology.

For instance, five years ago, the technology focus was on creating visibility and accountability for the refrigerated compartments. That has since migrated to improving in-cab technology that gives drivers more information about the trailers' air temperature and any fluctuations in food product temperatures.

With IBRIGHT now shifting to what Coretex calls its 360 platform, GSF will also have deeper granular-level data around remote reefer control, trailer and in-cab technology integration, fuel usage, and route planning. Soon, it will also include greater hyper-local weather information that will allow drivers and dispatchers to see how changing weather conditions affect roads and closures.

Some of those features proved useful in September 2018 when Hurricane Florence hit the U.S. East Coast. "The

CHILLING OUT

Challenge: Food services distributor Golden State Foods wanted more cold chain performance visibility, productivity and operational efficiency improvements, and an integrated way to monitor customer compliance requirements.

Solution: Coretex's IBRIGHT system, which is now migrating to the Coretex 360 platform.

Results:

- Real-time visibility into trailer compartments' air and food product temperature.
- New predictive product temperature monitoring saves \$50,000 per month because drivers no longer need to probe product temperature at each stop.
- Elimination of manually managing portable temperature monitoring devices on approximately 200 daily routes.
- Granular-level temperature, temperature fluctuation, and delivery performance data meets customers' high-volume, just-in-time compliance requirements.

Next steps: New features embedded into Coretex 360, such as enhanced data visualization and hyper-local weather reports, could help improve route planning and delivery time while optimizing driver activities.



McDonald's, a Golden State Foods Distribution dedicated customer, maintains stringent requirements for monitoring in-transit food product temperatures.

IBRIGHT GPS-related mapping was valuable in remotely monitoring delivery vehicles that had to use many alternative routes due to road closures," Bates says, adding that the company was also able to give its customers better arrival-time estimates during the weather crisis.

Marris expects to have even more conversations with GSF officials about how this hyper-local weather input may address other short- and longer-term

planning and in-transit supply chain and logistics issues.

Besides the unexpected weather-related planning benefits, the Coretex solution has boosted GSF's overall performance in other ways. Most notably, GSF saves \$50,000 monthly because the new predictive product temperature monitoring eliminates the need for drivers to probe product temperature at each stop.

Additionally, the company no longer has to manually manage portable temperature monitoring devices on approximately 200 routes each day, saving significant time for drivers and speeding up deliveries.

"IBRIGHT provides real-time information regarding temperature control and reefer operations that we once had to collect manually," says Bates. "This helps our teams focus on delivering on time."

Previously, drivers used the Coretex solution to manually probe products at different times en route to measure temperature and note any changes that affect food safety. GSF customers required that temperature fluctuations over a set range for a certain number of minutes were reported.

These manual steps have been eliminated as the trailer and in-cab

technology has evolved. Today, trailer information is instantaneously fed to the

dashboard. Coretex and GSF now have a better understanding of vari-

ous dynamics, large and small, that impact fresh and frozen food temperatures while in transit. For example, the companies have learned more about the importance of the bulkheads, how reefers best work, and what causes temperature fluctuations in food product delivery. Those insights, in turn, have helped GSF improve its supplier compliance rating and other key performance indicators, Marris says.

One area targeted for additional improvement is optimizing the drivers' in-cab activities via Electronic Logging Device (ELD) capabilities. With Coretex's integrated workflow technology, GSF Distribution will have a single view into pickup times, en route transportation data, driver logs, offload rates, and any delivery issues.

"Because the technology is in the cab and on the trailer, we can direct the information from trailer to driver via a display screen," says Marris.




Having that data and identifying potential problems early also help GSF drive out unnecessary costs and

take corrective action when necessary without losing the load. ■

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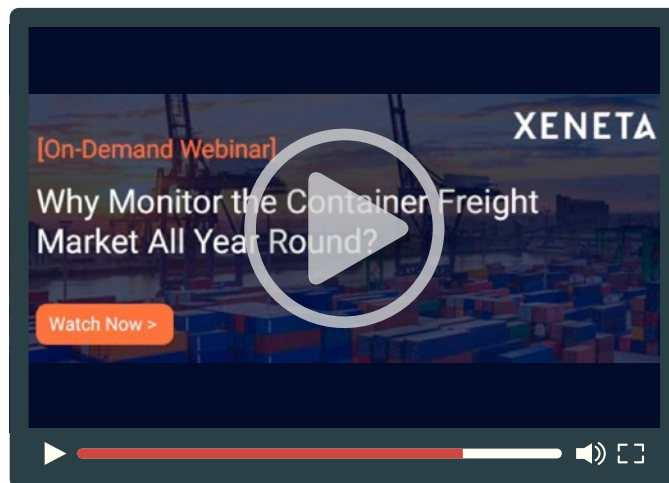
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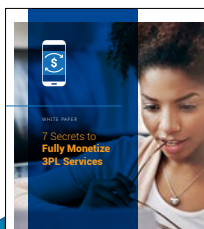
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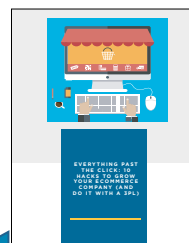
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podcast



Jim Monkmeyer

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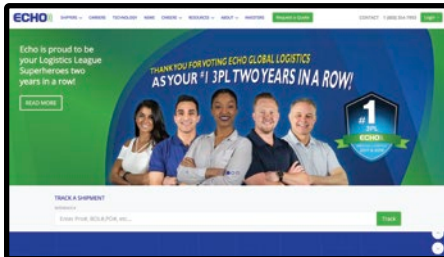
GUEST: Jim Monkmeyer

President of Transportation, DHL Supply Chain

An increasingly interconnected supply chain requires companies to capture, process, and respond to an ever-growing stream of data. Making sense of that data comes with its own risks and costs. DHL's Jim Monkmeyer shares his insights into what companies can do to better respond to digitization challenges and how they can prepare for the unexpected.



3PL

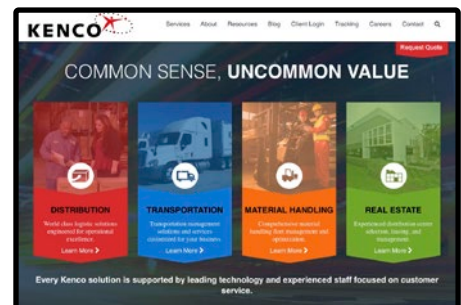


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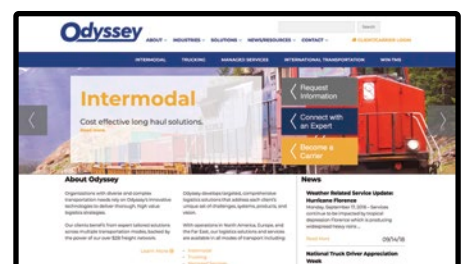


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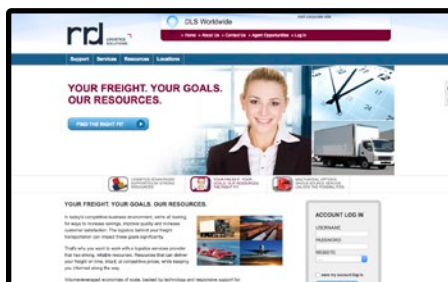
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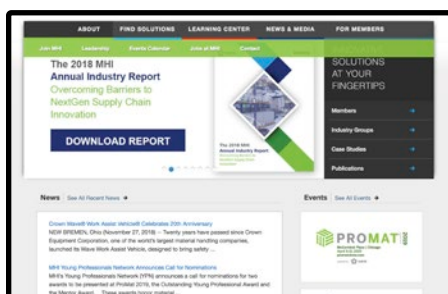
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ASSOCIATIONS



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MHI is an international trade association that has represented the industry since 1945. MHI members include material handling equipment and systems manufacturers, integrators, third-party logistics providers, consultants, and publishers. The association also sponsors trade events such as ProMat and MODEX to showcase the products and services of its member companies and to educate industry professionals on the industrial productivity solutions provided through material handling logistics. Much of the technical work of the industry is done within its product-specific sections, councils, and affiliates.

DEDICATED CONTRACT CARRIAGE

Ruan • www.ruan.com

With Ruan, you can take advantage of door-to-door shipping solutions without the hassles and overhead associated with owning and operating your own fleet of trucks. We have more than 5,200 employees operating, servicing and coordinating some 3,400 power units and 5,600 trailers out of more than 100 locations throughout the continental United States. But you get more than just drivers and equipment – we become an extension of your team, advocating for your bottom line. Find out why the right partner can drive costs out of your supply chain – call 866-RUAN-NOW or visit our website – ruan.com.



FOOD LOGISTICS

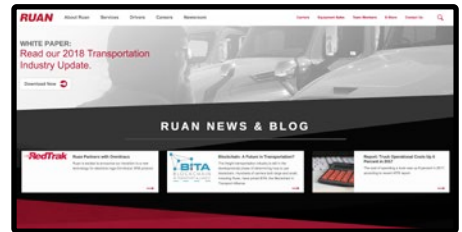


Lynden • www.lynden.com

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

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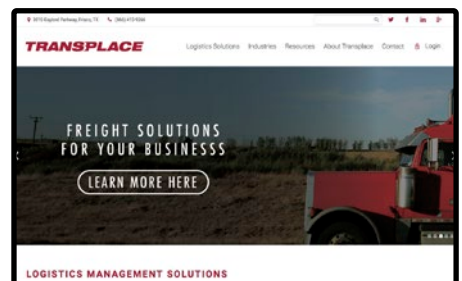


Syfan Logistics • www.syfanlogistics.com

Since 1984, Syfan has provided customers with a competitive advantage through superior transportation and logistics services. Syfan consistently strives to meet and exceed customer expectations of service through timely communication and quality information. Leveraging its rich experience and dedicated team, Syfan's commitment is to provide you with on-time pickup and delivery—every time.

Transplace • www.transplace.com

Transplace is the leading provider of transportation management services and logistics technology, helping manufacturers, retailers and distributors optimize supply chain operations and increase financial performance. Offering a complete suite of transportation management, strategic capacity, and cross-border and global trade services, Transplace's customizable logistics solutions and best-in-class technology give businesses greater control of their transportation operations and enhanced visibility of shipments and overall supply chain performance.



IN THIS SECTION:

Food Logistics - Trucking

FOOD LOGISTICS



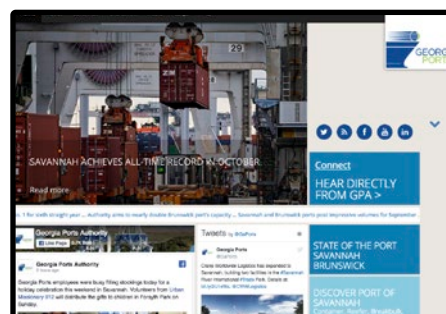
WSI (Warehouse Specialists, LLC) • www.wsinc.com

Reliability is everything. At WSI, that has been our approach to integrated logistics and supply chain solutions for over 50 years. Our promise of Condition, Count & Time ensures accurate, timely, and sound performance—every time. Recognized as one of the top 3PL providers in North America, WSI delivers custom solutions for warehousing/distribution, fulfillment, transportation, import/export, information technology, and customer support services. Depend on WSI for increased efficiency, reduced costs, and absolute reliability.

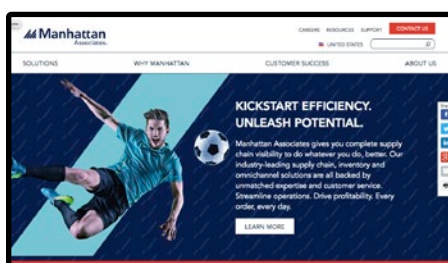
PORTS

Georgia Ports Authority • www.gaports.com

Georgia's deepwater ports in Savannah and Brunswick, together with inland barge operations in Bainbridge and Columbus, are Georgia's gateways to the world. They are the critical conduits through which raw materials and finished products flow to and from destinations around the globe. The GPA is committed to maintaining its competitive edge through development of leading-edge technology, marketing and operations to move your cargo faster.



TMS



Manhattan Associates • www.manh.com

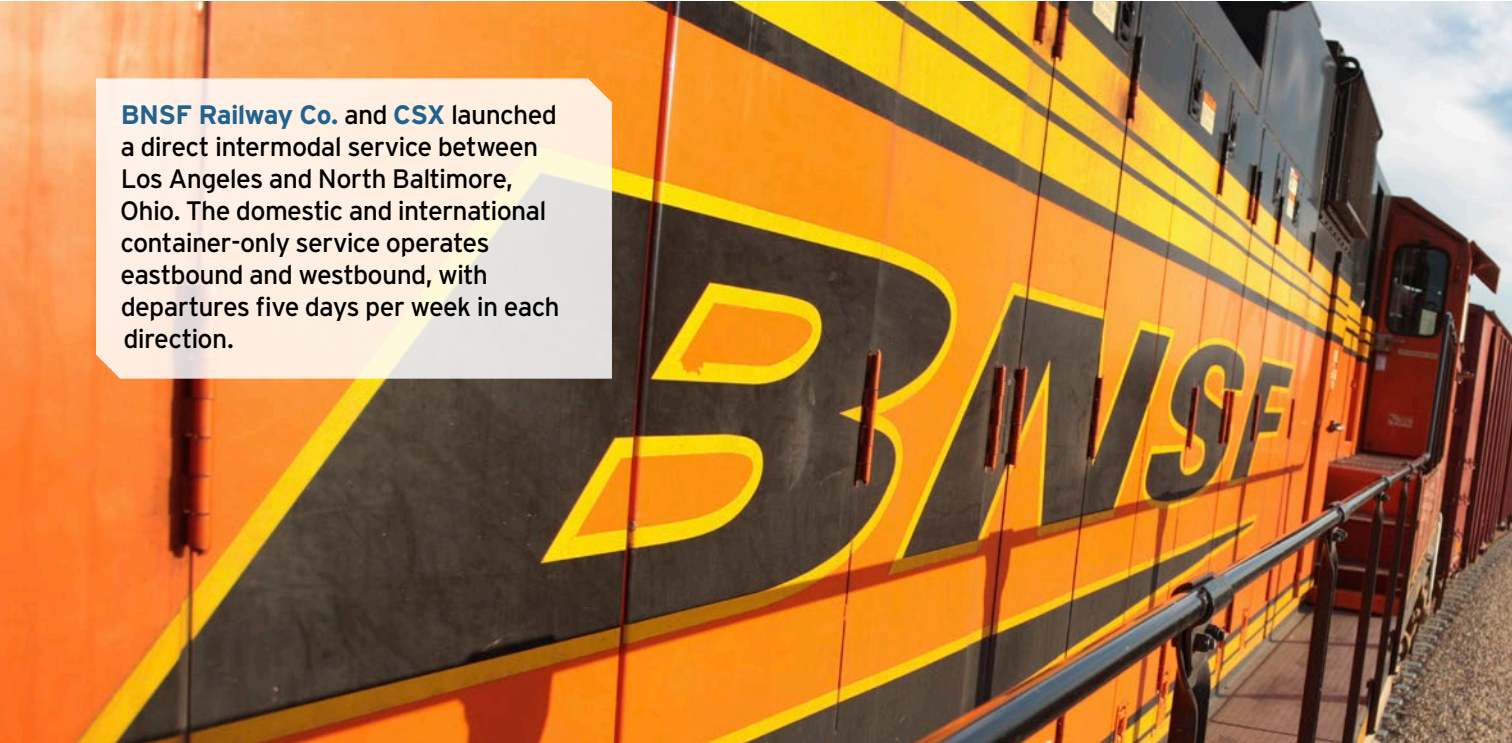
For 23 years, Manhattan Associates has provided global supply chain excellence to organizations that consider supply chain software, processes, and technology strategic to market leadership. The company's platform-based supply chain software portfolios—Manhattan SCOPE®, Manhattan SCALE™ and Manhattan Carrier™—are designed to deliver both business agility and total cost of ownership advantages and are used by 1,200 companies globally.

TRUCKING

Old Dominion Freight Line • www.odfl.com

Old Dominion Freight Line is a less-than-truckload carrier providing complete nationwide service within the continental United States. Through its four product groups, OD-Domestic, OD-Expedited, OD-Global, and OD-Technology, the company offers an array of innovative products and services to, from, and between North America, Central America, South America, and the Far East. The company also offers a broad range of expedited and logistical services in both domestic and global markets.





BNSF Railway Co. and **CSX** launched a direct intermodal service between Los Angeles and North Baltimore, Ohio. The domestic and international container-only service operates eastbound and westbound, with departures five days per week in each direction.

//Technology//

Shippers, freight forwarders, NVOCCs, and companies exporting and importing goods now have access to a neutral blockchain platform. **CargoX** is offering this platform built around its CargoX Blockchain Document Transaction System for document transaction validation and statements of ownership.

Cold chain shippers can now access **ORBCOMM**'s new solution for remote monitoring and control of refrigerated containers traveling by land, rail, or sea for uninterrupted visibility of operations. The

new product provides wireless connectivity through hardware and a cloud-based analytics platform and information management engine.

For shippers or brokers looking for spot pricing, **SMC³** launched a direct-to-carrier volume LTL pricing API. This volume pricing tool can be used in conjunction with SMC³'s Rateware XL contract rating tool and was developed in response to tight capacity conditions.

Users and suppliers of container equipment can reduce the amount of time it takes to book containers through **Container xChange**'s new Smart Booking offering. An

online marketplace for container logistics, xChange added a feature that lets shippers working with the same partners set up predefined requests that can be booked without negotiation.

Ecomdash, an e-commerce management system, partnered with **Bonanza Marketplace**, letting more than 50,000 Bonanza sellers use Ecomdash to help manage stock levels and fulfillment. This new integration adds another marketplace for Ecomdash merchants to sell on, helping them develop a multichannel inventory platform.

Cargobase, a platform connecting shippers and providers, added rail freight to its enterprise spot-buy platform, which now supports all freight modes, including air, ocean, road, and parcel, and sub-freight modes such as charters, on-board couriers, and next-flight-out. Enterprise shippers can now request, book, and compare different freight modes for a single request in one format, across the modes.

Shippers can now track BDP Smart shipments using Alexa. **BDP International**'s new automated tracking option, powered by Amazon, provides up-to-date details about shipments moving throughout the supply chain. To track a shipment, users provide searchable criteria including reference and container numbers.

Pacejet now offers a cloud-based shipping software and carrier connectivity to Microsoft Dynamics 365 Business Central users. Pacejet's platform connects Dynamics 365 with 3PLs and LTL carriers in real time.

ShipStation, a web-based e-commerce shipping solution, partnered with **SandBox Commerce**, which helps e-commerce brands and retailers create and launch mobile shopping apps on iOS and Android platforms. SandBox Commerce pulls live inventory from retailers' online

Warehouse and distribution center managers using shipping labels can access a new cloud label management system, **NiceLabel's** Label Cloud, to manage label design, product data, and quality control with branches, suppliers, and partners. The solution is designed for use in manufacturing labeling, allergens and nutrition labeling, apparel and garment re-ticketing and re-tagging, localized re-labeling, and supplier labeling.



ULINE

STRAP IT, SECURE IT!

Three large rolls of Uline shipping straps are shown. The first roll is yellow, the second is white, and the third is black. They are stacked and partially unrolled, showing the texture of the straps. A metal buckle is visible on the black strap.

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stores and includes that inventory in the app. The introduction of SandBox to the ShipStation community aims to help online retailers increase engagement with shoppers.

//Transportation//

Shippers can soon take advantage of additional options for shipping to and from the New Zealand market. **OOCL** will expand its market coverage in early January 2019 by introducing an additional service loop in the company's North Asia Express product line.

U.S.-based shippers now have greater access to the growing South Africa air cargo market. **Virgin Atlantic** added a second daily service connecting London and Johannesburg in response to strong demand for capacity to and from South Africa.

In a move designed to offer shippers more frequency and better reliability, **DHL Global Forwarding** added 17 direct less-than-container-load ocean freight services throughout the Americas. The air and ocean freight forwarding practice within the

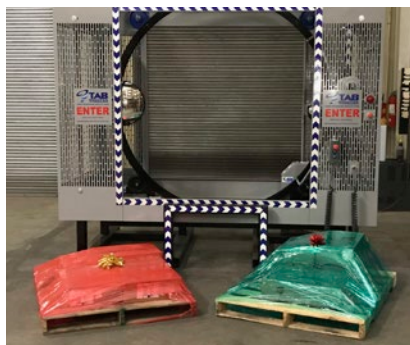
Orbital wrapper manufacturer **TAB Industries** now offers a choice of clear or colored plastic film with its TAB Wrapper Tornado line of orbital wrapping machines. Available in red, green, yellow, blue, black, and other colors, the colored stretch-film enables packaging and shipping personnel to color-code pallet loads by product, size, or other characteristic for easy identification in staging, transit, and storage.



These outdoor parcel lockers from **KEBA AG** are designed to be rugged and reliable. Able to function in temperatures ranging from -15° to 115°F, the KePol FS-09 parcel lockers support around-the-clock parcel drop-off, pickup, and return. The system consists of a maximum of 39 modules with small, medium, large, and extra-large box sizes available.

Deutsche Post DHL Group covers more than 45,000 point-pairs and launched outbound and inbound lanes from the United States and Latin America to Asia, Europe, Latin America, and the Middle East.

Logistics services provider **cargo-partner** expanded LCL services between Asia and Europe via ocean freight and rail transport. Expanded services include a new LCL connection from Nhava Sheva in India to Gdynia in Poland and a consolidation service from the North China region to Warsaw, with consolidation in Tianjin and distribution to anywhere in Europe.



//Products//

AeroSafe Global, a cold-chain-as-a-service provider, launched a line of containers for shipping temperature-sensitive biopharmaceutical products. The A20 Insulated Shipper Line is a one-time-use offering



WITRON introduced its next-generation high-performance AS/RS crane. Designed for high-volume distribution centers, e-commerce operations, and food distribution channels, WITRON's stacker crane is suited for continuous operation in fresh and frozen food areas, 365 days a year, 24/7. Featuring two loading device units per vehicle, cranes are able to move up to eight transport units at the same time, allowing for simultaneous storage and retrieval operations.

for low-duration shipping needs of between 24 and 48 hours and is designed to lower total cost for manufacturers.

Cold chain management solution provider **DeltaTrak**'s new FlashLink In-Transit Real-Time Mini Logger is a cost-effective real-time data logger providing temperature, humidity, and location information utilizing GSM cellular technology. Shipments are tracked worldwide using DeltaTrak's ColdTrak 24/7 cloud service. Shippers can access real-time information with user login and password on a standard web browser.



Freight Management Logistics, which moves steel, nonferrous, breakbulk, project, and bulk cargo, opened a warehousing facility and launched a subsidiary company, FML Warehousing and Logistics Services. The Houston, Texas, warehouse, which services steel, metals, lumber, project cargo, paper, cotton, general cargo, and freeflowing bulk, receives bulk material by rail and has a dual-line bagging plant for super bags.

//Services//

RLS Logistics opened a cold storage facility in Delanco, New Jersey. The new facility offers 2.2 million cubic feet of high-efficiency storage to meet the demand for cold storage space and capitalize on growth in the region, representing the first phase of a four-phase project that will grow to 8.5 million cubic feet and accommodate 35,000 pallet positions over the next several years.

Import and export shippers have additional capacity in Florida International Terminal with the opening of a new 32-acre containerized cargo terminal at Broward County's **Port Everglades** with double the number of entry gates, new scales, heavy equipment, technology, and increased stacking capacity. Other improvements

include an appointment system with a VIP lane for refrigerated cargo and up to 350 new power plugs for refrigerated containers.

Retailers requiring fulfillment services have access to a third-party e-commerce fulfillment center in Devon, Massachusetts. Operated by **Quiet Logistics**, the new facility deploys 200 new autonomous, mobile robots from Locus Robotics.

Shippers using containers can enhance their standard equipment offering with **Sea Cube Container Leasing**'s initiative designed to provide access to leading technology with limited capital investment. The company offers customers the flexibility to develop customized solutions, including selecting the technology and telematics vendors that best meet their needs.

CALENDAR

YOUR LOGISTICS DATEBOOK

JAN
21

National Industrial Transportation League (NITL)

2019 Transportation Summit

nittl.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 outlook

MAR 19-21, 2019 San Diego, Calif.

Worldwide Business Research

LogiMed

logimedusa.wbresearch.com

AUDIENCE: Supply chain vice presidents and directors from medical device and diagnostics manufacturers

FOCUS: Integrating better customer service strategies throughout the supply chain; establishing an end-to-end supply chain digitalization transformation; collecting data on vendor-managed inventory; cost optimizing the supply chain; improving patient care

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; mobile robots and their supply chain impact; new strategies for facility energy savings; passive RFID data collection in IoT/blockchain environments

CONFERENCES

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 for business impact; becoming an agile organization; harnessing the combined power of intelligent technology solutions and process reengineering; how to be where your customer is and be there fast

JAN 28-30, 2019 Atlanta, Ga.

SMC³

Jump Start 2019

smc3jumpstart.com

AUDIENCE: Logistics and transportation professionals

FOCUS: Technological disruptors and how to confront emerging supply chain challenges; supply chain visibility, AI's expanding role in the industry; intermodal in a post-ELD world; crossborder logistics: new traps, pitfalls, and critical issues; freight profitability analysis

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,

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

FEB 5-7, 2019 Vancouver, Canada

Informa Exhibitions

Cargo Logistics Canada

cargologisticscanada.com

AUDIENCE: Stakeholders in import, export, and domestic supply chains

FOCUS: Economic and trade outlook for Canada and North America in general; forecast for ocean carriers and Canadian/North American supply chains; retail supply chain prognosis; global cold chain market outlook in Canada and internationally

FEB 10-12, 2019 Las Vegas, Nev.

Airforwarders Association

AirCargo 2019

aircargoconference.com

AUDIENCE: Air cargo stakeholders

FOCUS: Issues facing the trucking industry; specialized facilities for perishables and pharmaceuticals at airports worldwide; regulatory agency updates; maintaining a high standard of cargo handling at airports; safety and security in the air cargo industry; blockchain implications

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 warehouse logistics forward; effective and innovative warehousing strategies

SEMINARS & WORKSHOPS

APR 25-26, 2019 Cambridge, Mass.

MIT Sloan Executive Education

Supply Chain Strategy and Management

bit.ly/MITsupplychainstrategy

AUDIENCE: Logistics and supply chain professionals

FOCUS: The next big trend in supply chain strategy, and the key skills required to be successful; how to better structure a company's supply chain strategy; guidelines for making strategic sourcing and make-buy decisions

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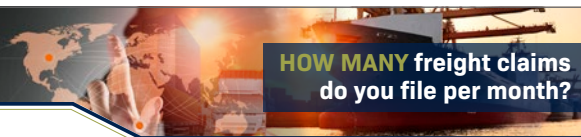
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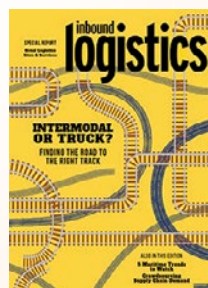
$$ICC = \frac{C + T + I + W + X + (S - R1) + (O - R2)}{\text{Annual \$ Material Cost}}$$

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An aerial photograph of a port area with a city in the background. In the foreground, there are several long freight trains loaded with colorful shipping containers (red, blue, orange) on multiple tracks. To the left, a large port facility with several red gantry cranes is visible, with a large blue ship docked. A green park area with trees and a winding path separates the port from the city. The city itself is densely packed with various buildings, and mountains are visible in the far distance under a clear sky.

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O Christmas Tree!

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Online Christmas tree sales likely to increase with new options available to consumers



Christmas tree prices may fall due to strong economy and abundance of trees

25-30 MILLION

live Christmas trees are sold in the United States each year, reports the National Christmas Tree Association (NCTA).



1 TO 2 PERCENT

of live Christmas tree purchases in the United States were made online in 2017.

AMAZON now sells full-sized, live Christmas trees. The online retailer offers a wide range of trees, both in terms of size and price, largely sourced from North Carolina and shipped within **10 days** of being cut down.

In 2017, live Christmas trees were purchased at an average price of \$75 each, while artificial trees were purchased at an average price of \$107.

Because of its long production cycle, the Christmas tree supply chain is affected by several factors:

- Economy
- Fuel prices
- International trade agreements
- Natural disasters
- Growing issues (droughts, fires, insects)

Around the world, seeds are typically planted in the spring or early fall depending on the area. Christmas trees can have an average growing time of **seven years**, but may vary depending on the type of fir seed planted and desired tree height.

Many Christmas trees are grown on tree farms. According to NCTA, approximately

15,000

farms grow Christmas trees in the United States with more than

100,000

employees, both part-time and full-time, in the industry.



More than 40 states have commercial Christmas tree producers. In 2016, Oregon, North Carolina, and Michigan were the three largest providers of Christmas trees, producing a combined total of **12.4 MILLION TREES**, according to Vox.com.

Source: Daniel Strauss, Whitman School of Management, Syracuse University: bit.ly/whitman_syr_Christmastree



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