AUGUST 2019

inbound logistics

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THE MAGAZINE FOR DEMAND-DRIVEN LOGISTICS

PHARMA SUPPLY CHAIN
HEALTH CHECK

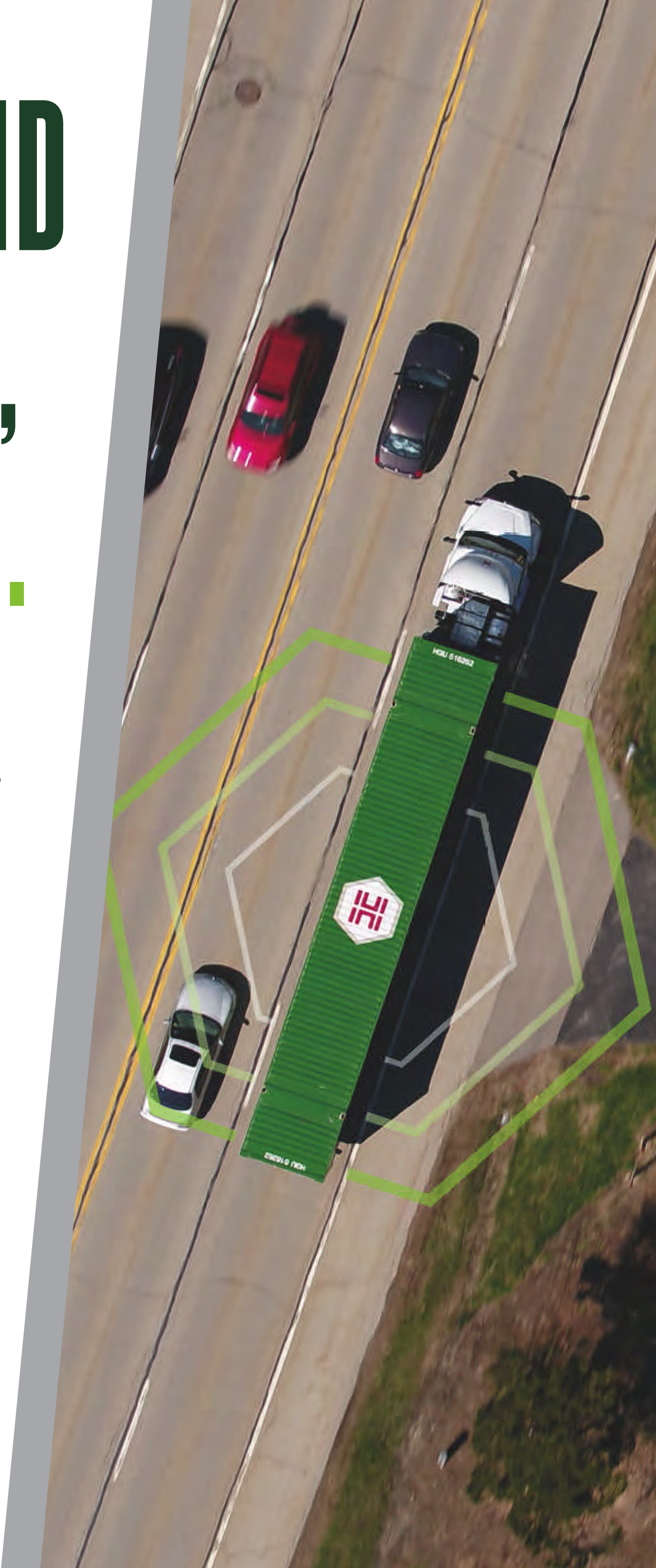
SMBs AND E-COMMERCE

BULKING UP TO COMPETE

SPECIAL REPORTS

FLORIDA
CLEAR SAILING FOR LOGISTICS

INCENTIVES
POWERING ECONOMIC DEVELOPMENT



Info SNACKS

BITE-SIZED SUPPLY CHAIN/LOGISTICS INFORMATION

"Softness in freight volumes, combined with more abundant capacity in the truckload market than was present last year, have made it a good time to be a shipper."

–Todd Tranausky, Vice President of Rail and Intermodal, FTR

EARLY-STAGE TURNOVER IN OVERDRIVE

Truck drivers hired in January 2018 stayed an average of

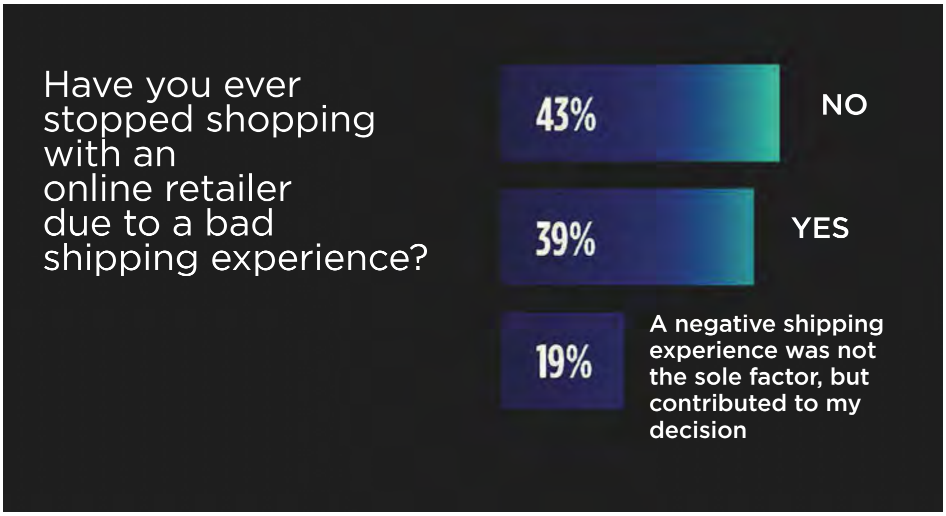
283 DAYS

Drivers hired in June 2018 stayed only

216 DAYS

On average, that's a decrease of 67 days.

–Stay Metrics report



SOURCE: BIGCOMMERCE SHIPPING REPORT 2019

75%

OF CONSUMERS

expect same-day delivery from all retail brands in the next 12 months.

– ElasticPath, The SciFi Shopper report

4.2%

Supply chain professionals' average base salary increase in 2018, up from a reported 3% pay raise in 2017.

18% higher

Median salaries of supply chain professionals who hold one certification over those who are not certified.

– 2019 Supply Chain Salary and Career Survey Report, Association for Supply Chain Management

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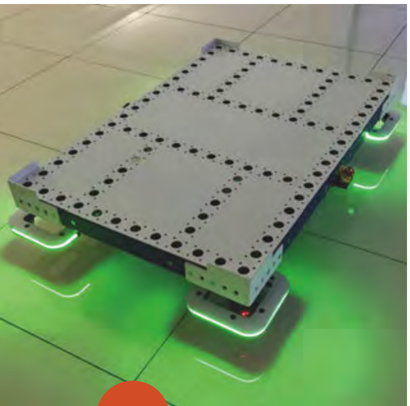

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Fulfillment dynamos

School supplies in peak demand

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LINKS

AUGUST 2019

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The IL Podcast provides relevant and topical information from thought leaders in the industry.
bit.ly/ILMagPodcastPage

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X MARKS THE SPOT: GEOCODING IN THE SUPPLY CHAIN

Geocoding converts complex GPS coordinates and pinpoints exact locations, allowing for more precise, practical pick-up and drop-off points for shipments. Find out how your supply chain stands to benefit.
bit.ly/geocodingSC

HOW SMB WAREHOUSES CAN RAMP UP AGILITY

Warehouses need to be more configurable and adaptive to respond to e-commerce demands. Here's how small and mid-sized businesses can make their warehouse operations more agile.
bit.ly/speedupyourDC

LOOKING FOR AN E-COMMERCE FULFILLMENT PROVIDER? CONSIDER THIS

Keeping up with the demands of e-commerce fulfillment can put any supply chain to the test. Find out how you can prioritize your fulfillment needs and pick a partner that delivers value to your operation.
bit.ly/ecommerce_partner

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FIND A LOGISTICS IT PROVIDER
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bit.ly/airfreight-DST

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CHECKINGIN

I Was a Shipment at Disney

Keith Biondo, Publisher

On a recent trip to Disney World with my family, I felt like one of the shipments you manage. I experienced firsthand the recent technological magic Disney has invested in.

The impact of that technology investment starts before you hit the park—advance planning, if you will. Disney encourages everyone seeking information about park attractions to download its new and updated My Disney Experience app and buy a MagicBand ($14.99 extra!), which contains long- and short-range RFID and allows "a simple touch to unlock the magic of Walt Disney World." The technology tracks you from origin to destination. It also keeps all your data from this visit so you can enjoy all the benefits IoT and big data can deliver for your future visits.

Given the crowds, I know Disney designed this technology to offer the best experience possible. But from a logistics perspective, I kept comparing each of my touch points to what a shipment in today's supply chain might "experience."

Visibility. With the app, wait times at all the attractions are available real time.

Real-time tracking. The long-range RFID allows attractions you visit to welcome you by name. The kids I was with thought seeing their names on the attraction was "awesome," but I felt a little weird. Using big data, the Disney folks know in advance where people are heading so they can staff accordingly.

Routing. The smartphone app, which it seemed everyone was using, displays your location and routing on an interactive map. The mission? To quickly get you to the attraction you want in a massively expanded and crowded venue.

TMS. The FastPass routes visitors to a special entrance, skipping long attraction lines. Can't do that without the app! And the MagicBand clears you for entry.

Merge in transit. If everyone opens the app on their smartphone, you can see your location and so can others in your party, letting your group identify the closest meeting point.

Visual proof of delivery. This was cool. Certain attractions take your picture; then, when the ride is over, you tap your bracelet on the picture wall so you can see how much fun you had. If you are 3 years old and want a photo with Buzz Lightyear, a Disney photographer taps a reader on his camera, and boom, sends the photo directly to you. Proof that you and Buzz are besties.

Blockchain provides an immutable record of the status of all in your party—including what they buy. If you are in a hotel park, you can securely buy anything and even open your hotel room door.

Big data. Your entire Disney digital footprint is kept for future visits.

How technology is being applied to all things supply chain amazes me. I now know firsthand how magical this is because I felt like a shipment. You are the wizards who make it happen.

Keith Biondo

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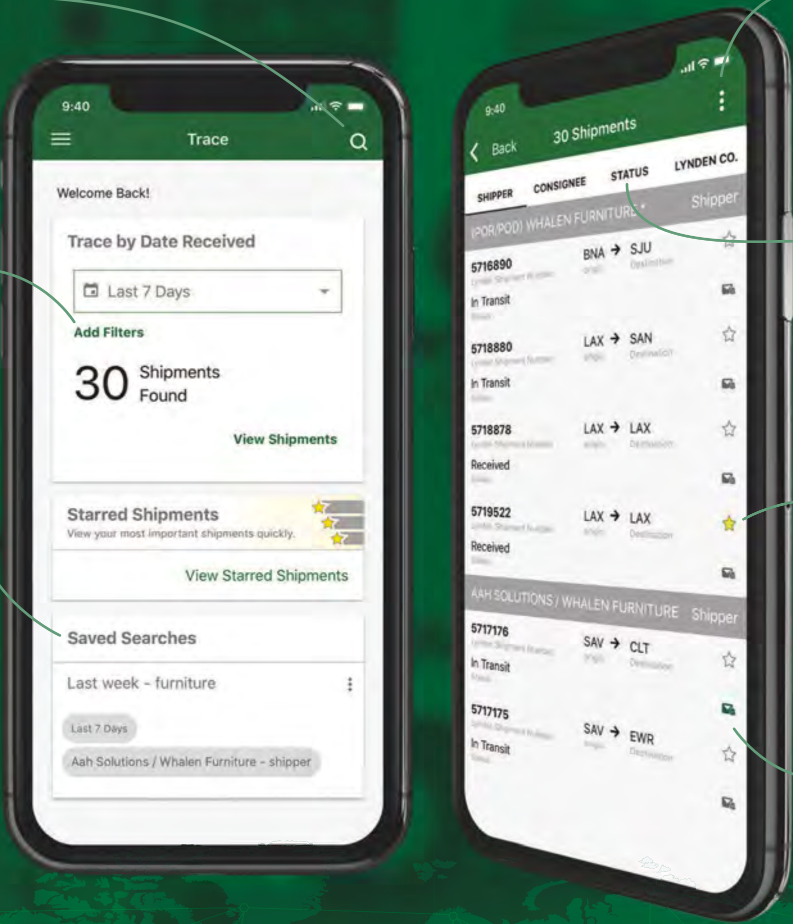
View and email documents like bills of lading, delivery receipts, and invoices.



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SIMPLE SORTING

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Mark important shipments using the star feature so they can be quickly viewed later.

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Lynden is continually looking for ways to streamline the shipping and logistics process. Our new mobile app was developed based on feedback from customers and provides accurate, up-to-date shipment information directly from your iPhone or Android device. Easily view shipments without having to remember a tracking number; sort, filter and search to find exactly what you are looking for, whenever you need it.

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GOODQUESTION
Readers Weigh In

How can brick-and-mortar retailers compete with Amazon?

Don't try and compete with Amazon. Identify what your customers want most and over deliver. Optimize the supply chain to provide flawless execution.

Brittain Ladd
Founder and CEO
Six-Page Consulting

Measure and build the supply chain around the customer experience versus cost per unit. Don't be hesitant to add cost for services into the network. Specifically, invest in final-mile or crowdsourcing technology to leverage brick-and-mortar stores as true fulfillment centers.

Randy Ofiara
Vice President, Enterprise Sales
BlueGrace Logistics

Amazon is playing an entirely different game. Focus on some other unique value proposition. To only replicate or beat Amazon at free, next/same-day shipping is futile. To start, retailers must provide omnichannel fulfillment, but they also must think of other ways to compete beyond delivery excellence.

Karen Sage
CMO, Transplace

Drive customers into the store with an experience. Make it a destination that allows consumers to engage with curated products in a way you only can in person—in a way that allows configuration or optionality only realized by an in-person experience.

Oren Zaslansky
CEO, AuptiX

Charge—don't dabble—into the online space. Be aggressive but measured. Forge new competitive partnerships in relevant technology and products; explore and develop social media; rethink transportation and distribution. Cut off anything that isn't profitable.

Rick Wickstrom
Account Executive
QuadExpress

Establish a centralized, digital repository that provides the same access to all reliable data across the supply chain so you can promise improved customer experience, competitive prices, and a higher quality offering.

Steve Dowse
SVP Product Strategy
Blume Global

Provide faster deliveries to local-area customers by tightly integrating e-commerce, sales, inventory, and delivery apps. As orders come in, systems can share data in real time to sync inventory.

Andres Richter
CEO
Priority Software

Have a great answer to a good question?

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

What's the first thing you should look for in a logistics partner?

We'll publish some answers. Tell us at editorial@inboundlogistics.com or tweet us
@ILMagazine #ILgoodquestion

[INSIGHT]

DIALOG

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Fast TAKE

The subject of a driver shortage has been discussed for years. Yet I cannot remember a time when I could not move product from point A to B for a sustained amount of time. A day or two? Perhaps. Even then, if I really wanted to move something, I could get it moved but at a very high cost. If the demand is there, the supply will be. The price of cargo transport will—and has—gone up when we collectively pump out more product. Trucks will eventually drive autonomously, taking away driver jobs and turning the driver shortage discussion upside down. When all is said and done, we will continue to move product, mark my words.

—Lee Milton
Global Account Executive
Crane Worldwide LLC

Re. Good Question: What's the quickest way to improve return logistics?
bit.ly/returnlogisticstips

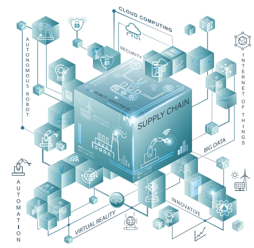
Successful companies will be those that can deliver relevance at scale by improving the quality of consumer insights. If products don't meet shoppers' expectations, they'll be returned instantly.

—Mohammed (Mo) Hajibashi
Managing Director and Supply Chain Global Consulting Lead, Accenture

On average, retail returns are high, hovering anywhere from 20% to more than 30%. Managing these returns is expensive but by investing in a good returns management system, operations costs can be kept down. The system can also help route and determine what goods should be discarded or destroyed, can be resold in stores, online, or to a third party.

—Paul Steiner
Vice President, Strategic Analysis
Spend Management Experts

Re. 10 Tips: Leveraging IoT in the Supply Chain
bit.ly/leveraging_IoT



Dynamic flexibility and agility of the network will be key in shipping goods as many distribution hubs are now running near capacity and becoming more sensitive to disruptions.

While new software tools and technologies, including Internet of Things (IoT) sensors, machine learning, artificial intelligence, and new techniques of optimization under uncertainty (OUU) are now available, these models have no concept of causation and only look at correlations present in vast amounts of historical data.

What is required is a holistic solution, using IoT data infrastructure, computer vision sensors, and package scan data to better observe and estimate the current system state, and new kinds of optimization models that can provide rolling adjustments in response to early signals. The solution should provide rolling forecasts of demand, disruption, weather, resource availability, asset failure prediction, etc.

The next generation of logistics technology will give retailers and manufacturers the ability to design and operate networks with an optimal tradeoff between cost efficiency and robustness to disruption by leveraging IoT and building networks that can adjust proactively.

—Amit Shah
Vice President, Enterprise Analytics and IoT
Nokia

10 TIPS

Selecting a TMS

For those involved in managing freight movement, selecting the best transportation management system (TMS) is a crucial decision. Here's how to evaluate a solution.

1 FORM A DIVERSE SELECTION COMMITTEE.

Select young and old, men and women, team members. Include finance, operations, and safety in the decision-making, not only for buy-in, but to make sure your huge investment works for the entire organization.

2 SELECT A FORWARD-THINKING AND CONNECTED TMS PARTNER.

EDI is essential, but that's the past. APIs and blockchain are the future. Can your provider adapt quickly and embrace change? Your partner must connect with third-party providers and their critical tools. If your provider is slow or reluctant to integrate, you will lose ground to competitors as new technologies emerge.

3 THINK ABOUT ALL YOUR MODES.

Consider truckload, LTL, drayage, air, multinational, and intermodal. Many TMS solutions work well in some modes; few work well in all modes. Make sure that the system you choose meets your core competencies and does not hamper future expansion.

4 INVEST LIBERALLY IN YOUR NEW SYSTEM.

In 2010, when it was a $7.5-million company, Atlantic Logistics invested $125,000 in a new TMS. It was a big investment, but it paid dividends as we came out of the Great Recession. Since then, Atlantic Logistics has scaled and grown. Its TMS is the lifeblood for productivity and essential for employee, customer, and carrier satisfaction.

5 MEASURE ROI ON MODULES.

Most systems offer a base package and a plethora of add-on modules. Start small then expand when you can fully utilize the extra power. Price the add-ons initially so you know what your future expenditures will be. Ask for discounts if you purchase multiple packages; prices are not set in stone.

6 AVOID MODIFYING YOUR SYSTEM.

Few systems do exactly what you want, but modifications are expensive and you typically must pay to port them to each new upgrade. Purchase a TMS that you can use as is or modify your process to work with the TMS.

7 CHECK SUPPLIER REFERENCES.

Suppliers provide favorable references but you will get deeper insights from users than from the salesperson. Ask about pain points, missing features, and bugs or quirks. Talk to a couple of different areas at the company, not just IT.

8 DON'T (NECESSARILY) PURCHASE THE HELPDESK.

Consider purchasing the helpdesk for the first year, but it may be less expensive to pay hourly. Price it out. In your organization, have one or two super-users who can be the last line of defense before contacting your TMS provider and incurring billable hours.

9 PLAN TO UPGRADE AND EXPAND REGULARLY.

Invest in your TMS as you would an employee. Budget annual recurring costs for upgrades and new modules. If you don't upgrade, you are falling behind your competition. Before you commit to a TMS provider, determine the typical upgrade and migration costs, and how long it takes to implement.

10 INVEST IN TRAINING FOR YOUR TEAM.

You can have the best tool, but unless your team knows how to operate and utilize all the features, you are squandering your investment. Be curious, explore, and learn the system well.

SOURCE: ROBERT HOOPER, CEO, ATLANTIC LOGISTICS

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*Source: 2019 Bossa Nova Survey

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THE APPAREL MARKET

40%
OF ALL APPAREL SOLD IN THE UNITED STATES IS IMPORTED FROM CHINA

$2,000
APPROXIMATE AMOUNT AMERICANS SPEND ON APPAREL EVERY YEAR

$340 billion
TOTAL RETAIL VALUE OF THE LUXURY APPAREL MARKET

$3 trillion
TOTAL VALUE OF THE GLOBAL TEXTILE INDUSTRY

SOURCES: INKXE.COM, STUDY.COM

IT'S ALL IN THE JEANS

Once recognized as the go-to fashion choice for nearly every occasion, jeans are steadily taking up less room in consumers' closets. Denim sales in the United States have declined by nearly 14% over the past four years, reports *The Wall Street Journal*.

No longer solely focused on aesthetics, apparel consumers are now looking for eco-friendly clothing sourced from transparent, ethical supply chains. It will be interesting to see how denim brands restructure their sustainable sourcing approaches to meet consumer needs.

J.Crew, for example, limits its inventory to products that come solely from sustainable suppliers. Primark recently debuted a line of jeans made from organic cotton supplied by a sustainable sourcing program based in India.

Other apparel companies are less interested in sustainability and more focused on keeping pace with athleisure brands such as Lululemon and Athleta, which continue to attract dedicated customers. In 2017, imports of women's elastic knit pants exceeded those of blue jeans, according to U.S. Census data, driving denim brands to incorporate elements of comfort into their jeans.

American Eagle and Levi's, for example, are adding more stretch to their jean designs in an attempt to gain favor with comfort-focused consumers. Although this change will require the retailers to reconfigure their current sourcing methods, shoppers looking for an easy fit will likely welcome the effort.

QUICK-CHANGING SUPPLY CHAINS

As trends in the fashion industry constantly change to keep up with evolving consumer needs and expectations, supply chain and logistics professionals need to be just as nimble and flexible to keep up.

The apparel industry used to be divided into two seasons: spring/summer and fall/winter. Today, however, with the desire to stay ahead of trends, retailers are offering new inventory multiple times per year. As a result, suppliers and shippers face increased pressure to keep up with timely apparel production and delivery.

Consumers also expect more from e-commerce retailers' delivery promises. Thanks to the Amazon effect, shoppers want their packages as soon as possible. This poses challenges for e-commerce retailers as they not only race to deliver packages without inaccuracies, but also have to reconfigure the way they store and stock inventory. With single- and small-item online purchases—one necklace or a single T-shirt—becoming the norm, warehousing and fulfillment methods need to change.

CLOTHES CALL

The United States is the largest importer of garments in the world.

SOURCE: INKXE.COM

LEADERSHIP

Conversations with the Captains of Industry

The Transformer

Michelle Dilley
Chief Operating Officer, DSC Logistics

Michelle Dilley energizes her company by challenging the status quo, standing her ground, and allowing her team to make mistakes.

by Merrill Douglas

Michelle Dilley was a 16-year supply chain veteran when she realized she wanted to stay in this field for good. Her revelation came after she left her job as a sourcing general manager at Whirlpool to join health care provider Ascension Health as vice president, supply chain.

"My role was to drive a major transformation initiative, from how we did sourcing, procurement, and supplier qualification, all the way through managing inventory, fulfillment, and payment," Dilley says. "It was a true end-to-end perspective. I loved partnering with people to work toward eliminating inefficiencies and waste up and down the supply chain."

In February 2019, Dilley was named chief operating officer at DSC Logistics, a CJ Logistics company, based in Des Plaines, Illinois. Dilley had served as chief supply chain transformation officer at DSC since 2017. She spoke with us about her career development and recent activities.

***IL:* When you joined DSC, what was it like to move from in-house supply chain management to the service provider side?**

It has been gratifying. I have a great opportunity to challenge the status quo and get results. I can put myself in our customers' situations and think through the challenges they're facing and how we can deliver solutions to help. I can also be a thought leader, working with them on strategies to grow their businesses and capabilities.

***IL:* What's one experience early in your career that helped to shape you as a leader?**

I had a boss who wouldn't allow me to move into a new role that was going to help me expand my skill set. That taught me to put people first. Think about their personal needs and growth opportunities and fully support them. You'll always find a way to work through the organizational impact.

***IL:* Have you ever made a mistake that taught you such a valuable lesson you're actually glad you made it?**

It happened early in my career, when I was doing financial forecasting. We were working on a tight deadline with a lot of data, using Excel spreadsheets. I trusted the information I was getting. But then I discovered we were missing some data, and as a result we had made some significant misforecasts, which unfortunately came at a time when the company was struggling financially.

This mistake taught me that you need to trust and verify, and be diligent about paying attention to detail. I could have avoided the error by reaching out and asking others for help, not feeling that I had to do all the work myself. That's another important lesson. Being a woman in a male-dominated field my entire life, I don't always find it easy to ask for help. Women feel we have to be strong and confident. But asking for help is okay.

IL: What are your most important characteristics as a leader?

I'm positive and realistic. I speak with clarity and certainty while standing my ground. I lead by example. I allow people to make mistakes and then support them when they do. I firmly believe that if people aren't taking risks and making mistakes, then we're not growing, evolving, or continuing to improve the way we need to.

IL: When you walk into a logistics facility, what clues tell you whether it's running well?

First, I look for visual clues. Is the facility clean? Is it well organized, both on the floor and in the offices? Are the docks clear? Are current posters or reports hanging on the walls? Does anyone do anything with that information? Do employees look happy and engaged? Is leadership on the floor?

Then I'll do walkabouts, asking employees what's working and how we can make their jobs easier. I'll get a sense of whether the employees take pride in their work, and I'll listen to their feedback. I'll also look at the interaction between leaders and employees. Do the leaders know employees' names and ask about their families? The engagement and dialog between leaders and employees tells a lot about how the logistics center is running.

IL: Which recent advances in supply chain technology do you find most interesting?

With the tight labor market, I'm excited by advances in automation, such as automated guided vehicles and automated lifts. Also, we're doing a lot of interesting things with artificial intelligence (AI) not only for reports and forecasting, but also from a safety perspective. For example, we've partnered with OneTrack.AI to put cameras on lift trucks to monitor how people are driving and whether they're following the right procedures. We're also working on using AI to help us track inventory physically throughout the warehouse.

IL: Advice to your 20-year-old self?

Be bold. Be brave. Manage your career as best you can. Get out of your comfort zone. Invest in yourself by networking and finding a sponsor.

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

I have three wonderful, active children whose travel sports teams consume most of my weekends. I also love to be outdoors. I get together with my women friends for Saturday morning runs and coffee. When I need solitude in nature, I go kayaking. I enjoy knitting and reading. I like to do yoga, but I don't do as much of it as I should.

I also serve on the board of directors of STAG Industrial, a real estate investment trust that acquires and operates single-tenant industrial properties throughout the United States. ■

Big Changes Bring Rewards

When a company launches a major transformation, that initiative brings big changes for employees at all levels. Some people might need fresh training to prepare for new responsibilities. Some may take a dip in productivity while they get up to speed. "It's important to be positive and realistic," says Michelle Dilley. "Talk with the team about what's going on, create open dialog for feedback, and allow them to ask questions and challenge the strategy."

In June 2019, DSC's top operations leaders got together for one of their quarterly meetings. Naturally, the progress of the transformation was a major topic at the two-day event.

"We introduced the transformation strategy about a year ago," Dilley says. "And now, it is exciting to see the enthusiasm, the ownership, and the accountability of these leaders who made this major shift—not just for themselves personally, but for their organizations.

"To see that work translate into results has also been incredibly rewarding," she adds.

READERPROFILE *as told to Karen Kroll*

Debbie Lentz Goes For It

DEBBIE LENTZ is president of global supply chain with Electrocomponents plc, an industrial and electronic products provider.

RESPONSIBILITIES: Global distribution oversight, including distribution centers, transportation, inventory, export and import trade compliance, and pricing.

EXPERIENCE: Senior vp, chief supply chain officer, Toys R Us. Various executive-level positions with Kraft Foods, including senior vp, customer service and logistics with Kraft Foods North America; vp, manufacturing operations, coffee and vp customer service and logistics with Kraft Europe. Also senior director, logistics operations and customer logistics at Nabisco.

EDUCATION: MBA, Operations Management and Labor Relations, University of Scranton, 1988; B.S., Business Logistics, Penn State, 1983.

I'd be lying if I said that my career plan was exact and structured. Some of it is being in the right place at the right time. But a lot of it is ensuring you have the experience you need to go elsewhere. That might be a lateral move to give yourself an opportunity to learn and gain different experiences.

Early in my career with Nabisco, I took a job as director, customer logistics. I reported to the sales organization and focused on selling value-added solutions and services to our customers. I gained sales experience.

Now, 20 years after my job in customer logistics at Nabisco, I'm at Electrocomponents. One of our biggest initiatives is offering value-added solutions to our customers. The things I learned when I was 30-something are helping me now.

I've moved around sectors, industries, and companies to gain a different perspective. While I was in Zurich with Kraft Europe, I took another lateral move into manufacturing. I was only in that job for a few months, but I needed the experience in manufacturing to move forward.

To make a lateral move, you have to take your ego out of it. However, if you only move vertically, eventually you have a career in one silo.

You also have to grab opportunities. For example, I led a $800-million SAP implementation at Kraft and I had no IT experience. If you're one day late, you're spending $1 million. Also, the chairman

Debbie Lentz Answers the Big Questions

1 What's a principle you try to live by?

As you rise, you must lift. My job and my passion is to lift others, and especially women in business and supply chain who are around me. It's something I'm very proud of.

2 If you had $1 million to start a new venture, what would you do?

I would help educate young girls in emerging countries and look for a way to deliver water for villages. Then they wouldn't have to walk 20 miles a day to get water, instead of getting an education.

3 How would you describe your job to a five-year-old?

I ship stuff.

4 Do you have any heroes?

My parents. We were very typical middle class people. They developed a wonderful family life for their children, and now their grandchildren. They created the environment that laid the foundation for my life and career.

5 What would you tell your 18-year-old self?

Go for it.

and CEO at the time were closely watching the project.

That project definitely pushed me out of my comfort zone. It was a real moment for leadership, but also for significant career development.

Because SAP changes the way people work, the organizational readiness for change management—for transforming the way people work and interact with each other—was probably the most important aspect of the project, because it holds the biggest risk for failure. A change management team had sole responsibility to work on operational readiness throughout the company.

Also, you need to let people know the things you want to do. Before my transfer to Zurich, I was fairly transparent in terms of my desire to live and work abroad. I was afforded that opportunity and it was great.

I didn't go to college to be a supply chain major. I was a business major, but I realized that accounting was a little boring. I thought marketing would be fun, but wanted to do something different. No one knew supply chain or logistics back then, so it was a fit.

Today, supply chain has evolved from an emerging function, to a cost center, to the C suite, reporting to the CEO. I'm at the executive table and a member of a board of directors. Executives and boards have realized that supply chain is critical to the success of a company.

It's about delighting customers with exceptional service and value-added solutions and doing it efficiently. ■

NOTED

The Supply Chain in Brief

> SEALED DEALS

• **Raynor Garage Doors**, a manufacturer of residential and commercial garage doors and loading dock doors, selected **Transervice Logistics** to provide management, drivers, tractors, and contract maintenance services for its North American trailer fleet operations. Transervice, which provides dedicated contract carriage services, will be responsible for the distribution of Raynor's products utilizing 26 new Freightliner tractors.

• **Ace Hardware**, which owns and operates more than 5,000 stores worldwide, deployed the **CBX Software** Cloud Platform to streamline global product development, sourcing operations, vendor collaboration, and quality assurance. Managing the process from product planning phase through vendor purchase order placement, the CBX platform will benefit several departments including merchandising, sourcing, compliance, and transportation.

> GREEN SEEDS

Logistics provider **ATA Freight** is partnering with nonprofit Trees for the Future to plant 100,000 trees every year. Trees for the Future works with farmers in Sub-Saharan Africa to plant trees and improve farming practices to combat deforestation. ATA Freight's commitment to plant 100,000 trees annually will offset approximately 3.5 million pounds of carbon.

m&a

■ **E2open**, a provider of cloud-based, on-demand supply chain software, acquired **Amber Road**, a software company specializing in global trade management solutions.

■ **Epicor Software**, which offers industry-specific enterprise software to promote business growth, purchased **Majure Data**, a provider of warehouse management solutions for the lumber and building materials industry.

■ **AIT Worldwide**, an air and sea freight, ground distribution, warehouse management, 3PL, and custom supply chain solutions company, purchased freight forwarder **Unitrans International Corporation**.

■ **Kottke Trucking**, a refrigerated, dry freight, and dedicated services carrier, acquired **Wayne T. Fellows**, a trucking company focused on refrigerated less-than-truckload and truckload services.

■ **A&R Logistics**, a provider of dry bulk transportation services, purchased **Blue Water Plastic Transport**, a dry bulk transportation, storage, packaging, and delivery service provider.

> GOOD WORKS

Carrier Transicold, which provides HVAC, refrigeration, fire, security, and building automation technologies, gifted hunger relief organization Three Square Food Bank with a Supra 960 truck refrigeration unit, its highest-capacity single-temperature diesel-powered truck. The unit will help Three Square Food Bank, which collected and distributed more than 47 million pounds of food and grocery products in 2018, ensure perishable food stays fresher, longer.

NOTED

> SEALED DEALS

• **Kohl's** selected **Dsco**, an enterprise drop-ship platform, to support its drop-ship supplier network. By making the onboarding process for new suppliers more efficient and cost effective, Dsco helps Kohl's partner with additional suppliers and brands to increase the number of products available to customers on Kohls.com.

• **WEIG Group**, an organization composed of paper and board companies, selected **Sixfold** to support its "Driven by Care" initiative, which aims to provide customers with real-time visibility into their shipments. Sixfold, which offers a secure data-visibility network, will help WEIG improve customer service by managing daily operations and offering delivery status details on shipments.

> UP THE CHAIN

Jimmy Golden was appointed director of e-commerce solutions by the Aftermarket Auto Parts Alliance, a group of independent distributors, auto parts stores, and professional service repair shops across North America. Golden will manage the strategic direction and day-to-day operations of Alliance's customer-focused e-commerce solutions.

> SHOVEL READY

Niagara Bottling, a manufacturer headquartered in Ontario, Canada, is opening a production facility in Kansas City, Missouri. The company invested approximately $68 million in a 420,000-square-foot plant under construction near the CenterPoint-Kansas City Southern Intermodal Center at the southwest corner of U.S. Highway 71 and M150. The facility will help Niagara, which produces beverages such as bottled water, sparkling water, tea, and sports drinks, better serve retailers, grocers, and convenience stores throughout the United States.

> RECOGNITION

• Aluminum products manufacturer Novelis presented **Penske Logistics** with a **Supplier Excellence Award** for logistics solutions for its closed-loop aluminum supply chain serving top automakers. Penske was recognized for its dedicated, around-the-clock trucking operation, which shuttles aluminum coils to automotive stamping plants and then transports the aluminum scrap back to be recycled and formed into new coils.

• The U.S. Department of Energy's Better Plants Program honored **Lineage Logistics** with a **2019 Better Practice Award.** The temperature-controlled logistics solutions provider received the award for its flywheeling technology for food refrigeration, which manages energy consumption using a proprietary machine-learning technology to reduce cost and waste.

• Laptop maker Lenovo presented **Panalpina** with the **Logistics Excellence Award**. This distinction honors companies that provide exceptional service, continuous improvement, and implementation processes in air and ocean freight and logistics services. Panalpina's services help the technology company sell four devices globally every second.

• The American Business Awards presented **ORBCOMM**, a provider of machine-to-machine and Internet of Things solutions, with a **2019 Gold Stevie Award** in the new transportation products category. The award recognized ORBCOMM's intermodal container telematics solution, the CT 3000, which provides remote monitoring and control of refrigerated containers for visibility, improved efficiency, and reduced costs.

[IN FOCUS]

TAKEAWAYS

Shaping the Future of the Global Supply Chain

WILL APPLE'S MOVE TO CHINA BEAR FRUIT?

In June 2019, Apple announced a plan to hire 2,000 hardware and software experts in Seattle over the next five years. A few days later, the consumer electronics giant fueled its ambitions in the autonomous vehicle space by purchasing driverless car tech company Drive.ai just days before it was set to close its doors.

These developments come at a tumultuous time for Apple, which has been considering some major supply chain shifts, including moving up to 30% of its production work in China to Southeast Asia in an attempt to circumvent U.S.-imposed tariffs on Chinese exports, according to a Nikkei report.

Based on this recent activity, it may also come as a surprise that Apple will move its Mac Pro desktop assembly from Texas to China, reports *The Wall Street Journal*. It suggests that Mac Pro sales have been sinking and that the offshoring also coincides with the end of tax subsidies the company had received for its Texas operations, which are run by contract manufacturer Flex Ltd. The Mac Pro is considered to be the last major Apple device assembled on U.S. soil.

Is there a possible silver lining to this production shift? Tom Forte, an analyst with D.A. Davidson, told Reuters that, if true, the move signals Apple's confidence that China and the United States will resolve their trade dispute in the near future.

Oh, the Places You'll Go: Be a LOGISTICIAN

Prospective logisticians can benefit from previous work experience in a field related to logistics or business. Others gain work experience while serving in the military, according to research by Zippia Inc.

Experience allows a worker to learn about products and supply chain processes. Some employers allow applicants to substitute several years of work experience for a degree.

Among the qualities important to a logistician are:

- **Communication skills.** Logisticians need strong communication skills to collaborate with colleagues and do business with suppliers and customers.
- **Critical-thinking skills.** Logisticians must develop, adjust, and carry out logistical plans. They often must find ways to reduce costs and improve efficiency.
- **Organizational skills.** Logisticians must be able to perform several tasks at one time, keep detailed records, and simultaneously manage several projects in a fast-paced environment.
- **Problem-solving skills.** Logisticians must handle unforeseen issues, such as delivery problems, and adjust plans as needed to resolve those issues.

LOGISTICIAN CAREER PATHS

Logistics Management Specialist →	Logistics Manager →	Purchasing Manager →	Supply Chain Mgmt. Director 11 YEARS
Logistics Officer →	Production Supervisor →	Warehouse Supervisor →	Inventory Control Manager 6 YEARS
Senior Logistician →	Logistics Management Specialist →	Logistics Manager →	Logistics Director 10 YEARS
Logistics Coordinator →	Logistics Supervisor →	Logistics Manager →	Logistics Project Manager 8 YEARS
Field Service Technician →	Lead Technician →	Production Supervisor →	Logistics Supervisor 5 YEARS
Field Service Technician →	Account Manager →	Purchasing Manager →	Procurement Officer 5 YEARS

SOURCE: ZIPPIA

Personal Rx

Personalized medicine poses many supply chain challenges as well as opportunities in the Latin American region, finds a joint report by DHL Global Forwarding and American Airlines Cargo.

Personalized medicine can be considered an extension of traditional approaches to treating disease. Physicians can pinpoint a patient's molecular profile and suggest the right therapy. This, however, makes it impractical to ship large pallets to set locations.

To add to the complexities in Latin America, there are no regional standards for medical shipments, so each logistics provider must work to meet each country's regulations, such as sterilization labeling, transportation modes in varied terrains, accessibility to well-equipped facilities, and qualified doctors.

Economic and political stability also play important roles in how healthcare is delivered within countries. Even when countries offer top-notch healthcare systems, not all residents have equal access to the same hospitals, medical personnel, technology, or just the internet.

To help advance the potential of personalized medicine, the report finds the following crucial solutions:

1. Data analytics for cold chain intelligence. These include artificial intelligence, self-learning systems, data mining, and pattern recognition solutions that can learn from a constant information stream.

2. Technology innovations. Many carriers are already investing to build a connected fleet. Forward-looking carriers are also experimenting with semi-autonomous and electric vehicles, or with sharing platforms. Other examples include integrating pilot use cases for drones that will enable further exploration of emergency logistics response tactics, particularly for last-mile considerations in precision medicine distribution.

3. Treatment-based logistics and distribution programs. This includes integrating patient and shipment coordination for specific disease treatments, allowing health and logistics providers to collaborate to deliver a patient-centric experience.

4. Increased collaboration between forwarders and carriers. Between them, forwarders and airline carriers can deliver end-to-end logistics. Deeper collaboration will help them overcome the challenges of personalized medicine logistics.

The Wages of a Driver Shortage

There has been a significant change in the pace of pay moves by carriers and historic mileage pay rates, finds the National Transportation Institute (NTI) in its *National Survey of Driver Wages* (NSDW) report for the first quarter of 2019.

In its quarterly study of key driver compensation categories for over-the-road and regional fleets, NTI finds that, while the acceleration of pay moves has decreased, the pay changes that were made rank as substantial. The industry is reaching uncharted territory in the area of mileage pay, with rates of up to 65 cents per mile for solo drivers, the Q1 findings note.

> **"TRENDS FROM Q1 OF 2019 POINT TO CONTINUED DIFFICULTY IN ATTRACTING AND KEEPING HIGHLY QUALIFIED DRIVERS."**

"Our subscribers tell us that, while freight has dropped and driver churn (turnover) has increased, the need to monitor driver pay attributes that produce desired outcomes remains especially high," observes Leah Shaver, chief operating officer, NTI. "Some of these outcomes include referrals; safe, productive driving; and fair compensation for down time.

"We're in a market with near full employment, and driver expectations are raised after a record year in 2018. In these conditions, the driver situation changes rapidly," Shaver adds.

The NSDW also reports on trends related to guaranteed pay and sign-on bonuses (*see chart*). While the sign-on bonus continues to hold a traditional spot in the driver recruiting toolbox, some recruiters are beginning to take the viewpoint that guaranteed pay and transition bonuses better reflect a driver's value, the NSDW notes.

GUARANTEED PAY vs. SIGN-ON BONUSES

SOURCE: NATIONAL SURVEY OF DRIVER WAGES, Q1 2019, NTI

Energizing Warehouse Sustainability

To reduce energy costs for warehouse managers, faculty at Binghamton University, State University of New York will develop and demonstrate a new warehouse energy storage process and solution that will use solar panels, a stationary energy storage system, and lithium-ion batteries on forklifts.

With funding from The New York State Energy Research and Development Authority, researchers will work with The Raymond Corporation, a manufacturer of electric forklift trucks and intralogistics solutions, to develop an economically viable storage demonstration project. The project is designed to demonstrate why a behind-the-meter storage system and controllable forklift charging can be beneficial for warehouse owners and the utility grid.

Electric forklift trucks are traditionally powered by lead-acid batteries, which can have an extended recharge time of up to eight hours. In many high-use warehouses, several of these shifts may overlap where each forklift truck may have two or three batteries utilized per truck—one in use, one on recharge, and one cooling down in storage. While lithium-ion batteries provide great benefits to forklift users, the fast-charging feature may create significant energy demands on warehouse owners during peak times, which is why this project was developed.

The proposed solution can turn warehouses into a controllable energy hub that can be optimized to support the power grid during normal and peak grid conditions. Binghamton University will work with New York State Electric & Gas to estimate the benefit and impact of the proposed system on the grid. Preliminary analysis will estimate how the system impacts the efficiency of the local circuit.

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The Top 3 Logistics Challenges for the Rest of 2019

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Amazon's network, increasing reverse logistics volumes, and tariffs are the issues that will define the supply chain for the remainder of 2019.

With the end of summer in sight, many logistics stakeholders are left wondering how supply chain instability will impact the success of the upcoming holiday peak season, their long-term forecasts, and day-to-day operations. This piece will analyze the current state of the U.S. logistics industry to help shippers determine the best approach to some of the largest challenges.

The following issues will likely define the supply chain for the remainder of 2019:

Amazon

Amazon now has a logistics network capable of reaching most U.S. consumers within a day. Amazon announced a rapid expansion of its same- and one-day shipping services, sending the retail sector into a panic. Other major players like Walmart have challenged Amazon's power move with similar quick-shipping plans of their own, but e-commerce businesses that don't have that level of resources are rightfully worried.

Many e-commerce companies have responded to this new normal by purchasing or leasing real estate near secondary markets, or by partnering with logistics providers with these resources. By diversifying distribution and fulfillment assets, internet retailers hope to reduce shipping times and remain competitive.

Reverse Logistics

As e-commerce dominates retail sales and omnichannel makes a surprising comeback, these businesses must contend with an increase in returns. Consumers return billions of dollars in merchandise they purchased online each year and they want the process to be easy and free (we can thank Amazon again).

Shippers are turning to third-party logistics (3PL) providers for help in this area, with 24% of respondents to the *2019 Annual Third-Party Logistics Study* saying they outsource this process, and 44% of 3PLs saying they offer reverse logistics support services. Continuous growth in reverse logistics is a surety for the rest of 2019 and beyond.

Tariffs

Tariffs are a topic of daily discussion for most supply chain managers and business leaders. While tariffs have been leveled at other major trade partners, the U.S.-China trade war has received the most attention. The escalating trade dispute between the two countries doesn't show any signs of stopping, as negotiations have fallen apart multiple times.

U.S. businesses are looking at increased costs on significant percentages of raw materials and components. Many American manufacturers and retailers can no longer afford to eat the increased costs of importing goods and have begun to pass them on to customers.

While the trans-Pacific shipping industry saw a short-lived boom as American and Chinese companies purchased excess inventory in advance of tariff implementation, business is dropping off and carriers have too much capacity. Domestic ground carriers are hurting as well because freight demand is negatively impacted by the high levels of inventory held by U.S. importers.

Many other industries beyond transportation are struggling to adapt to this new trade environment as well, including telecommunications giants, agriculture, automakers, manufacturers, and many more.

Be Prepared

Amazon isn't going anywhere, consumers won't stop returning items, and it seems unlikely that the tariff wars will end in 2019. Unfortunately, supply chain volatility is the new normal. All affected logistics stakeholders should be diversifying their assets, technology, suppliers, and partner relationships to address these challenges and combat the risks and disruptions facing the supply chain in 2019 and beyond.

Carrier Relationships: Core Carrier, Long Term, or Bid?

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Shippers must understand their supply chain, capacity challenges, and customer requirements before deploying a carrier management strategy.

With today's volatile markets and ever-increasing consumer demands, a reliable, cost-effective carrier network is more important than ever. Developing collaborative relationships with at least a handful of highly aligned carriers will often result in better service and rates; however the right mix of carrier relationships will look different for every shipper.

Maintain Service Levels with Core Carriers

Building strategic partnerships with a select group of core carriers can be an effective way for shippers to deliver on customer expectations. Core carriers can help shippers maintain consistent service levels, reduce complexity in the supply chain, and maintain company standards regarding safety and quality. Because core carrier relationships are performance based, shippers can often improve quality by holding carriers accountable to agreed-upon KPIs. What to think about:

- **Closely match shipping needs to carrier strengths** including equipment type, trailer pool usage, customer service capabilities, etc.
- **Ensure data integrity and reporting tools** are in place to accurately analyze carrier performance.
- **Commit internal resources** to building carrier relationships and optimizing execution.

Mitigate Insecure Capacity with Dedicated Operations

Dedicated operations provide consistent capacity and give shippers more control of service levels. When capacity is tight or volatile, contracted capacity allows shippers to hedge against extremes in the market. While dedicated operations can be more expensive, often costs are stabilized, and levels of service are generally higher and more consistent. As shippers and carriers collaborate, additional opportunities to increase efficiency often materialize. What to think about:

- **Conduct a detailed cost/benefit analysis.** If your company faces significant OTIF penalties or plant closures due to delays, a reduction in penalties can significantly outweigh the cost of dedicated operations.
- **Carefully evaluate volume consistency** to avoid expense for unused capacity and to optimize contract terms.
- **Discuss backhaul gainshare programs** with partner carriers to improve cost effectiveness.

Identify Synergies with a Strategic Bid Process

A strategic bid process gives shippers the ability to evaluate all potential carriers against the same criteria and identify the best-aligned providers. Like carrier relationships, a bid process can take on a variety of forms. Bids sometimes include an entire portfolio of business, but more often focus on a single region or include exemptions for parts of the business with satisfactory performance. What to think about:

- **Assess the effectiveness of current carriers.** Evaluate current carrier performance, understanding that onboarding new carriers can cause temporary supply chain disruptions.
- **Be strategic.** Bidding an entire portfolio at once can cause radical change within a supply chain. Assess how much change your supply chain can handle and use bids like a scalpel not a sledgehammer. Understand that changes you make can cause major disruptions to carrier networks as well.
- **Gauge your ability to analyze bid data.** There is significant room for error when evaluating bid data, especially when a bid file includes thousands of lanes. Ensure data integrity to avoid errors and resource waste.

Before deploying any kind of carrier management strategy, shippers must have a deep understanding of their supply chain, capacity challenges, and customer requirements. An optimized carrier portfolio will provide stable capacity, deliver on customer expectations, and improve cost effectiveness. No matter the market conditions, strategic carrier management makes good business sense.

THOUGHT LEADERS

M&A: What You Need To Know

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Q: ***What is the most common hurdle a buyer and seller face when attempting to consummate a transaction?***

A: The most common hurdle is the gap between what the seller feels the business is worth, and what the buyer is willing to pay. For the seller, it can be an emotional decision and they may rely on valuations of other companies that do not correlate with the size and structure of their business. For the buyer, valuation is guided by market norms and historical valuations of businesses with a similar size and profile.

Q: ***What characteristics of a seller's business are important to a buyer when considering the structure and valuation of the offer?***

A: Some of the business characteristics a buyer considers when formulating the structure and valuation are, in no particular order:

- **Customer concentration.** Is revenue spread out among many customers, or a handful of customers?
- **Compliant HR and regulatory practices.** Are independent contractor and employee hiring procedures up to date and compliant?
- **Post closing owner participation.** The selling owner's willingness to remain with the business after the sale mitigates integration risk at the customer and operational level, providing the buyer a much better chance of a successful integration.
- **Infrastructure.** The quality of the IT, accounting, sales and general operating procedures of the selling company.

Q: ***As a seller, do I need to have audited financial statements?***

A: Audited financial statements are not a requirement, but the accounting records should be accurate and in accordance with generally accepted accounting principles. The buyer will normally hire a third-party accounting firm to prepare a Quality of Earnings (Q of E) Report. This report is not an audit, but it is intended to confirm that the accounting statements and records are an accurate reflection of the financial picture the buyer relied on to formulate the offer.

Q: ***When is the most opportune time for an owner to sell the business?***

A: The best time to sell is when the revenue and net profits are on a steady incline. Businesses that are flatlining or declining will require investment on the part of the buyer to "right the ship" and grow the business. The buyer will consider these factors when formulating an offer, negatively impacting the valuation to the seller.

Q: ***Does a business owner keep the accounts receivable upon a sale of the company?***

A: Accounts receivable is a component of working capital (current assets minus current liabilities on the balance sheet). Working capital always accrues to the benefit of the buyer. Without working capital, the buyer would be forced to invest additional cash into the business over and above the purchase price to meet day-to-day obligations of the company.

Please contact Eric Mautner with any questions.

THOUGHT LEADERS

EFW's Net Promoter Score Program Measures Customer Satisfaction

Q: ***Why implement a Net Promoter Score Program?***

A: The Net Promoter Score (NPS) has become one of the most popular approaches to measure and improve customer service. It's a metric that a growing number of our clients are adopting to gauge not only customer satisfaction, but our performance.

Along with recognizing the transformative business value these methodologies could bring to our organization, our Net Promoter Score Program directly supports our company's mission statement—to deliver the EFW Experience by exceeding expectations each and every time. By leveraging technology and the availability of information, we are able to collect, analyze, and distribute valuable feedback on an ongoing, real-time basis.

We're proud to be leading the adoption of the metric in the freight forwarding industry. If it's important to our clients, it's important to us.

Q: ***What are the keys to successful implementation?***

A: As with anything, laying a solid foundation is key. Our NPS initiative has been fully embraced by our executive team and it was important to ensure that internally, we had the right capabilities to be successful. Our Director of EFW Experience worked closely with the Owen CX Group founded by Richard Owen, the co-creator of NPS. We consulted with them on the right strategy to meet our goals, and the development of our program roadmap.

Cross-organization education has been a focus. We've invested in NPS Masterclass Certification for our executive team and department leaders, and all EFW employees have completed Net Promoter Score Program training. Building a common language and foundational understanding of customer experience strategy is important and we actively share program information and feedback with all of our employees on an ongoing basis.

More than just a score, the net promoter score system allows us to obtain valuable feedback, which we can build into our operating systems, address concerns, and fuel innovation. It's important to establish your program's analytics and ROI models. Reporting results, ongoing coaching, and dedication to continuous improvement are key.

Q: ***How many of your competitors have implemented a Net Score Program?***

A: To the extent that EFW has implemented a program? Though we've seen a few report a score, we aren't aware. This is not a vanity metric for us. We are committed to our NPS Program. In fact, we've developed a team solely dedicated to the EFW Experience and our team and client journeys. We believe this information will help drive the evolution of the EFW Experience and fulfillment of our mission—to exceed expectations each and every time.

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[INSIGHT]

3PLLINE

by Derek Browning
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Choosing a 3PL: How to Make a Mature Decision

Relationships between shippers and third-party logistics (3PL) providers commonly focus more on tactical and operational elements rather than strategic elements.

When sourcing to 3PLs, the shipper's RFP often focuses on lane costs rather than strategic elements such as systems integration, real-time visibility, and total-cost performance. The transactional lane-focused relationship is appropriate for companies looking for basic lane coverage and not currently operating at a level of maturity to understand total-delivered costs.

For organizations that have matured beyond the tactical focus on lanes and coverage, a 3PL partner must play a strategic role, moving past just transporting and storing to identifying problems, implementing solutions, and adding systems-wide value.

The 3PL must guide the shipper in shifting its management system to better reflect the role supply chain plays in the business. It starts with decision making between the two partners. The shipper and its 3PL partner should re-evaluate:

- What is our core purpose?
- What value do we create?
- Are we strategically aligned?
- Are we culturally aligned?

The core purpose and value proposition of some 3PLs is lower individual transaction costs and lane coverage, while others have focused on building robust carrier networks with delivery disciplines, high connectivity levels, and advanced optimization techniques. Some 3PLs have rotating carrier networks with underfunded equipment and undertrained operators, while others invest long-term in infrastructure, technology, relationships, and human development.

Each plays a role in today's logistics world and will flourish when the right match is made.

WHY PARTNERSHIPS FAIL

When organizations are strategically or culturally misaligned, the partnership often dissolves with reluctance to advance toward common goals. This usually results when the two parties rush the sales and negotiations process and focus on functional area budgets, only to find out they are misaligned and stuck with five years of conflict.

Organizations that appreciate the need to align on purpose, value, strategy, and culture will avoid the 1980's-style 3PL selection method of identifying three vendors, letting them fight it out, and negotiating tactical deal points.

Instead, they will opt for an executive-interview method where shippers and 3PLs get to know each other, verify areas of alignment or misalignment, and wade into a relationship with the expectation that each party comes out knowing about one another's business and understanding how to maximize value for each other.

In the final stages of this type of negotiation, the focus is not on shaving 1% off final fees, but on strategic connections that will produce 4x multiples on returns. It includes the upfront changes the organizations must implement to maximize relationship effectiveness.

A 3PL partner aligned on purpose, value, strategy, and culture can provide far more value than what is seen in a transportation budget variance report.

Avoid old-school commoditized approaches to negotiation and selection, and don't underestimate the value that can be created with a partner aligned with your maturity level. ■

[INSIGHT]

ITMATTERS

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Blockchain-as-a-Service: Building Transparent Supply Chains For All

Early blockchain adopters are looking to the distributed ledger technology to connect disparate supply chains, enabling transparency between what's happening downstream with consumers, upstream in production, and everywhere in between.

Adding more fuel to adoption is Blockchain-as-a-Service (BaaS), which gives businesses the ability to connect their supply chains through a simple internet browser. Using a subscription-based model, BaaS platforms streamline complicated and expensive implementations, which means faster return on investment.

BaaS platforms can integrate and log records from any accounting, inventory, or transportation management system, creating a permanent, decentralized ledger of all product movement and transactions, from source to shelf.

With real-time data flow and transparency throughout the supply chain, organizations can overcome many tough demand forecasting, replenishment, inventory allocation, and tracking and traceability challenges.

Many supply chains involve a complicated mix of suppliers, production sites, warehouses, third-party logistics providers, and online and brick-and-mortar retailers. With each using its own systems and databases, it's difficult to get everyone on the same page.

For instance, stores have their own internal enterprise resource planning and point-of-sale systems for managing inventory and sales. These often exist separately from the metrics used upstream in manufacturing, making it difficult to gauge real-time consumer demand. Therefore, most resign themselves to reactive production and replenishment, which invariably leads to supply and demand imbalances.

GIVING MANUFACTURING VISIBILITY

Through BaaS, manufacturing gains visibility into what consumers are buying. It is possible to then find an equilibrium between supply and demand—producing just the right amount of product without excess, carrying costs, or the need for secondary markets.

Add in geo-specific information on where demand is coming from, and organizations can optimize inventory allocation—sending products to the channels and regions where they are wanted most—and fulfillment—finding the closest distribution centers and transportation providers to fulfill orders.

Customers always get what they want, when they want it, for a better experience. Businesses get less wasted mileage in transportation and costs, and greater profitability and business growth.

Consumers want to spend their dollars on products that are good for the environment and sourced from ethically sound suppliers—amid other social considerations. While price remains a primary motivator, these secondary considerations can be competitive differentiators, but only if companies can guarantee they meet expectations. BaaS can help companies build that trust with an immutable record of product provenance.

The most satisfying part of BaaS is that it democratizes blockchain, so that the technology is no longer limited to conglomerates with large budgets. Small and mid-sized companies can also achieve supply chain-wide transparency.

Through an affordable, subscription-based model, BaaS offers scalability, accommodating organizations' current needs with the flexibility to grow with them for years to come. ■


THAT BIG RETAIL BULLY! I'LL BE ABLE TO COMPETE SOME DAY...
SMB
BOY! SUPPLY CHAIN MANAGEMENT SURE GAVE ME THE TOOLS TO COMPETE. I'M A NEW COMPANY!
SMB

SMBs and E-Commerce

HOW 97-LB. WEAKLINGS CAN DEVELOP THE MUSCLE TO SUCCEED

BY MERRILL DOUGLAS

SOMETIMES THE RETAIL INDUSTRY seems like the Clash of the Titans, with Amazon, Walmart, The Home Depot, and others battling for supremacy online and at the mall. But of course the retail landscape also comprises countless small and mid-sized businesses—boutiques, local chains, specialty stores, up-and-coming e-commerce sites, and every combination in between.

Smaller retailers have a tough time competing with the giants. But among the best contenders, this challenge spurs the kind of creativity that could boost a business to success.

MARKET SHARE AT ANY COST

Perhaps the most obvious challenge smaller retailers face is price competition. Large companies negotiate preferential deals with suppliers and win customers with low prices, which they tout during events such as Amazon's Prime Day and everyone's Black Friday sales.

"The big guys are working hard to win market share at almost any cost. The small and mid-sized guys are left out," says Steve Dowse, senior vice president of product management at Blume Global, in Pleasanton, California. Blume operates a digital platform and applications shippers, carriers, and third-party logistics (3PL) providers use to manage supply chains.

Bargain pricing isn't the only expectation that Amazon and its kind have instilled in buyers. "The biggest challenge for any retailer right now is, at a minimum, meeting the free, two-day shipping expectation that most e-commerce consumers have," says Sean Mueller, vice president of business development and solutions at Symbia Logistics in Edwards, Colorado.

The biggest retailers can deliver in one or two days because they can afford to place inventory all over the country. "It puts product closer to the consumer," says Steve Congro, director, omnichannel fulfillment technology at 3PL Saddle Creek Logistics Services in Lakeland, Florida.

Big retailers also have the clout to negotiate favorable shipping rates, making it easier to offer free or inexpensive shipping. "A small online retailer might not be able to negotiate rates, because they might not have the type of volume that Wayfair or Amazon does," notes Janet Vito, vice president of marketing and sales at Austin-based uShip, an online platform that matches shippers of large items with carriers that have space in their trucks.

The battle for market share even drives some companies to offer free shipping at a loss. For example, Amazon uses profits from its cloud-hosting service, Amazon Web Services (AWS), to subsidize free shipping for its Prime service members.

Another challenge for small and mid-sized retailers is how to gain name recognition and stand out from the crowd. Not all of them have the wherewithal. That includes many of the 100 brick-and-mortar home décor and furniture boutiques that belong to Design Kollective, an online, membership-based marketplace with headquarters in Park City, Utah.

"A lot of these boutiques don't know how to create a website or how to send out marketing emails," says Scot Pace, Design Kollective's chief operations officer. Design Kollective performs those jobs for its members, helping them capture attention locally and giving them a national presence.

Smaller companies face a branding problem when they supplement their own brick-and-mortar and e-commerce channels by also selling through online marketplaces run by their big competitors. "You might move product, but you won't build your name," Congro says. A consumer who

PUMPING UP DATA DENSITY

Among the many advantages big retailers command is the volume of raw data they generate every day.

"The business of a big player like Walmart or Amazon is driven off vast amounts of data, used in deciding how to place inventory close to consumers anywhere in the world," says Steve Dowse, senior vice president of product management at supply chain technology provider Blume Global. "They have a lot of 'data density.'"

With fewer customers and transactions, smaller retailers lack the information needed to conduct the analytics that let big companies perceive factors such as subtle shifts in consumer demand.

That's where a technology platform like Blume's—which serves shippers, carriers, and third parties globally—can help. "We're able to bring together data we've captured from multiple parties throughout the supply chain to assemble that data density," says Dowse. This aggregated data gives small retailers the same basis for sophisticated analysis that large retailers get from their networks.

For example, by analyzing aggregated data, a mid-sized retailer with a load of purple sweaters bound for Chicago might discover that a sudden cold snap in the Southeast has driven up demand for sweaters in Atlanta. More data drawn from Blume's platform can then help the retailer determine the most effective way to intercept some sweaters en route and send them to Atlanta.

"Without that knowledge, those purple sweaters are going to end up in Chicago," Dowse says. "Then the retailer will have to route them from Chicago to Atlanta—a more costly and time-consuming exercise."

buys an item on the Amazon Marketplace will remember it came from Amazon, but might not know the name of the company that actually made the sale.

WHEN DO YOU NEED IT?

To meet demand for fast shipping, some retailers get closer to their customers by spreading inventory among several warehouses, often operated by 3PLs. But retailers may also find that, despite the famous Amazon effect, not every customer needs immediate fulfillment.

"Retailers shouldn't break the bank to chase that approach," says Congro. Instead, they should figure out how fast their particular customers need their products. "Decide what your service level agreement will be," he says. "But more importantly, make sure you can hit it."

Dowse agrees. "Filling a customer's needs is not necessarily getting the product there the next day," he says. "It's getting it there when they need it."

In some categories, the prevailing delivery standard is so slow that the issue of next-day service never comes up. "Many furniture brands are able to deliver product in eight to 12 weeks," says Ashutosh Panchang, senior manager of business operations at Burrow, a New York-based vendor of upholstered furniture. Thanks to its products' modular construction and its use of parcel carriers, Burrow can fill an order for a sofa, loveseat, or chair in about one week, with no charge for shipping.

For customers who order large, high-value products through Design Kollective, it's perfectly all right to receive an order in three weeks. "If they order from a boutique in California and they live in Boston, they understand that there's transit time," says Pace.

Design Kollective uses uShip to transport large items within that time frame. For smaller items, such as pillows or candles, the company ships via UPS.

Besides delivery as promised, customers also expect to be notified promptly if anything goes wrong. "If I'm not going to get the book that I wanted this weekend, let me know before it doesn't arrive," Dowse says.

Smaller retailers can address those expectations through visibility platforms such as Blume's, he adds.

SHIPPING COSTS, CUSTOMER SERVICE

Although smaller retailers can't negotiate low rates the way giant shippers do, they can save money by working with 3PLs (*see sidebar*). Or, if they want to provide white-glove home delivery, they can work with uShip's platform.

"We will not be the cheapest, but the service is affordable," says Vito. It focuses on large, blanket-wrapped items, which a carrier delivers to the consumer's room of choice. The driver performs any light assembly needed and removes debris.

Although carriers on uShip usually bid for loads, the company has developed a pricing algorithm for the home delivery service. This calculates a flat rate for shipping an item to a particular destination. The retailer can use that figure to calculate the buyer's shipping charge.

3PLs provide value-added services to help small retailers compete. Symbia Logistics, for example, offers these "jewelry cages" to customers from its new Kansas City facility.


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THE SKINNY ON 3PLs

With more resources and clout than many shippers, third-party logistics (3PL) companies offer advantages that help smaller retailers hold their own against tough competitors.

For instance, furniture purveyor Burrow plans to use a 3PL to broaden its distribution footprint as it expands its product assortment from upholstered living room seating to include rugs, other accessories, and furniture for every room.

Today, a factory in North Carolina makes the company's modular furniture and ships it to customers throughout the United States. When its catalog expands, Burrow will rely on manufacturers in multiple locations. The company wants to deliver those products as fast as possible, and orchestrate fulfillment so a customer who orders, say, a living room suite will get a sofa, chairs, tables, and rugs all at the same time.

"We are building out a distribution network with a 3PL that will allow us to support both needs," says Ashutosh Panchang, senior manager of business operations at Burrow in New York. "The third need is building this network in the most capital-efficient way."

If a 3PL holds inventory in several strategically placed facilities, Burrow can shorten delivery time and cut parcel delivery costs.

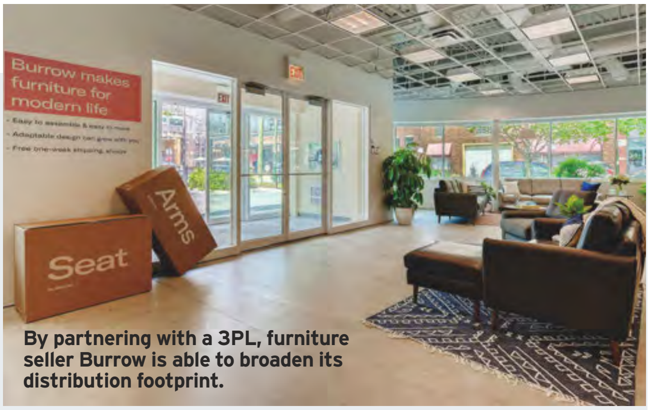
However far products travel to reach end consumers or brick-and-mortar stores, a 3PL can often help a smaller retailer cut shipping costs.

"Small shippers typically don't have the favorable shipping rates or contracts that a 3PL has," says Sean Mueller, vice president of business development and solutions at 3PL Symbia Logistics.

For retailers trying to deliver outstanding customer service, a 3PL may provide special, value-added touches, such as wrapping a product in tissue paper and packing it in a beautiful box with the merchant's logo, or adding a handwritten note.

A 3PL may also have analysis tools to help the retailer hone its supply chain strategy. Where should the company hold inventory to reduce transport costs? Which package design gives the customer a great unboxing experience but also can move efficiently and safely through the network?

Finally, for a small retailer trying to become a big one, a 3PL offers scalability. "We can take five pallets to 100 pallets, or take a company from a few employees to 50, or back down if the product is seasonal," Mueller says.



By partnering with a 3PL, furniture seller Burrow is able to broaden its distribution footprint.

"Or if they want to offer free or subsidized shipping, the retailer knows exactly what it will cost ahead of time," Vito says.

Working with uShip lets the small boutiques that belong to Design Kollective deliver to any location in the United States—a service they could not otherwise have offered.

"That was a pain point for many of these stores," Pace says. "They were competing with the online giants that can ship anywhere in the country." Now the pain is gone. And, if they like, members can offer "free" shipping by building the transportation cost, calculated by uShip, into the product pricing.

One competitive point where small retailers may naturally excel is customer service. Service is key to the strategy at Burrow, which works hard to give customers an easy and pleasant experience.

"At every point, we want to understand how customers are shopping and what considerations they're making, but also their pain points," says COO Steve Finnern.

Burrow's supply chain supports this effort to deliver a great customer experience. Consider, for example, a customer who buys a sectional sofa and then, on seeing it in his living room, decides he'd actually like something larger, with arms in a different style.

A standard furniture company might take four to 12 weeks to retrieve the original sofa and send a new one. But the tight relationship between the customer experience team, its supply chain team, and its manufacturing and fulfillment partner lets Burrow provide a better response.

"Changes to the product can be facilitated quickly, with the same timeline as the original order, getting it back to the customer in one week." Panchang says.

It's important for small and mid-sized retailers to make consumers feel great about shopping with them. "It could be through over-the-top customer service," says Congro. "Or through product personalization or customization, which the big guys are not known for."

"From small companies to large, the customer's experience and story is everything," says Mueller. "It's how you stand up to large companies and successfully sustain growth and sales." ■

CPG BRANDS FIND THEIR PLACE ONLINE

How CPG brands large and small meet the needs of evolving customers who crave product information, access, and near-instant gratification.

BY SANDRA BECKWITH

When Jonathan Eaton ordered several garments from a well-known casual men's brand for an upcoming vacation, his delivery didn't arrive in a lone carton left on the doorstep.

Eaton, the national supply chain practice leader for professional services and consulting firm Grant Thornton, received six individual packages—and free shipping.

"Do you think this company made any money on my order?" he asks. "No way. They had to ship six times to fill it."

This isn't unusual with consumer-packaged goods (CPG) brands struggling to adjust to changing customer demands and expectations. Satisfying the shopper's desire for speedy delivery often means a company is forced to fill an online order by pulling from more than one distribution center or store.

We have only ourselves to blame. About 75% of consumers expect same-day delivery from all retail brands in the next 12 months, according to "The SciFi Shopper," a report from enterprise API commerce solutions provider Elastic Path.

TOUGH CLIMB FOR CPG BRANDS

Meeting this "I want it ASAP" expectation is easier for "digitally native vertical brands," the e-commerce start-ups that control their own distribution channels. Unlike their larger, well-established counterparts, these brands, which include Bonobos and Warby Parker, own their customer data and don't have to reorganize their distribution centers to fill direct-to-consumer orders quickly. They're set up for it from day one.

"More startups are taking share from the CPG companies, and that requires a significant shift in thinking about how CPG supply chains are managed," says Ron Volpe, chief supply chain evangelist at Tradeshift, a Danish company that helps companies digitize their supply chains. "They're getting into a space they aren't built for."

The new fulfillment models for CPG companies focus on direct-to-consumer selling. This is typically happening through:

As it develops its "click and collect" fulfillment model, personal care products manufacturer Kimberly-Clark is considering whether merchandise ordered online for store pickup needs the same packaging as items displayed on store shelves.

- Selling from brand-owned e-commerce sites.
- Expanding from retailers' brick-and-mortar stores to their e-commerce platforms.
- "Click and collect," particularly with grocery products, where shoppers place orders online and pick up at the store, often by simply driving up and letting an employee load purchases into the vehicle.
- Becoming Amazon Prime-certified and selling on that site, but filling orders from their own distribution centers.
- Selling merchandise to Amazon through the Fulfilled by Amazon (FBA) program, where Amazon sets the price and fills orders from its own distribution centers.
- Subscription boxes.
- Pop-up shops (*see sidebar below*)

"Many CPG companies are trying to understand how to do e-commerce cost-effectively and without losing business they already have by upsetting their traditional retailer relationships," says Alisha Greenwald, senior director of client strategy at BlueGrace Logistics, a Florida-based third-party logistics provider.

Some companies manage the retailer relationship challenge by using the manufacturer's e-commerce site to provide detailed product information and specifications that consumers need before making a purchase. Shoppers can buy there, but won't get their purchase quickly or with free shipping.

"Some brands are treating it as a referral experience," says John Bruno, vice president of product management at Elastic Path. "The brand site has all the technical specs, data, photos, and 3D imagery, but if you want it today, you have to get it at the store down the street."

Global personal care products manufacturer Kimberly-Clark has

WHEN STORES POP UP

With the pop-up shop industry valued at $50 billion, it's no wonder that this temporary store concept is gaining popularity with brands selling directly to consumers.

From the U.S. Soccer Fan Studio in Chicago's West Loop offering merchandise and photo opportunities during the FIFA Women's World Cup to online fashion brand Cuyana testing the bricks-and-mortar option, brands are using everything from short-term storefront rentals to mobile glass trucks to connect directly with consumers.

While some consumer-packaged goods companies use pop-ups to create awareness, more see them as a way to sell products directly to consumers.

"It's a huge trend," affirms Hope Newman, creative director of The Pop Up Shop Agency, which consults on, creates, and manages pop-ups all over the country. "More than half of the calls we get are for pop-up retail shops, and our clients want to see sales results."

With the movement often driven by millennials who are as much about the experience as the merchandise, retail pop-ups always include "Instagrammable" elements.

"We design every pop-up with Instagram in mind," Newman says. "You can't just put clothing on racks and expect people to take photos."

Pop-up shops face supply chain challenges similar to those of conventional retail stores. CPG companies must carefully plan the merchandise mix and quantities.

"Depending on how long they're at a location, we determine if we have enough storage capacity there or if we should set up a separate warehouse space," Newman says. Mobile shops are often shadowed by a backup truck carrying inventory for easy replenishing.

The challenge for companies using these mini-stores is luring shoppers. "One mistake brands make is counting on local foot traffic to drive sales," Newman says. "Instead, you need to develop a compelling, unique offer or promotion."

Without the right mix that includes the best format for brand goals, a visually appealing design, and an irresistible offer, a pop-up store might just fall flat.

The U.S. Soccer Federation opened a pop-up shop for fans during the 2019 FIFA Women's World Cup and CONCACAF Gold Cup.

SOCIAL MEDIA SELLS

When Fashion Nova founder and CEO Richard Saghian launched his low-priced, fast-fashion line of women's apparel in 2006, he used a traditional retail approach—a handful of mall stores. But in 2013, when he saw other retailers selling the same merchandise online at higher price points, he added e-commerce to the mix.

But that's where his catwalk veered off in a different direction. Saghian focused his efforts on Instagram, the social media platform used primarily by the younger crowd. He began giving free garments to a small group of loyal customers who regularly shared their fandom on Instagram. Now numbering 3,000, these influencers use tags #NovaBabe and #NovaStar when posing and posting in their trendy apparel. They're joined by well-paid influencers musician Cardi B and reality TV star Kylie Jenner.

Working with 1,000 manufacturers in Los Angeles and overseas, Fashion Nova goes from sample to inventory in as few as one to two weeks, adding as many as 600 new items weekly.

"The logistics behind this are less interesting than the demand-generation model and the way it helps the company differentiate incredibly undifferentiated fashion," says John Leeman, a direct-to-consumer customer experience and marketing consultant and former chief marketing officer of FreshDirect.

That model has worked. The most-searched for fashion brand on Google with more than 16 million Instagram followers had nearly $485,000 in revenue in 2018, according to eCommerceDB.

Apparently, Instagram marketing can be quite fashionable.

made a significant investment in its omnichannel business in recent years. During the past 18 to 24 months, the company has been focused on the "click and collect" model.

"Some of our thinking involves whether the packaging for in-store shopping is the same as what's used for click and collect. And, do these products ordered online and picked up at the store have to follow the same path to get to the store as what's displayed inside?" says Scott DeGroot, Kimberly-Clark's senior director of transportation and interim lead of global logistics.

Retailers' increasingly stringent "on time in full" delivery requirements make it critical to know where goods are in the supply chain at any time. Location-based sensors from Savi Technology keep companies informed about the location, condition, and security of in-transit goods.

For example, the company is exploring whether it can skip the first consolidation center that's part of the conventional manufacturer-to-individual-store supply chain.

One of the biggest differences CPG brands address when moving into most of the new fulfillment models involves shifting from pallet to piece fulfillment in the distribution center. Facilities designed for moving large, bulk quantities—pallet in and pallet out—can't accommodate the individual unit picking and packing required without significant reengineering.

"The physical warehouse layout has to be evaluated. Brands ask, 'Can I force this channel into this warehouse, or do I need to offload that to a third-party facility that's managed by someone else?'" says Adam Kline, senior director of product management at Manhattan Associates.

That's where Ware2Go steps in. Launched in August 2018 by UPS, the company has assembled a nationwide network of vetted warehouses and third-party logistics providers. This makes it possible for CPG companies of all sizes and types—from digitally native startups to enterprise operations piloting a new approach—to meet a one- to two-day delivery expectation in most of the country.

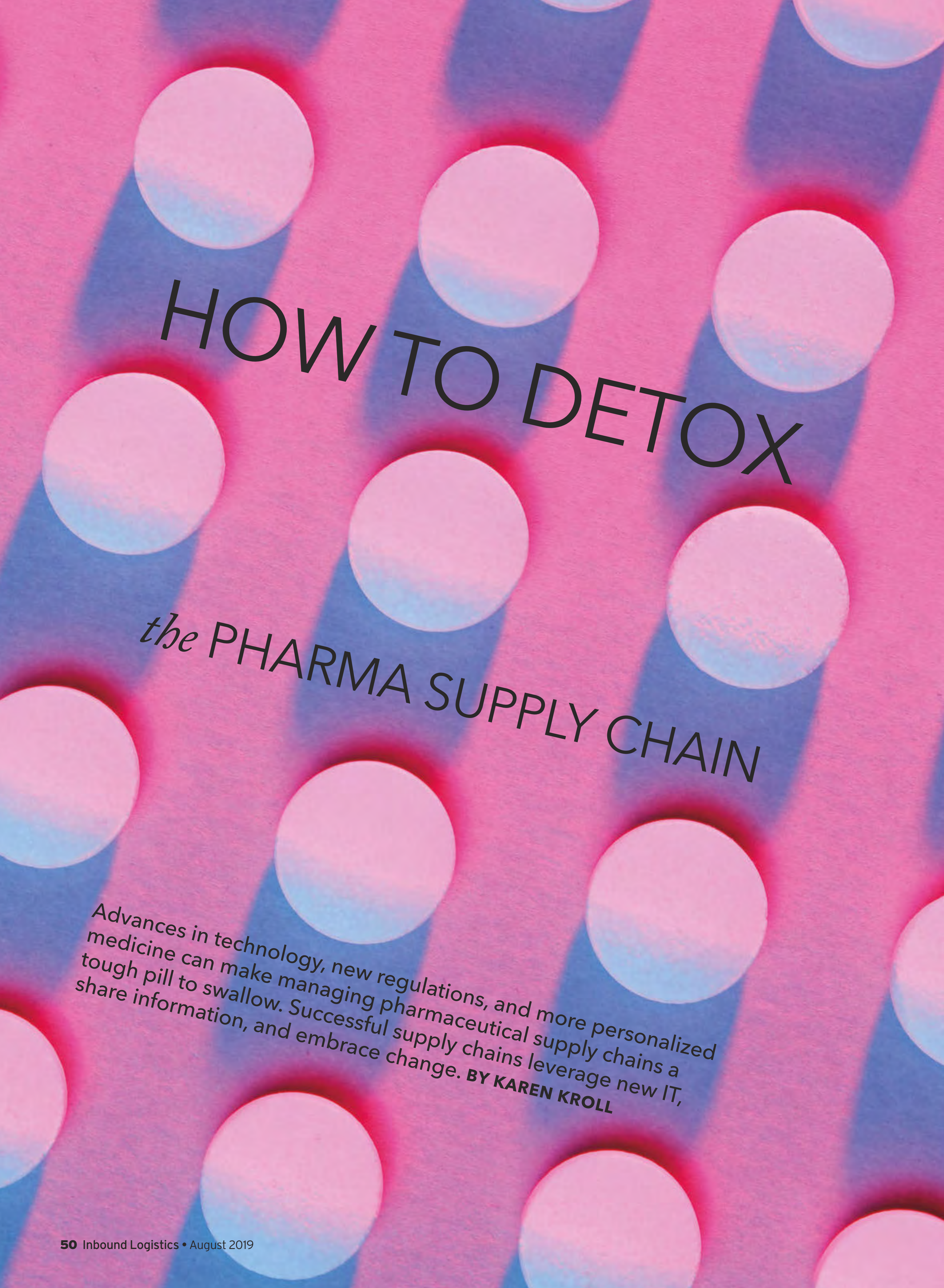
"For some, this approach can let a brand become a fulfilled-by-merchant Amazon Prime seller instead of using Fulfilled by Amazon," says Patrick Cadic, vice president of sales and marketing at Ware2Go.

It's not just consumers demanding more of CPG brands, though. Retailers that include Walmart are pushing them, too. Stringent "on time in full"—OTIF—requirements for deliveries make it critical to know where goods are in the supply chain at any time.

"Retailers are even adding thresholds so, for example, if you get there too early, you're penalized," says Jim Hayden, chief technology officer of Savi Technology. The Virginia company uses sensors to deliver information about the location, condition, and security of in-transit goods.

There's also the question of where to position product so a company can avoid filling orders from multiple locations, as Eaton saw with his vacation apparel purchase. Because the order came from a distribution center and five stores, he adds, "The retailer guessed wrong."

That's what more and more CPG brands are now trying to get right. ■



HOW TO DETOX *the* PHARMA SUPPLY CHAIN

Advances in technology, new regulations, and more personalized medicine can make managing pharmaceutical supply chains a tough pill to swallow. Successful supply chains leverage new IT, share information, and embrace change. **BY KAREN KROLL**

In 2018, Amazon acquired PillPack, an online pharmacy catering to individuals who take multiple daily prescription drugs. "The acquisition signals the importance of e-commerce as a new retail channel for prescription drugs," says Kaushal Dave, global vice president of solutions development and customer engagement with Aera Technology, which supplies real-time cognitive automation.

The emergence of e-commerce is one of several changes reshaping the pharmaceutical supply chain. Others include technology advances such as greater deployment of Internet of Things (IoT) devices, changing regulations, and the drive to more personalized medicine.

Successfully navigating these changes will be key to effective supply chain and logistics management. "Due to the critical nature of the pharmaceutical goods being transported, supply chain excellence is critical," notes Alisha Greenwald, senior director of client strategy with BlueGrace Logistics, a third-party logistics provider.

CHALLENGES ON THE PATH TO HEALTH

Before achieving supply chain excellence, most companies will need to address several obstacles. One is the difficulty of accurately forecasting demand, particularly for new products that often take years to gain regulatory approval.

Even for established products, accurate demand forecasting is hardly a given. It typically requires assembling data from multiple sources, such as historical transaction volume, sales forecasts, and supplier input. Information often is outdated by the time forecasts are finalized, leading to inaccuracies.

Inaccurate forecasting also impairs inventory management. For example, companies using legacy technology and outdated information may not know they can reroute stock from one warehouse to another that needs the product. This blind spot can mean excess inventory in one location ties up working capital, while stock shortages at another eat into margins.

The addition of e-commerce increases the complexity of demand forecasting and inventory management. Pharma companies will need to develop forecasts and inventory specific to this channel.

The changing regulatory environment also is remaking the pharmaceutical supply chain. By 2023, the Drug Supply Chain Security Act will establish an electronic, interoperable framework to identify and trace serialized products throughout the supply chain, at the unit level, says Perry Fri, executive vice president with the Healthcare Distribution Alliance (HDA) and chief operating officer with the HDA Research Foundation.

AirBridgeCargo leases containers from cold-chain ULD manufacturer SkyCell to accommodate demand for growing pharma shipment volumes. The containers meet the stringent temperature requirements of pharmaceutical products.

PHARMA COLD CHAIN HEATS UP

The $3.6-billion market for temperature-controlled packaging within the pharmaceutical industry is expected to enjoy a compound annual growth rate of 8% between 2018 and 2028, according to business intelligence firm Future Market Insights.

Cold chain technology is changing along with the market. One example is the greater deployment of "cold-chain dollies," or temperature-controlled containers within airports located where temperature extremes occur. These can maintain the cold chain from the time packages are offloaded until they're placed in refrigerated warehouses.

Advances in phase change materials (PCMs) also make temperature control easier. PCMs absorb and release thermal energy during melting and heating to maintain temperatures.

PCM technology improvements enable the materials to better maintain temperatures without becoming so bulky the container has little space for the actual product.

Drones are increasingly being deployed for last-mile delivery, especially in places that lack adequate transportation infrastructure, helping move products to their destination more quickly. A shortened trip means less chance of changes to the shipment's temperature.

SPEEDING LIFESAVING DRUGS TO MARKET

When drugs are needed to save patients' lives, it's imperative that companies bring them to market as quickly as possible. This can require a shift in thinking.

"Business leaders need to do away with the idea that change doesn't have to be disruptive," says Alisha Greenwald, senior director of client strategy, BlueGrace Logistics, adding that change is messy and often difficult, but also necessary.

That said, it is possible to mitigate disruptions. These actions can help:

• Clearly communicate changes to stakeholders across the organization.

• Break change into palatable phases.

• Communicate the milestones hit; this can drive buy in.

• Be ready to adjust if parts of the plan aren't yielding the desired outcomes.

The Health Technologies Distribution Alliance facilitates, standardizes, and secures each step of the process involved in developing new drugs and health technologies.

The next implementation milestone, coming up in November 2019, requires distributors to accept only products that contain the required identifier.

"With nearly 59 million units of pharmaceutical products affected annually, it is a large undertaking," Fri says.

In addition, government entities across the country are proposing legislation aimed at addressing the affordability of prescription medicines and mitigating the epidemic of prescription drug abuse. These also will affect pharmaceutical supply chains, although it's too early to predict the likely impact.

Along with these challenges is the growing application of personalized or precision medicine, in which physicians test for biological markers that can help determine which medical treatments and procedures will work best for each patient. Biopharmaceutical researchers predict a 69% jump in the number of personalized or precision medicines in development over the next five years, according to the *Personalized Medicine Report* from industry group Personalized Medicine Coalition.

The interest in personalized medicine is understandable, as it should improve patient outcomes. At the same time, the expanding number of treatments boosts supply chain complexity.

TECHNOLOGY FILLS THE PRESCRIPTION

How can pharmaceutical companies tackle these challenges and continue to thrive? Technology will play a critical role. For instance, unit load devices (ULDs) enable pharma companies and distributors to closely monitor their shipments' location and status while in transit.

"Today's tracking devices go beyond GPS," says Leandro Moreira, director of the Health Technologies Distribution Alliance (HTDA), and vice president of YourWay, an integrated biopharmaceutical supply chain solutions provider.

In addition to location, ULDs can provide information on a product's exposure to light, shock, or vibration. Some devices can tell if a package is positioned horizontally or vertically.

Many devices now provide this data in close to real time, says Chuck Forsaith, senior director with the Pharmaceutical Cargo Security Coalition (PCSC), an arm of the HTDA. Companies that know what's happening to their goods in transit can act to avert damaged or lost products.

These types of devices also allow the air cargo sector to play a bigger role within the pharma supply chain. "These latest high-tech devices are our eyes, ears, and noses in the air and they help us manage shipment integrity," says Yulia Celetaria, global director of pharma with AirBridgeCargo, an international cargo airline. Over the past three years, the average growth rate (CAGR) for AirBridge's pharma shipments topped 45%, she adds.

Digitalization—converting information into a digital format that computers can process—also allows for more accurate supply chain management. Jay Stanell, a director with accounting firm Grant Thornton, provides this example: A meter tracking the use of a package fulfillment operation finds that Product A consumes 50% of its capacity, while five other products each use roughly 10%. Software can take this information and accurately attribute the costs to each product, rather than simply spreading those costs evenly over the six products.

"Digitization changes data availability," Stanell says. "It enables companies to get data at the product level, so they can make 'eyes-wide-open' decisions regarding their technology investments."

PHARMA GETS A DOSE OF BLOCKCHAIN

Blockchain may have a role to play within the pharma supply chain. "Blockchain technology enables the tracing and authentication of unique and valuable products within the healthcare and pharmaceutical supply chain," explains Luca Graf, head of digital innovation with Panalpina, a supply chain solutions provider. Each step—from manufacturing to packaging, storage, and transportation—can be monitored and recorded, he says.

Several obstacles currently constrain

blockchain's use. One is the lack of industry-wide standards and the siloed nature of data within the pharmaceutical supply chain. "The industry needs to step aside from peer-to-peer data sharing and move to information transparency to all supply chain stakeholders," Celetaria says.

FAST PHARMA

Data processing speed presents another obstacle. While the private chains typical in supply chain and logistics are much faster than the public chains used for cryptocurrencies, it's typically difficult for a company to entrust its data to another company's private blockchain. Public blockchains enable collaboration and scalability but have slower data processing speeds.

If the industry can solve these challenges, a blockchain-based tracking and authentication system will boost security, trust, and transparency within pharma supply chains, Graf says. This will reduce costs relating to both transportation and counterfeit drugs.

Not every tool for improving the pharma supply chain involves technology. "Collaborating and sharing intelligence among companies when an incident takes place can help maintain supply chain integrity," Forsaith says.

He points to a 2010 burglary of a pharmaceutical warehouse in Connecticut, where criminals made off with about $80 million in drugs. To access the drugs, they rappelled to the roof, entered through a hole they cut, and disabled the alarm.

The warehouse alerted other pharmaceutical firms to the burglars' methods, prompting many to adjust their supply chain security. Since then, no similar burglary has occurred in the United States, Forsaith notes.

Other lower-tech processes that can boost supply chain integrity include running driver teams, rather than solo drivers, for some shipments. When the drivers stop to refuel, one person remains with the vehicle at all times. In addition, the truck can arrive for its pickup fully fueled, minimizing the number of stops it will have to make on the road.

When the PCSC was created more than one decade ago, U.S. pharmaceutical companies were losing between 40 and 60 large-scale shipments annually, Forsaith says. In 2018, that number had dropped to about four.

EMBRACING CHANGE

The changes currently affecting the pharmaceuticals supply chain appear poised to continue. Advancing technology will keep boosting and improving supply chain efficiency and transparency. The companies that take advantage of these shifts stand to gain.

"Pharmaceutical companies that have optimized their supply chains will continue to thrive," Greenwald says. ■

INCENTIVES POWER ECONOMIC DEVELOPMENT

Sparking site selection decisions, energy, tax, and land incentives juice logistics projects.

When a company nears a major site selection decision and narrows its favorites to two or three finalists, little often separates one community from another, says Matt Ryder, managing principal with Cresa, a Washington, D.C.-based commercial real estate firm. Energy, tax, and land incentives can be the final ingredient that kills or clinches the bid of a potential location.

"When you get down to the last two or three cities, usually any of them are going to work for a company," says Ryder, whose practice includes economic development incentives analysis and negotiation. "They're all viable if they've made it that far. So it becomes about deciding which one is special—which one is putting itself over the top. It can be any number of things, but when there's a match between the incentives offered and the usability of those incentives for the company—that can be the key."

Photo: Hoosier Energy

Hoosier Energy, which provides power delivery through a nearly 1,700-mile transmission network, often can offer a creative electric rate structure to a company considering relocation or expansion, serving to complement a larger state or local incentive offer.

Beyond their economic benefits, incentives play an integral role in site selection decisions. Incentives also demonstrate how much a locality wants a project and how reliable it will be as a long-term partner.

"We often start by evaluating how incentives will play into the overall project economics," Ryder says. "But then later in the process—when you narrow the choice to a couple of geographies—the conversation tends to shift toward the idea that a community is truly stretching to attract the business.

"That means as we think about the operational life of the site selection project, which is typically a long-term decision, we feel like that community will be a good partner in the future," he adds.

THE IMPORTANCE OF USABILITY

The incentives' value to a company depends on the location of a site and the nature of the project, says Steve Brunson, principal, credits and incentives, McGuire Sponsel, a specialty tax and consulting firm based in Indianapolis.

Incentives are especially important in areas with high property taxes, abatements, or PILOTS (payments in lieu of taxes). Incentives also can help address challenges related to a limited or untrained workforce.

"Training programs are becoming more important and more prevalent," Brunson says. "With the economy approaching virtually full employment in many regions, workforce is increasingly becoming a driving factor in location decisions. Programs that allow employers to hire under-skilled employees and train them can be very effective."

The value of training-related incentives is tied to how easy they are to access and use. "The more reporting, red tape, and third-party involvement required, the less appealing they can be," Brunson notes.

The ability to use incentives is as critical as their nominal value. Localities sometimes offer incentives to a company without studying the business. For instance, Ryder sometimes represents pre-profit technology companies that are not yet taxpayers.

"The reality is that a company doesn't need to be a taxpayer to have a significant economic impact on a state and local economy," Ryder says. "So to limit the value of incentives to tax credits would be outdated. When a local or state economic developer comes forward with a more usable set of incentives opportunities, that's a good indication they're going to help the business in the longer term."

In today's competitive climate, incentives customized to a company's needs can be essential.

"If training and ramping up the workforce is the biggest need, then incentives should address this area," Brunson says. "If high property taxes affect operational profitability, then property tax incentives are critical."

A PERSONAL APPROACH

Communities do not always have the flexibility within local and state laws to develop fully customized incentives, though larger projects can allow for more tailoring potential. Still, within existing frameworks, localities can ensure they communicate the applicability of their incentives to companies.

Occasionally, localities give

Photo: Hoosier Energy

As part of its work with companies considering a move to its area, Hoosier Energy offers in-house expertise to design and build electric infrastructure for large projects.

companies a host of available incentives, but "the company sifts through them and realizes that not all of what's being pushed is actually useful," notes Ryder.

"The better approach is to say, 'We've taken the time to understand your business, this operation, and your objectives, and we're going to come forward with a package that will be valuable to you,'" he adds.

McGuire Sponsel looks at three key components when evaluating incentives and comparing them across locations:

- Overall value
- Form and utilization
- The ability to bridge site-specific gaps

For example, the higher cost of new construction that accompanies a good economy can be addressed with incentives.

"Tax increment financing (TIF) and industrial revenue bonds (IRBs) can be valuable in providing capital for a project or reducing construction or financing costs," Brunson says. "Large-scale industrial projects commonly involve TIF or IRBs.

"Just because an incentive offer is larger on paper doesn't make it better," he points out. Sites that are at a strategic disadvantage often need a healthy incentive package to level the playing field with competitors.

"We plug incentives into the overall net tax and gap analysis to get a comprehensive comparison of sites," Brunson says. "The more gaps a site has, the greater the value of the incentives need to be to be competitive. Low-tax, low-cost, and strategic locations may come out on top even with smaller nominal incentive values."

THE BIG PICTURE

In short, companies in site selection mode should analyze how they will use incentives.

"When tax credits, deductions, abatements, and other factors are involved, companies should pay close attention to the actual tax effect," Brunson recommends. "This may require projections and multi-state analysis. The last thing anyone wants on either side is for an incentive to fail to meet its objective. Companies need to remember that not all dollars are the same. They must always analyze utilization."

Providing a comprehensive incentive package requires more than the work of a single entity. The development and offering of incentives by localities typically are the result of a team effort involving a range of partners. Power providers can be particularly important to the development of incentive packages that provide usable and impactful benefits to companies considering sites.

POWERFUL INCENTIVES

Hoosier Energy, a generation and transmission cooperative providing wholesale electric power and services to member distribution cooperatives in central and southern Indiana and southeastern Illinois, has demonstrated a consistent commitment to economic development.

Its dedicated economic development team, which has expertise in site location assistance, planning and zoning, and local and state incentives, prides itself on preparing new and expanding companies to successfully do business in the region, says Scott Bowers, vice president of public policy and member services at Hoosier Energy.

The cooperative's efforts in 2018 helped generate 2,515 new jobs in Indiana and Illinois and more than $730 million in new capital investment, while leading to the addition of 38.5 megawatts of new industrial and commercial load. Incentives are a key piece of Hoosier Energy's approach to economic development.

"Hoosier Energy is committed to economic development and we show it through incentives such as special economic development rider (EDR) discounts," Bowers says. "For qualified commercial and industrial customers, the EDR phases in their total cost for power over a 6-year span. The discount starts at 30% in year one and the 6-year averages net approximately 17% savings."

In addition to the EDR discounts, Hoosier Energy's board recently created a pathway for large customers to purchase power directly from the open market.

"This allows us to offer extremely competitive rates to large industrial power users," Bowers says.

Beyond incentives such as the EDR and the ability to allow customers to buy from the open market, Hoosier Energy can offer unique infrastructure solutions through financing options, notes Bowers. The company also has in-house expertise to quickly design and build the necessary electric infrastructure.

"Moreover, we're able to move quickly to meet company needs because we are not required to go before the Indiana Utility Regulatory Commission," Bowers adds.

Hoosier Energy, which is based in Bloomington, Indiana, serves 18 member electric cooperatives—a jurisdiction that covers 59 counties. Generation includes coal, natural gas, and renewable energy resources, and power delivery through a nearly 1,700-mile transmission network.

"A growing number of companies are approaching us to help them meet their renewable energy goals," Bowers says. "Hoosier Energy has been proactive in adding renewable energy options to its overall portfolio so we're ready to help.

"If a company chooses to locate at a member-served site today, 7% of its power will come from renewable energy," he says. "This number will increase to 10% in the coming months."

Hoosier Energy collaborates with its member distribution cooperatives, local economic development officials, and state economic development officials to develop comprehensive incentive packages that are customized to fit the needs of each individual company considering relocation or expansion. The cooperative's service territory has a competitive business environment and robust logistics infrastructure so that incentives often are "the cherry on top," Bowers says, for companies considering expansions or relocations.

"We often can offer an EDR or a creative electric rate structure to complement a larger state and local incentive offer," Bowers says. "Additionally, we work closely with economic development partners to provide the necessary infrastructure that provides companies with reliable, affordable power onsite when they need it."

That customer service component is a reminder that site selection decisions and the role of local partners in working to accommodate the preparation and maintenance of new sites have a myriad of components. Economic development and site selection experts say incentives can be a stimulus, but ultimately should be part of a larger analysis.

"Incentives play a role, but that role shouldn't be over or under emphasized," Brunson says. "The total project will also include tax effects, workforce availability and cost, transportation costs, utility costs, and more." ■

FLORIDA: CLEAR SAILING

Located on Florida's Atlantic coast and represented by the Florida Ports Council, the Port of Fernandina will see near-term capital investments of $15 million to accommodate larger-scale vessels.

From exceptional ports to state-of-the-art e-commerce services, Florida´s logistics assets encompass everything under the sun.

FLORIDA: CLEAR SAILING

Florida is called the Sunshine State, but for logistics providers, it's the water that really counts. And the importance of the water is fully appreciated by those charged with keeping Florida's waterway advantages, well, fluid.

In addition to its waterway advantages, the state's ideal location and extraordinary infrastructure—including its multi-modal transportation systems—figure prominently into Florida's logistics assets. And certainly the services that have grown up around these physical attributes, including fulfillment and distribution, contribute mightily to the state's position as a logistics superstar.

No wonder, then, that companies around the world choose Florida as the site of their national and international headquarters. Numerous international firms base key facilities in Florida to take advantage of its easy access to global markets.

The state's favorable business tax structure, government policies, and competitive costs make planning for future growth easy, notes Enterprise Florida, a public-private partnership that serves as the state's principal economic development engine. Florida consistently ranks among the best states for business, thanks to its pro-business state tax policies, competitive cost of doing business, and streamlined regulatory environment. The state is proud of its welcoming business climate and competitive advantages.

Florida boasts one of the world's most extensive multi-modal transportation systems, featuring international airports, deepwater shipping ports, extensive highway and rail networks, and multiple hubs that allow for high-speed data transmission from around the United States to Europe, Latin America, and Africa.

As a result, Florida ranks fourth among all states in foreign direct investment. More than 9.5 million workers serve as testimony to the quality of programs public and private institutions offer to continually feed the talent pipeline. Add to all of that a financial and cultural commitment to keep sailing into an ever-improving future.

"Since 2012, Florida seaports, along with our federal and state partners, have invested more than $2 billion in seaport infrastructure, resulting in an economic value of more than $117 billion," says Doug Wheeler, president and CEO of the Florida Ports Council.

"Jobs generated by ports have grown 51% in the same amount of time," he adds.

SUM OF ALL PORTS

The Florida Ports Council provides leadership for Florida's 14 deepwater seaports through a collective voice in the areas of data and research, state and federal advocacy, and marketing and communications. The council holds several annual meetings for the purpose of conducting business and discussing industry trends and conditions.

Florida is the only state with seaports on two vital U.S. water shipping lanes—the Atlantic and the Gulf. In addition, Florida's location allows for cost-efficient access to the Caribbean and South America.

Florida also is the country's third-largest state, with almost 21 million residents. When coupled with nearly 126 million visitors annually, Florida is one of the largest consumer markets in the United States.

"Florida seaports provide the most cost-efficient means to access this population and visitor market, as well as other discretionary markets in the United States and Latin America," Wheeler notes, adding the state's business-friendly tax and policy environment makes Florida one of the top places to locate or expand domestic and international businesses.

"Further, efficient distribution of goods around Florida and into

Port Tampa Bay welcomed a new CMA CGM service in May 2019. The PEX3 weekly service calls on Asian ports including Singapore, Hong Kong, and Shanghai.

discretionary markets in neighboring states and nearby countries has led to the growth of imported goods coming into Florida ports from Asia, Europe, and other countries," Wheeler says. "The state's ability to distribute goods into the Florida market attracts shippers, shipping lines, and beneficial cargo owners."

Many capital projects are outlined in the council's newly released *Pathway to Prosperity: The 2019-2023 Five-Year Florida Seaport Mission Plan*. These projects will automate processes, decrease costs, add capacity for both cargo and passengers, and expedite movement with an emphasis on using as few resources as possible, says Wheeler.

For example, **Port Canaveral** is focusing on its $150-million Cruise Terminal 3—the largest construction project in the port's history. It is also building North Cargo Berth 8 and renovating Cruise Terminals 8 and 10.

Port Everglades just finished upgrading Cruise Terminal 25. It is modernizing Petroleum Slip 1, working with petroleum partners that are developing improved offloading infrastructure. It continues to invest in containerization, complementing the new 43-acre Intermodal Container Transfer Facility with the Southport Turning Notch Extension and Crane Rail Infrastructure project (set to lengthen the deepwater turn-around area for cargo ships to 2,400 feet and allow for up to five new cargo berths and new super post-Panamax gantry cranes). It also will deepen its channel to 48 feet.

The **Port of Fernandina,** which successfully transitioned port operations from Kinder Morgan to Worldwide Terminals Fernandina in February 2018, is working on a number of up-sizing projects to better serve large-scale vessels and customers: a berth deepening, a 1,000-foot pier extension, and a 500,000-square-foot on-dock warehouse.

The **Port of Fort Pierce** is moving forward on plans to rehabilitate the Fisherman's Wharf bulkhead and the Black Pearl Boat Ramp. It plans a packing house demolition and dock apron rehabilitation, and will enhance vehicular access with improvements to the Fisherman's Wharf road.

JAXPORT's 47-foot harbor deepening is underway. The port has undertaken a major facility modernization project to enhance capacity for post-Panamax vessels. Some of the larger projects on its five-year horizon are a Berth 33/34 rehabilitation, and readying Blount Island for a major tenant expansion.

Further improvements are set for the **Port of Palm Beach, Port of Key West, Port Manatee, Port St. Pete,** and **Port Tampa Bay.** As the closest port to Florida's largest and fastest-growing market—the Tampa Bay/Orlando I-4 Corridor—Port Tampa Bay can call its geographic location its greatest advantage. The Central Florida region is home to almost half of the state's population, and welcomes the majority of tourists who visit Florida every year.

CENTRAL FLORIDA JEWEL

"The I-4 Corridor has the largest concentration of distribution centers in Florida, which serve the entire state from this central location," says Wade Elliott, Port Tampa Bay's vice president of business development. "Our close proximity allows importers and exporters to make multiple round-trip deliveries per day between the port and the DCs, resulting in significant container drayage cost savings."

The biggest new development at Port Tampa Bay is the addition of three new direct Asia weekly services since the beginning of 2019, including COSCO's Gulf of Mexico Express, CMA CGM's PEX3, and a recently announced new service by ZIM, MSC, and Maersk.

"Effectively, we have created an alternative supply chain solution into the heart of Florida's largest and fastest-growing region," says Raul Alfonso, the port's executive vice president and chief commercial officer. "It's an area that has been under-served until these new Asia-Gulf services were added."

Especially noteworthy is that these new services reflect a shift in trade routes, recognizing the expanding markets and cargo growth in Florida and the U.S. Gulf of Mexico region. Many of these importers are seeing the advantages of rerouting and greater efficiencies, with new and existing customers expanding their DC capacity in the I-4 Corridor.

Port Tampa Bay also is home to Foreign Trade Zone 79, which helps companies involved in importing, exporting, manufacturing, and distribution to reduce their costs and improve their efficiency.

Miami-based logistics company Ameriworld Fulfillment specializes in drop-ship and e-commerce operations, providing fulfillment solutions for cosmetics, footwear, toy, hardware, and fast-fashion companies.

Together with its terminal operator partner Ports America, Port Tampa Bay is aggressively building out its infrastructure—including the expansion of paved storage, new berths, additional gantry cranes, and equipment, as well as new on-dock transload facilities—to stay ahead of growing demand.

Port Tampa Bay's facilities and experience accommodate a diverse mix of cargoes, from containers and refrigerated commodities to break-bulk, roll-on/roll-off and heavy lift (with necessary storage, laydown, crane capacity, etc.), and immediate highway and rail connections.

Last-mile issues are not a concern at Port Tampa Bay. "We have a dedicated truck ramp directly outside the gate, connecting the Port to I-4 (east/west) and I-75 (north/south)," Elliott says.

Another major infrastructure expansion was the recent opening of Port Logistics Refrigerated Services' new state-of the-art refrigerated warehouse. The Tampa Bay region is Florida's hub for the grocery/food and beverage sector and is located in the heart of Florida's agriculture industry. With on-site dedicated fumigation services, this 135,000-square-foot cold storage facility has 6,348 racked pallet positions, 148 reefer plugs, on-site USDA and CBP inspection areas, as well as a CBP AG Specialists lab.

In the port's *2018 State of the Port* report, Port of Tampa Bay President and CEO Paul Anderson summarizes the port's progress: "Not only did Port Tampa Bay experience its second consecutive record revenue year, but we began to see a convergence of several initiatives including major infrastructure projects, real estate agreements, and new cargoes.

"In fiscal year 2018, our record operating revenue of more than $59 million represented a double-digit increase of 11% and was attributed to all primary revenue streams including cargo categories as well as growth in industrial maritime real estate development and our cruise business which, for the first time in our history, surpassed one million passengers."

In its 2019 report, the port will have even more to cheer as the Big Bend Channel Improvement project was completed earlier this year. The project, more than a dozen years in the making, effectively brought together five public-private partnership entities (U.S. Army Corps of Engineers, Florida Department of Transportation, Tampa Electric, Mosaic, and Port Tampa Bay) to deepen and widen the channel at Port Redwing for larger ships.

"These larger ships will bring more cargo capacity that ultimately translates into jobs, economic impact, and generational impact for years to come," Anderson says.

FACILITATING E-COMMERCE

Yet another illustration of Florida's ahead-of-the-curve logistics advantages is its responsiveness to the growing importance of e-commerce.

E-commerce is no longer a trend but a well-established distribution channel. In order for brands to earn client loyalty, they need to fulfill orders from their omnichannels in the timeframe expected. Ameriworld Fulfillment, a Miami-based logistics company that specializes in drop-ship and e-commerce, understands the industry requirements and is able to handle a high daily volume of orders.

Ameriworld has been in the product distribution business, also known as fulfillment, since its inception in 2003, affording the company much-needed expertise in the ever-evolving e-commerce world. Julian Rubio, Ameriworld's CEO, says he considers the company's key advantages to be its human capital and innovation.

With its controlled temperature area, expiration dates, and lot numbers control, Ameriworld effectively serves many industries. These include cosmetics, as well as the footwear, toy, housewares, supplements, hardware, and fast-fashion industries, among others that benefit from the company's robust reverse logistics system.

"We understand our clients' success hinges on a fast and efficient fulfillment and distribution chain that is flexible and adaptive to the rapid changes in the technological and digital world," says Business Development Director Cloudya Esther.

"We already have a highly efficient paperless operation that specializes in drop-ship and e-commerce orders," she adds. "We also have our own in-house IT department that allows us to integrate with our clients' ERP systems as well as all shopping carts. The advent of e-commerce has transformed logistics, and we have been working with it since its beginnings. We are excited for what the future holds."

Alongside its online and digital services, Ameriworld still offers its original "full package" service through which it provides companies office space and back-office services (accounting, order management, payroll, etc.). David Truzman, Ameriworld's CFO, explains that this solution is especially helpful for companies looking to lower their overhead or foreign companies starting up in the U.S. market.

IT Director Fidel Gonzalez is currently developing a system for more efficient packing that will enable the company to process one package every three seconds. "Ameriworld is always at the forefront of technology and we are ready and poised to adopt, implement, and advance our services for the benefit and success of our clients and to satisfy consumer demand for frictionless next-day shipping," he says.

Because of its innovation, technology investment, and expertise, Ameriworld is a major player in South Florida's e-commerce fulfillment logistics.

NUMEROUS ASSETS

Florida's assets combine to give the state its competitive edge. Merchandise trade valued at $153.3 billion flowed through Florida's airports and seaports in 2018, making the state one of the world's leaders in international trade, Enterprise Florida reports.

The state's 12 public universities, six major medical schools, and numerous private colleges and universities work closely with the business community to build programs that reflect the needs of Florida's industries.

Finally, there is the quality of life—hard to define, but you know it when you experience it—that sets Florida apart. Work-life balance is increasingly important to employers and the workforce alike. Florida is known for great weather, recreation, and culture, as well as an affordable cost of living that allows businesses and residents to enjoy it all.

There is an often-heard refrain among Floridians of all stripes: "Who wouldn't want to live here?" The question, really more of a statement, is heard on the beach and in the boardroom, on the loading dock and at the pier, in the fulfillment center and at the amusement park.

And logistics professionals recite the line perhaps more than anyone. Why would they not? In the logistics sphere, they know Florida's forecast is always sunny. ■

E-COMMERCE

RAKUTEN SUPER LOGISTICS www.rakutensl.com

Rakuten Super Logistics (RSL) eases the headaches and high costs of e-commerce fulfillment, with its fast and accurate order shipping, cloud-based order management software, and personal and responsive customer support to ensure your e-commerce fulfillment runs smoothly. Since 2001, RSL has been at the forefront of order fulfillment, shipping millions of orders for hundreds of online retailers around the world, including Fortune 500 companies. See what RSL can do for you; visit the website today.

SADDLE CREEK LOGISTICS SERVICES www.sclogistics.com

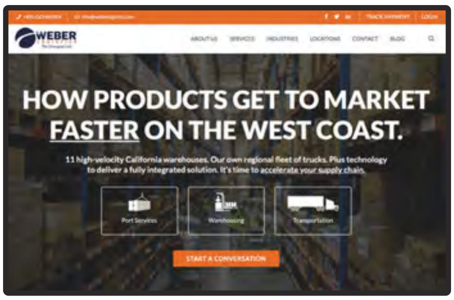
Saddle Creek is an omnichannel supply chain solutions company providing a variety of integrated services, including warehousing, omnichannel fulfillment, transportation and packaging. We leverage these capabilities, advanced technology, and our nationwide network to customize scalable solutions that help retailers, manufacturers and e-commerce companies support their business goals. For more information, visit www.sclogistics.com.

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.

WEBER LOGISTICS www.weberlogistics.com

Weber provides warehouse services throughout the Western United States, with 6.5 million square feet of space across 19 modern distribution centers in California, Arizona, Nevada, and Utah. Warehouse services include dedicated contract warehousing, shared warehousing, temperature-controlled storage, e-commerce fulfillment, crossdock services, and a wide range of value-added services, such as product postponement, kitting services, and hazardous material storage.



IN THIS SECTION:

Expedited Services - Retail Logistics

EXPEDITED SERVICES

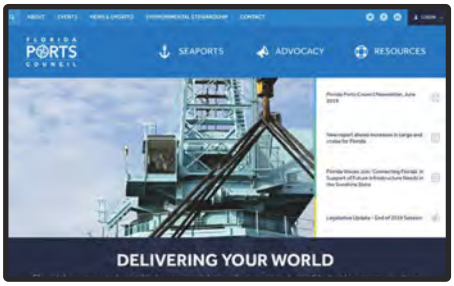
LANDSTAR www.landstar.com

Landstar's network of independent sales agents and transportation capacity providers offers greater flexibility and a local presence that has a global reach. The Landstar network is unmatched in the industry. With more than 1,100 independent agents, 9,000 leased owner operators, 14,000 trailers and 44,000 other available capacity providers, we have the flexibility and experience to find a solution to your transportation challenge.

PORTS

FLORIDA PORTS COUNCIL www.flaports.org

The Florida Ports Council (FPC) is a nonprofit corporation that serves as the professional association for Florida's 15 public seaports and their management. The FPC provides advocacy, leadership, and information on seaport-related issues before the legislative and executive branches of state and federal government. The FPC believes a strong, strategic, public/private partnership between Florida's ports and state and local government will enable the diverse seaports to continue their vast economic contributions to every region of the state.



PORT TAMPA BAY www.porttb.com

Tampa/Hillsborough County boasts some of the highest-rated international and domestic shipping facilities in the nation. Strategically located on Florida's west coast, Port of Tampa is easily linked to rapidly expanding markets in Central and South America, and beyond the Panama Canal. The port also provides ship building, maintenance, and repair. To learn more about these services, point your browser to the port's web site.

RETAIL LOGISTICS

KENCO LOGISTICS www.kencogroup.com

Adding value to your bottom line? That's the mission of Kenco. For more than 50 years, Kenco has guided some of the most demanding supply chains in the world. Kenco's convergence approach can help you streamline your supply chain and bring a greater return on assets and investments. Kenco invites you to visit this website so that you might get to know its services. Then, contact Kenco so that you might truly understand its unique strategic advantages.

RETAIL LOGISTICS

LYNDEN www.lynden.com

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R.R. DONNELLEY www.rrdonnelley.com/dlsworldwide

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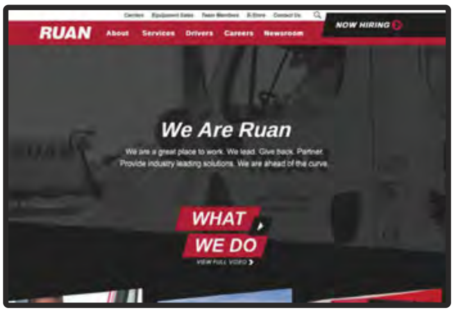
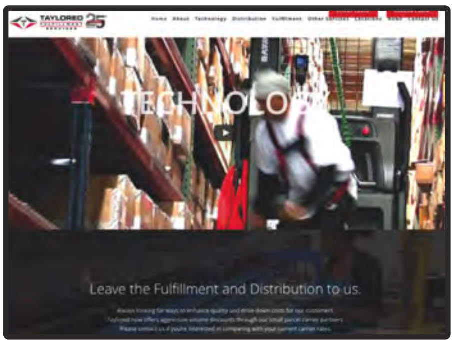


RUAN www.ruan.com

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.

TAYLORED FULFILLMENT SERVICES www.tayloredservices.com

At Taylored Services, we look at your business as if we were a box moving through your supply chain. Our goal: to provide a comprehensive array of fulfillment services that best fit your business needs. Award-winning retail experts. Strategically located bi-coastal facilities. Expertise in wholesale and retail distribution. Best-in-class systems and technology. A full range of logistics services including: drayage management, transload, DC bypass, crossdock, case distribution, unit fulfillment (B2B, B2C, Digital), and value-added distribution solutions (repacking, reticketing, point of purchase, display assembly, inserts and labeling, returns). Visit www.tayloredservices.com or contact sales@tpservices.com



IN THIS SECTION:

Retail Logistics - Warehousing

RETAIL LOGISTICS

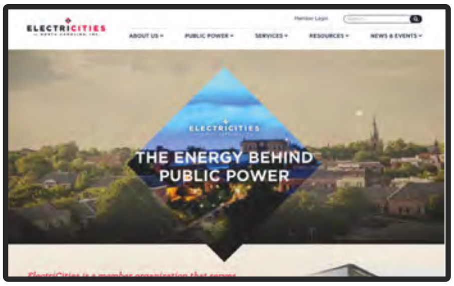
WSI (WAREHOUSE SPECIALISTS, LLC) www.wsinc.com

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.

SITE SELECTION

ELECTRICITIES OF NORTH CAROLINA www.electricities.com

This membership organization includes public power communities in North Carolina, South Carolina and Virginia. ElectriCities also provides management services to the state's two municipal power agencies - North Carolina Municipal Power Agency Number 1 and North Carolina Eastern Municipal Power Agency. ElectriCities serves the needs of public power communities through collective strength, wisdom, and action - while promoting more success for its citizens. For more information, contact Brenda Daniels at (800) 768-7697, ext. 6363.



HOOSIER ENERGY www.hoosiersites.com

Hoosier Energy is a generation and transmission cooperative providing electric power to 17 member electric distribution cooperatives in central and southern Indiana and one member cooperative in Illinois. Based in Bloomington, Ind., Hoosier Energy operates coal, natural gas, and renewable energy power plants and delivers power through a 1,450-mile transmission network. Hoosier Energy is a Touchstone Energy Cooperative, one member of a nationwide alliance of electric co-ops providing high standards of service according to four core values: integrity, accountability, innovation, and commitment to community.

WAREHOUSING

PHOENIX LOGISTICS www.phoenix3pl.com

Phoenix Logistics listens carefully to your logistics needs and responds with innovative solutions. By implementing technology, materials handling equipment, and specialized personnel in a perfectly matched and ideally located facility, Phoenix provides customized service programs specifically fulfilling the requirements of each client. The company's seasoned management group is trained in handling and distributing various product lines. For more than 30 years, Phoenix has provided comprehensive, cost-effective inventory management and value-added service programs for most consumer product industries.

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Couldn't make it to the Council of Supply Chain Management Professionals press conference in Washington, D.C., last June? No worries! Catch up with this video of the 30th Annual State of Logistics Report presentation during a press conference at the National Press Club. Co-author Michael Zimmerman, a partner with A.T. Kearney, details the report and a panel of logistics experts analyzes and discusses the key findings.

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A CFO's Guide to Transforming the Global Supply Chain

Offered by Amber Road

In a recent study, 94% of respondents said digital transformation will fundamentally change supply chains, but only 44% of companies had a strategy for achieving their digitization goals. It's time to close that gap. Spreadsheets, emails, and paper are no longer an effective way to operate. Download this free guide to avoid getting left behind and losing control of your global supply chain.

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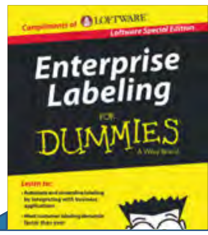
Offered by Evans Distribution Systems

Being a successful third-party logistics (3PL) provider in this day and age means stepping outside of the box and finding creative solutions to today's fulfillment needs. How do you find those creative solutions? What will make you stand out in the traditional 3PL environment? Download this free whitepaper for help with developing customer solutions in a variety of industries.



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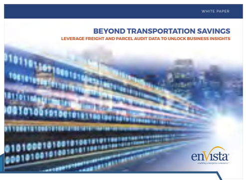
Enterprise Labeling for Dummies

Offered by Loftware

This free e-book spells out the essentials for enterprise labeling success and highlights labeling trends that are keeping companies on their toes. You'll learn about the evolution of barcode labeling, the value of connecting labeling with existing business processes, and the efficiencies that enterprise labeling will have on a company's supply chain.

Supply Chain Insights

whitepapers



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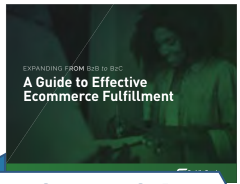
Beyond Transportation Savings: Leverage Freight and Parcel Audit Data

Offered by enVista

Some companies may not understand how reliable freight and parcel audit providers can improve strategies and results. Leveraging data provided by transportation insights is key to unlocking valuable information and identifying your supply chain's weak spots. This free whitepaper introduces the steps needed to make the most of your freight and parcel audit data, so you can make informed decisions.



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Expanding from B2B to B2C: A Guide to Effective E-Commerce Fulfillment

Offered by Saddle Creek Logistics

Today, more and more business-to-business (B2B) companies are adding business-to-consumer (B2C) channels. They're connecting directly with end customers for better engagement, improved control of their brand, and greater profitability. To learn how B2C fulfillment differs from B2B and what you need to know to deliver the optimal customer experience, check out Saddle Creek's latest free e-book.

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Overcoming the Challenges of Private Fleet Management With Outsourcing

Offered by J.B. Hunt

Private fleets once seemed to be the best way for companies to carry out their operations. However, with today's increased costs and driver shortage, companies may want to consider an alternative. Outsourcing can provide many benefits to your business, while dodging obstacles that your company might face with a private fleet. To discover the advantages of outsourcing over using a private fleet, download this free whitepaper.

podcast

Mark Nix

What Should Companies Prioritize When Selecting a TMS?

GUEST: Mark Nix, Senior Vice President, E2Open; Founder, Cloud Logistics

A stable supply chain management ecosystem relies heavily on an effective transportation management system that ultimately makes it easier for shippers to serve their customers. But from ease of use to slow ROI, how can shippers alleviate the most common pain points that plague the industry? Mark Nix identifies what's lacking in the market and highlights some priorities when selecting a TMS.

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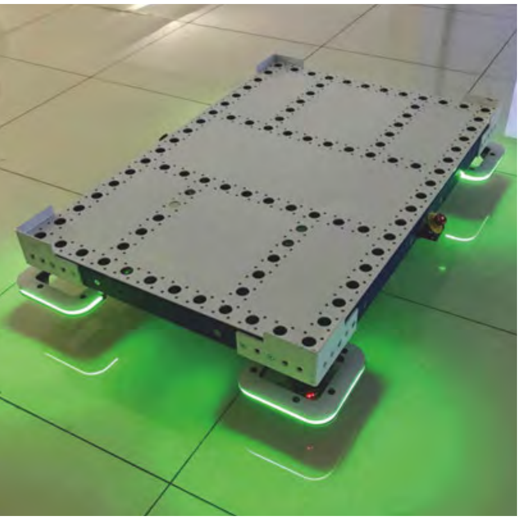
[IN FOCUS]

SPOTLIGHT

Fulfillment Innovations

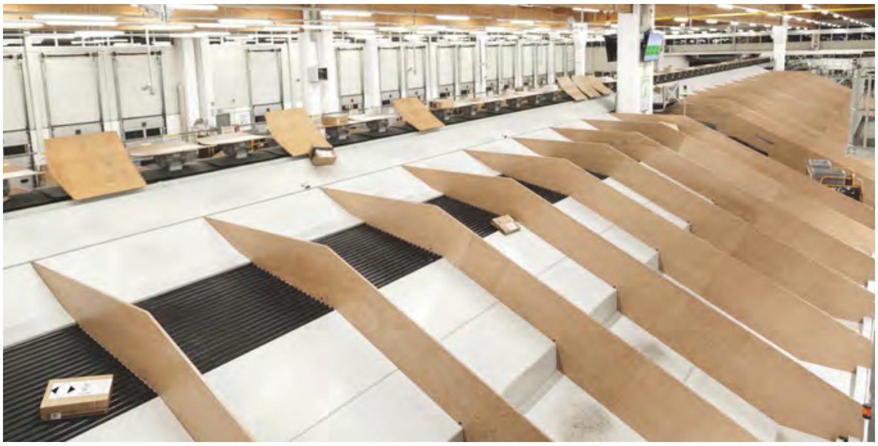
> Kardex Remstar vertical buffer module: The LR 35 vertical buffer module is designed to pick small parts quickly in warehouses. It comes with picking software that lets users optimize routes and accurately pick goods. Additionally, the module easily integrates into existing systems and serves as a storage solution as well.



> FlexQube eQart: This autonomous and remote-controlled cart can be configured in almost any shape as it is comprised of FlexQube building blocks fitted with digital modules such as motors, battery, control unit, and sensors. Users can build a wide variety of sizes and top structures to fit their materials handling and fulfillment needs.

> UNEX roller rack: Designed to boost order picking efficiency, the roller rack improves sight lines and access to products for warehouse workers. Inventory is replenished from the back without interrupting order picking in front. SKU storage is up to seven times denser per bay than pallet rack storage, which means up to 80% less travel time for pickers.

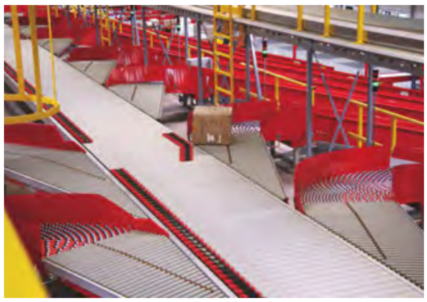
> BG sorter: Beumer Group's high-performance sorter handles a wide mix of products quickly and precisely. Users can select the discharge speed depending on the product. The system maximizes the belt surface and reduces the risk of items getting stuck between trays, minimizing collisions and downtime.



> EuroSort cross tray sorter: This sorter system can handle non-conveyable, fragile, and lightweight items using a positive mechanical divert that can sort in both directions, using a simple divert mechanism that avoids expensive motors in the carriers. To support speedy fulfillment operations, the cross tray system can sort items at throughputs of up to 9,600 items/hour.

> Cubiscan 125: Designed to measure and weigh small parts, apparel, boxed and unboxed items, the system can improve carton size selection and shipment manifesting. To make dimensioning SKUs efficient, it features one-touch dimensioning for boxes and a gate-swinging feature for unique shapes. It uses both infrared and ultrasonic sensing technologies to measure and weigh items.

> Montech TB30 low-profile conveyor: The TB30 conveyor's modular design allows for quick assembly and reconfiguration. Multiple belt types are available, and either a single or dual-belt configuration can be used on the chassis. For transporting larger pallets or other rigid, fixed-dimension products, the TB30 comes in a tandem chassis configuration.



> VanRiet HC sorter: Designed to support high throughputs, the HC Sorter can sort small and thin products, such as mobile phones or polybags, as well as large packages weighing up to 110 pounds. The HC Sorter has a closed deck that ensures no dirt or pieces of cardboard get stuck inside the sorter. The deck also minimizes noise and promotes safe working conditions for warehouse staff.

INBRIEF

New Services and Solutions

>PRODUCTS

> **Crown Equipment** forklifts equipped with its InfoLink fleet and operator management system now come with a larger display module with increased functionality. The InfoLink 7-inch Touch Display Module is designed to simplify onboarding, maximize productivity, and reinforce safety. Operators can customize their screen and receive alerts.

> **Topper Industrial**'s four-wheel steering cart supports bulk fulfillment. The cart can remain attached to the materials handling vehicle with multiple carts in tow, eliminating the need for uncoupling during delivery and pick up in the warehouse. Topper Industrial designs and fabricates delivery carts to fit the application and support different material flows.

> Shippers now have more packaging options for lithium batteries and devices that contain them. **Labelmaster**, a provider of products and services for dangerous goods and hazardous materials transport, expanded its line of Obexion protective packaging, which mitigates the risk of lithium battery fires and is compliant with hazmat shipping regulations.

>SERVICES

> Online retailers can tap into an affordable multichannel fulfillment option with the integration between e-commerce inventory management platform **Ecomdash** and **Deliverr**, a third-party fulfillment company. The partnership lets retailers leverage Ecomdash to sell their products in more locations while using Deliverr to meet consumers' rapid shipping expectations.

> **DHL Global Forwarding**, the air and ocean freight arm of Deutsche Post DHL Group, enhanced services at its Chicago airfreight facility with smart monitoring and inventory technologies, including an RFID passive and active tracking system. The company introduced temperature management import and export solutions for temperature-sensitive shipments to help reduce demurrage costs.

> 3PL **RLS Logistics** expanded its Accelefrate Program, extending the service to shippers who carry their own inventory or warehouse at another facility. The move allows customers who do not maintain inventory at an RLS warehouse facility to take advantage of the company's managed transportation services.

> **Quiet Logistics**, an outsourced fulfillment provider for apparel and lifestyle brands, opened its first fulfillment center in the greater Los Angeles area, allowing it to offer next-day and two-day shipping to retailers. The 440,000-square-foot facility in La Palma, California, will employ approximately 500 full-time warehouse employees, working alongside collaborative, autonomous mobile robots.

>TECHNOLOGY

> To help organizations design and operate supply chains, **Oracle** launched a series of logistics management updates to the Oracle Supply Chain Management Cloud. The updates analyze real production data in the context of a customer's unique rules, policies, and planning algorithms to show the impact of change on logistics operations.

> Shippers can see the movement of their inventory, production status, and capacity across their supply chain operations with the *Ecosystem Solution* by **Nulogy**. The solution, part of its Agile Customization Platform, enables consumer brands to collaborate with supply chain partners to bring customized products to market with greater speed and agility.

> LTL shippers now have visibility into their shipments with **AAA Cooper Transportation**'s new LTL shipment visibility product, *ACTION TRAC*, which provides a shipment's GPS locations, from pickup through delivery.

The XT200 from **Janam Technologies LLC** is a rugged touch computer with a 5-inch display for supply chain applications, including inventory tracking and proof of delivery. With 2D imaging technology, the XT200 provides read range, accuracy, and motion tolerance, letting it scan even poorly printed barcodes.

> 3PL **BlueGrace Logistics** is helping shippers find the right truck for their loads with its Carrier File inside *BlueShip* TMS, a new proprietary data mining platform that filters through carrier records to find optimal transportation options for every shipment. Carrier File contains more than 500,000 carrier files and includes verified real-time data with qualification and compliance information.

> **GlobalTranz Enterprises** launched *GTZamp* (Automated Movement Planning), a digital freight matching solution with multi-movement planning and predictive analytics capabilities. It includes load affinity analysis, which identifies shipments that can be combined into a multi-movement route, and carrier match functionality, which matches loads with carriers based on factors such as volume covered, on-time performance, and seasonality.

>TRANSPORTATION

> **Virgin Atlantic Cargo** is launching daily flights between London Heathrow and Tel Aviv, starting in September 2019. To support this new service, the cargo airline awarded contracts to WTA Aviation and Swissport in Israel. Sales agent WTA will market the 22 tons of daily cargo capacity onboard Virgin Atlantic's Airbus A330-300 flights while Swissport will provide cargo handling services for the airline at its warehouse terminal at Ben Gurion International Airport.

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THE LAST MILE

Logistics Outside the Box

SCHOOLING THE PEAK SEASON

SOARING BACK-TO-SCHOOL ORDER VOLUMES HAVE SUPPLY CHAIN MANAGERS SHARPENING THEIR SKILLS AND FINE-TUNING FULFILLMENT OPERATIONS.

BOOK SMART

For online education company K12 Inc., the back-to-school season really adds up. From August to Labor Day—K12's peak distribution season—the number of course material kits sent to students spikes from about

400 to 13,000 per day.

With the help of UPS, K12 passes the test. Each year K12 sends:

- **1.2 million books**
- **500,000 customized kits**
- **114,000 laptops**
- **77,000 printers**

In 2018, UPS processed 6,000 different types of items for K12, totaling nearly 10 million individual pieces. At the end of the school year, UPS helps K12 sort about 4 million returned items so they can be recycled, refurbished, and reused for the next school year.

RECORD SPENDING

Families with children in elementary through high school plan to spend an average of

$696.70

+ $12 from 2018
+ beating record set in 2017

•

Families of college students plan to spend an average of

$976.78

+ $34 from 2018
+ $7 from record-setting 2017

•

$80.7B

Projected 2019 spending on back-to-school and back-to-college shopping

down from last year's $82.8 billion due to the lower number of households with children in elementary through high school in the U.S.

•

SOURCE: NATIONAL RETAIL FEDERATION

ACING E-COMMERCE

With a 24-hour fulfillment window and partnerships with more than 10,000 schools, e-commerce distributor Calcuso needs to do its homework. The largest e-commerce distributor of educational and office supplies in Germany handles surging back-to-school order volumes across Europe, with the Descartes *pixi* warehouse management system.

The solution gets going as soon as Calcuso consumers place an order online, communicating with the company's existing e-commerce platform, customer relationship management platform, carrier platforms, and external sales channels to help Calcuso master its entire supply chain with minimal manual intervention.

Calcuso is now studying the possibility of expanding operations in North America.

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Few franchises in history succeed in winning three consecutive championships, but of those who do, history remembers them as one of the greatest of all time. Echo is proud to join this elite category of three-peat champions in being voted as this year's 2019 *Inbound Logistics* #1 3PL.

Thank you for voting Echo your #1 3PL in the 2019 *Inbound Logistics* Top 10 3PL Excellence Awards

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