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info snacks

BITE SIZED SUPPLY CHAIN/LOGISTICS INFORMATION

1,500



miles is the distance the average piece of produce travels from its source. That's why implementing Internet of Things solutions can help the cold chain gain efficiencies and deliver considerable business value.

(See IT Matters, p. 40)

Speed Kills

"Rushed warehouse management system implementations are almost always unmitigated disasters," says Marc Wulfraat, president and founder of MWPVL International. Organizations need to take time to feel out the new system, and identify and solve issues that arise. Patience is key.

(See Top 6 Factors for Selecting and Implementing a WMS, p. 106)

There Must Be Some Mistake

"If you have 10 opportunities to make a decision, please make all 10." That's what Doug Braun, CEO of BluJay Solutions, tells his employees. "Even if 7 of them are wrong, if we learn from those decisions, we're a better company."

(See LeaderShip, p. 16)

1 Bad Encounter

That's all it takes for more than 80 percent of customers to look to other brands for a more satisfactory experience, according to new Linc and Brand Garage research. As a result, retailers are placing more emphasis on artificial intelligence to improve customer service and engagement.

(See Trends, Engaging Customers Through AI, p. 28)

Future's So Bright, I Gotta Wear Shades

0 percent of respondents to *IL's* annual Trucking Perspectives market research survey indicate the economy will take a turn for the worse in the coming months. 71 percent predict the economy will trend upward; 29 percent say it will hover somewhere between a rise and fall.

(See 2017 Trucking Perspectives, p. 55)



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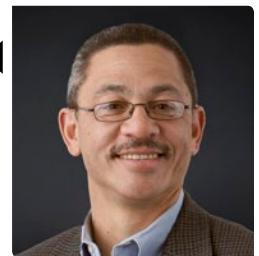
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Sporting goods manufacturer Acushnet took a swing at a demand-driven replenishment process for finished goods and met peak season demand to a tee.



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bit.ly/ILMagPodcastPage

WHITEPAPER DIGEST

Looking for insight into supply chain best practices and trends? Want to review the latest logistics sector research? Our whitepaper database is packed with up-to-date information on all aspects of supply chain operations.

bit.ly/IL_WPDigest

ONLINE COMMENTARY



Walmart's New Policy Creates Updated Baselines for Suppliers

bit.ly/WalmartOTIF

Walmart surprised shipping companies with its "On-Time In-Full" policy that mandates if shipments arrive early, late, or on-time but not packaged properly, the shipper will be charged. Here's how to comply profitably.



Choosing a Freight Bill Auditing And Payment Vendor

bit.ly/FreightAuditingVendor

These seven selection criteria present a straightforward way to go beyond a company's sales brochure and determine if a freight bill auditing and payment service can do the best job for your company.



Grocery Retailers Need to Embrace Digitization Now

bit.ly/GroceryRetailers

Grocery retailers can't compete alone against a vertically integrated and fully digitized Amazon. Find out how to rethink your business model to succeed against the e-tailer's innovations.

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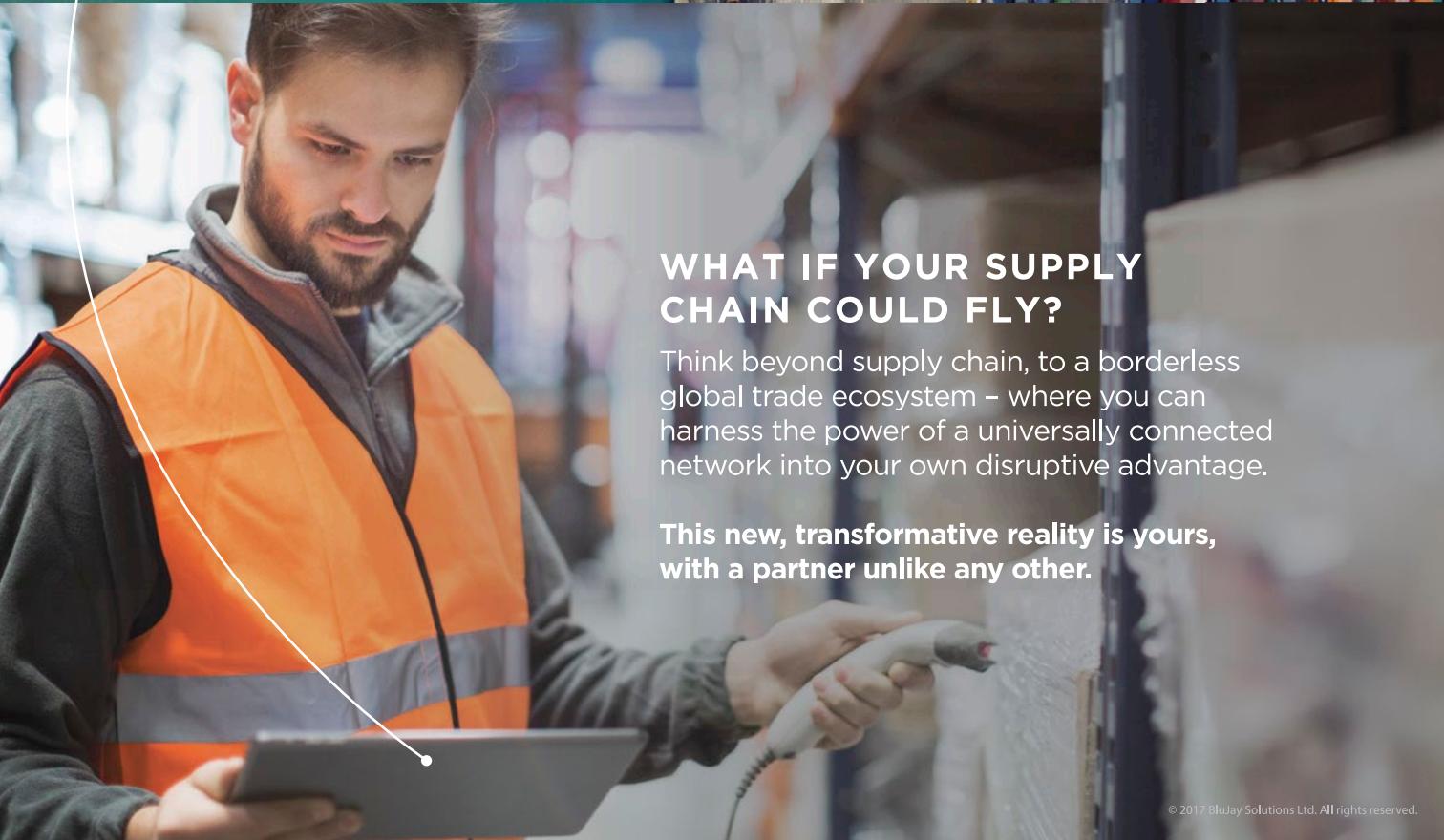
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CHECKING IN



by Keith Biondo | **Publisher**



The Economy Will Grow, But is That Bad News?

For this annual trucking issue, we surveyed both shippers and carriers on important issues impacting the trucking industry. Most importantly, we solicited their views on the state of the economy as we head into 2018. The good news: not one shipper or carrier responding to our survey thinks that the economy will head south in 2018. Last year, our survey reported an unclear economic outlook, with only 24 percent of carriers envisioning a growth economy in 2017.

But some respondents find clouds over a sunny horizon. For anyone buying trucking services, survey results reveal some cautionary observations. Carriers and shippers alike cite HoS efficiency reductions as an issue. Depending on which carrier you ask, ELD implementation reduced logged miles by 5 to 10 percent. An estimated 150,000 small trucking firms will be subject to ELD mandates. Will that result in at least a 5-percent reduction in capacity? Yes. And judging by the driver message boards, many OOs will just park their trucks and walk, further reducing capacity.

Understandably, capacity—and the resulting cost increase—top the list of shipper concerns (see *Trucking Perspectives*, page 55). Forty percent report experiencing capacity shortages, and 79 percent cite reducing overall transport cost as their main concern. Carriers agree by reporting it another way—92 percent say driver-related costs are their number-one concern.

Driver recruitment, retention, and productivity are a big part of that. Considering the positive economic outlook, burgeoning infrastructure investment, building boom in certain areas, and reconstruction efforts due to horrific Harvey and Irma damage, the siren song of good-paying construction jobs for the foreseeable future will likely lure drivers away. Will they come back? The history is not encouraging.

Better technology creates capacity, but enough to matter? I'm not sure. Many observers say that self-driving trucks will ease capacity issues. Given the glacial pace of activity in DC, I'm also not sure self-drivers will be OK'd soon. And will the threat of self-drivers, even if years away, be a career concern and make recruitment of young drivers more difficult today? I think so.

Shippers, brokers, 3PLs, and carriers relying on smaller carriers and OOs will face an operational sea change in 2018. The reality is OOs will get more per mile, driver pay and recruitment and retention costs will continue to rise, technology costs will be passed on, and trucking efficiency will be reduced while all this is sorted out.

So, the economy will grow. Is that bad news? No, it is good news. Imagine if all this was happening and the economy was on a downward spiral. ■

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Good Question...

READERS WEIGH IN

What would you put in a logistics time capsule for people to open 50 years from now?

I'd put in a bunch of data such as the average weight of a truckload, the price of fuel, transit times, etc. so that people in 50 years could compare it to what they are doing and wonder how we survived.

Kyle Merop
U.S. Air Force Veteran
Logistician

I still have a few air waybills in my bottom desk drawer, which would be an iconic logistics item in 50 years. With the advancement of technology, would anyone remember using paper documents in 50 years' time? Surely by then it will be thumbprints or retinal scans.

Andrew Kennedy
Logistics Manager
Kitagawa Europe Ltd.

I would place a small local server, personal computer, and display monitor. I can only imagine what else we will be using in 50 years. I would also place a traditional RF scanner used in the warehouse since it will be replaced with wearables. Lastly, I would put a copy of a forklift certification, as forklifts are being replaced with autonomous vehicles and robots.

Bill Goodgion
President
Ascent Global Logistics



A steering wheel, a manual transmission, and a jar of diesel fuel. Based on the rapid evolution of vehicle technology and autonomy, future generations may look back and be entertained at how "archaic" these items are.

Tom Poduch
Director of Logistics Design
Transervice Logistics

A handwritten bill of lading and a packing list.

Myra Foster
Shipping Clerk
Hickory Springs Manufacturing

Documentation for all the macros and SAP scripts that everyone still uses but forgot why they run and how they work.

Wojciech Wegrzyn
Category Supply Senior Planner
Procter & Gamble

A handwritten letter in an envelope with a postage stamp affixed.

Daniel Kovalik
Supply Planner
Kollaras & Co.

My workload and schedule. In 50 years, you could probably do what takes me 10 hours a day now in about two to three hours thanks to advanced technology.

Jake Olson
Shipping Manager
Timberwolf Products

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DIALOG

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“The negative narrative that has been out there about the death of retail is patently false. The so-called ‘retail apocalypse’ makes for a great headline, but it’s simply not true. 4,000+ more stores are opening than closing among big chains, and when smaller retailers are included, the net gain exceeds 10,000 new stores.”

Greg Buzek
President, IHL Group

a research firm that recently released a report reviewing more than 1,800 retail chains. It found that for every chain with a net closing of stores, 2.7 companies showed a net increase in store locations for 2017.

Supply Chain Commentary: 4 Ways to Cut Transportation Spending

bit.ly/transportationspending

Roland Broders

The article makes a valid first point: Make sure your entire organization is purchasing from preferred vendors. In some organizations, old relationships and dependencies are hard to break. What good does a national vendor agreement do if parts of the organization maintain “island solution” purchasing processes?



Web Comments

TMS Solutions: The Big Picture

bit.ly/TMSthebigpicture

JP Wiggins, 3GTMS

The RFP process is only one input. Simply knowing a TMS has a feature isn’t helpful; you need to understand how it addresses your needs. Research the how; ask questions; find unhappy customers. The selection process is a research effort.

Sound It Out

I stumbled across your podcast a few months ago and am now an avid follower. Every logistics professional should be aware of *Inbound Logistics*.

Anthony Bacarella
Principal Owner
BTX Global Logistics

Reader Email

bit.ly/SCreconstruction

Keith Biondo’s June 2017 column “Reconstructing Supply Chains” could have been describing the changing face of downtown Los Angeles. Supply chain reconstruction in L.A. goes back more than 15 years when the downtown area started converting some of the buildings to lofts in preparation for an onslaught of residents.

Not everyone jumped in at first. Then just east of downtown, the art district was converted and occupancy swelled with new businesses launching. And now we arrive at a time when the Amazons, Ubers, and Lyfts of the world are causing change throughout.

They are serving a need that seems to have popped up as it relates to the way the world moves products and people. Thanks for the great insight and a great magazine.

Bill McClennen
Former Greyhound Account Executive



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10 TIPS

STEP-BY-STEP SOLUTIONS



Investing in the Right Transportation Management System

The demand for transportation management systems (TMS) is on the rise. A basic solution manages truck and carrier dispatch, fleet maintenance, driver records, billing and driver pay, and DOT compliance. Additionally, a TMS streamlines operations by optimizing carrier routes, managing customer activity, and reporting analytics. Joe Couto, chief operating officer at HighJump, outlines factors to consider before selecting a TMS.

1 Understand current and future needs. Don't pay for more features than you currently need to run your business. Look for a TMS that offers a building block or modular approach, enabling you to scale and add functionalities when it makes sense.

2 Get the best of both worlds: carrier and broker. You may work with a truckload carrier, a brokerage, or both. These may be separate or blended, and the TMS should be flexible to adapt. For example, a carrier is paid to haul a load. A broker earns income from commissions on each load. Each line's tight margins mean a TMS should maximize efficiencies of both.

3 Know the integrations available. From EDI to trailer tracking and beyond, look for a TMS that integrates with complementary tools and services that meet your unique business needs.

4 Secure regulatory compliance. Avoid costly errors in areas such as maintenance, driver logs, and driver records with integrated tools to manage DOT compliance.

5 Consider the electronic logging device (ELD) mandate. The Federal Motor Carrier Safety Administration requires the trucking industry to implement ELDs for accurate hours-of-service tracking by December 2017. Confirm your TMS offers the integration, visibility, and reporting capabilities that make this possible.

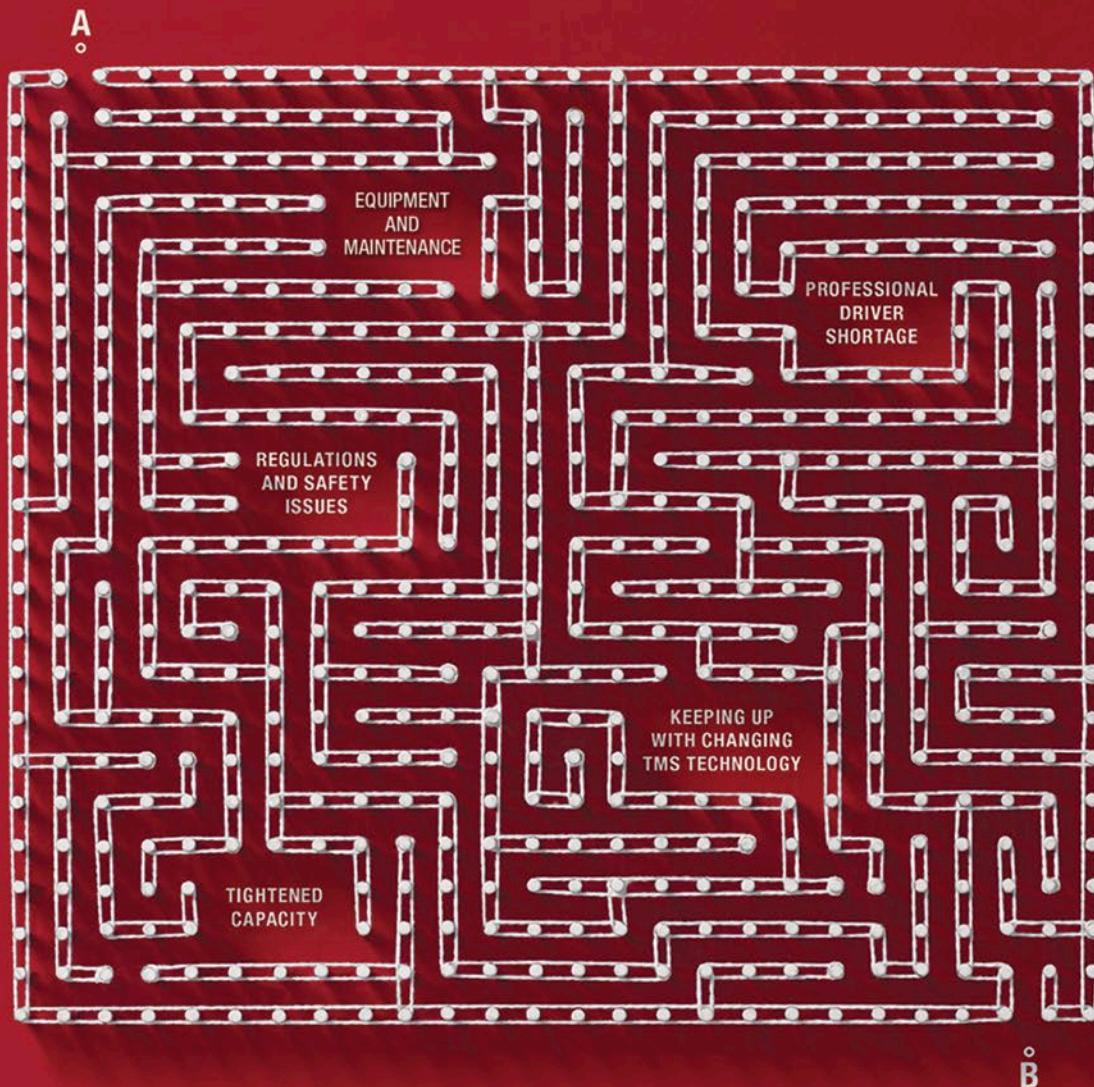
6 Pick a third-party accounting package. Look for a TMS that offers gold-level integration with your existing system, such as QuickBooks or Sage. This combination seamlessly automates billings.

7 Seek a proven system. Ask vendors for case studies or references from companies similar to your own. TMS vendors should have real-world examples of how they meet specific needs, such as running a certain type of trailer or hauling a commodity that requires special parameters.

8 Remember your customers. Choose a TMS that helps with timely and accurate customer communication. Look for options with a secure, online portal where customers can view load status in real time.

9 Spend less time worrying about infrastructure. Businesses are built on reputation just as much as on their services. The right TMS earns trust by proactively addressing customer-facing issues such as late loads and dock time schedules.

10 Be business intelligent. A good TMS provides business intelligence data such as dead-head percentage, revenue per loaded mile, and on-time percentage to analyze how to improve processes. ■



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LEADERSHIP

*Conversations With
The Captains of Industry*

By Merrill Douglas



Doug Braun
CEO
BluJay Solutions

Leading with Compassion and Conviction

IT HAS BEEN A BUSY YEAR AT BLUJAY Solutions. In 2016, the supply chain software company, known then as Kewill, acquired another technology player, LeanLogistics. In March 2017, the combined companies rebranded as BluJay Solutions and debuted an innovative new software platform model, the BluJay Global Trade Network. Soon after, BluJay acquired Blackbay, a provider of mobility-enabled solutions for transportation and logistics.

At the helm of all this change is Doug Braun, who joined Kewill as CEO in 2015. At BluJay, Braun now leads the drive to build out the Global Trade Network, drawing in new customers to create greater value for everyone. “As that footprint continues to grow and strengthen, driven by our customers, we become more relevant for more people across the globe,” he says.

Braun talked with us about some of the influences that shaped his career, and about his leadership philosophy.

IL: How did you get started on your career path?

I started back in the punch card days, the days of COBOL programming. I always enjoyed math and the logic behind it. I found a lot of solace in working with numbers. That led me to computers before they were a mainstay. I earned my first degree in

programming at a technical school because there were no college degrees in the subject back then. I started programming right after graduation, and I never looked back.

IL: What are some of the influences that helped lead you to your current position?

There are too many to mention, but two stand out: My dad, and a mentor I had when I worked at RedPrairie [now JDA] who always said, “Surround yourself with people who are smarter than you.”

Through my whole career, I’ve tried to attract the best and brightest. Not only do those people teach me how to be a better leader, but I learn about the way they do business, because they’re so good at it.

IL: What kinds of challenges keep your customers awake at night?

We’re a global company, with a strong presence throughout the United States, Europe, and Asia. Political uncertainty across the globe causes worries about crossing borders and moving product. Will that become much harder?

Also, customer preferences are changing. End customers demand things “today,” in real time. The consumer drives how the supply chain works. Individual package shipping is becoming more relevant, while large containerized loads potentially are becoming less relevant. We have to pay attention to shifting consumer needs and proactively anticipate the impact to the supply chain.

IL: Which technologies will make the biggest difference in the supply chain in the next few years?

Mobility seems to be the key. Everything is moving to a platform where you've got to be able to perform any function from anywhere. The supply chain is becoming so real time that having relevant information at your fingertips is critical.

Another change, within BluJay's own technology, is an initiative to develop what we call microservices. Instead of having to buy a transportation management system or a warehouse management system, customers can go to the 'buffet' and pick only the pieces of those systems they want.

For instance, a customer in France wanted to let their guard shack personnel do denied party screenings, so they could check drivers' credentials as they drove in to make sure they weren't on a denied parties list. The customer wanted this as an anti-terrorism measure, implemented only at the gate. We set that up for them in just a couple of days.

IL: Tell us about an unusual career challenge you've dealt with.

While I was working at RedPrairie, a small earthquake in Nevada broke a bunch of racking and damaged product in a warehouse one of our customers owned. That customer had product on the road, bound for that facility, which couldn't receive it. Using our systems, we rerouted the product to facilities owned by other customers in the region. Some of those customers were competitors of the company with the problem, but most were willing to help.

IL: How do you foster the company culture at BluJay?

My goal is to visit every one of our offices around the world every quarter, and I'm about 95 percent successful. We give each office the ability to put on events, and we make sure that members of our executive team attend them.

We try to embrace local traditions at those events. For example, our office in India hosts a family day, attended by approximately 1,200 people—employees, spouses, children, and grandparents.

We also recognize employees across the globe. While lots of companies send their top sales performers to the Caribbean, or someplace else nice, to celebrate their successes, we feel that everybody in the company contributes to sales. That's why, for our trips, including this year's, we recognize people from human resources, accounting, professional services, and other support departments. Every department is represented because we are a global team delivering global results.

IL: What has made you a successful executive?

I wake up every day thinking about the 1,200 employee families I'm responsible for, and about our 7,500 customers. I take that quite seriously. I'm not impressed by job titles, and we don't have a big hierarchy at BluJay.

When I first came in, we eliminated some layers of the company to make it flatter. Our incentive programs work the same for the cafeteria workers as they do for me. My executives and I spend every day thinking about how we can create value for our employees, for our customers, and for their customers. I think that's what makes me a good leader. I try to be compassionate and caring, and make sure we do the right thing.

IL: Can you give us an example of doing the right thing?

The U.S. government doesn't mandate as much family leave for employees as some other countries do. We felt we should be a little more caring and giving in the United States. Our human resources leadership created a program that provides four weeks of paid parental leave beyond the legal requirement. That's just one example of how we're trying to create an environment where our employees are excited about coming to work every day. ■

Decide, and Keep Moving

There's no shilly-shallying at BluJay Solutions. "We tell employees, 'If you have 10 opportunities to make a decision, please make all 10,'" Braun says. "Even if seven of them are wrong, if we learn from those decisions, we're a better company."

Mistakes are just part of the process. "I make them every day, I hope," Braun explains. "I think I learn the most through failure."

Of course, like any leader, Braun wants all his decisions to turn out well. "I make sure I'm patient and listen to people around me," he says. "Then my job is to distill down competing ideas and concepts, and try to make the best decision for the company. Sometimes it's right and sometimes it's wrong." But in a fast-moving world, it's crucial to make a choice and then move ahead.

When a team member's decision doesn't turn out well, Braun makes a point of extracting a lesson from the experience—but not right away. "Sometimes there's emotion involved, and people think they're going to get their hand slapped," he says. It's best to let some time pass. "Then let's sit down without any agenda other than learning what happened and how we might do it better."



Yone Dewberry is chief supply chain officer with Land O'Lakes, Inc., a member-owned cooperative with operations ranging from agricultural production to consumer foods. Based in Arden Hills, Minnesota, Land O'Lakes had 2016 sales of \$13 billion.

RESPONSIBILITIES

Supply chain strategy, operations, and talent management.

EXPERIENCE

Executive positions in supply chain with Land O'Lakes; managing director, consulting, BDP International; senior manager, KPMG; positions in supply chain, Kraft Food.

EDUCATION

B.S.E., University of Pennsylvania, 1981; MBA, Lehigh University, 1983.

Yone Dewberry: Engineering the Supply Chain

IN ENGINEERING SCHOOL, I DREAMT ABOUT ONE DAY working on things like solid rocket propellant fuel. That's the kind of stuff engineers would do, right?

Then, in my second job out of college, I worked in a plant as an assistant controller. I realized logistics—it wasn't called supply chain then—was significantly more complex than the engineering problems I'd seen.

Engineering problems are complex; I don't want to minimize that. But, take that complexity and add the human factor—and in Land O'Lakes' case, the weather—and that's what supply chain is about. Unlike a mechanical tool or chemical reaction that always acts the

same way, there are many things you can't predict about the supply chain.

Most supply chains evolve from being cost-focused to more customer-focused, so product is available where customers want it, when they want it, and looking the way it's supposed to look. To achieve that, we have to help everyone in the organization understand that while costs are important, it's about the customer experience. Land O'Lakes' ability to grow will be a function of that experience.

A good example is small orders,

The Big Questions

What new language would you like to learn?

I would love to learn Japanese. My mother is Japanese, so half of my family is Japanese, yet I don't speak it.

If you could invite anyone to dinner, who would it be?

Three guests: First, Isaac Newton. He was a great scientist and mathematician, and one of the founders of calculus. Next, Martin Luther King Jr. He was a gentleman and able to motivate the soul of the country. I'd love to be able to motivate what I call the "soul of an organization." Third, Jesus Christ. I'm a Christian so I'd love to sit and talk with him.

If you could represent the United States in the Olympics, what sport would you choose?

I ran track in high school and college and competed with Carl Lewis. Anybody who runs track wants to get to the Olympics.

What do you like to do when you're not at work?

I love to tinker. I take stuff apart even when it's not broken to figure out how to make it better. I have a garage filled with equipment for me to disassemble, such as snowmobiles and jet skis. I could spend hours in my garage doing just that.

which are costly. Today, the price to our customers doesn't reflect how much effort these small orders take. So, we're going to the business and explaining the trade-off: We can continue filling small orders so customers can experience what they want to experience, however, we want to look at how we charge for that.

Achieving the focus on service over cost is less about changing supply chain processes and technology, and more about changing the way people view things. Since the beginning of time, supply chain managers have been taught cost is the most important thing. Now, service is just as important.

The other big change is thinking about how quickly we do things. One example: Land O'Lakes distributes agronomy products through about 100 service centers across the United States. Today, suppliers ship products to our service centers. If a service center is low on product, it will get it from another service center, so some products are double- and triple-handled.

In one region, we're testing a hub-and-spoke concept. We ship products from suppliers to a major regional distribution center, and from there to the service centers. That reduces the amount of product we ship from location to location, and our service levels haven't dropped.

We try to take risks we know won't always pan out. For instance, we're working with a leading autonomous truck company, and we're looking at drone deliveries.

Getting it right requires people who understand the big picture, who will make the best decisions possible at the time. They won't always be right; when they look back, they might say "I would have made a different decision." But they were right at the time, given the information they had.

I'm a big proponent of developing talent. People who don't know me often guess I'm a teacher or a preacher. They don't think I'm a supply chain professional; they assume I teach supply chain. ■

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NOTED

THE SUPPLY CHAIN IN BRIEF

GOOD WORKS



Supply chain solutions provider **NFI** is partnering with Wreaths Across America (WAA), a non-profit that places veterans' wreaths on every marker at Arlington National Cemetery and at more than 1,300 military cemeteries nationwide each December. Through its brokerage service, NFI will oversee the transportation of more than 1.6 million wreaths to be laid on the headstones of U.S. veterans. NFI manages carrier onboarding, load confirmations, distributing final bills of lading, tracking deliveries, and making deliveries to the ceremony locations at no cost to WAA.

Ruan provided transportation for Meals from the Heartland's (MFTH) Annual Hunger Fight, Aug. 31 to Sept. 2, 2017, at Hy-Vee Hall in Des Moines, Iowa. Two of Ruan's Iowa operations, one in Des Moines and one in Cedar Falls, provided trucks, dry van trailers, and professional drivers to deliver the loads of goods necessary for the 10,000 MFTH volunteers to package more than 5 million meals at the Hunger Fight. In total, Ruan's trucks and professional drivers traveled about 600 miles without any expense to MFTH.

m&a

RoadOne IntermodaLogistics, an intermodal, distribution, and logistics service company, acquired **United Global Logistics** (UGL) to strengthen its Midwest service offerings and overall North American network. UGL will run as a separate, independent division within RoadOne IntermodaLogistics. RoadOne will integrate UGL's Boomerang division, based in Dayton, Ohio, into its portfolio of companies. Boomerang is an operation serving the regional markets of Ohio and Kentucky and has a full-service container terminal and CFS station on site.

Third-party logistics company **C.H. Robinson** acquired **Milgram & Company**, a provider of freight forwarding, customs brokerage, and surface transportation in Canada. The move is expected to strengthen C.H. Robinson's ability to meet shippers' global supply chain goals. C.H. Robinson will integrate Milgram, which provides surface transportation and warehousing services to 3,500 customers, into its Global Forwarding division and single global technology platform, *Navisphere*.

SHOVEL READY



Temperature-controlled warehousing and logistics provider **Americold** broke ground on a 15.5-million-cubic-foot automated facility at its Rochelle, Illinois, campus. The project adds 57,600 pallet positions and boosts capacity for Americold customers in the Chicago market. The facility, expected to open in December 2018, is comprised of 140-foot-high rooms, housing an automated storage and retrieval system attached to a conventional warehouse format.

SHOVEL READY

Ridge, the industrial development arm of Transwestern Development, broke ground on a 63-acre site at Interstate 26 and Jedburg Road in Jedburg, South Carolina, approximately 30 miles northwest of Charleston. The site will house a total of 686,300 square feet of speculative industrial space in Charleston Logistics Center. The two industrial buildings, slated for delivery in first quarter 2018, are designed for multi-tenant use. Each rear-load building will offer 343,150 square feet, a 32-foot clear height, 54-by-48-foot column spacing, a 60-foot staging bay, and 64 dock doors.

SEALED DEALS

► Transport and logistics solutions provider **XPO Logistics** was selected as the official transport partner of the 104th

Tour de France, which started at



Dusseldorf, Germany, and finished on the Champs-Elysees in Paris in July 2017. XPO was responsible for transporting materials required for all stages of the race, including barriers, podiums, and gates, as well as furniture for the villages, sound and video equipment, and merchandise for sponsors. This year, the XPO team assigned 46 trucks and 55 drivers to travel with the event.

Automotive group **Renault-Nissan Alliance**, a partnership of Renault and Nissan, chose **Amber Road**, a provider of global trade management solutions, to help it optimize its European preferential trade processes. The alliance will use Amber Road's Trade Automation solution to ensure compliance with free trade agreements and maximize its utilization of preferential duties. The alliance operates 122 manufacturing plants around the world. The solution will support import/export processes from European, Turkish, and Moroccan sites, taking into account more than 40 free trade agreements.

recognition

▼ **Delta Cargo** was awarded **Cargo Airline of the Year** at the Atlanta Cargo Awards for the second consecutive year. The annual award is based on the most tonnage handled at Hartsfield-Jackson International Airport. Delta handled a total of 134,000 tons at Atlanta, making it the airport's top carrier for 2016. October 2016 was the month with the highest tonnage at 13,000 tons. (Pictured below: Delta Cargo representatives accept the award.)



Poultry producer Wayne Farms awarded an **AGRO Merchants Charlotte** facility its first **Warehouse of the Year** award. AGRO Merchants Charlotte was lauded for its ability to store, manage, and track Wayne Farms products, and its flexibility in scaling up for contingencies and offering innovative solutions. AGRO Merchants Charlotte oversees the product flow from receiving and warehousing, through the logistical hand-off to C.H. Robinson, Wayne Farms' transportation partner.

GOOD WORKS

Third-party logistics provider **PLS Logistics Services** donated 100 percent of profits from its Texas freight moves during the first week of September 2017 to the American Red Cross Hurricane Harvey relief efforts. PLS teamed up with the American Red Cross and GoFundMe to raise money for affected communities. PLS employees and customers can donate to the American Red Cross through the company's Hurricane Harvey Relief GoFundMe page.

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TRENDS

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The Calm After the Storms

Among the lasting effects of catastrophic natural disasters such as Hurricanes Harvey and Irma is a positive one: Knowledge. It's an understanding of what companies need to do in the wake of a disaster, which efforts worked and which failed, and how to be better prepared.

How Walmart, FedEx, and other big companies have adapted their preparedness through the decades fascinates Sandor Boyson, research professor of logistics, business and public policy at the University of Maryland's Robert H. Smith School of Business. Each disaster brings its own challenges, and with each one new lessons are learned, says Boyson, who is also the co-director of the Supply Chain Management Center.

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As he monitored news coverage surrounding Hurricane Harvey, Boyson noted the relief efforts that appeared to have been arranged in advance. Refugee centers dotted the city, supplied with bottled water, diapers, cots, and other essentials. Some 3,000 boats were out on Houston's streets, moving people to safety. Offshore oil and

gas platforms were preventively closed.

"A portfolio of planning, pre-positioning, and crisis management activities go into adaptive responses to mega-disasters," Boyson says. "That doesn't mean you can control them, but you can buffer or mitigate against the worst effects."

In the aftermath of Hurricane

Katrina— the Category 5 hurricane that struck the Gulf Coast in 2005, leaving much of New Orleans underwater— Walmart was on the ground with bottled water and convoys of supplies for disaster victims even before the Federal Emergency Management Agency.

A Retailer...And a Lifeline

"How did Walmart overnight become a lifeline for an imperiled city?" Boyson asks. "That's one of the more compelling outcomes of corporate preparation and response. Their networks are on the ground. They are helping people."

The company wasn't alone in its preparedness. Boyson calls Walmart, Procter & Gamble, and FedEx the vanguard in dealing with mega-disasters.

Ahead of Hurricane Katrina, Walmart analyzed prior disasters to determine the likely consumption and demand for key goods—water, diapers, batteries, flashlights, blankets and, interestingly, strawberry Pop-Tarts.

"The company was able to define the basket of goods that they knew would be needed after a disaster, and pre-positioned them," Boyson says.

FedEx, studying past disasters, came to understand ahead of Katrina that it would likely be forced to shut down one air terminal and move operations to a terminal outside the disaster zone. So the company put "large kits" of essential operations materials in alternative air terminals, Boyson says.

Both Walmart and FedEx had meteorologists on staff who gave officials early warning that Katrina was turning into "a monster," says Boyson. "That early warning prompted these companies to activate their emergency response plan. Pre-planning and pre-positioning, and knowing earlier about the event, are all very important."

Procter & Gamble did extensive site analysis prior to Hurricane Katrina, looking to build manufacturing plants in New Orleans that would be elevated from the flood regions. It proved to be an essential preparatory move. Roughly half of the

Best Practices for the Gift of Successful Holiday Sales

For some retailers, holiday sales can represent up to 27.4 percent of annual sales, and in 2017, overall retail holiday sales are expected to increase from 2016. Debra Glassburn, Partner, Columbus Consulting, offers these tips to help retailers make the most of the 2017 holiday season and leverage every sales opportunity.

Understand historical trends. Having a clear understanding of your historical trends for seasonal goods—sell through by week, week-to-week sales builds, etc.—is critical for forecasting seasonal categories this upcoming season.

Attribute and identify products. Each product should be assigned an attribute that identifies either the season—fall, holiday, winter—or the out-of-stock date (typically Jan. 1 for holiday motif items, Feb. 1 for winter) based on the retailer's strategies.

Recognize collective buckets. By assigning seasonal attributes or out-of-stock dates, retailers can understand collective "buckets" and forecast by historical trends with the goal to exit the merchandise based on the seasonal code.

For example, seasonal buckets that are underperforming compared to the sell-through rates achieved historically typically indicate inventory is backing up and markdowns will be increasing.

The lesson here is that, in most cases, taking pricing action earlier rather than later to increase sell throughs will not only be more profitable in the long run but also will reduce the end of season liability. Taking action when the traffic is higher—in December vs. January—is almost always the better decision.

Having planning and merchandising strategies in place as the holiday season quickly approaches allows retailers to perfect their holiday strategies and maximizes efforts.



coffee that the company produces in the United States is made in New Orleans.

“P&G was the first manufacturing company back at work after the floods, because it had located its plant in an area that had slight elevation—just enough to help it get back quicker,” Boyson says.

The company built prefab housing that workers could move into in the event of a disaster, a detailed communications plan that involved local police, fire and transportation officials, and established orderly shutdown procedures for the factory, enabling workers to start the plant back up more quickly and with less complication. That kind of rapid re-boot is what the offshore oil and gas operators affected by Harvey will be hoping for, Boyson says.

Empowering the Front Lines

For Walmart, a key lesson in responding to disasters has been the value of empowering local store officials to make critical decisions without input from corporate executives, says Boyson, who spent time at Walmart’s corporate headquarters in Bentonville, Arkansas, with company officials discussing supply chain risk management.

“During Katrina, Walmart told local store managers in New Orleans: Do what you need to do. You are the front lines. You know what actions are required in real time,” Boyson says. “That executive support is powerful.”

From a government standpoint, whether it’s city, state or region, similar principles apply. In Houston, authorities called on local residents to get actively involved with boat rescue, using their own watercraft, where possible. “Whatever was pre-positioned in terms of boats wasn’t enough,” Boyson says.

Much of Houston and its roadways were washed out or underwater, with Harvey dropping more than 40 inches of rain on the city in just four days. Much of the city was without basic utilities and it was unclear when residents might be able to return home.

“After a while, it doesn’t matter how much you pre-position,” Boyson says. “There is only so much you can do. When infrastructure washes away, how do you get to people? And when everyone is so spread out in a city as large as Houston, how do you get people to your shelters?”

That speaks to one of the critical problems Harvey posed: How to evacuate a metropolitan area of more than 5 million people.



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FedEx and UPS Set Aside Rivalry To Lobby White House on Infrastructure

An amusing meme that occasionally makes the rounds on social media shows a FedEx truck parked nose-to-nose with a UPS truck, with the caption “it’s about to go down.” For the moment, however, the two major rivals have set aside their differences in the interest of the greater good.

David Abney, CEO of UPS and Frederick W. Smith, CEO of FedEx, co-authored an op-ed in the Wall Street Journal, imploring the White House to take concrete action in several areas, lest the United States let opportunities for economic growth pass by. While acknowledging that they are “fierce competitors,” the letter states that U.S. companies must “stand shoulder to shoulder on the need to make government policies more equitable, growth-oriented, and simple.”

Economic rivals such as China and India continue to make massive

investments in their infrastructure while U.S. infrastructure crumbles, according to the letter. While the CEOs express a willingness to commit to private investment, they also state the need for a multi-faceted funding system that includes user fees, private investment, and government investment.

The two CEOs also worry that the private investments they make will be allotted to other projects beyond the scope of the infrastructure FedEx and UPS use every day. In a later interview with CNBC, Abney stated that daily 5-minute delays that drivers incur due to infrastructure costs UPS about \$105 million annually.

The letter also calls for policies that guarantee American access to the global market, and strong free trade agreements that create a fair playing field for U.S. businesses. The CEOs close with this statement: “If fierce

competitors can agree on these fundamental policy priorities, can’t we all?”

President Trump didn’t respond directly to the letter, but did hold a press conference announcing an executive order that rolls back Obama-era environmental flood protection requirements to speed up permit approvals for infrastructure projects. The plan also assigns one federal agency per project as a single point of contact to cut back on red tape and delays.

Trump claims the order will reduce the time required for the environmental permitting process for highway projects from seven years to about two. “My administration is working every day to deliver the world-class infrastructure that our people deserve and, frankly, that our country deserves,” he said.

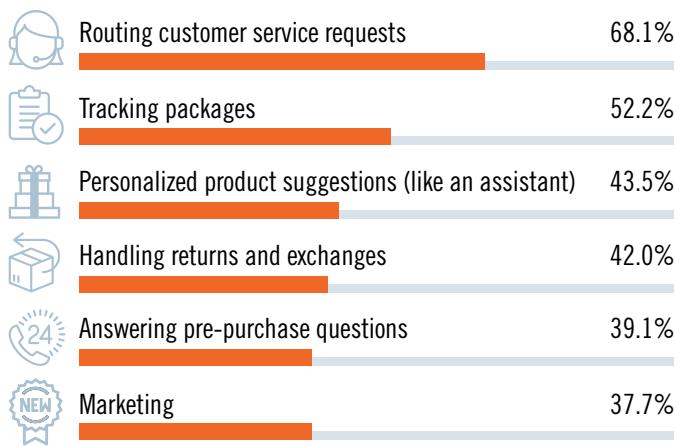
– Jason McDowell

Engaging Customers Through AI

Retailers will rely heavily on technologies such as live chat, Facebook Messenger, and Amazon Alexa for customer service, according to a new research study from Linc and Brand Garage. *How AI Technology Will Transform Customer Engagement* highlights the overwhelming emphasis retail executives are placing on automated platforms to improve customer communication, with 87 percent of the 100 retailers surveyed planning an increase in the use of AI to service their customers moving forward.

In 2016, 82 percent of customers stopped doing business with a company after a bad experience, according to the *Internet Trends 2017* report by Mary Meeker of Kleiner Perkins. At the same time, customer service costs are rising dramatically.

For what types of customer engagements do you plan to use AI-powered conversational interfaces like messaging platforms or voice assistants?



Retailers’ use of AI will extend beyond routine customer service requests. Rapidly rising customer expectations mean that retailers must quickly answer a range of questions across various channels. To answer these questions, 68 percent of retailers plan to use AI to route customer service requests, 52 percent will use AI to help track packages, 43.5 percent will use AI for product suggestions, and 42 percent want AI to handle returns and exchanges in the next two years. The role of AI will not be limited to post-sale service, either. AI will also be used to answer pre-purchase questions (39 percent) and for marketing (38 percent).

As a result, retailers are increasingly turning to customer service and engagement automation technologies that leverage artificial intelligence (AI), including chat on Facebook Messenger and voice through assistants such as Google Home and Amazon Alexa, to unlock new revenue, reduce costs, and boost customer loyalty, satisfaction, and lifetime value.

The Linc study explores the increased value retailers are placing on AI to alleviate points of friction and improve margins and revenue through customer service and engagement.

Key findings include:

- 55 percent of retailers report that their customer service costs are rising. Increased human resources are the number-one factor for these swelling costs, followed by higher shipping, logistics, and reverse logistics expenses.

However, retailers cannot afford a slip in customer service, as more than 80 percent of customers will look to other brands for a more satisfactory experience after just one bad encounter

- 87 percent of retailers plan to increase their use of AI in customer service, and 44 percent will use a conversational commerce interface. While only 7.7 percent of retailers have rolled out AI as a regular part of customer service to date, adoption is growing rapidly.

- 34 percent of retailers surveyed report they have begun experimenting with customer-facing AI trials or pilots. A majority plan to embrace AI in the next 24 months, as they seek AI-powered solutions to improve customer service and engagement.

- One in five retailers already believe voice will be an important channel along

with chat within two years. Amazon's record sales of Echo devices during Prime Day 2017 show consumer adoption is heating up rapidly.

As voice-first platforms continue to grow, 44 percent of retailers that are increasing their use of AI say they will do so through a conversational commerce interface such as Facebook Messenger and a voice platform such as Google Home or Amazon Alexa.

"The data provided by this survey is a clear indicator that the time is now for retailers to take action," says Luke Starbuck, vice president of marketing for Linc. "Sitting back and waiting to see what others do is not a defensible strategy and will not yield favorable results.

"Retailers need to act quickly to adopt AI technologies that will help them win and retain customers," he adds.



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Consumer Behavior: The Missing Link

In today's highly competitive, omnichannel market, companies are realizing the path to success hinges on their ability to understand consumer behavior. Retailers and manufacturers can unlock significant competitive advantage by leveraging consumer insights to make category decisions and create localized merchandising assortments.

Most companies lack the ability to mine and leverage important customer data, and are therefore failing to meet evolving shopping demands, according to *The Voice of the Category Manager* survey, conducted by JDA Software Group. The report reveals findings from nearly 100 professionals responsible for category management and merchandising activity in North America.

Big Data, Predictive Analytics

Respondents indicate that their number-one investment priority in the next five years is big data and predictive analytics (41 percent), followed by investment in customer-driven data science (37 percent).

"The fact that manufacturers and retailers plan to prioritize investment in big data and predictive analytics over the next five years is a true testament to the transformational impact that the modern shopper is having on these sectors," says Todd McCourtie, senior director, solution strategy at JDA.

"Companies are realizing that the path to success in today's omnichannel market is to analyze and react to consumers' preferences and behaviors; ultimately truly understanding how, why, and in which manner they wish to shop," he says. "Data-driven technologies can help companies make more informed localized merchandising decisions that, in turn, enhance the shopping experience for the customer and improve the brand's bottom line."

Currently, companies have access to volumes of essential data about their customers' shopping preferences and behaviors. Where companies fall short is in their ability to derive actionable insights

from this mountain of consumer data.

While respondents on average state that they are somewhat successful in mining consumer data to generate usable insights (82 percent), less than one-fifth (17 percent) feel they are highly successful in their ability to leverage the data to derive actionable insights.

In fact, when asked to identify which processes respondents feel they lack the most proficiency in, nearly 70 percent indicate that they are most behind on leveraging predictive analytics for improved pricing and merchandising—two capabilities that are of paramount importance for sustained success in today's customer-centric world.

Additionally, nearly 60 percent of respondents claim that they are also behind in leveraging geographic and socio-economic data for targeted promotions and offers.

For manufacturing and retail survey respondents looking to improve merchandising, pricing, and promotional efforts, the top two behaviors they'd like to gain additional insight into are the modern shopper's path to purchase (67 percent) and price sensitivity (53 percent).

Localizing Assortments To Reach the Modern Shopper

The modern shopper has transformed the ways retailers and manufacturers operate and maintain profitability, as shoppers

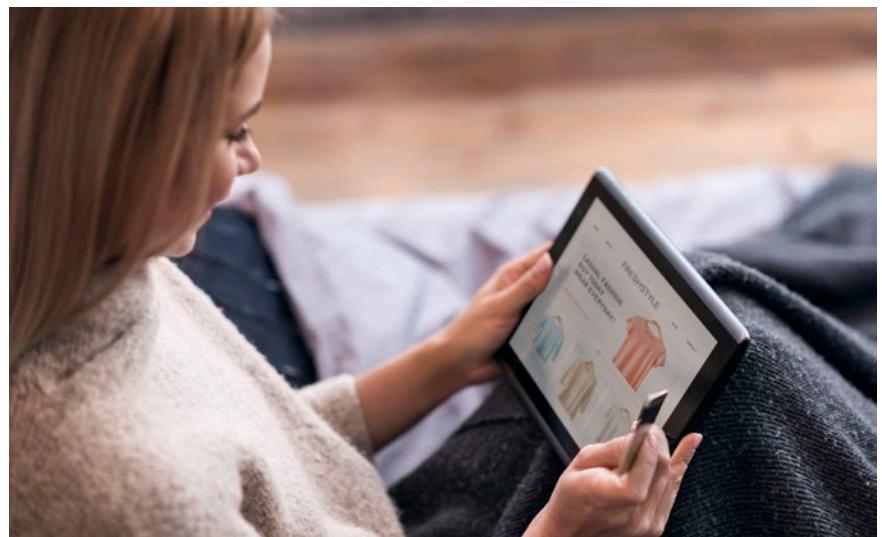
expect merchandise assortments to meet their needs from the first attempt. Survey respondents cite personalization and localization (68 percent) and increased development of digital technologies (62 percent) as the top two priorities they plan to implement within the next year to reach modern shoppers.

Omnichannel retailing also remains a high priority, with nearly 60 percent of respondents citing it as one of their top two (see chart, far right).

Effective assortment localization is dependent on a company's ability to identify the key product attributes that drive local preferences and demand in each category. The survey finds that companies are best able to evaluate the success of their localization efforts by measuring an increase in sales (37 percent), increased visibility into stores (21 percent), and improved inventory levels (21 percent).

With increased focus on localized assortments, technology investments are top of mind for both manufacturers and retailers. Unsurprisingly, the top two priorities driving the need for new technology solutions are automation as a means to do more with less, and consumer insights as a tool to support increased localization, dynamic pricing, and improved merchandising.

Interestingly, from an investment perspective, respondents hold varied opinions on which mobile technologies would be most beneficial to their business:



■ 26 percent indicate augmented reality technology that provides shoppers with personalized information while shopping.

■ 25 percent deem the ability for customers to leverage beacon technology (Internet of Things) via mobile device for increased self-education on products.

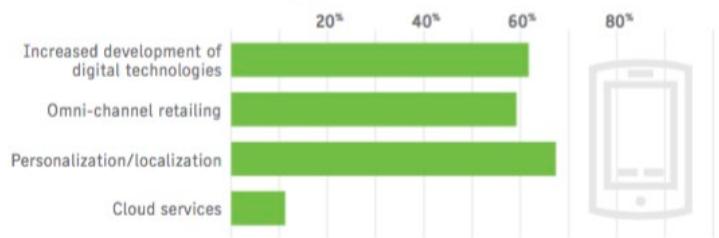
■ 21 percent identify in-store mapping for easy self-navigation around stores.

■ 19 percent believe location-based mobile coupons would be most beneficial.

Less than half of manufacturers and retailers feel they are successful in their ability to mine data to generate usable insights, though respondents from both sectors agree that there is more to be done when it comes to better understanding and addressing the needs of the modern shopper, and both groups have identified areas for improvement.

For example, the majority of manufacturers surveyed (83 percent) see themselves

Within the next year, identify your top two priorities to implement to reach the modern shopper:



lagging when it comes to leveraging predictive analytics for improved pricing and merchandising, whereas retailers report feeling behind on analyzing big data to recognize consumer preferences and demand trends (59 percent).

Both sectors agree that their ability to leverage geographic and socio-economic data for targeted promotions and offers could be improved, with 60 percent of manufacturers and 59 percent of retailers

citing this as a weak spot.

Further, both retailers and manufacturers cite path to purchase and price sensitivity as the top two behaviors they would like more insight into surrounding the modern shopper.

Respondents report additional interest in beacon technology and augmented reality, though neither sector is planning to prioritize investment in these technologies in the next five years.



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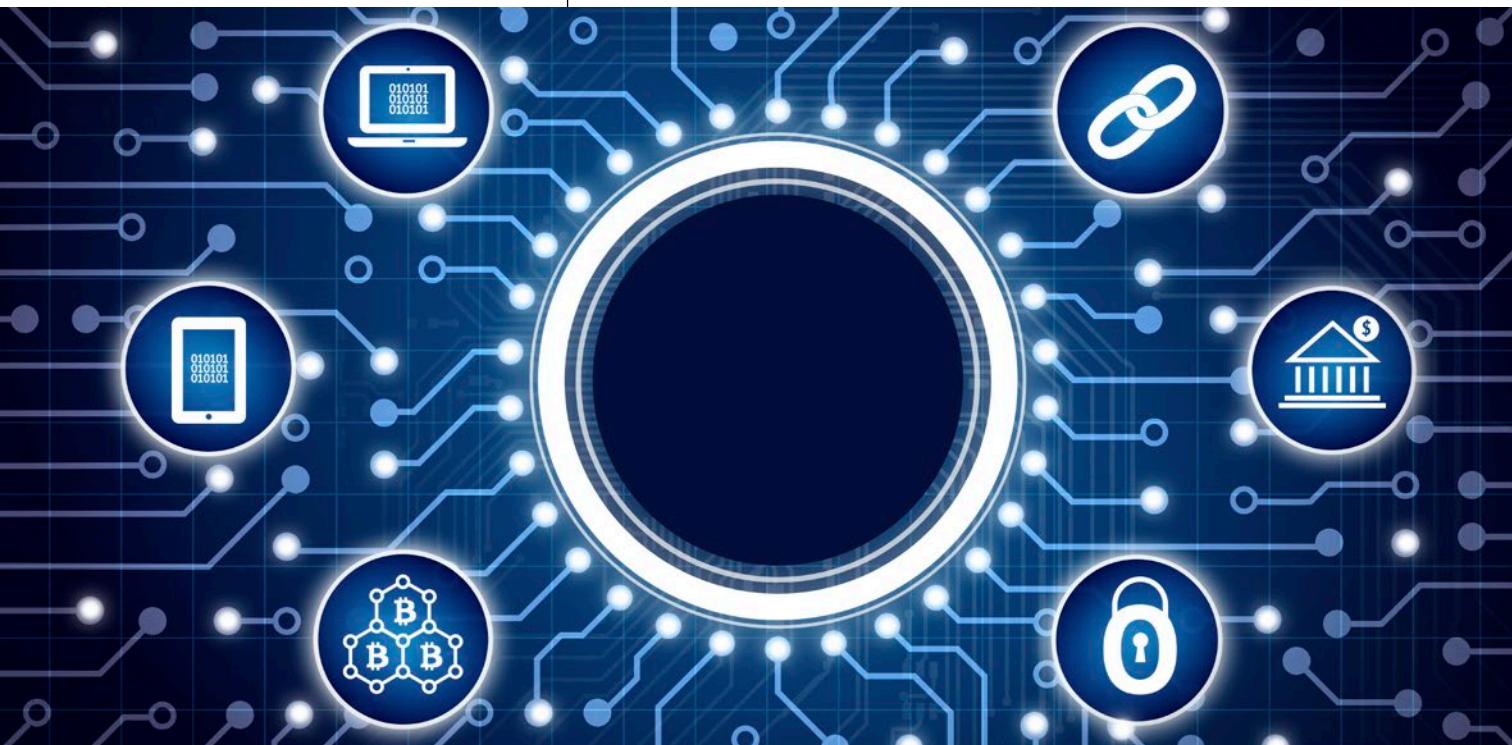
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GLOBAL

THE WORLD AT A GLANCE

by Jason McDowell



IBM: Working on the Blockchain Gang

Security. Transparency. Efficiency. These buzzwords have circled the supply chain for years as consumers demand more responsible supply chains, forcing shippers and providers to explore new ways to make these terms reality.

Alongside these buzzwords, another word surfaces as a potential solution to many major concerns: blockchain. IBM aims to make this solution tangible for the global supply chain, and has begun building a proof-of-concept blockchain-based supply chain network after signing a memorandum of understanding with shipping line Pacific International Lines (PIL) and the Port Authority of Singapore (PSA).

Blockchain publishes all transactions to online ledgers easily accessible by every member in the network, forcing all stakeholders to be fully transparent about shipments and financial decisions, and reducing delays that occur while waiting for paperwork to be pushed back and forth between partners.

“The net result is faster, private, confidential, and auditable business-to-business interactions among suppliers, distributors, financial institutions, regulators, or anyone wishing to make a secure exchange,” says Randy Walker, chairman and CEO of IBM Asia Pacific.

Stakeholders expect the project to eliminate a number of complicated

problems that currently plague many supply chain operations. “Blockchain has the potential to reduce inefficiencies and gaps within the supply chain, promote more cost-efficient transactions, and facilitate continued growth in world trade,” says Tan Chong Meng, CEO of PSA.

Data gathered from the project is expected to enable further blockchain-backed connections between supply chain partners throughout Southeast Asia. “We hope that the fruits of collaboration may in the long term enhance our support to Chongqing Connectivity Initiative projects, the Southern Corridor connecting Western China to

Southeast Asia via Guangxi, as well as Southeast Asia trade corridors,” says Teo Siong Seng, managing director of PIL.

IBM’s open source Hyperledger Fabric blockchain platform will power the solution, and it will be supported by

researchers and experts from the company’s Supply Chain Business Network and IBM Center for Blockchain Innovation in Singapore.

If IBM can successfully build the blockchain supply chain network

project, it seems likely that the company could also develop solutions beyond Southeast Asia to help all interested international supply chain partners engage in fair and transparent commerce.

Fashion Supply Chain: What to Where

While most fashion and apparel executives are optimistic about the 5-year outlook for the industry, the percentage fell from 92.3 percent in 2016 to 71 percent in 2017, a record low for the United States Fashion Industry Association’s annual Fashion Industry Benchmarking Study, which surveyed executives from leading fashion and apparel brands, retailers, importers, and wholesalers.

The rise of new challenges for the industry—specifically, the “protectionist trade policy agenda in the United States,” which executives rank as their top challenge in 2017, up from being ranked the #10 challenge last year—could explain the decline.

Among the key survey results:

- Executives are more concerned about trade protectionism, market competition from e-commerce, and supply chain risk than they are about cost. “Increasing production or sourcing cost” dropped from the #2 concern in 2016 to the #7 concern in 2017.

- Only 36 percent of executives surveyed say they expect to increase

sourcing from Vietnam, compared to 56 percent in 2016. This is most likely due to the United States’ withdrawal from the Trans-Pacific Partnership.

- Among all sourcing destinations examined in 2017, Bangladesh is considered the most competitive in terms of price—but also the riskiest in terms of trade compliance (see chart above).

- Free trade agreements remain underutilized; only NAFTA is utilized by more than 50 percent of companies surveyed.

- Ethical sourcing and sustainability

are given more weight in sourcing decisions, with 87.5 percent saying these issues have become more important in sourcing decisions today versus five years ago; 100 percent of companies surveyed audit their suppliers.

- It’s unanimous: 100 percent of respondents oppose the U.S. border adjustment tax (BAT) proposal.

The survey was conducted in conjunction with Dr. Sheng Lu, assistant professor at the University of Delaware Department of Fashion & Apparel Studies.

Sourcing: A Mixed Bag

Survey respondents rated each primary sourcing destination against three criteria with the most significant impact on sourcing decisions. Overall, no destination is perfect. The results, however, explain why U.S. fashion companies typically use a

Sourcing base	Speed to market	Sourcing cost	Risk of compliance
USA	★★★★★	★★	★★★★
Mexico	★★★★	★★★	★★★
CAFTA-DR	★★★★	★★★	★★★
China	★★★	★★★★	★★★
Vietnam	★★★	★★★★	★★★
Cambodia	★★	★★★★	★★
Indonesia	★★	★★★★	★★★
Sri Lanka	★★	★★★★	★★★
India	★★	★★★★	★★
AGOA	★★	★★★★	★★★
Bangladesh	★★	★★★★★	★

mix of sourcing destinations to balance cost, speed, flexibility, and risk control.

Note: The results were based on respondents’ average rating for each sourcing base. ★★★★★ means much higher performance than the average and ★ means much lower performance than the average.

NAFTA: Should We Stay or Should We Go?

Many Americans see the North American Free Trade Agreement (NAFTA) as a contributing factor to the growth of the U.S. economy over the past 20 years and to the proliferation of

high-skilled jobs, and believe the focus of the NAFTA negotiations should be modernizing the agreement, not withdrawing from it.

Though it is often portrayed as

a bad deal for their country, data from a recent survey commissioned by Livingston International Inc. and conducted online by a Harris Poll indicate Americans seem to have put the

trade deal in context with the broader changes that have taken place in the economy and do not single it out as a principal cause of economic adversity.

Despite often heated rhetoric around the subject, almost half of Americans (45 percent) believe the trade deal has greatly influenced growth in the U.S. economy over the past 20 years and more than half (57 percent) believe a withdrawal from NAFTA is likely to result in a price increase on everyday goods. Only 6 percent of Americans believe the United States should withdraw from the agreement altogether.

Less than half of Americans (42 percent) see NAFTA as primarily responsible for the loss of U.S.

manufacturing jobs to workers in other countries, while 62 percent see it as just one of many factors contributing to the loss of those jobs. In fact, 56 percent of Americans and 50 percent of unemployed Americans agree that technological advancements, such as robotics and automation, have played a greater role than NAFTA in the loss of U.S. manufacturing jobs.

The survey also suggests Americans understand the nature of the country's economy has changed substantially. Forty-three percent of Americans believe the trade deal has played an influential role in the growth of America's knowledge economy, while fewer than two in five Americans (38 percent) believe

a U.S. withdrawal from NAFTA would bring back most of the manufacturing jobs lost since NAFTA was signed.

Just less than one-third of Americans (32 percent) believe the United States has made the right decision to renegotiate NAFTA. Among that population, three in five (60 percent) believe it's because the agreement needs to be modernized, while the remainder (40 percent) believe the trade deal is unfair to the United States.

At the same time, nearly one in five (17 percent) believe renegotiating or withdrawing from the deal is the wrong approach, either because it is already an effective agreement or because doing so could harm key industries.

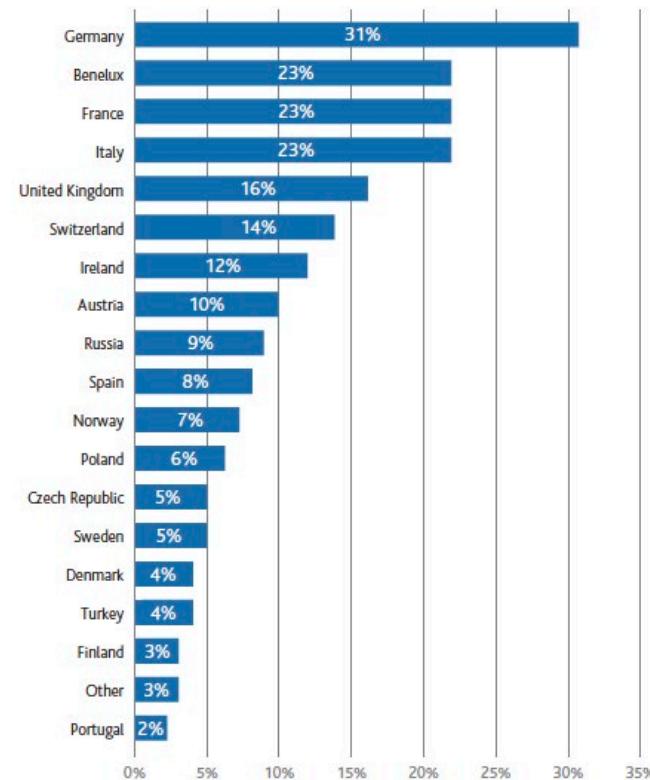
E-commerce Retailers Target Germany

Germany is the most important European future market for U.S. brands expanding their e-commerce business (see chart), according to *Internationalizing Your Brand in 2017*, a study of e-commerce retail decision makers commissioned by Arvato and conducted by the Worldwide Business Research Digital agency.

Companies that focus consistently on omnichannel and offering convenient, flexible, and reliable service are at an advantage. But Europe poses challenges that do not exist in the United States. The European continent consists of about 50 countries—each with their own languages, legal requirements, and shopping and payment preferences.

Because there is no language barrier, it is not surprising that 96 percent of companies surveyed use the UK as a springboard into Europe; 85 percent even have retail shops there.

In the top continental European markets of Germany, France, and Italy, more than three quarters of the U.S. brands surveyed are represented by their own web shops or on marketplaces;



Which countries do you plan to expand into?

Approximately one-third of leading U.S. e-commerce retailers are planning to enter the German market in the next four years. The Benelux countries, France, and Italy are also top targets for 23 percent of those surveyed by Arvato.

retail shops are considerably rarer.

Czech Republic, Portugal, and Turkey had the lowest rankings. But

even in those countries, more than 60 percent of the U.S. companies surveyed are represented in online retail. ■



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Next-Generation TMS Can Move Your Organization Into the Future

In the ever-evolving world of drones, autonomous and electric vehicles, and a myriad of other emerging technologies, it's important for organizations to still keep management in mind.

While new technology is thrilling and can provide enhanced supply chain efficiency, lower a company's carbon footprint and provide meaningful, actionable business intelligence, proper management of that new technology still matters. Your company's TMS has to be ready and able to handle anything currently in your supply chain operations, as well as what's on the horizon.

Data can help drive better decision-making, but the sheer amount of data surrounding the modern supply chain can be overwhelming, and can require a significant investment to have the tools necessary to capture the data and then analyze it. But the ability to access and analyze this information is only the first step. What makes this data truly valuable is turning it into actionable insights that drive meaningful change within your organization.

Having an old or limited TMS system—or not having one at all—may result in a lack of visibility into your supply chain, and hinder your ability to truly analyze your transportation network in order to eliminate waste, reduce costs, and better serve your customers. From predictive analytics that include automatically updated weather alerts, to precise latitude-longitude coordinates of shipments—the right TMS should be locked in to the future and able to handle information from the Internet of Things (IoT) and the IoT-enabled vehicles that will be a big part of our future.

Today's advanced TMS systems can give a real-time, 360-degree view of your entire transportation network. This allows companies to report and track key performance indicators (KPIs) and continuously improve processes by providing actionable data for all levels of your organization. And the ability to customize these reports and dashboards helps ensure that key personnel at every level of an organization have access to the critical information they need.

Company management can customize their reports to provide an overview of operations, then be able to drill down further to quickly see and react to changes or concerns when necessary. While those responsible for day-to-day operations can receive more

detailed data and reporting on carrier performance, pickup times and delivery times can be used to enable "root cause" analysis and provide better understanding of how and why there have been fluctuations in cost or service.

Greater access to data allows companies to compare final shipping results with their initial goals, enabling them to better understand how to adjust transportation plans moving forward in order to increase efficiency, reduce costs, enhance customer service and improve carrier relationships.

For example, digging into data can allow companies to identify which customers have frequently small shipments that could be consolidated into a single truckload. This provides a more strategic way to take cost out of the business versus simply finding a better rate or a different carrier.

Additionally, it's this access to data and ability to make it actionable that allow organizations to be more proactive in their transportation planning—driving greater cost savings and customer service, and enabling the long-term advanced planning necessary to mitigate risk. Organizations can also use this data to ensure that all transportation activities—both internally as well as suppliers, carriers, customers and other business partners—are in line with their overall business strategy and goals and can support growth plans.

At Transplace, we're not simply trying to meet the needs of today's supply chain, we're preparing for 2020, 2025 and beyond. By continuing to invest in our proprietary TMS, along with reporting and analytics capabilities, we're helping ensure that our customers are ready for the future of the transportation industry, whether that is a shipment on an over-the-road truck, an autonomous fleet or a flying drone.

Open APIs enable us to handle the new data and transportation devices that we will see coming well into the future, and we're taking advantage of enhanced predictive analytics to continue to improve on-time delivery and mitigate service failures.

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The Advantages of Strategic Procurement

A sound strategy is important in every industry. It's even more important than ever when the prevailing theme includes major changes to the regulatory landscape. A driver shortage, competitive rate market, and reduction in productivity will make it more difficult for shippers to secure capacity as we progress into 2018 and beyond.

Strategic procurement practices complement and provide increased emphasis on capacity generation, carrier management and promoting shipper of choice initiatives to bring customers and carriers together in a challenging environment. Continued conversations with shippers bring consensus and clarity to forecasts: the leading obstacle they face is securing competitive capacity and finding a provider who offers effective continuous improvement to their supply chain.

Deciding if This is the Right Time for a Procurement Sourcing Event

Procurement sourcing decisions can be difficult. Most commonly, the pain of no change will be greater for a business than the pain of change. To do nothing in an unpredictable market is a risk many shippers are not willing to take. It is proven that shippers who have made the decision to not bid and address rate increases individually have experienced higher rate increases compared to strategic procurement sourcing.

What should a shipper evaluate to determine if a procurement sourcing event is needed? Below is a list of procurement bid considerations:

Network changes: For most transportation modes, shippers can follow a 12- to 18-month procurement cycle. Other indicators may include network growth, shrinkage or a new product launch. All of these could impact the landscape of your network and open the door to potential optimization options that did not exist before.

Securing and realigning capacity: Similar to shippers experiencing network changes, a carrier's network can also change. A carrier's network changes may impact its ability to provide committed capacity or sustain rates.

Right-size your carrier base: Providing carriers the opportunity to view the entire customer network tends to reduce the number of overall carriers needed and allows them to align with the lanes that complement their operational network. It also ensures the shipper is vested in a sourcing strategy that isn't solely about rates.

Standardize agreements and supporting programs: Reduces business risk, positively impacts pay terms and overall carrier relationship.

Mitigate rate increases: Both shippers and carriers are aligned within the network, allowing for competitive bidding and secured capacity.

What to Look for in a Procurement Sourcing Provider

Transportation expertise: A project team experienced in the transportation industry, market trends, carrier relationships and optimization technology is critical to sourcing success and aligns your transportation solution to your supply chain strategy.

Technology: Optimization algorithms quickly produce scenarios and identify network options. This work incorporates carrier information to weigh your results based on incumbency, capacity commitment, regulatory, safety, historical performance and financial stability. When done correctly, the procurement sourcing provider will systematically engage carriers and provide feedback through a dynamic communication platform.

Process: Proven procurement sourcing processes will enable a scalable, optimal solution. Process is imperative to successfully obtain a shipper's supply chain objectives and ensure there is alignment on a shared strategy that builds the foundation to improve operations execution and network compliance.

Take the fear out of procurement sourcing by finding a provider who can deliver all three of the necessary components: transportation expertise, technology and process. It is the only way to effectively balance your service and cost objectives with a scalable and sustainable solution.

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LEAN SUPPLY CHAIN

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Global Supply Chain Risk: Don't Wait, Mitigate

Having a global supply chain risk management strategy in place can not only increase value to your customers but also reduce your costs and increase performance.

Companies globalize supply chain management to increase competitive advantage, add value to the customer, and reduce costs through global sourcing. But global supply chains also increase risks from considerations domestic companies traditionally face such as demand and supply variability, limited capacity, and quality issues.

Global supply chains also result in greater customer expectations, global competition, longer and more complex supply chains, increased product variety with shorter lifecycles, and security, political, and currency risks.

To minimize risk, first identify the sources and types of potential risk, and estimate their probability and impact. Sources and types of supply chain risk include:

- Disruptions from natural disasters, war, terrorism, and labor disputes to supplier bankruptcy.
- Delays caused by high capacity utilization, inflexibility, or poor supplier quality or yield.
- Systems risk from information infrastructure breakdown, system

integration, or extent of systems being networked.

- Forecast risk based on inaccurate forecasts due to long lead times, seasonality, product variety, short lifecycles, small customer base, or information distortion.

- Intellectual property risk covering vertical integration of the supply chain, global outsourcing and markets.

- Procurement risk encompasses exchange rate risk, input prices, purchasing material from a single source, and industry-wide capacity utilization.

- Transportation risk includes shipment delays, disruptions, and transporting hazardous materials.

- Receivables risk covers customer numbers and financial strength.

- Inventory risk based on rate of product obsolescence, inventory holding cost, product value, and demand and supply uncertainty.

- Capacity risks based on cost and flexibility.

When you estimate the probability and impact of potential risks to your supply chain, involve both internal and external resources and

information sources. Next, create and implement risk mitigation plans. Depending on the types of risks you identify, strategies can include:

- **Boost capacity.** Consider low-cost, decentralized capacity for predictable demand and build centralized capacity for unpredictable demand.

- **Engage redundant suppliers.** Have redundant supply for high-volume products, less redundancy for low-volume products.

- **Increase responsiveness and flexibility.** Cost over responsiveness for commodity products and responsiveness over cost for short-life-cycle products.

- **Add inventory.** Decentralize inventory of predictable, lower-value products and centralize inventory of less predictable, higher-value products.

- **Aggregate demand.** Increase aggregation as unpredictability of demand and supply grows.

- **Increase source capabilities.** Look for capability over cost for high-value, high-risk products and cost over capability for low-value commodity products.

By creating and implementing risk mitigation plans for your global supply chain, you can help increase efficiency and reduce costs. ■



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[IT MATTERS]

BY JEFF BROWN

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From Nervous to Chill: Unlocking IoT's Value Across the Cold Chain

One-third of the world's food goes to waste, with most of the losses coming from spoilage on its way to being consumed. Much of the waste is due to lack of proper refrigeration. Broadening and improving cold chain efficiency would extend shelf life and increase the supply of perishable foods such as meat, fruits, vegetables, and dairy.

In order to deliver high-quality products at the right value, the ability to control the cold chain and the cost of delivery is vital. Keep in mind: The average piece of produce in the United States travels 1,500 miles from its source.

The cold chain not only presents the opportunity to apply Internet of Things (IoT) solutions at the food production, storage, distribution, and retail stages, but also the potential to combine that data to strategically leverage the IoT and deliver considerable business value.

Four Key Steps

Here are four key steps to implementing the IoT across the cold chain.

1. Spot efficiency opportunities. They exist in many areas, including:

■ **Food processing.** IoT can let companies recognize any differentiations in tolerance throughout the process and highlight quality assurance risks.

■ **Distribution trucks.** Access to real-time temperature data, run-time capacity, telemetry data, and geographic locations lets companies take action if something goes wrong.

■ **Cold storage.** An integrated data system that balances cooling demand based on the volumes and distribution profile of the produce, matched with onsite generation capacity and the energy pricing market, can decrease expenses and boost revenue.

■ **Food retail site.** Access to real-time data on temperature, merchandising, compliance, and asset health and efficiency can ensure that the refrigeration regime matches the product.

2. Determine available data. Ascertain the size of the data that you have access to, and isolate areas where some investment in sensor-driven infrastructure would be advantageous and cost effective. Next, assess the depth of

interactive capability that your company needs from the IoT system.

In addition, determine the data you would like to collect, whether it's incremental performance analysis or purely exception handling types of data. This information will then dictate the nature of the IoT solutions architecture, from remote or on-site processing capacity and memory using an IoT gateway, or a setup where data can be ported to a central or cloud location directly.

3. Provide context for IoT information. Applying rules across your data gives thresholds for severity management, and the opportunity for scoring risk. This will give your company a clear understanding of the real-time produce risk within the product flow, and the ability to make fast decisions about how to mitigate those risks and minimize the impact of food and margin loss.

4. Automate workflow management. Set policies that ensure the IoT layer can execute required actions directly with the machine as well as inform central systems and report on outcome.

IoT presents a range of opportunities for cold chain logistics to gain efficiencies. By harnessing IoT throughout the supply chain, organizations can see significant process improvements. ■



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[E-COMMERCE]

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Supply Chain Be Nimble, Supply Chain Be Quick

To deliver a seamless and positive customer experience, retailers must adopt an omnichannel mindset and ensure supply networks are nimble enough to quickly respond to consumer demand, regardless of where or how shoppers interact with their brands.

Omnichannel retail is synonymous with speed—shorter product lifecycle, quicker turnaround on promotion, and faster delivery expected by customers. As a result, businesses need to reconsider how they think about distribution and leverage their network assets.

Aligning and managing suppliers, transportation providers, warehouses, and distribution centers across channels requires full visibility, communication, and dynamic planning.

Optimizing supply networks in response to variables such as fluctuating consumer demand and pricing is crucial when consumers are interacting with brands online, in stores, and on mobile devices. This flexibility allows for quick adjustments, which can reduce output cost and time, and deliver a positive customer experience.

Consider a supply chain manager who sees that online demand for a product is strong in one part of the country, but slower than anticipated in that region's physical stores. They might

decide to ship product from those stores to meet consumer demand rather than shipping from a centralized distribution center as usual.

Identifying this opportunity and adjusting fulfillment and distribution patterns could cut shipping times and costs, enable the brand to meet consumer demand, and reduce inventory levels in physical stores where product demand is low.

Companies will need to make regular adjustments as omnichannel rapidly grows. For example, your supply chain operation should be able to redistribute returns throughout the network for repurchase to avoid product obsolescence. Keep in mind the ability to make easy online purchases and in-store returns is a big part of customer satisfaction.

To respond quickly to changing variables in an omnichannel supply network, consider the following four steps.

1. Understand strategic and tactical levers. Know both long-term and short-term levers that will need to be adjusted

to respond quickly to changing customer demands, supplier changes, and capacity fluctuations in the supply chain.

2. Plan for flexible operations.

Flexibility can mean multiple suppliers, arranging supplier and distributor contracts based on volume ranges, or using shares or service levels of precise measurement. Business agreements should offer sufficient flexibility so organizations can react to changes in the system.

3. Know the data and build the analytics infrastructure. Understand what may trigger changes in the supply chain and build the right data and analytics infrastructure—reports, dashboards, and/or alerts—to notify if/when issues arise. But make sure to balance the information's comprehensiveness with its relevance.

4. Establish a business process to take advantage of the analytics. Extract actionable insights from data by establishing a data-driven business process that takes the guesswork out of day-to-day activities. Process and automation can help avoid oversights and last-minute scrambles, and transform analytics into results.

As online purchases continue to grow exponentially, make sure your supply chain can adjust to accommodate omnichannel trends and deliver a better shopping experience. ■



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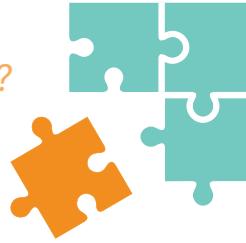
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Supply Chain Challenge?
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Optimizing and Speeding Up Shipments to Mexico

By partnering with Transplace, drywall and joint compound maker USG was able to reduce the delivery time of its product to Mexico from 6 weeks to 48 hours.

THE CHALLENGE

As a leading manufacturer of drywall and joint compound, USG serves a large number of customers in Mexico. However, not storing inventory in Mexico created extended production-to-market cycles, resulting in lost market share. The company recognized the opportunity to increase sales by increasing the velocity of its products being shipped to Mexico.

To do this, the company needed to streamline its cross-border and intra-Mexico operations and accelerate the end-to-end supply chain process, which spanned over 6 weeks. As it stood, USG Mexico had to contact their U.S. manufacturing facility for all orders and was limited to shipping only full truckloads.

THE SOLUTION

Having successfully partnered with Transplace for transportation management in the U.S., USG felt they would be the ideal partner to optimize and speed up shipments



to Mexico. After analyzing demand along with shipment origins, destinations and transit times, Transplace identified a solution of opening two distribution centers in Mexico—one in Monterrey and the other in Mexico City.

Leveraging Transplace's TMS and cross-border and intra-Mexico expertise, USG was able to efficiently and cost-effectively move product to these new DCs and then on to the end customer. Having Transplace serve as USG's customs broker and leveraging its Customs Portal technology helped USG streamline and more accurately manage the

U.S.-Mexico customs process by automating and standardizing the interaction between shippers, importers and customs, improving communication and visibility and reducing mistakes.

By partnering with Transplace, USG was able to reduce the delivery time of the product from 6 weeks to 48 hours—leading to double-digit sales growth in Mexico.

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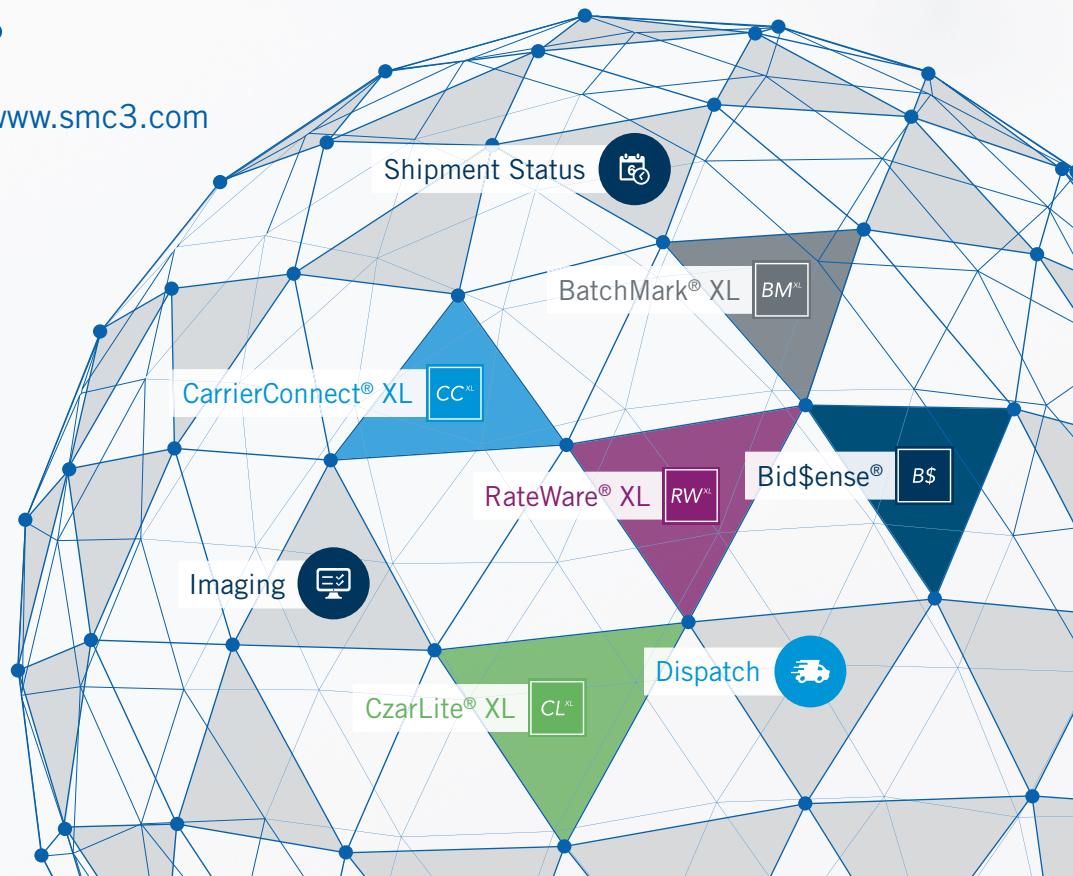
SMC³ solutions enable shippers, 3PLs and carriers to simplify LTL:

- Price negotiations and bid management
- Rating and transit-time requests
- Shipment tracking
- Freight bill auditing

Going beyond simple connectivity, the SMC³ Platform orchestrates among dispatch, tracking and imaging, leveraging real-time analytics to help build agile supply chains.



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10 Tips for Transportation Sourcing

Follow these best practices to cut costs and avoid mistakes when choosing modes and carriers.

By Sandra Beckwith

Ask any logistics veteran to talk about mistakes they've seen when selecting transportation modes and carriers and you might be in for a long conversation. Some will talk about rescuing shippers who had problems after basing decisions on price alone, while others will explain how a specific experience upended what they thought they knew about a route or mode.

But they all have stories worth paying attention to because of the freight volume involved. Freight shipments in 2015 weighed 16,045 million tons and were worth \$19,258 billion, according to the U.S. Department of Transportation's Bureau of Transportation Statistics.

Clearly, there's a lot at stake when selecting a transportation mode and corresponding carrier. To uncover the industry's best practices, *Inbound Logistics* talked to shippers, freight forwarders, third-party logistics (3PL) providers, and carriers to solicit their best advice. Here are their top 10 tips.

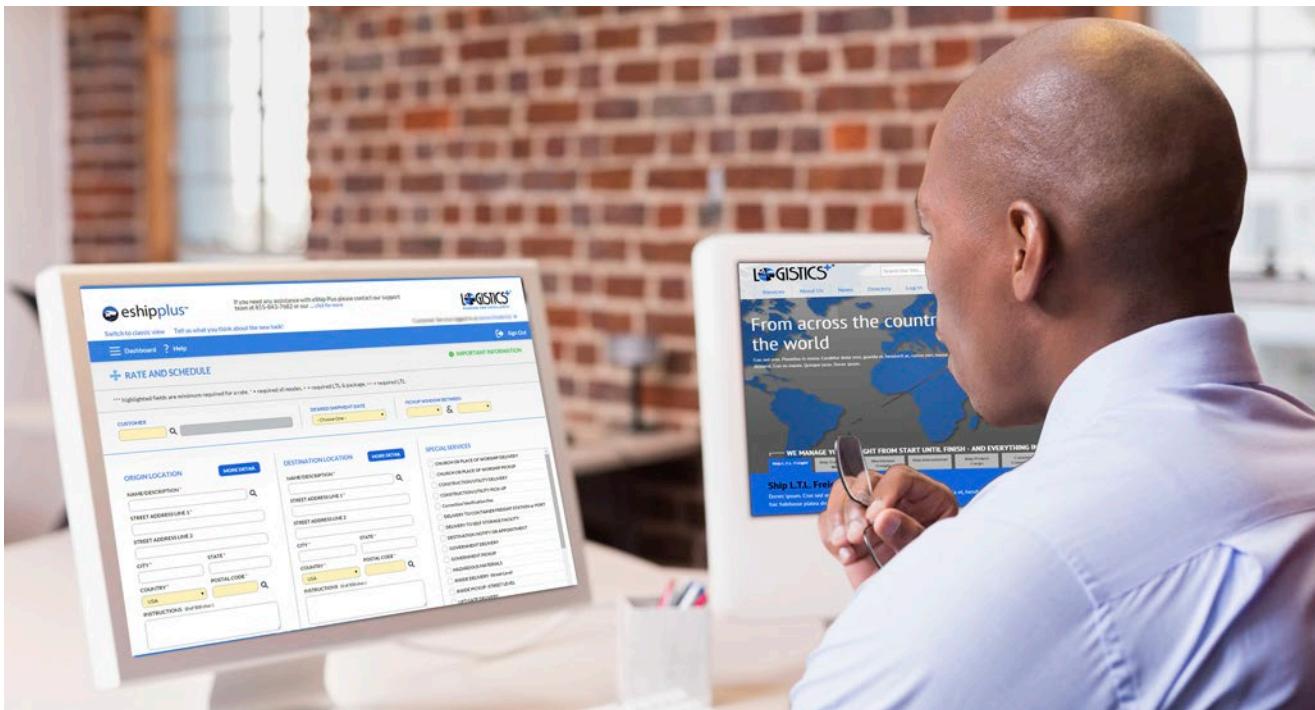


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Transportation management systems, such as eShipPlus, can cut costs, streamline processes, and add supply chain visibility.

Selecting a transportation mode

1 Become well-informed about what you're shipping.

“Be educated about the product you're shipping and the capabilities of carriers and consignees,” says Jeremy Chaffee, director of domestic operations at Erie, Pennsylvania-based Logistics Plus. “The more you know about your own product, the better transportation choices you'll make.”

For example, for products that will be shipped less-than-truckload (LTL), shippers need to know the correct National Motor Freight Classification (NMFC) numbers and freight classes.

While you're at it, learn as much as you can about logistics, too. “It will help you specify exactly what you need,” says Corey Nelson, CEO of global trading company 4C Global Logistics in Minnesota. “And don't be intimidated. The vocabulary is different—it's mostly a lot of acronyms—but once you learn the terminology, you'll be in a better position.”

2 Determine the actual transit time, not the published transit time.

When the product is available, as well as when it needs to arrive at the destination, both impact mode selection. But relying on published transit time to select that mode can be dangerous. “The actual transit time is different from what's announced,” warns Nerijus Poskus, vice president of global pricing and procurement at Flexport, a web-based freight forwarder headquartered in San Francisco. “There are often weather and terminal delays.”

He cites the Shanghai-to-Chicago route as an example: “One carrier announced the transit time as 19 days but the actual time is 27 days.”

3 Calculate the total landed cost.

While companies often focus on cost—and for good reason—they should look instead at what Toby Brzoznowski, co-founder and executive vice president of LLamasoft, a supply chain design software company in Ann Arbor, Michigan, refers to as the “total landed cost.”

“You could select ocean freight

because it is the least expensive, but it also has the longest lead times and the most variability,” Brzoznowski says. “What starts out as 40 days for transit time could end up being 120 days.”

As a result, shippers need to factor in the additional cost of safety stock and inventory to offset the possibility that shipments will be late. There's also a lost business cost if the shipper can't deliver to customers on time because of delays.

4 Embrace diversity.

“What's the marketplace capable of supporting?” asks Steve Raetz, director of research and market intelligence at Minnesota-based 3PL C.H. Robinson. “You might need to use a portfolio of modes rather than a single mode.”

Mode diversification also protects the shipper from disruptions or problems with one type of transportation. In addition, it can help a shipper get the best price.

“The biggest single mistake is adopting a one-size-fits-all approach to choosing a mode,” says Chaffee. “You might find that shipping six skids weighing 10,000 pounds could be less

expensive to move as a partial truckload on Monday, while on Thursday, a dedicated truckload might work and on Friday, a volume LTL might be the most economical choice.”

Selecting a carrier

5 Focus on value, not price.

Value will take into account cost, transit time, vendor quality, reliability, customer service, and other factors that price alone won't reveal.

Fauad Shariff, CEO of New York freight forwarder technology company The CoLoadX Corporation, cites a situation where a large tobacco company's finance department required that carrier selection for exporting a large shipment of cigarettes be made on price alone.

“The lower-cost carrier didn't know how to handle, build, or stage the product and left it on the ramp in the rain,” he says. “The company spent \$25,000 on replacement product, new packaging that was airlifted in, and labor—all to save \$5,000 on the initial shipment.”

Factoring risk into the price

discussion is also important when reviewing bids.

“How confident is the shipper that the provider can get them what they need, when they need it, and in the condition they need?” asks Vito Losurdo, vice president of global airfreight services at UPS.

Some modes carry more risk than others. “If you're shipping expensive electronics from China, you can get them to the destination more quickly and handled with more care if you use air freight instead of the more commoditized ocean freight,” recommends Kaitlin Bates, associate at Insight Sourcing Group, a Georgia-based consulting firm.

6 Examine capacity.

At certain times of the month, there is less LTL capacity, which drives motor freight prices up, making it less cost effective.

Also, in some situations, the capacity needed doesn't exist organically.

“Some shippers need to put a high volume of freight into an economic corridor that doesn't have the capacity needed,” Raetz says. “That means

carriers will have to reposition assets. Those intermodal boxes and trucks come at a cost.”

Nelson uses capacity as a negotiating point, too. “If I know the trucker is coming back empty on a route, I can negotiate a better deal,” he says.

7 Find the carrier's sweet spot.

“The first thing we ask when speaking to carriers is, ‘What is the lane you travel most often?’” says Nelson. “Carriers all have areas they understand better than others. Once you figure out their sweet spot, you can get a better deal.”

In addition, increasingly sophisticated carriers gravitate toward shipment characteristics that work for them, typically offering lower pricing on the business they want and higher prices on the business they don't.

“Any good carrier will have niches and segments where they can provide superior pricing and service along with other areas where they don't excel,” says Chaffee. “A regional LTL carrier won't be as competitive on cross-country shipments, for example.”



Mode diversification can not only yield the best freight rate, it also can protect shippers from disruptions or problems with a single mode.



Companies such as Logistics Plus have the expertise to help shippers manage transportation sourcing challenges.

8 Use technology.

Chris Davy says he cut his transportation budget by 70 percent when he started using an online service that matches shippers with carriers. “Switching from a single carrier approach to using technology gave me options I didn’t have before,”

says Davy, who is now executive vice president of sales and marketing at Blue Bloodhound, a North Carolina online marketplace for truck drivers.

“If you’re not using a transportation management system (TMS), you’re probably overpaying,” adds Raetz.

In addition to streamlining processes

and adding transparency, technology can create digital models that help companies predict the impact of transportation options on the supply chain.

“Companies have only recently been able to create a true end-to-end digital model of their supply chain, incorporating all cost factors across all functional elements,” says Brzoznowski. “In this situation, they can now run a ‘what if’ analysis that shows what happens to sourcing or customer service if they select one mode over another.”

9 Plan ahead.

“The longer you wait, the more you’re at the mercy of the market,” says Bates. “You become a price taker instead of a price chooser.”

When trying a new carrier, Bates recommends running a well-planned pilot program—with the emphasis on “well-planned.”

“If you end up giving a new carrier an emergency shipment that nobody else will take, it’s not a fair evaluation unless you only plan to work with that carrier

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in emergencies,” she says.

Poskus recalls a situation where looking ahead to potential problems might have saved one U.S. automaker a great deal of money. After a large shipment of parts from Germany was delayed because of manufacturing issues, the full order finally shipped late, only to be delayed further by weather problems. The second delay was catastrophic—the factory had to shut down for two days at a cost of \$10,000 per minute.

“This situation could have been avoided if the freight forwarder had advised the automaker to ship part of the order by air or LTL so at least a portion of the shipment arrived on time,” Poskus says.

10

Check references.

Look beyond references provided by the carrier. “References are only good when you can dig them up yourself without letting the carrier know about it,” says Davy.

In the end, most transportation



Choosing well-known, reliable carriers can reduce the risk of transportation problems, such as variable transit times or unreasonable delays.

experts agree that knowledge of their product and needs, and an understanding of mode and carrier capabilities, help logistics professionals make wise transportation sourcing decisions. If this isn't your area of expertise, partner with a solutions provider that does it well.

“If your company doesn't have the right personnel or expertise for transportation sourcing, don't attempt it on your own,” recommends Shariff. “Engage a freight forwarder or third-party logistics provider that has the experience you need.” ■

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2017

TRUCKING PERSPECTIVES

Inbound Logistics' exclusive annual trucking market research report delivers shipper and trucker insights into industry challenges and trends.

BY JASON McDOWELL

September 2017 • Inbound Logistics 55

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Shippers still struggle with trucking capacity problems, though nowhere near the levels during the Great Recession. With freight volumes steadily increasing, however, savvy shippers would be wise to secure capacity now while it's still available. Similarly, a driver shortage continues to plague the industry as carriers battle a negative perception and try to find new ways to connect to Generation X, millennials, and Generation Y drivers.

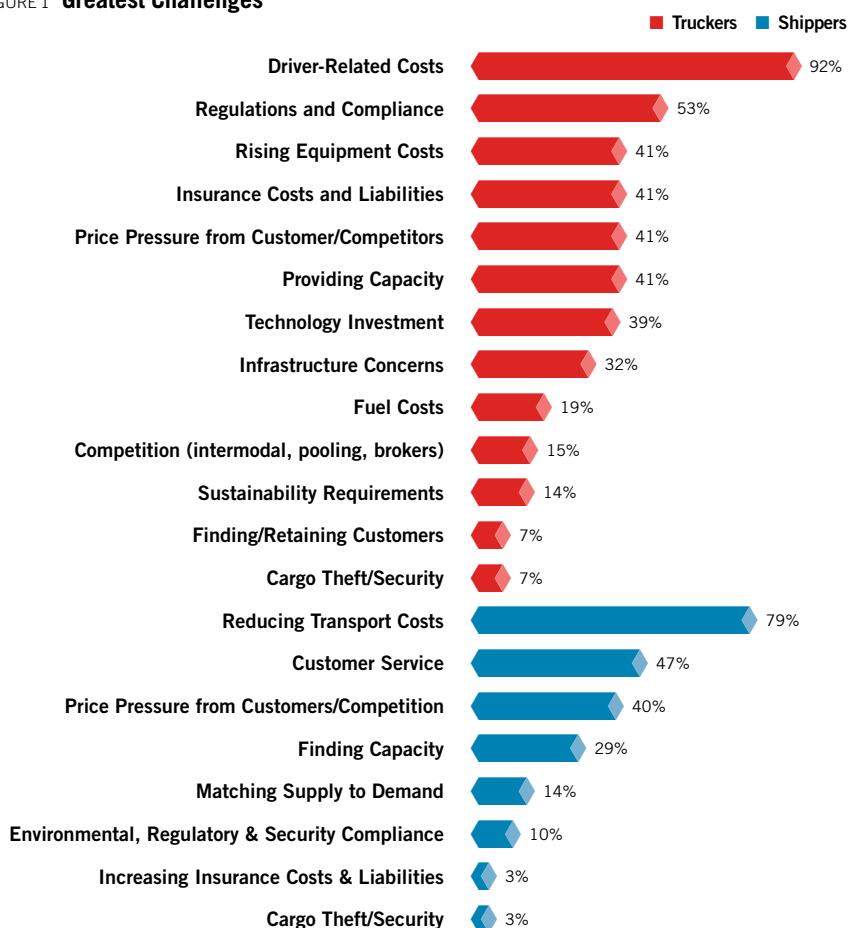
Despite these continuing challenges, respondents to the 2017 *Inbound Logistics* Trucking Survey see a bright future. As the backbone of the American economy, trucking companies consistently provide valuable insight into economic trends. Seventy-one percent of this year's respondents predict the U.S. economy will trend upward; the remaining 29 percent say the economy will hover somewhere between a rise and fall.

Notably, not one respondent indicates that the economy will take a turn for the worse in the coming months. This is quite a leap from one year ago, where a disruptive election cycle and uncertain economic future left carriers feeling less confident—in 2016, only 24 percent of carriers predicted that the economy would take a positive turn.

Ninety-two percent of truckers report that their top challenges are driver-related (see Figure 1). This is not surprising, considering the ongoing driver shortage and rising costs associated with recruiting and retaining. As drivers earn more, and receive better benefits packages to keep them behind the wheel, carriers must pass those costs on to shippers. Sixty percent of shippers say they have experienced carrier rate hikes in 2017, and 79 percent say that reducing transport costs is a major challenge (up from 71 percent in 2016).

Customer service also jumped, with 47 percent of shippers reporting it as a challenge versus only 21 percent one year ago.

FIGURE 1 Greatest Challenges



Also, just as more carriers report providing capacity as a challenge, 29 percent of shippers say that finding capacity has become a challenge, up from only 7 percent in 2016.

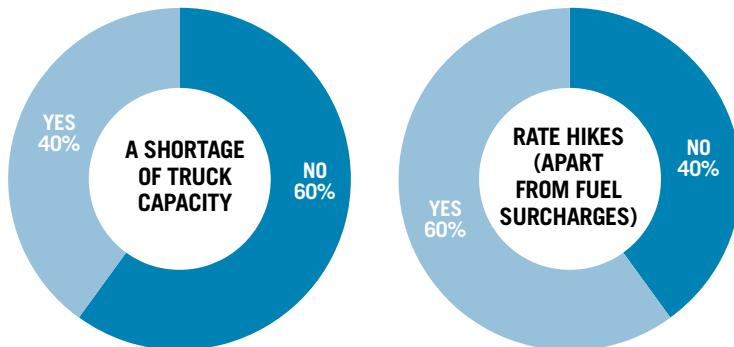
Trucking Perspectives Methodology

Inbound Logistics' annual Trucking Perspectives market insight report includes input from both over-the-road carriers and shippers to provide a comparative analysis supported by empirical data and anecdotal observations. Our outreach comprises two parts.

First, *IL* solicited more than 200 trucking companies to complete a questionnaire that documents their assets, service capabilities, operational scope, and areas of expertise. We also asked carriers to comment on challenges and opportunities in today's market.

Second, *Inbound Logistics* reached out to freight shippers to comment on industry trends, regulatory challenges, and their partnerships with carriers.

FIGURE 2 SHIPPERS: Have you experienced...



Mergers and acquisitions in the larger business world slowed down in 2016 due to various global political uncertainties. While trucking took longer to succumb to this trend, it now seems to have followed suit. While there have been a few notable acquisitions within the trucking sector, 2015's mad grab for assets has slowed.

Among companies surveyed by *IL*, fleet sizes have stabilized to pre-2016 levels. *IL*'s 2015 data showed an average fleet size of 3,268, and that number jumped to 4,426 in 2016. In 2017, survey respondents report an average fleet size of 3,165, supporting the theory that the itch for increased assets has been scratched.

Of course, many of these factors play off each other. As capacity once again becomes a concern, trucking firms should be expanding their assets. However, even though carriers have stopped scrambling for assets, they continue to scramble for drivers. There's little point in increasing fleet size if there are no drivers to put behind the wheels of newly acquired equipment.

CUTTING THROUGH THE RED TAPE

Only 53 percent of truckers say that regulations and compliance remain a challenge, down from 62 percent in 2016. The Trump administration vowed to reduce regulations for the trucking sector—beginning with an August 2017 rollback of sleep apnea testing requirements for drivers—so that number may drop again next year if the industry deregulates further. Providing capacity crept up again as a major concern for carriers, with 41 percent reporting it as a challenge, up from 23 percent in 2016.

Beyond the rollback of sleep apnea regulations, little else has changed legislatively for the trucking industry to date. Carriers still face a Dec. 18, 2017, deadline to install electronic logging devices (ELDs) in place of paper logs or logging software. While this has been an expensive undertaking for many carriers, *IL*'s survey results show that most companies are on board. In fact, 91 percent of carriers report that they use ELDs (see *Figure 4*), and it's likely that many of the remaining 9 percent are subject to exemptions given for old equipment, low use (8 days of use or less every 30 days), or drive-away/tow-away operations.

Infrastructure continues to lead the list of legislative problems

that plague ground carriers (see *Figure 5*). While 57 percent of truckers in 2016 declared that transportation infrastructure had the greatest impact on their business, that number surged to 73 percent this year. Continuing federal and state government failures left a crumbling U.S. infrastructure to crumble further. The White House and Capitol Hill talk a lot about infrastructure, but until talk turns to action, trucking companies must depend on inadequate roads and bridges to operate.

Along the same lines, 32 percent of truckers list the Highway Trust Fund as a legislative concern. Little has been done to stop the constant poaching that has plagued the fund since its inception.

President Trump's proposed budget funds the Highway Trust Fund through 2021, but also cuts broader Department of Transportation (DOT) funding. At this point it seems unlikely that the DOT will keep its hands out of the cookie jar when funding falls short in other areas.

Energy policy also ties into infrastructure as many trucking firms try to be more sustainable on shorter routes by using natural gas-powered vehicles. Currently, the largest obstacle facing compressed natural gas and liquefied natural gas vehicle usage is a lack of places to fuel up. The current administration's focus on public-private partnerships could easily address this issue.

Healthcare also remains a major concern for carriers—up one percent from 2016's data—as in-demand drivers demand better benefits. Trucking firms no longer compete only for freight; they now compete for talented drivers. As such, they must offer substantial benefits packages to attract new drivers. Additionally, Congress' repeated attempts to repeal the Affordable Care Act throughout 2016 have left carriers unsure about the future of healthcare costs. Unless these issues resolve at some point, healthcare concerns will be on the trucking industry radar for some time to come.

Shippers also struggle as legislative issues travel up and down the supply chain. Many shippers fear that the Federal Motor Carrier Safety Administration's (FMCSA) initiative will worm its way through the supply chain to kick them in the pocketbook.

FIGURE 3 SHIPPERS: What are the most important factors to consider when choosing a trucker?

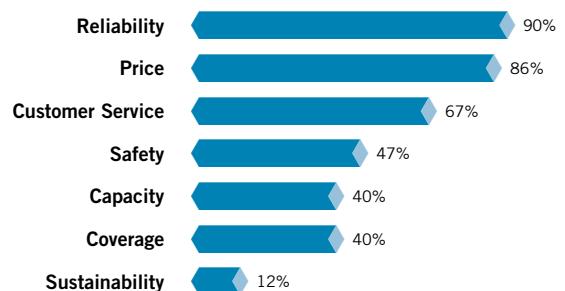


FIGURE 4 **TRUCKERS: Do you use electronic logging devices in your fleet?**

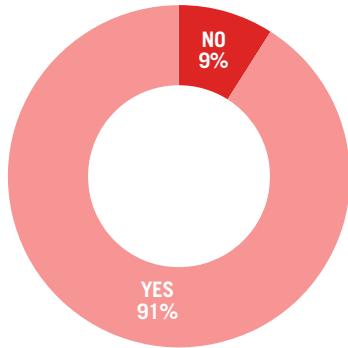
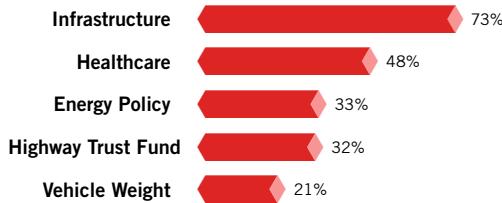


FIGURE 5 **TRUCKERS: What legislative issues have the greatest impact on your business?**



Twenty-nine percent of shippers surveyed say that they've already incurred noticeable costs as a result of the FMCSA's Compliance, Safety, and Accountability (CSA) program, and an additional 48 percent expect to be hit with associated costs in the future.

Additionally, both truckers and shippers continue to be affected by Hours-of-Service (HoS) rules amidst the driver shortage (see Figure 6). Most of the original burden fell on carriers, who sheltered their shippers from the impact. This year, 78 percent of carriers cite HoS as having a marked impact or somewhat of an impact on their operation. Shippers agreed, with 78 percent saying they either expect an impact down the road or have already seen a noticeable service impact or cost, demonstrating that carriers can no longer avoid passing on costs incurred by HoS rules.

The obvious solution would be to add more drivers to offset the limitations on hours that drivers can spend on the road. But with a shortage of drivers, any HoS provision will continue to have a profound impact.

With the United States in the first year of an unpredictable new administration, it's difficult to make an educated guess as to how these numbers will look in the months to come. With a \$1-trillion proposed infrastructure plan on the table, and frequent promises of deregulation, things could look different for the trucking industry on the legislative front this time next year. At this point, all carriers and shippers can do is wait and see how these promises play out.

Life on the Road

The U.S. trucking industry is the lifeblood of domestic supply chains—the first and last mile for both producers and consumers. This snapshot, based on *IL's* Trucking Perspectives survey results, offers an in-depth profile of the assets, services, and expertise that carriers bring to the market.

CAPACITY

Average fleet size (tractors & vans)	3,165 units
Average trailer fleet	7,500 units
Average number of drivers (includes owner operators)	2,973

OPERATING AREA

North America	62%
U.S. only	38%

TRUCKING SERVICES

Logistics services	70%
Dedicated contract carriage	65%
Less-than-truckload	61%
Expedited	55%
Truckload	49%

Intermodal	47%
Refrigerated	45%
Flatbed	44%
Final mile	34%
Bulk	30%
White glove	25%
Household goods	21%
Tanker	17%
Motor vehicle carrier	9%
Small package	6%

CERTIFICATIONS

SmartWay	92%
Hazmat	79%
C-TPAT	63%
Free and Secure Trade (FAST)	39%

Partners in Protection (PIP)	27%
ISO	18%
ACC Responsible Care	10%
None	2%

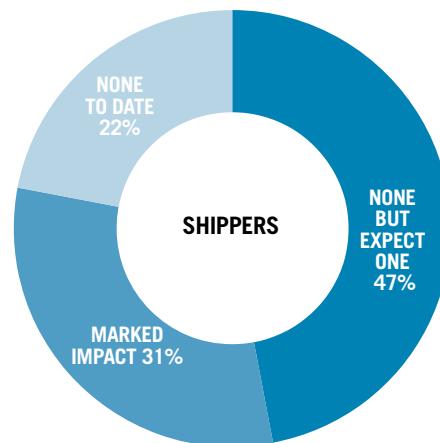
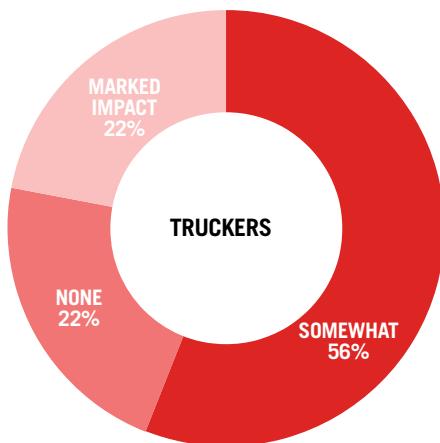
VERTICAL SPECIALTY

Food & beverage	79%
Retail	77%
Construction	74%
Freight all kinds	73%
Automotive	69%
High-value	68%
Furniture	65%
Chemicals	62%
Agriculture	58%
Oil & gas	31%

Source: *IL* Trucking Perspectives Survey 2017



FIGURE 6 What impact have Hours-of-Service regulations had on your operations?



With capacity once again a major concern, many carriers are branching out to secure additional capacity through networking and partnerships. Eighty-one percent of carrier respondents say they operate a freight brokerage business under the umbrella of their operation.

When asked if carriers or brokers are more important, 47 percent of shippers say that the two are equally important, 38 percent say that carriers are more important, and 16 percent side with brokers (see Figure 7). However, as 3PLs and brokers acquire assets, and carriers acquire or start up brokerage operations, the line between carrier and broker may blur more than ever before.

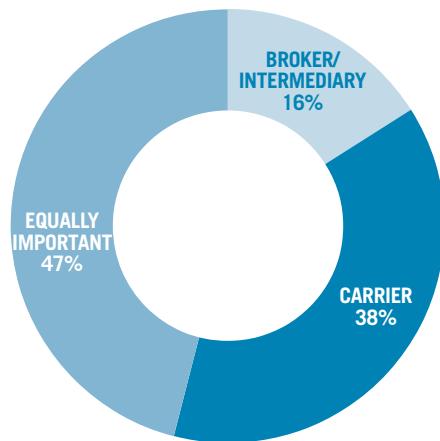
That said, shippers still know what they want from their carriers. Reliability tops the list, with 90 percent of respondents naming it as most important (see Figure 3). Price is a close second with 86 percent, and customer service comes in third with 67 percent. This data suggests that, even though cost is important to shippers, they will still choose a quality carrier over a cheap one.

2017 TOP 100 TRUCKERS

Inbound Logistics' annual Top 100 Truckers directory (page 60) brings Trucking Perspectives full circle with an in-depth index of carriers that match the diverse and demanding needs of the shipping community.

IL editors selected this year's list from a pool of 200-plus trucking companies, evaluating surveys, conducting online research, and talking with shippers and truckers alike. This guide serves as

FIGURE 7 SHIPPERS: What is more important, your relationship with your carrier or with your broker/intermediary?



a benchmark for the types of services transportation buyers value when looking for new partners or evaluating current ones.

The Top 100 list offers a snapshot of the trucking segment, including large truckload and LTL carriers with global inroads and niche-specific regional haulers that get their white gloves dirty delivering to the final mile.

Together, Trucking Perspectives and the Top 100 Truckers directory provide a comprehensive guide to help you find partners that will drive your company in the right direction. ■

TOP 100 TRUCKERS

COMPANY	URL	PHONE	GENERAL INFORMATION							AREAS SERVED/ OPERATING AREAS				
			TRACTOR AND VAN FLEET SIZE	TRAILER FLEET SIZE	NUMBER OF DRIVERS (INCLUDING OWNER OPERATORS)	USE ELECTRONIC ON-BOARD RECORDERS	UNION STATUS	PUBLIC OR PRIVATE	GLOBAL SERVICES	NORTH AMERICA	U.S. ONLY	NATIONWIDE (48 STATES)	REGIONAL/MULTI-REGIONAL	
A. Duie Pyle	aduiepile.com	610-696-5800	950	2,300	1,150	●	N	PRIV		●				
A&R Logistics	ardointright.com	800-542-8058	750	1,100	750	●	N	PRIV	●	●				
AAA Cooper Transportation	aaacooper.com	334-793-2284	2,523	6,523	3,457	●	N	PRIV	●	●				
ABF Freight	arcb.com	479-785-8700	4,200	21,000	7,000	●	B	PUB		●				
All State Express	allstateexpress.com	877-742-5875	150	225	200	●	N	PRIV		●				
Averitt Express	averitexpress.com	931-520-5144	4,563	14,564	5,201	●	N	PRIV	●	●				
Barr-Nunn	barr-nunn.com	888-268-6610	565	1,850	575	●	N	PUB	●	●				
Bennett International	bennettig.com	770-957-1866	1,815	1,927	2,752	●	N	PRIV	●	●				
Bison Transport	bisontransport.com	204-833-0291	1,439	4,133	1,835	●	N	PRIV		●		●		
Brown Trucking Company	brownintegratedlogistics.com	336-362-0799	5,950	5,050	832	●	N	PRIV			●		●	
C.R. England	crengland.com	888-725-3737	4,000	5,999	6,276	●	N	PRIV		●				
Cardinal Logistics Management	cardlog.com	704-786-6125	4,000	12,700	3,500	●	N	PRIV			●	●		
Cargo Transporters	cgor.com	828-459-3282	2,350	1,800	550	●	N	PRIV			●	●		
Celadon Trucking	celadontrucking.com	317-972-7000	5,525	15,000	3,100	●	N	PUB		●				
Central Freight Lines	centralfreight.com	800-782-5036	1,079	3,276	DNR	●	N	PRIV			●		●	
Challenger Motor Freight	challenger.com	519-653-9770	1,500	3,300	1,500	●	N	PRIV	●	●				
Colonial Cartage	atlantabonded.com	678-322-3120	90	225	75	●	N	PRIV			●		●	
Colonial Freight Systems	CFSI.com	865-966-9711	300	500	300	●	N	PRIV			●		●	
Columbian Logistics Network	columbianlogistics.com	616-514-5977	62	200	75	●	B	PRIV			●	●		
Continental Expedited Services	shipces.com	615-933-0000	75	150	135	●	N	PRIV	●					

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Contract Freighters Inc. (CFI)	cfidrive.com	800-641-4747	2,600	7,000	3,100	●	N	PUB		●			
Covenant Transport	covenanttransport.com	423-463-3266	2,850	6,600	3,900	●	N	PRIV		●			
Crete Carrier	cretecarrier.com	402-479-7322	6,000	13,000	5,500	●	N	PRIV			●	●	
CRST	crst.com	319-731-3841	6,035	14,554	9,953	●	N	PRIV			●	●	
Daily Express	dailyexp.com	800-733-2459	250	500	250	●	N	PRIV		●			
Dart Transit	dart.net	800-366-9000	2,250	7,090	2,027	●	N	PRIV		●			
Daseke	daseke.com	972-248-0412	2,000	3,600	DNR	●	N	PRIV	●	●			
Daylight Transport	dylt.com	800-468-9999	500	100	180		N	PRIV		●		●	
Dayton Freight Lines	daytonfreight.com	937-264-4060	1,373	3,896	2,038	●	N	PRIV			●		●
Epes Transport System	epestransport.com	800-869-3737	1,200	4,500	1,450	●	N	PRIV			●		●
Erb Group of Companies	erbgroup.com	800-265-2182	850	1,300	900	●	N	PRIV		●			
Estes Express Lines	estes-express.com	804-353-1900	7,561	26,718	8,952	●	N	PRIV	●	●			
Evans Delivery Company	evansdelivery.com	570-218-3320	3,500	550	3,500	●	N	PRIV		●		●	
FedEx Custom Critical	customcritical.fedex.com	800-762-3787	1,150	345	2,030	●	N	PUB	●	●			
FedEx Freight	fedex.com	800-463-3339	14,400	43,526	18,000	●	N	PUB		●			
FedEx Ground	fedex.com	800-463-3339	30,000	13,000	34,000	●	N	PUB		●	●		
Freight Exchange (Redwood Logistics)	redwoodlogistics.com/full-truckload	312-612-2200	287	573	304	●	N	PRIV			●	●	
Frozen Food Express	ffeinc.com	214-630-8090	920	1,350	919	●	N	PRIV			●	●	
Groendyke Transport	groendyke.com	800-843-2103	1,023	1,496	939	●	N	PRIV		●			
Heartland Express	heartlandexpress.com	800-451-4621	4,000	12,000	4,000	●	N	PUB			●	●	

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Highland Transport	highlandtransport.com	905-513-2014	175	440	200	●	B	PUB		●			
Holland	hollandregional.com	800-456-6322	4,190	6,886	6,221		B	PUB		●			●
Horizon Freight Lines	horizonfreightlines.com	812-526-3380	105	360	135	●	N	PRIV		●			
Hub Group	hubgroup.com	630-271-3600	1,000	DNR	2,600	●	N	PUB		●			
J.B. Hunt Transport	jbhunt.com	800-452-4868	12,933	114,924	16,847	●	N	PUB	●	●			
Kenan Advantage Group	thekag.com	800-969-5419	6,631	10,597	7,045	●	N	PUB		●			
KLLM Transport Services	kllm.com	601-936-5633	2,300	3,300	2,400	●	N	PRIV			●	●	
Knight Transportation	knighttrans.com	602-300-9408	4,101	14,000	5,000	●	N	PUB		●			
Landstar System	landstar.com	877-696-4507	9,439	15,170	9,439	●	N	PUB	●	●			
Lily Transportation	lily.com	800-248-5459	716	980	775	●	N	PRIV		●			
Lynden	lynden.com	888-596-3361	768	2,889	967	●	B	PRIV	●	●		●	●
Marten Transport	marten.com	800-395-3000	2,900	5,100	2,800	●	N	PUB		●			
McLeod Express	mcleodexpress.com	800-709-3936	1,350	950	345	●	N	PRIV			●		●
Melton Truck Lines	meltontruck.com	918-270-9660	1,316	2,106	1,183	●	N	PRIV		●			
Mercer Transportation	merc-trans.com	800-626-5375	2,300	2,500	2,300	●	N	PRIV		●			
Miller Transporters	millert.com	601-709-5901	440	1,090	425	●	B	PRIV		●			
Moran Transportation	morantransportation.com	847-439-0000	250	300	265	●	U	PRIV			●		●
National Retail Systems	nationalretailsystems.com	201-330-1900	1,200	6,500	900	●	U	PRIV		●			
New England Motor Freight	nemf.com	908-965-0100	2,000	6,000	1,737	●	B	PRIV			●		●
New Penn	newpenn.com	800-285-5000	718	1,535	1,137		B	PUB		●			●

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NFI	nfiindustries.com	877-785-3112	2,468	8,300	2,758	●	N	PRIV	●	●			
Nussbaum Transportation	nussbaum.com	309-268-1189	1,140	800	340	●	N	PRIV			●	●	
Oak Harbor Freight Lines	oakh.com	253-288-8300	2,500	2,000	650	●	B	PRIV		●		●	
ODW Logistics	odwlogistics.com	614-549-5000	148	351	220	●	N	PRIV			●		●
Old Dominion Freight Line	odfl.com	800-235-5569	8,401	32,300	9,786	●	N	PUB	●	●			
PAM Transport	pamtransport.com	800-879-7261	1,480	5,170	DNR		N	PUB		●			
Paschall Truck Lines	ptl-inc.com	270-753-1717	1,350	3,200	1,500	●	N	PRIV		●			
Penske Logistics	penskelogistics.com	800-529-6531	3,277	8,780	4,586	●	B	PRIV	●	●			
Performance Team/ Gale Triangle	performanceteam.net	424-358-6940	750	2,329	950	●	N	PRIV			●	●	
Pitt Ohio	pittohio.com	412-232-3015	1,632	3,464	2,097	●	N	PRIV	●		●	●	
Prime	primeinc.com	417-866-0001	5,707	12,589	7,134	●	N	PRIV		●			
Quality Distribution	qualitydistribution.com	800-282-2031	3,000	5,500	DNR		N	PUB		●			
R+L Carriers	rlc.com	800-543-5589	6,000	14,000	5,000		N	PRIV	●	●			
Red Classic Transportation	red-classic.com	980-275-5770	550	1,900	820	●	N	PRIV			●		●
Reddaway	reddawayregional.com	888-420-8960	1,530	4,290	3,000		B	PUB		●			●
Roadrunner Transportation	rrts.com	414-486-8449	4,319	6,494	4,439		N	PUB	●	●			
Roehl Transport	roehltransport.com	715-591-3795	1,969	4,953	2,015	●	N	PRIV		●			
Ruan	ruan.com	866-782-6669	3,425	8,165	4,400	●	B	PRIV	●	●			
Ryder System	ryder.com	800-793-3765	73,300	42,800	7,700	●	B	PUB	●	●			
Saddle Creek Transportation	sclogistics.com	888-878-1177	550	2,072	587	●	N	PRIV		●			●

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Saia LTL Freight	saia.com	800-765-7242	4,000	13,000	4,800	●	N	PUB			●	●
Schilli Corporation (MDS, CCI, KBI and BTC)	schillicorp.com	636-717-2600	340	580	330	●	B	PRIV		●		
Schneider	schneider.com	920-592-4200	10,500	37,900	14,000	●	B	PUB	●	●		
Southeastern Freight Lines	sefl.com	803-794-7300	2,919	8,699	4,103	●	N	PRIV	●	●		●
Standard Forwarding	standardforwarding.com	309-751-0251	377	668	452	●	U	PUB	●		●	●
Superior Bulk Logistics	sbl.com	630-573-2555	1,050	2,010	950	●	N	PRIV		●		
Swift Transportation	swifttrans.com	800-200-2200	18,000	60,000	21,000	●	N	PUB		●		
System Freight	systemfreight.net	609-395-8600	360	2,400	375	●	B	PRIV		●		
Transport America	transportamerica.com	651-686-2504	1,470	4,167	1,633	●	N	PUB		●		
Trimac Transportation	trimac.com	403-298-5100	2,175	4,828	2,596	●	B	PRIV		●		
U.S. Xpress	usxpress.com	866-797-7912	5,250	13,500	5,500	●	N	PRIV		●		
UniGroup Logistics	unigrouplogistics.com	636-349-7467	4,000	6,000	3,500	●	N	PRIV	●	●		●
Universal Logistics Holdings	UniversalLogistics.com	586-467-1457	3,801	6,890	3,973	●	B	PUB	●	●		
UPS Freight	lfl.upsfreight.com	800-333-7400	5,600	21,300	8,500	●	B	PUB	●	●		
USA Truck	usa-truck.com	479-471-2500	1,600	5,700	1,600	●	N	PUB		●		
Ward Transport & Logistics	wardtlc.com	800-458-3625	570	1,050	600		N	PRIV		●		
Werner Enterprises	werner.com	402-895-6640	7,363	23,860	9,528	●	N	PUB	●	●		
Western Express	westernexp.com	615-259-9920	2,500	5,370	2,612	●	N	PRIV			●	●
XPO Logistics	xpologistics.com	844-742-5976	8,500	25,000	24,330	●	N	PUB	●	●		
YRC Freight	yrcreight.com	800-610-6500	7,700	31,000	8,000	●	U	PUB		●		

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Data By the Truckload

Rick Erickson

Global Director of Freight Payment Solutions, U.S. Bank

Q: *With increasing access to data, it can be difficult to hone in on the information relevant to shippers. How can they determine which data to analyze?*

A: Whether it's orders, shipments, tracking and shipping status reports, or freight invoices, shippers have abundant access to data. And although technology is supposed to make it easy to obtain critical data, it can also make it easy to get buried in an avalanche of too much information.

Because every business is different, a shipper's needs have their own set of unique challenges. Tackling them all at once isn't realistic, so the first step is deciding which measures to improve. Those focus areas can help narrow the scope of analysis and guide shippers on how to adapt processes.

Q: *What external forces are making the need for data even more crucial?*

A: One of the many external forces that shippers deal with is capacity fluctuation, but they don't always realize that data analysis can help them prepare. Carriers cannot always provide capacity, and this will likely be an increased threat in the future. When their usual carriers can't keep



up with demand, shippers tend to "pound the phones," calling around until they can find a carrier with capacity.

Having insight from data can change the way they procure freight by giving you a complete view of a transportation network, allowing shippers to predict when and why carriers are taking less of their freight.

Q: *What sources are available to shippers in search of reliable, quality data?*

A: An often overlooked source of data is the freight bill, which contains an inordinate amount of information. The freight audit and payment process is much

more than the last step in closing the loop on a transaction—it provides valuable and useful data at your fingertips. Once the proper business rules, audits and data conditioning have been applied, freight bills contain rich and accurate data. Examining this information will help you better understand your spend across different variables and can even inform future supply chain decision-making.

Q: *In the presence of too much data, it's clear shippers shouldn't have to face analysis alone. What should they consider when enlisting a data analytics and consulting provider?*

A: Fraud and information security continue to be an ongoing conversation as hackers and cyber terrorists become savvier. The data shared between supply chain partners contains business critical information. If that were to be compromised, it would cause a major disruption in an organization's business and negatively impact its bottom line. Not only is it important to be concerned about the safety, security and reliability of the provider you are entrusting, it is equally important they apply that same scrutiny to how the provider handles the data they have access to and are transmitting.

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Transportation Management At the Border

Eric Meyer

EVP Operations, Landstar Transportation Logistics

Q: *How have trends in U.S./Mexico cross-border operations shaped today's supply chain?*

A: There is a continuous rebalancing that occurs within the U.S./Mexico cross-border transportation services environment. For years now, there has been an imbalance of freight shipments moving north to the United States vs. freight moving south into Mexico. Some of this is attributable to the significant portion of southbound shipments consisting of raw materials and manufacturing components exported to Mexico in comparison to northbound shipments typically consisting of finished products for export back to the United States.

In other situations, freight will move into an area of Mexico to be distributed throughout that country. This eliminates a lane by which capacity can return their assets to the U.S. market, and produces a situation by which transportation management companies must create programs to optimize the available capacity in the market.

Transloading allows for optimization of tractor and trailer capacity. Transportation management providers can use their facilities to balance the needs of the customer with the shifts in available capacity to provide the best solution. These balance shifts, which can occur daily, must be managed accordingly to maximize each and every available capacity unit.



Q: *Why are cross-dock facilities in high demand?*

A: Cross-dock facilities allow for increased trailer asset and capacity utilization, which provides customers more options to get their products safely through the border and to the ultimate destination.

For the customer, there is a definite advantage in allowing transloading of its shipments due to increased capacity options, which ensures freight is moved in the most efficient and competitively priced method available. But it is important to note that while there is a significant number of small U.S. carriers that move freight to and from the U.S./Mexico border, most of these carriers do not have the infrastructure or assets to take advantage of the opportunity that exists without collaborating with a more robust company.

Q: *What should customers look for when searching for a company to carry their freight across the U.S./Mexico border?*

A: Customers should look for transportation management companies that have the ability to provide a full suite of cross-border service offerings.

The primary consideration when choosing a provider is that the capacity transporting the freight has a record of safe, reliable service, with damage-free performance.

In addition, a company should be a CTPAT-compliant carrier to transport goods, provide customs brokerage services, and have the appropriate resources to meet any transload requirements across several border crossing points.

Additionally, transportation management companies that offer multimodal solutions may provide customers with more efficient and economical transportation solutions.

Other services should include LTL consolidation and deconsolidation, expedite intermodal and ocean services.

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Turbocharge Your WMS

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VMI Solutions Carried Out by 3PLs in the Life Sciences & Pharmaceuticals Industry

Jeff Luthman

Vice President Life Science Solutions, MD Logistics

Third-party logistics (3PL) providers specialize in maximizing their customers' supply chain processes. Recently, 3PLs have innovated their practices to extend pharmaceutical supply chains for special projects, such as packaging and kitting. Vendor-managed inventory (VMI) is a natural evolution of these extended services.

Q: *What is VMI in the life sciences and pharmaceuticals industry?*

A: Pharmaceutical supply chains are strictly regulated and require an extraordinary degree of oversight. This necessary control makes it difficult to anticipate inventory levels, and lessens the ability to respond to fluctuating order volume. VMI solutions offer the ability to anticipate demand in real time and adjust supply levels accordingly, allowing the distributor to assume the role of inventory planning for the customer.

This presents an opportunity for the pharmaceutical industry, as many products are either costly or out-date quickly. VMI is achieved by offering value-added services, such as kitting or holding inventory onsite to be closer to the customer's manufacturing facility.

Q: *What is required for implementation?*

A: A fluid and effective VMI solution requires the three following elements to work together:



1. Integration. The best 3PL providers offer robust information technology services that have the power and flexibility to seamlessly integrate their WMS with customers' ERP applications.

2. Transparency. Fully integrating a customer's supply chain requires complete high-level transparency that is built on a foundation of trust. An enhanced view of a customer's supply chain allows the 3PL provider to accurately monitor demand and proactively monitor supply inventory.

3. Expertise. Professional analysis is required in order to isolate trends that impact order volume and inventory levels. With this information, 3PL providers can accurately project demand and manage inventory.

Q: *What are some of the barriers and benefits of VMI?*

A: Historically, the life sciences and pharmaceuticals industry has been slower to adopt emerging trends mainly due to the sensitive nature and strict biological regulations associated with pharmaceutical product.

An experienced and knowledgeable 3PL provider can help life sciences and pharmaceutical customers adopt VMI as a supply chain management practice. There are several benefits to be recognized as a result of this solution:

- **Supply chain visibility:** Integrated systems and oversight allows for real-time analysis of inventory levels, allowing 3PLs to quickly and efficiently anticipate needs.
- **Reduce unnecessary overstock or stock-out situations:** By constantly monitoring order volume and projecting anticipated demand, 3PL providers can mitigate overages and shortages, quickly moving product that will soon outdate
- **Minimizing risk:** Precision is key when handling sensitive and expensive pharmaceuticals. Through transparency and analytics, 3PL providers utilizing VMI solutions maximize order precision, preventing unnecessary handling and overstock of these expensive pharmaceuticals.

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Getting More Bang for Your Bucks

Freight transportation networks within the United States move billions of tons of goods, worth trillions of dollars. The carriers who move these goods often issue lengthy, complicated, and confusing bills for their services. To ensure shippers pay those freight bills on time—the amount they owe, but no more—many turn to third-party freight bill audit and payment service providers. Here's a look at the benefits, and some of the leading providers in the segment.



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Getting More Bang for Your Bucks

“Freight bills are not straightforward,” notes Nicholas Fisher, director of sales with AR Traffic Consultants, a New York-based provider of advanced transportation management software and third-party logistics. “Like in the airline industry, no two shippers pay the same price.”

Two companies shipping the same commodity from the same city, at the same weight, using the same carrier, and going to the same destination can pay different amounts. The variances arise from differences in the overall volume each shipper provides a carrier, their negotiating abilities, and the accessorial charges assessed, among other factors.

Not only do rates vary between companies, but many rates change regularly. Most carriers modify their rate base annually. They also adjust rates, sometimes weekly, as fuel costs rise or fall.

Assessing Accessorials

Accessorial charges can be particularly difficult to research and check, as they often aren’t known until after a shipment is completed. Say a carrier arrives at a facility ready to unload, but no personnel are available to accept the load and the carrier must return the next day. Many carriers charge for the additional time and work.

In addition to checking that bills are accurate, a growing number of shippers rely on freight pay firms to help analyze freight spend, with an eye toward reducing costs and optimizing the supply chain.

“Years ago, good audit savings were sufficient,” says Keith Snavelly, senior vice president, global sales at nVision Global Technology Solutions, Inc., a global freight bill audit and payment provider based in McDonough, Georgia. While audit savings remain important, the focus has shifted to using

the data for business intelligence.

After all, providers of freight audit and payment services already capture information such as the cargo volume each shipper sends to different locations and the transportation modes they use to get it there. By examining and analyzing this data, freight audit and payment providers can help shippers streamline transportation and cut costs.

“The goal is to gain insight that can create a competitive advantage,” says Shannon Vaillancourt, president of RateLinx, a Madison, Wisconsin-based provider of customized shipping and

While audit savings remain important, the focus has shifted to using data for business intelligence.

logistics management software tools and consulting.

While shippers have long been interested in analyzing and optimizing freight spend, several factors make this exercise even more critical now. One is the pace of change.

“For many shippers, changes result from e-commerce and omnichannel,” says Chris Connell, CEO of Memphis-based Veraction, which provides transportation spend management solutions. “But change is spinning faster now than ever before.”

Most shippers are looking for better ways to control transportation costs. “Supply chains are longer, and lead times are shorter,” Connell says. The result? Freight costs account for an increasing portion of overall expenses.

Moreover, a growing number of shippers—most notably in retail—must move their goods not just to stores, but directly to consumers. These shipments

typically travel by parcel, which is significantly more expensive than bulk freight.

“Our customers are looking for a way to avoid an unfavorable hit to the bottom line,” says Rick Erickson, global director of freight payment solutions with Minneapolis-based U.S. Bank. “They are turning to their freight payment process to unlock working capital either through improved operational efficiencies or improved cash flow.”

To add further complexity, many consumers expect their purchases to ship for free. “With free shipping, companies need a pulse on what’s happening with their transportation spend. It means the difference between making money or not,” says Harold Freidman, senior vice president, global corporate development with Data2Logistics, a Fort Myers, Florida-based provider of supply chain logistics, cost management, and freight payment services.

Along with these changes, transportation capacity is tightening, which is also driving up costs. “The old strategy of yelling at your carrier to lower rates doesn’t work anymore,” Vaillancourt says. Instead, companies need to use data and gain visibility to the strategies that will unlock savings.

Going Global

Until recently, it was primarily companies in North America that had access to and interest in freight spend data. Now, a growing number of companies around the world are interested in using this information to optimize their supply chains.

Moreover, no matter where they’re located, more companies expect to be able to analyze freight spend across all modes and regions of the world. “They’re able to leverage the data to make better business decisions,” says David Wedekind, senior director,

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global operations for enVista, a global supply chain consulting and IT services firm with global headquarters in Indianapolis, and EMEA headquarters in Liverpool, UK.

Companies that provide these services need to understand and handle differences between regions and countries. "There's a wide disparity between what constitutes a valid audit in the United States and Europe, and by country in Asia and Latin America," notes Alan Chute, senior vice president, solution design with Trax Technologies, a global logistics and freight audit and payment firm based in Scottsdale, Arizona.

Taxing Differences

The differences often derive from tax regulations. For instance, in Europe, companies typically can't adjust an invoice without getting a credit note from the invoice provider. "The tax authorities want the amounts on both buyers' and sellers' books to be consistent," Chute says. The added scrutiny reflects the fact that transportation is subject to a valued-added tax (VAT) across much of Europe.

Reconciling the documents often requires deeper manual processes than might be required stateside. "It goes beyond just determining if charges have been billed correctly," Chute adds.

Shippers looking for experts who can audit, analyze, and process their freight bills can turn to a range of firms, including these leaders.

A3 Freight Payment

A3 Freight Payment provides managed, customized freight payment solutions to large-volume shippers. "We focus on shippers spending at least \$20 million to \$30 million on freight annually, with complex processing requirements," says Ross Harris, CEO. They typically seek a high degree of customization, exceptional customer service, reliable processing, and minimum resource involvement in managing their solution.

One key to serving these companies is A3's Resolve application, which



"You can't do everything well. We decided to focus on freight invoice process and payment."

Ross Harris, CEO, A3 Freight Payment

combines both technology and processes to efficiently handle exceptions. It brings together customers, carriers, and A3's professional staff to propose adjustments and find the root cause of exceptions, minimizing the likelihood they'll recur.

Harris compares that to the traditional exception handling model. Say a carrier submits a bill for \$1,000. The shipper thinks the bill should be \$900 and sends that amount, along with an explanation. The result often is an endless loop of balance due notices. "It muddies the data and causes consternation with the carriers," he says.

The Resolve solution requires reengineering the process flow, and that can meet with resistance, Harris notes. However, it also eliminates balance and past due invoices, and enables the parties to correct errors proactively by identifying the root cause and working within a closed loop process.

Fire Prevention

Another point of differentiation is A3's use of dedicated account management teams. "We don't have a customer service or carrier service department," Harris says. Any issues are handled by

the account management team, which has an incentive and the resources to identify and address the cause of problems. "Customer service departments can be terrific fire fighters," Harris says. "However, we want folks to own the building, so the fire doesn't break out."

While A3 can provide consulting services, it focuses on supplying customers with the data and tools they can use to gain insight that informs their decisions. "You can't do everything well," Harris says. "We decided to focus on freight invoice process and payment."

At the same time, A3 continues to evolve its business. Currently, it is working with a major appliance manufacturer that has begun delivering and installing its products itself, bypassing retailers and other middlemen.

Corporate management needs to know, for instance, if the appliance was installed, if overtime was required, and any reasons an appliance wasn't installed. "That information is critical in the last-mile space," Harris says.

AR Traffic Consultants

AR Traffic Consultants has been providing advanced transportation logistics software and third-party logistics services since 1964. Over the past 50 years, the desire to control the cost of moving product from Point A to Point B hasn't changed, even as many other aspects of the industry have, says Nicholas Fisher, director of sales.

"Our customers are constantly looking for more power at their fingertips and more functionality from our web portals," Fisher says. They want one source that generates reports and provides graphical representations of their data. They also want benchmarking information and comparative analytics.

AR can provide this. Its cloud-based portal offers a menu of standard reports and allows companies to build their own. "And, we have the tools and broad customer base to allow clients to quickly benchmark with similar companies," Fisher says. Clients can leverage this information to negotiate better rates.

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One ongoing debate in the freight payment sector centers on the relative advantages of managing transportation in house versus outsourcing it to a 3PL who might be expected to negotiate better freight rates.

In Fisher's experience, the value of using a 3PL to negotiate is most pronounced with companies that have less than \$50 million in annual sales. "Mid-sized or large companies do just as well negotiating rates with their own carriers," he notes.

When it does its own negotiations, a company can leverage the information contained in its freight bills, including shipment origins and destinations, volume, and the products being moved. AR Traffic can aggregate this information so companies can analyze overall shipment volume and freight spend, and average weight per shipment.

AR Traffic helps companies negotiate freight rates without directing them to specific carriers. "We don't own contracts with certain carriers," Fisher says. "This enables customers to get the best deal they can."

"Freight bills are so complicated, a whole industry has grown up to help companies manage them."

Nicholas Fisher, Director of Sales
AR Traffic Consultants

Catching, Resolving Errors

AR Traffic also audits freight bills. Carriers typically misbill an average of 1 to 2 percent on outbound shipments, and 2 to 4 percent on inbound, Fisher says. The reason for the difference? Typically, the shipper has more control over outbound shipments. When a company pays for inbound shipments, it rarely controls, for instance, when a truck is loaded or what's loaded on it.

Some carriers inadvertently issue duplicate bills, which typically happens when a shipper lags in paying a bill, and the carrier issues another. AR Traffic can watch for and resolve this.

Cass Information Systems

Cass Information Systems started in the 1950s as an extension of a financial institution. Today, Cass Commercial Bank is a wholly owned subsidiary of Cass Information Systems.

"As part of a financial institution that's publicly traded, we have greater oversight," says Travis Sumner, director of global sales and marketing with the St. Louis-based firm. Cass is subject to regulation and examination by the SEC, Nasdaq, the Federal Reserve Bank, and the Missouri Division of Finance regarding accounting standards and controls, disclosures, corporate governance, and safety and soundness.

The Business of Finance

Through its ownership of Cass Commercial Bank, Cass has the processing capability, operating systems, and financial integrity to safely and effectively manage the movement of funds from customers to their suppliers. Each year, for its Transportation Information Services business unit, Cass Information Systems makes payments totaling \$23 billion, covering 34 million invoices for more than 111 million parcel packages.

Over the past few years, Sumner has observed a growing interest in supply chain finance. "Shippers want to increase working capital," he says. While one way to accomplish this is by extending carrier payment terms, not all carriers will agree.

Cass works with shippers and carriers to design programs that enable shippers to keep their cash longer, while still allowing carriers to be paid quickly. Say a shipper wants to extend payment terms from 30 to 60 days. "Cass can leverage the shipper's credit to offer accelerated payments to carriers," Sumner says.

Once the carrier accepts the extension, it still has early access to the funds, at a discount rate based on the shipper's financials. Many shippers are larger and stronger than their carriers, which typically makes the discount rate more

attractive. "We leverage the shipper's credit rather than the carrier's credit," Sumner adds. "Shipper keep their cash longer and carriers still are paid earlier."

The growing number of e-commerce transactions also is impacting freight bills. More items are shipped in small packages, rather than truckload and LTL. Moreover, retailers and many manufacturers now ship more products directly to consumers. Cass works with clients to analyze the impact of shifting transportation modes.

When Cass begins working with a company, the implementation schedule can range from two to six months. During an implementation, Cass receives information on shipment activity (electronic files), contracts, rates, business rules, the reporting the customer wants, and their invoices.

Implementation can involve "a number of moving parts and constituents," Sumner says, and can require significant involvement of the accounting



"Cass works with shippers and carriers to design programs that enable shippers to keep their cash longer, while still allowing carriers to be paid quickly."

Travis Sumner, Director of
Global Sales and Marketing,
Cass Information Systems



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and finance departments, along with other areas.

Rather than force clients into predetermined reporting formats, Cass develops custom solutions. “We learn what frequency and format they want,” Sumner says. Once the solution launches, Cass and the client collaborate to manage the system and tweak business rules as the customer evolves.

CT Logistics

CT Logistics has one of the longest tenures in the freight bill audit and payment space—94 years, says President Allan J. Miner. Over that time, it expanded its core freight audit and payment service offerings to include broad-based TMS products, business intelligence, analytics, and supply chain software and solutions. It operates from offices in the United States, as well as England, Singapore, and Ukraine.

Because CT Logistics has worked with most carriers from around the world, its database already includes most of their

base tariffs. That streamlines the process for working with new clients. The Least Cost Rating (LCR) service allows clients to input shipment parameters, and based on the shipper’s agreements with carriers, offers options from lowest to highest cost, including transit times.

“CT’s value-added services provide a complete delivery system based on customized supply chain services,” Miner says. “Through CT’s Freight Under Management (FUM) service, clients realize immediate saving and increased supply chain efficiencies.”

CT also provides reports including high-level dashboards that enable clients to analyze their transportation spend in detail. The reports can include specific customized data so clients can analyze transportation expense by location, supplier, customer or region.

After a freight bill is paid, CT sends clients reports that allocate freight cost down to the SKU level and to specific general ledger accounts. Also, CT prepares a client’s bill of lading file, and provides an accrual of the expected

freight expense. These accounting services provide seamless, downstream allocation to client ERP systems.

CT’s professional services group works with clients to provide specific traffic management support with their carriers. “We can show which carriers provide best net pricing,” Miner says. The professional services staff also performs special studies, data modeling and analysis, benchmarking, and other projects. CT also provides loss and damage claim processing, in addition to routing and tendering solutions. “We act as a client’s traffic management department,” Miner says.

Taming Transportation Costs

An internally developed solution, CT LION—Logistics Intelligence Optimization Network—is a global supply chain modeling software that can cover multiple legs and transportation modes. If a company needs to ship cargo from China to Atlanta, CT LION can “knit together the solutions and show all potential multimodal routes



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“CT provides customized data reports to help companies analyze transportation expense by location, supplier, customer, or geographic region.”

Allan Miner, President, CT Logistics

with their associated transit times and costs,” Miner says.

CT also offers a group buying program, Transaver, that provides shippers premium freight discounts. “It’s like Sam’s Club for freight,” Miner says. CT aggregates clients’ freight spend to negotiate discounts for upfront cost savings.

CT Logistics is committed to keep growing and reinventing itself. “We’re an IT company with a focus on logistics, freight management and audit, and TMS solutions,” Miner says. “All these quivers allow us to be an effective short- and long-term partner with our clients.”

CTSI-Global

CTSI-Global, based in Memphis, provides freight bill audit and payment, business intelligence, TMS, and supply chain consulting services. It processes more than 3 million transactions daily, and more than \$9 billion in freight annually.

Three themes dominate the freight bill industry today: technology, globalization, and visibility, says Ken Hazen, president and CEO. When CTSI-Global started 60 years ago, it housed paper copies of hundreds of thousands of tariff rules and used typewriters to complete claims. Now, CTSI-Global has 15 million rates filed electronically. The company can connect with almost any ERP or other supply chain or financial system. CTSI-Global’s goal is to remain about 18 months ahead of its customers’ technical capabilities.

Globalization also is changing the way CTSI-Global operates. Many conglomerates that operate in multiple countries manage freight on a decentralized basis. However, they see the value of a centralized database for shipping costs. “Many companies are charged for the same shipment in several countries,” Hazen says. It’s often a carrier oversight, but still boosts expenses. Moreover, if the companies only review freight payments by individual country, they’re unlikely to notice the multiple payments.

\$100 Million in Savings

By working from a central database, shippers also can better negotiate rates. CTSI-Global worked with one client that cut its annual freight spend by \$100 million. How? “When you consolidate all your freight bills, you can do a global bid versus individual country bids,” Hazen adds. A shipper is more likely to get better rates by showing carriers its total shipment volume.

At the same time, it’s important for U.S.-based freight bill providers to maintain offices around the globe, Hazen says, noting that CTSI-Global has offices in Ireland, Singapore, and India. Together, CTSI-Global employees speak more than one dozen languages.

In addition, trying to make payments in a currency other than the local one, or to use non-local banks, can prompt delays and add costs. Payment is vulnerable to currency fluctuations, which can cost the shipper money. And when a payment is sent from, say, a U.S. bank to a corresponding bank in another part of the world, that bank often takes several

days to process it, and then charges a fee.

The visibility and business intelligence CTSI-Global offers also is critical. “Customers are looking for better controls,” Hazen says. In addition to improving how they manage outbound shipping costs, some shippers are trying to get a better handle on vendor costs. “A lot of costs are often baked into the cost of materials,” he adds.

CTSI-Global’s clients typically have annual freight spend between \$10 million and \$1 billion. By using CTSI-Global’s business intelligence software and negotiating rates, shippers can save up to 15 percent of freight spend. This is a result of their ability to better understand—and thus manage—freight. With CTSI-Global’s systems, they can examine freight expense by transport mode, product, country, and many other factors. In addition, CTSI-Global’s freight bill audit and payment services can help shippers cut 2 to 5 percent from their freight bills.

Data2Logistics

Each year, Data2Logistics, based in Fort Myers, Florida, processes hundreds of millions of freight bills, disburses billions of dollars in carrier payments, and offers a single source of visibility to actionable data.

In the more than five decades that Data2Logistics (D2L) has been working in the freight bill market, the focus has shifted from largely settlement services to audits, reporting, and information.

“Today, we focus on providing clients visibility and actionable information and insight so they can optimize their transportation network across the globe and all modes,” says Harold B. Friedman, senior vice president, global corporate development.

For instance, D2L might create a map that starts at a Nevada warehouse and lists a client’s product flows to different cities across North America, along with their frequency and tonnage, with alerts for variances in different categories, such as cost per pound.

D2L can easily create any type of reporting a client needs. If an auto manufacturer needs to see its freight

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As seen in
Gartner Inc.'s
Market Guide for
Freight Audit and
Payment Providers,
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costs categorized by VIN number, or a retailer needs this information by product category or store, D2L can do it.

Friedman uses six "A's" to describe Data2Logistics' services for shippers:

1. Aggregate information globally, while considering local customs and regulations, such as value-added taxes.
2. Analyze all modes of transportation.
3. Automate bill processing.
4. Audit to ensure bills are accurate.
5. Allocate transportation costs to the appropriate area or stock-keeping unit.
6. Provide Actionable analytics so shippers can make informed decisions.

To continue to offer the technology that will meet clients' evolving needs, D2L invests 7.5 percent of revenue in technology each year, Friedman says.

Clients benefit in several ways. D2L can process freight bills at a fraction of the cost most companies incur when handling it themselves. In addition, clients typically save between 5 and 7 percent through the freight bill audit.

Finally, with the information D2L's analytics and systems provide, shippers can negotiate better carrier agreements

and make more informed decisions.

To get started, D2L works with each shipper to understand how they manage transportation. For instance, it wants to know how shippers allocate freight costs, and the type of information they're looking for. D2L establishes EDI connections with carriers to get much of the information it needs.

D2L monitors charges issued by carriers and alerts clients to the potential impact. For instance, it talked with clients about the introduction of minimum charges based on dimension, and surcharges for packages shipped during the holidays. "When changes occur, our antenna goes up and we report to clients the likely impact," Friedman says.

"Companies come to D2L for help analyzing data, building RFPs, and other services," he says. "We become an extension of their business."

enVista

enVista audits more than \$6 billion in annual freight spend across approximately 300 customers. The company

also offers consulting and IT services from its offices in Indiana, the UK, and India, as well as several remote associates in the Asia-Pacific region. "This allows enVista to provide audit and payment services for our customers globally, yet manage requirements that are unique locally," says David Wedekind, senior director, global operations.

For instance, more stringent data requirements often come into play outside the United States. "The EU General Data Protection Regulation is enacting increased controls on the flow of privacy data, including information that might be transmitted on an invoice," Wedekind says. enVista and other providers must locally host data and boost controls around that hosting. The time frame during which enVista must retain documentation also varies by region.

enVista also tracks changes in VAT regulations and product classifications. "If we audit a bill, we have to understand the financial ramification of the regulations and classifications," Wedekind says.

Along with hard savings from the

Starting Off Right

A freight bill audit and payment provider will require some information before beginning a relationship. To start, it will want the basics:

- Regions of the globe where you operate.
- Number of annual shipments, broken out by transportation mode and other criteria.
- Carrier and contract agreements.
- Business rules that will govern payment processing.
- Rules for cost allocations and reporting, as well as integration requirements.
- Number of systems that will feed data to the provider.
- Number of systems that the provider will feed data to.
- Annual number of invoices.
- Volume of shipments by mode, service level, region, and potentially by business unit.
- Whether your firm keeps freight as a separate line item.
- Whether you negotiate your own rates or use a third party.
- What ERP system you use.

Once the provider has a solid handle on your current freight function, most want to know:

- Your strategic imperatives as they relate to transportation; that is, what you want to gain from the partnership.
- Which services will best meet your business objectives: Is payment processing efficiency first on the agenda, or is audit or business intelligence?

Finally, the discussion should cover all the services to be provided, including audit, payment, and business intelligence. "The more information a prospective customer can give us, the better we can tailor our implementation approach," says David Wedekind of enVista.

Alan Chute of Trax agrees. "All these components might drive different solutions that need to be integrated into the provider's process."

By identifying priorities, the provider can tailor the solution and implementation to deliver the value that's most important to you. "Spending time upfront to cover these issues pays huge dividends," says Veraction's Chris Connell.

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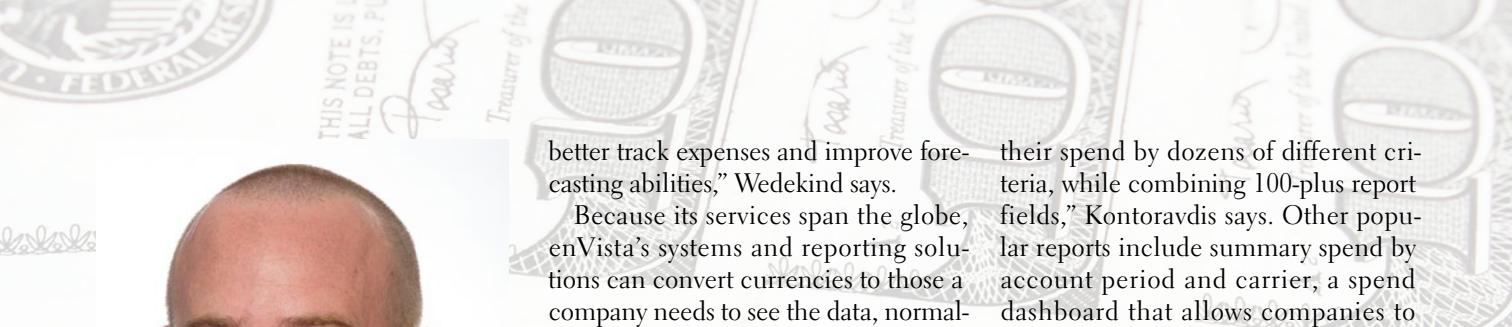
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“Soft savings from the audit process include correcting process deficiencies or gaining visibility to data.”

David Wedekind, Senior Director, Global Operations, enVista

audit process, soft savings from, for instance, correcting process deficiencies or gaining visibility to data and making better informed business decisions, are key. This might mean streamlining carrier payments, or using transportation data to help identify less costly ways to store inventory.

“A company might be shipping product across the country when there’s another source for the product that’s closer to the end customer,” Wedekind says. Visibility to data is necessary to uncover these opportunities.

To help clients make better decisions, enVista offers a robust reporting suite. One example: many shippers want to understand “maverick spend,” in which shipments aren’t tendered to approved carriers. With enVista’s reports, they can see how frequently maverick spending occurs, and more importantly, the impact on costs.

The company’s clients also gain value from period-end financial reports that show, for instance, what has been invoiced and paid, what has been invoiced and not paid, and what shipments haven’t yet been invoiced. “Building a three-way accrual through the reporting suite allows companies to

better track expenses and improve forecasting abilities,” Wedekind says.

Because its services span the globe, enVista’s systems and reporting solutions can convert currencies to those a company needs to see the data, normalize invoice fields so the same charges are in the same buckets, and translate the reporting into the proper language. While the services remain the same across the world, enVista takes into account local tax and regulatory requirements critical for a global audit.

Fortigo

Fortigo provides a transportation management system that automates, optimizes, and audits logistics decisions to help enterprises reduce costs, boost customer satisfaction, enhance compliance, and increase profitability, says George Kontoravdis, PhD and president.

Technical advances are driving changes in customer requirements. “Customers want more timely data on spend management. They’ve moved from ‘tell me next month or next week’ to wanting to know spend metrics the next day,” Kontoravdis says.

The Fortigo system can provide a rapid return on investment by optimizing logistics processes, minimizing ship-to-order times, increasing visibility, and streamlining collaboration with logistics providers. For instance, Fortigo’s Freight Audit application reviews freight bills and identifies incorrect charges based on numerous criteria, including carrier service level agreements, negotiated rate sheets, and volume discounts. It matches shipments to original order number or purchase order, eliminating duplicate invoices. Charge items due for refunds can be automatically submitted to the carriers.

“Built-in carrier performance reports determine deviations from carrier service level agreements,” Kontoravdis says. “These are important during contract negotiations.”

While Fortigo’s TMS encompasses a number of built-in reports, “the most popular is the Spend Report, which provides users the ability to slice and dice

their spend by dozens of different criteria, while combining 100-plus report fields,” Kontoravdis says. Other popular reports include summary spend by account period and carrier, a spend dashboard that allows companies to quickly spot spend trends, a savings report, and reports showing spend by mode and charge category.

The level of savings varies depending on the type of freight audit solution a company currently has in place. Companies with no freight audit can save 5 percent or more by using the Fortigo Freight Audit service.

The typical Fortigo client has at least \$10 million in annual transportation spend. It’s typically a multinational organization with dozens or even hundreds of transportation providers and using virtually every mode of transportation.

Fortigo also closely monitors evolving regulations that might affect freight audit, as well as its customers’ data protection requirements. All data is available online for at least seven years, or even longer, if customers maintain an active subscription agreement.

Fortigo’s solutions plug into established supply chain software. Typically, they need to integrate with the customer’s financial system, and also may need



“Freight bill accuracy is only part of the validation process. Equally important is tracking and measuring shipping compliance.”

George Kontoravdis, PhD and President, Fortigo

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to integrate with the customer's shipping and warehousing system. This enables a closed-loop audit in which purchase order data is matched against freight bills. "Freight bill accuracy is only part of the validation process," Kontoravdis says. "Equally important is tracking and measuring shipping compliance."

Intelligent Audit

Intelligent Audit considers itself "a technology company that supports supply chain initiatives providing data analytics that deliver bottom-line efficiencies in logistics and financial strategies," says Daniel Leva, president, global sales and marketing with the firm, based in Rochelle Park, New Jersey. Intelligent Audit provides global, all-mode transportation audit and revenue recovery, freight payment, and business intelligence reporting, as well as contract optimization.

Intelligent Audit does a deep dive during the audit process. For instance, a typical parcel company can impose

a range of accessorial charges on its clients. "We audit all, not just the top ones," Leva says. "We also validate contracts against what is being invoiced." If a shipper is supposed to get a 10-percent discount in Zone 2, Intelligent Audit will check that its bills reflect this. "We capture more than 150 audit points," he adds. The audit function is automated, with a secondary manual review of the findings.

Intelligent Audit uses the data it captures to, for instance, help clients determine where to expand or add a distribution center, or potentially where to close one. "We help identify the location based on transportation activity and supply chain strategy," Leva says.

The analysis doesn't only include historical data, however. "We look at the company's growth strategies, as well as the business rules required to execute their plans," Leva says. "They need to meet and understand certain break-even points with their current facilities" before identifying expansion locations that are likely to be successful.

Intelligent Data offers more than 700 standard reports. In addition, clients can tailor the product to fit their needs.

Returns on Investment

Intelligent Audit also can provide insight with return logistics. "Most stores are built to showcase and inventory product for outbound sales; they're not built to handle inbound drop-offs," Leva says. Intelligent Audit helps companies analyze data to develop strategies to most effectively handle the products being returned. That's key for footwear, apparel, and other retailers that often lack the space to handle large volumes of returns. "They need to focus on outgoing sales versus holding goods that were returned," he adds.

Many Intelligent Audit clients are global; the company supports close to 120 currencies. It works across industries, and with many sizes of companies, although most have transport spend of at least \$500,000.

When beginning work with a client, Leva and his colleagues spend time

$$\frac{\text{freight charges} \times \text{commodity (mode)}}{\sqrt{\text{weight} \{ \text{distance} \} + \text{tariff (3.14)}}}$$

$$= h \sum | p$$



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16 Questions for Your Provider

If your firm is considering working with a freight bill payment and audit provider for the first time, or switching from a current provider, you can boost the chance of a productive relationship by asking the following questions:

1. Can the provider handle all transportation modes?

"When you manage a large spend category such as transportation, you want to get it all under one umbrella," says Chris Connell of Veraction.

2. Does the provider own its software?

"If they're licensing a third-party application, and don't have control of development, that can limit flexibility," says David Wedekind of enVista. That can impact the implementation timeline because the provider won't control the development resources.

3. What is the processing cycle time?

You should have some idea of the time required to move a freight bill into the audit workflow, close it, and report it for payment. You also should have a general idea of the audit time frame. "If you don't ask, you might be blindsided by how long it takes," Wedekind says.

4. Does the company offer data normalization and cleansing?

"Obtaining clean data can take numerous iterations of normalizing and cleansing," says Keith Snavelly of nVision. For

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learning their supply chain processes, including inbound and outbound activities, and manufacturing/distribution center locations. "Once we understand their supply chain, we ask about strategic goals and align where we can support their initiatives," he says.

Because Intelligent Audit obtains a great deal of benchmark information, it can help companies determine if they're getting the best rates possible when compared to similar shipments. "Using this analysis, we can assist clients to negotiate better rates or confirm the rates they have are attractive," Leva says.

nVision Global Technology Solutions

nVision Global handles freight bill audit and payment globally, and provides transportation consulting services, including rate negotiations, benchmark studies, modeling tools, and loss and damage claims. Its transportation management services include rating and routing applications, such as least cost, carrier applications, shipment execution services, expedited freight approval, and shipment tracking.

"We offer a host of products and services that go beyond traditional freight audit and payment services," says Keith Snavelly, senior vice president, global sales.

Most new customers are multinational companies that have been using domestic freight bill audit and payment service providers, but now need global capabilities. "It's our niche," Snavelly says.

nVision has seven corporate-owned processing centers on three continents, and can service companies across Asia, Europe, and Latin America, as well as North America. Its staff can remit payment in the major currencies, and works with numerous languages and regulatory structures. "Customers in Asia don't have to call the United States to get the status of an invoice," he notes.

No matter where a company operates, nVision offers a single platform. "The platform we use to process and audit freight bills and transactions in North America is the same one we use through

all our facilities," Snavelly says. That allows nVision to offer customers a single, global data warehouse and a worldwide picture of their transportation activities.

As the freight bill audit industry has shifted its focus from identifying mistakes and oversights to leveraging business intelligence, this global visibility has become more important. Typically, many corporations have extensive freight data only in North America. They now want the same information and the ability to, for instance, conduct global lane analysis and monitor key performance indicators for their operations in all countries.

While nVision often targets multinationals, its consulting and transportation management clients include companies with all volumes of shipping activity.

The nVision onboarding process rarely requires a formal systems integration. Instead, many customers send nVision electronic source files of, for instance, their bills of lading, purchase orders, and advance shipping notifications, among other documents. These are loaded into nVision's solution, which then matches incoming invoices to the files for validation and information.

nVision can work with smaller carriers that lack the ability to offer electronic invoicing. The carriers can enter nVision's website, key in the invoice information, and attach the supporting documents. The information is handled as if it came in electronically.

"We provide carriers with myriad options," Snavelly says, including EDI and pre-defined spreadsheets. This is key, as more shippers demand these capabilities from their carrier base.

RateLinx

RateLinx provides customized integrated shipping and logistics management software, transportation management software, and freight invoice management.

By integrating four datasets—shipment, track and trace, invoice, and order and item—in real time, and cleansing and standardizing them, the RateLinx Intelligent Invoice Management solution forms the foundation of a



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example, an invoice could include the titles Wal-Mart, WalMart, or Wal Mart. For analytical work, these should read the same.

5. How will the data be standardized, and how close to real time and actionable will it be? The provider shouldn't remove data, but should normalize any non-standard data so you gain a complete picture of freight expenses, says Shannon Vaillancourt of RateLinx. Near real-time data should be presented within 24 hours. The sooner a problem is noticed, the easier it is to fix. Finally, the system should provide alerts in real time that tell when an issue needs attention, and the analytics that describe why it happened.

6. What are the provider's capabilities around the globe? Does their footprint roughly match your firm's? Do they own their own facilities?

7. Is the provider investing in technology that will provide business intelligence? "If they're not investing and innovating, their customers will be left behind," Connell says.

8. Is the provider SOC 1 or SOC 2 compliant? A Service Organization Control 1 (SOC 1) report provides written documentation, from an auditor, of an organization's internal controls. SOC 2 reports on various organizational controls related to security, availability, processing integrity, confidentiality or privacy. "SOC 1 is now table stakes in the industry," Connell says.

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three-dimensional approach to data, says Shannon Vaillancourt, president of the Madison, Wisconsin-based firm. These are:

■ **Diagnose:** RateLinx collaborates with the customer and leverages the data to diagnose issues and challenges. The collaboration often enables them to interpret the data and create the strategies that find the savings they've been looking for.

■ **Develop:** RateLinx and its clients develop a strategy based on clean, actionable data.

■ **Deploy:** RateLinx and its clients deploy the strategy, and measure and monitor it to provide long-term value.

The result? RateLinx's Intelligent Invoice Management provides clients actionable data with no IT involvement required.

Among the many reports RateLinx offers are those that allow customers to export data to spreadsheets, as well as key performance indicator (KPI) pie charts with multiple drill-down levels.

The most popular KPIs include cost avoidance, which measures the impact of the fixes that have been implemented; adjustments, which measure the cleansing of the rates; and routing compliance, which measures the dollars companies spend when they don't adhere to their routing guides.

Another KPI, potential savings, measures the cost of each routing rule a company has in place, while shipment status measures and predicts the on-time arrival of shipments.

RateLinx customers range from those with about \$500,000 in annual freight spend to those spending \$1 billion. "They all want to leverage transportation data strategically," Vaillancourt says.

RateLinx can tap into the data feeds it needs without requiring customers to undertake heavy integration work, so companies can leverage the value in their data quicker and less expensively than if they had to budget and wait for internal IT resources. Many can be up and running in a few weeks.

The data cleansing phase typically reveals at least a 5-percent savings, while longer-term strategic changes can unlock average savings of 20 percent.



"Companies large and small want to leverage their transportation data strategically."

Shannon Vaillancourt, President
RateLinx

One RateLinx customer struggled to pay carriers on time. Among the obstacles: sometimes, the dollar amount for a given carrier would match; other times it wouldn't. Or, the system didn't have a rate for invoices received.

The RateLinx Intelligent Invoice Management system "found the typical invoice issues and resolved them with the carriers," Vaillancourt says.

RateLinx also found an unexpected issue: Some locations were using an outdated routing guide, and tendering freight to a carrier that no longer had rates in place. "By having actionable data, the customer quickly had its locations use the latest routing guide," Vaillancourt says. "They saved millions of dollars in incorrectly routed freight."

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9. How transparent are the processes?

As a customer, you should be able to see what bills the provider has submitted for payment and when they were paid. "The process has to be transparent," says Paul Vindigni of SSI. Similarly, carriers should be able to access the system to check the status of a payment and ask why an invoice was or wasn't paid. That access and visibility can help retain strong carrier relationships.

10. How is the bill payment process handled?

Does the vendor have a dedicated bank account for each customer and for each currency? What controls are in place? They shouldn't place all customer payments into one account, as that muddies the reporting and can cause trouble if discrepancies arise. "Each customer should have a single bank account," Wedekind says.

11. What is the time required to pay carriers?

George Kontoravdis of Fortigo recommends requesting a guarantee of on-time payment. As a shipper, you want to know the funds you're allocating for carrier payments are handled appropriately, securely, and efficiently.

12. How does the provider handle the data it has access to and is transmitting?

"Freight bills contain critical and often competitive information for your supply chain," says Rick Erickson of U.S. Bank. The provider should take appropriate precautions to ensure it can't be compromised.

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highlighting duplicate charges and exceptions from client-carrier contracts and agreed-upon parameters.

Through the SSI Connect web portal, customers can see which freight bills have been paid and which haven't. Further, SSI can "customize reports and business intelligence to meet their requirements," says Paul Vindigni, chief executive officer of the Beaverton, Oregon-based firm.

Along with these services, SSI recognizes that "the greater opportunities lie in helping customers improve their supply chains and reduce transportation costs," Vindigni says. Among the services that provide most benefit to customers are cost management, freight contract negotiations, and analysis that identifies opportunities to improve transportation mode choices.

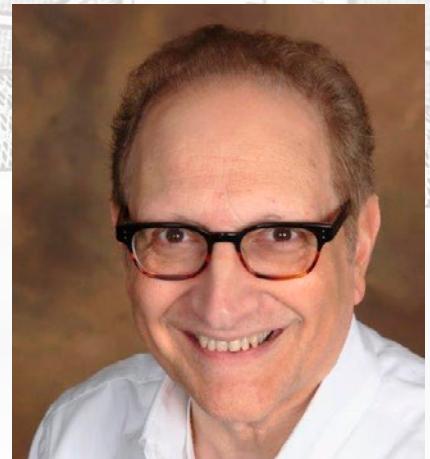
Audit Company or Data Company?

Potential clients increasingly want to know if a provider is a freight audit company or a data company, Vindigni says. The difference is in "what we do with the information we audit," he says. "We provide modern data-visualization tools and business intelligence to enhance decision-making." A rigorous analysis often identifies opportunities to save money or reasons to change modes.

Each freight bill contains tons of data, Vindigni notes. SSI works with customers to custom configure dashboards and reports that help them analyze pertinent information to support decisive action.

SSI's consulting services can shave between 5 and 20 percent from a company's shipping costs. In one case, the analysis generated 23-percent savings by shifting freight to less expensive—albeit longer—transportation modes, while still meeting service level requirements.

In another case, a client had agreed to a carrier's 3-percent general rate increase. However, an SSI analysis revealed that with the proposed shipping lanes and frequency, the client would have actually paid a 4-percent increase. "Our client was able to go back to the carrier and adjust the contract, saving thousands of dollars," Vindigni says.



"By intelligently outsourcing freight audit and payment processes, companies enhance productivity and maximize profitability."

Paul Vindigni, CEO
Software Solutions Unlimited

SSI can assist clients with an analysis of their end-to-end supply chain to drive efficiencies throughout the entire process. This enables the client to use less-expensive transportation modes to distribute its products, while still meeting agreed-to service levels.

"At times, the 'we've always done it this way' mindset comes into play," Vindigni says. But SSI can look at processes with fresh eyes, and back up any recommendations for change with its data analysis.

Getting Started

When SSI is hired to process a client's freight invoices, implementation typically takes between six to eight weeks. During that time, SSI links to its client's system, captures the general ledger coding, and ensures that the bills hit the general ledger. It also integrates with the client's carriers to capture the freight bills.

"By intelligently outsourcing freight audit and payment processes to SSI, companies enhance productivity and maximize profitability as they focus on what they do best," Vindigni says.

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13. Will your integration capabilities allow you to take data from multiple systems?

"Almost every company is dealing with many different systems," says Alan Chute of Trax Technologies. The provider should be able to assemble all the information into a single interface, for both the audit process and for business intelligence.

14. What business intelligence and predictive analytic capabilities are available?

"This is where the most value is," Chute says. The provider should make it easy for customers to identify actions that will optimize transportation and drive supply chain strategy.

15. How does the provider relate to the carrier market?

You don't want carriers to see the firm as an obstacle and a hassle, says Harold Freidman of Data2Logistics. Instead, it should work with the carriers to, for instance, help them present bills correctly the first time, so the number of exceptions drops. Ideally, the provider also will have a portal or other means to communicate with carriers.

16. What is the provider's financial strength?

"You want secure, stable providers," says Travis Sumner of Cass Information Systems. To determine this, talk to customers, references, and carriers they work with. If possible, review their financial statements. Visit their facilities and talk to the staff so you gain an understanding of the organization's depth and breadth.

Technical Traffic

Technical Traffic Consultants, a provider of freight pre-audit, payment, and business intelligence services, focuses on mid-sized businesses, says Lauren M. Plate, director of sales and marketing with the Congers, New York-based firm. Most clients have between about \$5 million and \$100 million in annual freight expense, although some have much more.

Why the mid market? "Often, they don't have a large transportation and logistics staff," Plate says. Many mid-sized firms can benefit by working with a provider that can help them take a critical look at their contracts, spend, and approach to freight management.

As a boutique firm, Technical Traffic customizes operations around clients' needs, while also helping them implement best practices, says company owner John Mecchella. "We try to understand our clients' business rules and culture, so it's as if we're sitting in a cubicle outside their offices."

Many freight audit and payment companies focus almost exclusively on the power of technology. Indeed, to offer its clients flexible, tailored service, Technical Traffic maintains a staff of programmers. "We don't buy canned programs," Mecchella says. It developed its imaging solution, rating service, and other applications internally.

In addition, the company is investing in systems that will move it toward its goal of paperless billing. It also works with carriers to obtain their information electronically.

"Technology is wonderful but some issues require critical thought and problem solving," Plate says. The Technical Traffic staff takes time to understand its clients' product lines, shipping patterns, contracts, rate structures, and use of transportation so they can intelligently advise on more effective freight management. "We can rectify many mistakes with a conversation upfront," she adds.

"Technology is important," Mecchella agrees. "But we also need to understand what we're processing to put our clients in a strong position when they're negotiating with carriers. If we



"We try to understand our clients' business rules and culture, so it's as if we're sitting in a cubicle outside their offices."

Lauren Plate, Director of Sales and Marketing and John Mecchella, Owner, Technical Traffic Consultants

don't understand clients' needs and how to serve them, technology alone isn't enough. You need a healthy blend."

This means, for instance, understanding the characteristics of each client's transportation needs and how they can price shipments effectively.

Another example of the value of a hands-on, personal approach concerns many companies' shift to a decentralized freight payment system. With bills processed and analyzed in various locations, it can be difficult to correctly assign freight costs to the proper departments. "We put in a lot of effort to ensure that all costs are allocated to the appropriate business unit, department, and in some cases, user," Mecchella says.

Trax Technologies

Trax Technologies, which specializes in harnessing logistics data and insights to improve supply chain performance, delivers value to customers in three primary ways, says Alan Chute, senior vice president of solution design with the Scottsdale, Arizona company. One is by automating manual steps in the settlement process to make it more efficient.

The process starts with data

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normalization. Trax's solution captures and retains the source data as it was received. "We never change that," Chute says.

Then, in a separate version of the data, Trax tries to produce the cleanest possible representation of the information. With country names, for instance, Trax normalizes to the ISO 2-character country code. The original documents may contain the names spelled out, abbreviated randomly, or missing entirely. Normalization can be key when, for instance, a company has cost allocation rules or rates tied to specific origins or destinations.

The second way Trax provides value is through a comprehensive audit of all transactions in all regions of the world. Many clients operate globally and turn to Trax for a "single source of truth," Chute says, as well as visibility into transportation costs and validation processes. They also need the flexibility to deal with different transportation modes, currencies, and contract agreements in different parts of the world.

Trax checks that all charges are valid and for the correct amount, according to the contract. "The audit finds gaps, overcharges, invoices that aren't the client's liability, and services that weren't delivered," Chute says. The process is designed to both recognize the errors and address their root causes, so they don't recur going forward.

Savings Through Process Changes

The third area of value centers around "using the results of this information to identify savings that can come through process changes, such as better carrier utilization, shipment consolidation, improved routing, and better packaging to minimize or eliminate dimensional charges," Chute says. "This area offers the greatest potential for savings."

Many shippers look to cut their use of premium transportation services. Few, however, have an easy way to measure how often they select the most expensive option when a less expensive one would meet their needs. Trax introduced an app that can estimate the amount a company can save



"Many companies operate globally and turn to Trax for a single source of truth."

Alan Chute, Senior Vice President of Solution Design, Trax Technologies

by shifting volume to less expensive transportation services. Another app calculates the potential impact of reductions in discretionary charges.

While significant savings are possible by leveraging the results of the analyses, capturing those savings often requires some work on the shipper's part. "It's not like an audit, where you find an overcharge or error and request a refund or credit," Chute says.

With analytics opportunities, you have to change behavior to achieve savings, Chute says. What's more, the behavior often originates in a part of the organization other than the one paying the freight bill. "We present the information to one group and they often have to go to another group and get them to change their behavior," he adds.

U.S. Bank

U.S. Bank offers a web-based system that lets shippers and carriers manage global freight payment and audit for all transportation modes with a single solution tailored to their needs, says Rick Erickson, global director of freight payment solutions with the Minneapolis-based financial institution.

With a prepayment audit, customers can cut 2 to 4 percent from their freight

bills by catching errors before invoices are paid, he says. Because corrections are made online, the bills are touched only once, and customers don't have the added transaction expense that occurs when a carrier sends a corrected bill.

The reporting and data analysis tools U.S. Bank offers allow customers to quickly identify cost-saving opportunities in their freight audit and payment programs. For example, a large pharmaceutical customer used the reporting tool to analyze the impact of changing its small parcel carrier. "This simple change netted an immediate cost savings of more than \$150,000, with the potential to uncover additional savings through data mining," Erickson says.

U.S. Bank also helps companies improve operational efficiencies. When it assumed responsibility for a large auto manufacturer's exception processing function, the company was able to repurpose eight employees to more strategic supply chain roles. "Our system allows exceptions to be processed online, so the invoice is not sent back to the carrier to resubmit," Erickson says.

The bank's trade finance program provides shippers and carriers with a true working capital solution. "It allows our shippers to extend DPO (days payable outstanding) up to 90 days while their carriers are paid in fewer than four," he adds.

Rules and Regulations

To further assist clients, U.S. Bank tracks regulations on a number of fronts. It monitors bank regulations and tracks other regulations that impact freight payments, such as the European Union's Late Payment Directive and Payment Services Directive.

Because U.S. Bank's freight payment system is web-based, it doesn't require any software installation. It's able to integrate with multiple ERP and other systems.

U.S. Bank's data center is one of six around the world that has achieved Uptime Institute's Tier IV Facility Certification, the most robust certification level. "We meet the rigorous regulatory, audit, and compliance requirements of the financial industry

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Trans Audit: Providing a Second Level of Insurance

Any discussion of freight bill audit and payment services inevitably looks at the role of pre-payment and post-payment audits. Many providers concentrate on pre-payment audits.

"Today's supply chain professionals need real-time, accurate information," says Rick Erickson of U.S. Bank. "If they aren't auditing an invoice until after a payment, chances are they are making decisions with inaccurate information, and wasting time and resources trying to recoup funds."

In this view, any post-payment audits typically are done primarily to double-check the work completed in the pre-payment audit.

Trans Audit, a global freight and parcel post audit specialist, takes a different approach. "We've been in business for more than 40 years and solely focus on a true global, multimodal post audit," says Vikki L. Van Vliet, senior vice president of sales and marketing. "Trans Audit's post-payment audit unobtrusively operates after FAP (freight audit and payment companies) and internal audits. We identify and resolve both billing and payment errors that may have been missed. We provide a second level of insurance."

"The post audit should deliver more than just monetary benefits; it should provide continuous improvement and insight into a company's payment processes and supplier relations," says Chad W. Kennedy, IV, president of Trans Audit.

The company employs experts in all transportation modes, with auditors in Europe, Singapore, and China, as well as six U.S. offices. Trans Audit focuses on companies within the Fortune 500 or Global 1000, across industries. "Our clients are large-scale shippers that utilize all transport modes internationally and domestically," Van Vliet says.

Trans Audit works on a contingency, or benefit-sharing basis. "We dig deep to find issues that our clients, their carriers, or their FAP firms may have overlooked," Van Vliet says.

Trans Audit identifies and recovers errors in freight rates, accessorials, discounts, currency conversions, classifications, fuel, and more. It also uncovers payments to wrong parties, multiple payments, and incorrect payment ownership—that is, bills or portions of bills that clients paid even though they were not responsible for them. "We

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while maintaining the highest level of data center performance," Erickson says.

Another point of differentiation: some freight providers use a float model—they take in shippers' money, co-mingle it with other funds for investments, and then pay carriers. "A problem can arise during that middle step," Erickson says. "If the money disappears before carriers are paid, shippers are out the money. And their carriers still expect to get paid."

As a bank, U.S. Bank is held to higher standards. "Our freight payment model never 'floats' money," Erickson says. "We actually pay carriers before receiving shippers' money."

U.S. Bank recently launched the U.S. Bank Freight Payment Index, which provides a regional perspective on freight payments. "This allows shippers to prioritize certain locations or divisions based on accelerating trends in specific regions," Erickson says.

In 2018, U.S. Bank will launch "new freight benchmarking and consulting services to allow customers to dive deeper into causes and effects, and



"Companies turn to the freight payment process to unlock working capital either through improved operational efficiencies or improved cash flow."

Rick Erickson, Global Director of Freight Payment Solutions, U.S. Bank

model options to further improve their supply chain," Erickson says.

"Our team uses data science techniques coupled with personal consulting to deliver freight optimization and the predictive and prescriptive analytics customers need," he adds.

Veraction

Veraction, a provider of total transportation spend management and intelligence solutions, works with nearly 300 customers across many industries. "We're part of this 50-year-old industry called 'freight and parcel audit and payment.' But our mindset has changed greatly over the past few years," says CEO Chris Connell.

The reason? "Our customers are focused on control," Connell says. For instance, Veraction worked with a multinational apparel manufacturer that spends \$1 billion on transportation annually. The head of the firm's supply chain knows the company has "seven-figure opportunities" to save money,



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audit for payment accuracy and ownership as well as tariff and contract compliance to ensure that clients' invoices are paid and billed correctly," Van Vliet says.

Trans Audit also performs a logistical trend review to identify recurrent anomalies, confirm that each accessorial charge makes sense, and that clients actually received the benefit of the service billed.

The timeframe for which overbillings and overpayments can be recovered varies based on error type and transportation mode. For payment errors, Trans Audit can typically look back five years. Overpayments and payment errors occur when a bill is paid multiple times, paid to the wrong party, or paid in the wrong currency, among other mistakes. For billing errors, such as when a carrier has incorrectly applied rates or discounts, the time limits range from six months to three years in arrears, depending on the mode utilized.

Savings for non-parcel activity generally run between .5 to 1.5 percent. For parcel, the savings can approach 5 percent, Van Vliet states.

Through the company's online reporting tool, TransPortal, clients have visibility to filed, open and paid claims, as well as claims by mode, carrier, and error type, among other information. Clients use this information to take corrective action and make process improvements, Van Vliet says.

"A truly consultative post-audit should also provide intellectual and process improvement insights," Kennedy says. For example, Trans Audit's review revealed a carrier was billing a client on a decentralized basis, and each carrier terminal interpreted the contract or billed as it saw fit. The result? A high degree of overbillings. Trans Audit worked with the company and carrier to convert to a centralized billing process, and nearly eliminated the overbillings.

Connell says. He's looking to Veraction for help realizing them.

Traditional freight audit can contribute, but it won't account for all the savings. "That's why we've extended freight audit to include transportation spend intelligence," Connell says.

What Happened and Why

Customers are increasingly focused on optimizing freight spend. "They want to understand what happened today and how it differs from the budget or from what happens tomorrow, and what's causing the change," he adds.

Because Veraction acts as the system of record for transportation, "when customers want to know what happened with a mode, a region, or a cost center, they sift through the data we store for them," Connell says. "That's a valuable byproduct of the audit process."

This insight is critical, given the increasing competitiveness in many industries. "Every efficiency, every savings, every smart move is needed today and it's needed quickly," Connell says. Veraction has invested heavily in its variance analysis tool, which lets customers efficiently and precisely understand the difference in performance between two points in time, or against a plan or the budget, and then take action.

Along with its focus on transportation spend intelligence, Veraction has invested heavily in easing the deployment process, which has traditionally been viewed as painful.

"Our approach is to think smart, start small, and scale fast," Connell says. The company starts by targeting quick wins that can generate benefit quickly. Then, they scale from there.

For instance, the Veraction team might start by implementing its solution for parcel transport, as that typically has a limited number of carriers. Then, they might move into truckload or LTL. "Our goal is to make sure clients obtain value close to the front end of our engagement," Connell says.

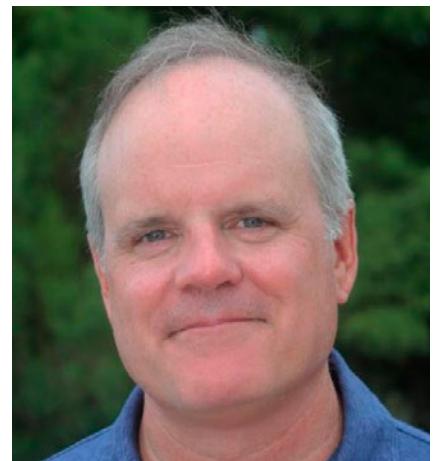
In contrast, a "big bang" approach tends to increase risks and cut control. "We start with segments, then build and scale quickly over the rest of the enterprise," Connell says.

This not only minimizes risk, but can boost adoption. "If you build wins for a customer, your ability to implement in other regions of the globe and other business units increases," he says. "In adoption and buy-in, success begets success."

Veraction works across most industries. While it tends to focus on the Global 2000, its customer base includes

small and mid-sized businesses.

The typical freight audit process can unlock savings of between 2 and 5 percent of transportation spend, Connell says. While significant, the greater savings potential comes from applying business intelligence to transportation spending. "That turns transportation into a strategic cost lever for companies," Connell says. ■



"Every efficiency, every savings, every smart move is needed today... and quickly."

Chris Connell, CEO, Veraction



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FACTORS FOR SELECTING

Top 6

AND IMPLEMENTING A WMS

Whether you are installing a WMS for the first time, or upgrading your system, this advice will guide you through successful selection and implementation.

By Tom Gresham

Evidence of a poorly conceived and managed warehouse management system (WMS) implementation sometimes is so apparent that passersby on the street notice it, says Marc Wulfraat, president and founder of MWPVL International, a supply chain consulting firm based in Quebec.

“Forty trucks lined up down the road trying to get into a warehouse is a sign of a bad WMS installation,” he says. “When things aren’t working right, or the system’s down, the trucks have to wait. And that costs money.”

Warehouse management systems are software applications that allow for centralized management of warehouse operations. They track inventory in real time and are designed to improve warehouse efficiency and effectiveness while providing managers and others with increased visibility.

A WMS can be a critical—even necessary—tool for many companies operating warehouses, but attempting to take a step forward can lead to two steps back if companies don’t take the proper due diligence during implementation.

“Warehouse management systems are often in place for 15 years or more,” says Simon Tunstall, principal research analyst focused on WMS with Gartner Inc., a research and advisory company headquartered in Stamford, Connecticut. “They are very much a strategic investment, and not a solution you can install and then change out in a few years. It’s a big change and companies need to be thinking long term and big picture.”

Wulfraat compares a WMS to a calculator: “If you’re running a warehouse with inventory, then a WMS is a basic tool,” he notes. A WMS improves movement of materials and products, increases accuracy and timeliness, enhances tracking and reporting, provides flexibility, improves order fulfillment, and strengthens control, among other benefits.

The value of a WMS is too great to pass up, agrees Randy Bradley, Ph.D., assistant professor of information systems and supply chain management at the University of Tennessee. Companies that avoid adopting a WMS will fall further and further behind, until eventually they will be unable to meet the expectations of their partners and consumers, he warns. Soon, those companies will scramble to catch up.

FACTORS FOR SELECTING

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“That leads to rash decisions around adopting a solution,” Bradley says. “And rash solutions lead to premature endings.”

For companies looking to adopt a WMS for the first time, or to change systems, here are six key points to consider during selection and implementation.

1. Usability. The usability of a WMS should be of paramount importance when considering systems, especially if your organization has an aging warehouse workforce who lack technology skills.

“Ask if the system is person-centric,” Tunstall says. “Make sure it doesn’t make simple tasks more complex, which could increase training time. This is true not only for warehouse workers, but also for managers. If it’s hard for them to use, then they will not be able to get a good visual on warehouse operations—how teams are deployed and whether operations are effective.”

Once a company chooses a WMS, even a user-friendly system, they

may not swiftly adopt it. “It’s important to take the time to teach workers how the new system is different than their old way of operating,” says Curt Barry, chairman of F. Curtis Barry & Company, a Virginia-based operations and fulfillment consultancy for the multichannel industry.

2. Complexity of operations. Warehouse operations vary widely among organizations, and it’s essential that companies ensure that any WMS they select has the capabilities to keep up with their particular demands. A high throughput, multichannel operation with multiple picking types, variable demand, and hundreds of thousands of SKUs, for example, requires a robust WMS.

Companies should be aware of any unique aspects of their operations, knowing that WMS vendors might not have developed their systems with an organization’s specific processes or needs in mind. “Some activities are truly niche,” Tunstall says. “It’s

Better balanced inventory, more efficient labor allocation, and reduced operational expenses are among the many benefits of implementing the right WMS for your business.



Some WMS solutions offer pick by voice options to boost efficiency in food and produce warehouses.

important to challenge your internal teams to work with WMS vendors to identify those activities.”

A “vanilla” WMS should be suitable for about 70 percent of companies, Wulfraat says, but the other 30 percent with more complex operations will demand a more robust system. For instance, it will be important for some companies to know if a WMS vendor can support high-performance, high-transaction volume processing.

“As soon as a company starts to move more than 50,000 order lines a day, they are getting into more of a high-performance requirement,” he says. “The underlying technology that the software has been developed with may or may not support high-volume transaction processing.”

3. Speed kills. No error creates more problems for a WMS implementation than moving too fast. “Rushing the process is a big mistake,” Wulfraat says. “Companies decide they need to have a system installed by a certain date, and that deadline forces them to rush.”

In some cases, an organization’s leadership has committed to spending hundreds of thousands of dollars on a WMS and expects to see results. “They want to get it done and want to see the



Navigating WMS Vendors

Managing the vendor selection process can be treacherous if it's treated cavalierly, says Marc Wulfraat, president and founder of MWPVL International. Preparing to select a WMS requires an organization to take a fresh look at the way it operates.

"If you go through the process with your needs loosely defined, then you will be in trouble," Wulfraat says. "You have to go through your entire operation from soup to nuts. You have to be on the floor interviewing workers to understand exactly what they do, why they do it, and what they do if things fall apart."

Curt Barry, chairman of F. Curtis Barry & Company, agrees. "It's important to write down your requirements," he says. "Defining their needs is probably the single biggest thing that people don't do well."

Wulfraat advocates for asserting control in the selection process and keeping vendors from focusing on their strengths in lieu of a company's needs. He recommends providing vendors with strict schedules and parameters for their presentations so that they address the issues most relevant to the firm.

Vendors and their capabilities quickly blend together during the screening process. Scorecards and assiduous note-taking become critical. Otherwise, companies risk making a decision with only a vague memory of how the vendors differed.

One simple approach to begin to winnow down possible WMS vendors from the outset is to see who their clients are. Many vendors tend to have clients from certain industries. Stick to those that seem to work with clients in your field already and are likely to have systems that align with the features and functions your work requires, Barry says.

Wulfraat and Barry both say speaking with other clients of a vendor can be helpful. Wulfraat suggests reaching out to a vendor's clients with similar operational needs to see how a particular WMS works for them.

benefits," Barry says. "So an important part of the implementation project is managing expectations."

It should take four to six months to choose a system, and six to 12 months to implement it. Otherwise, an organization is likely to be unprepared for the shift in their operations. Widespread delays, disorganization, and discontent are likely to follow. "Rushed implementations are almost always unmitigated disasters," Wulfraat says.

Even when managed expertly, implementing a new WMS often might not lead to clear-cut benefits at the start. Organizations need to take time to feel out the new system and identify and solve issues that arise. Patience is key. "It takes time to make it a highly productive environment," Barry says.

4. Don't ignore the data. Companies can be complacent about their own responsibilities, such as issues surrounding data, with the introduction of a WMS. No matter how great a WMS, it will not mean much if a company has shortcomings in the way it handles the key sources of data the WMS runs on.

"Mastering data management is extremely important," Bradley says. "What's the quality of that data? Do you have mechanisms in place to make sure data quality continues to improve? The quality of your data will be paramount to the value that you're going to be able to derive from these solutions."

5. The role of cost. Bradley says he is hesitant to work with companies that start with price or return-on-investment as the most important factor in a WMS selection. Both are worth considering, he says, but often are emphasized more than they should be.

"Technology here is not a driver; it's an enabler," Bradley says. "It allows you to do some things better that will help your bottom line but those benefits are indirect rather than direct. With

a WMS, it's not a good idea to focus on the financial metric."

Tunstall agrees that putting too much emphasis on cost "can go badly" for companies wading through the WMS marketplace. "It's quite an isolated thing to look at," he says. Controlling and managing costs is important, but focusing on the strategic business case for a WMS is more important.

Cost can also be misleading. The upfront price of the WMS is one cost, but the subscription for the system and the servicing of it is another. Initial cost and total cost will be very different. In recent years, the cost barrier has become less formidable for smaller and mid-sized organizations, Barry says, with the rise of cloud-based platforms.

6. Consider the future. Because a WMS typically is a long-term commitment, Bradley warns against falling into the trap of picking one based only on what your company needs at the moment because that moment will swiftly pass.

"Think about the customer you'll be serving five to 10 years from now," Bradley says. "The supply chain that most of us have inherited was the brainchild of those who came before us. We need to look at solutions that not only address our current needs, but also have the ability to allow us to grow and meet those needs that are coming down the road, so that we can capitalize on them."

The idea is not to try to guess where technology is headed but to consider where the needs of your customers and the demands on your business appear destined to go.

"You have to think about what's on the next horizon even though you're living in this one," Bradley says. "You have to anticipate it. Those organizations that are thinking about the next 10 to 15 years are not going to be caught off guard by change." ■



WMS BUYER'S GUIDE 2017

COMPANY	PRODUCT	DESCRIPTION
360data Appleton, WI 360data.com 920-830-5000	Warehouse Management System	Effectively manages inventory from raw materials to components to finished goods. Highly detailed inventory tracking and enhanced visibility deliver precise control across multiple customers, suppliers, and locations.
3PL Central Manhattan Beach, CA 3plcentral.com 888-375-2368	3PL Warehouse Manager	Helps 3PL providers manage multiple customers, integrate with EDI and e-commerce platforms, and provide real-time inventory information 24-7, worldwide.
Archon Interactive Baltimore, MD archon-interactive.com 603-437-0424	WaveTrak WMS	Simplifies all warehouse tasks through automated data collection and workflow compliance. Enforces process validation, so workers are unable to continue until current task is completed correctly. Guides workers along an optimized route to save time.
Argos Software Fresno, CA argossoftware.com 559-227-1000	ABECAS Insight WMS	Designed to facilitate tracking product from pre-receipt to shipment. Supports inventory management, location management, replenishment, picking, order management, and physical inventory integrity management.
ASC Software Dayton, OH ascsoftware.com 937-429-1428	ASCTrac WMS	Highly scalable, configurable WMS for distributors, manufacturers, and 3PLs of nearly any size/type. Allows user-defined views/reports and rules sets for items, customers, and vendors.
BluJay Solutions Holland, MI blujaysolutions.com 866-584-7280	Warehouse Management System	A core component of the BluJay Global Trade Network, the WMS provides instant global visibility to all supply chain partners. A networked warehouse management platform drives costs lower and increases throughput while providing increased visibility across the supply chain.
Cadre Technologies Denver, CO cadretech.com 866-252-2373	WMS Software	Warehouse management and supply chain systems company offers several solutions including Cadence WMS, Accuplus WMS, and LogiView, a SaaS application.
Camelot 3PL Software Charlotte, NC 3plsoftware.com 866-3PL-SOFT	Excalibur	Offers multi-tenant inventory management, EDI, scanning, 3PL billing, and e-commerce pick and pack fulfillment.
Core eBusiness Fairfield, NJ core-warehouse.com 201-836-8900	CoreWarehouse	A full-featured, highly scalable solution takes advantage of robust feature sets, advanced warehouse planning tools, and warehouse event management/active messaging to reduce inventory and costs. The software is highly configurable, making it easy to use in a wide variety of industries and with a wide range of products.
CP Tech Savage, MN distributionplus.co 800-686-6270	DistributionPlus	Enables real-time inventory information, multiple bins (locations), multiple warehouses, kitting, and crossdocking. Lot and serial tracking enables tracking of items throughout all processes. Reporting provides the ability to turn raw data into meaningful information.

COMPANY	PRODUCT	DESCRIPTION
Dassault Systèmes Long Beach, CA apriso.com 562-951-8000	Apriso Warehouse	Directs people, processes, and equipment by monitoring and reporting all activities from receipt of raw materials through shipment of finished goods.
Datex Clearwater, FL datexcorp.com 800-933-2839	FootPrint WMS	Configurable workflow-based system supports omnichannel and multi-channel order fulfillment; customizable reporting; EDI and integration ready. Optional cartonization, manufacturing, procurement and shipping modules. Ideal for 3PLs.
Dematic Reddwerks Austin, TX dematicreddwerks.com 512-597-6810	Warehouse Execution Software	Facilitates warehouse functions including stocking, packing, palletizing, receiving, wave planning, putaway, and replenishment.
Deposco Alpharetta, GA deposco.com 877-770-1110	Bright Warehouse	Enterprise-grade WMS streamlines inventory/order management to optimize fulfillment within a unified supply chain. Provides retailers, brands, and 3PLs advanced receiving, pick/pack, integration, and cartonization solutions.
DXC Technology Tysons, VA dxc.technology 703-876-1000	DXC Warehouse Management System	A flexible software and services solution, efficiently manages all warehouse technologies from robotics to voice, and physical resources such as pallets in one integrated solution.
Ehrhardt + Partner Charlotte, NC epgroupna.com 704-927-1483	LFS	Provides Tier 1 feature set and customer configurability that enables flexibility, scalability, and independence in a range of warehouse environments, from manual to fully automated.
Epicor Software Austin, TX epicor.com 800-999-1809	Epicor Prophet 21	Offers open e-commerce platforms to mobile sales and field services, wireless sales counters and warehouses, advanced inventory management, and customer optimization tools.
EVS Boulder, CO evssw.com 303-494-1765	mobe3	iOS-based WMS with AI delivering an industrial-strength platform that optimizes and improves warehouse workflow. Simulates warehouse operations under multiple scenarios and provides comparative efficiency metrics.
FASCOR Cincinnati, OH fascor.com 513-421-1777	FASCOR WMS	Enables users to gain control of warehousing and distribution systems, eliminate errors, automate inventory and order processing, save valuable resources, and deliver the right product on time, the first time.
Foxfire Greenville, SC foxfiresoftware.com 864-868-5243	Warehouse Management Software	Collects and reports data generated on the production floor and in the distribution center. Supports advanced shipment notification, picking, product preparation, and standard shipping label compliance.



[WMS BUYER'S GUIDE 2017]

COMPANY	PRODUCT	DESCRIPTION
Foysonis Cary, NC foysonis.com 800-3805206	Foysonis WMS	Made for small to mid-sized warehouse operations. Improves efficiency and accuracy of logistics operations while utilizing a SaaS software model.
GlobalTech SCM Solutions Cooper City, FL globaltechus.com 954-885-9066	Depot WMS	Provides end-to-end traceability, from product reception to delivery. Uses RF technology to improve accuracy and operation speed. Users can access warehouse information via Web-view.
HAL Systems Roswell, GA halsystems.com 770-927-0700	Warehouse Management System	Browser-based, scalable software solution for warehouse management using barcodes and RFID tags. Configurable to allow for affordable customer-specific solutions with no custom programming required.
HighJump Minneapolis, MN highjump.com 800-328-3271	Warehouse Management Solution	An affordable, end-to-end supply chain management solution that adapts to any organization's needs, including integration with existing ERP and e-commerce platforms.
Infor New York, NY infor.com 800-260-2640	Infor SCE	A complete supply chain execution solution that combines core advanced warehouse management, labor management, 3PL billing, and transportation planning in a single unified solution.
Intelligrated (Honeywell) Mason, OH intelligratedsoftware.com 866-936-7300	Intelligrated Warehouse Execution System	Manages people, processes, and equipment in real time using a robust suite of fulfillment technologies to address the demands of dynamic omnichannel retail operations.
IntelliTrack Sparks, MD intellitrack.net 888-583-3008	IntelliTrack WMS	Controls cycle counting, kitting, replenishment, space management, and other warehouse operations functions. Integrates with wireless technology.
Interlink Technologies Perrysburg, OH thinkinterlink.com 419-893-9011	Warehouse-LINK	Utilizes barcode and mobile computing technology to support all distribution activities. Provides web-based access with real-time information to increase warehouse efficiency and decrease fulfillment time.
International Data Systems Chula Vista, CA internationaldatasystems.com 877-254-4858	Velocity WMS	Manages receiving, putaway, inventory, order fulfillment, and shipping in real time. Features include user-defined fields, reporting services, charges/calculation billing, EDI integration, mobile computing, and barcode scanning capabilities.
Invata Intralogistics Conshohocken, PA invata.com 860-819-3200	Warehouse Execution Software	Combines purpose-driven design with sophisticated warehouse execution software in one comprehensive solution capable of orchestrating all the simultaneous processing associated with omni-channel fulfillment.

COMPANY	PRODUCT	DESCRIPTION
Iptor Roseville, CA iptor.com 916-542-2820	WMS for Distributors	Features include process control, with value-added activities such as kitting and build-to-order/assembly and advanced functionality such as dock/yard management, cross-docking, multi-level container handling and returns.
IQMS Paso Robles, CA iqms.com 866-367-3772	Enterprise IQ WMS	Controls and tracks all incoming and outgoing inventory movements with ERP and EDI integration, directed picking and putaway, work-order staging, wave planning, palletizing, and shipment planning.
JDA Software Scottsdale, AZ jda.com 480-308-3000	JDA Warehouse Management	Optimizes the movement of inventory - from raw materials to finished goods - and manages materials handling equipment and labor.
Knapp Kennesaw, GA knapp.com 678-388-2880	KiSoft WMS	Suited for conventional paperless systems and automated warehouses. Includes best practice processes, more than 1,700 standard features, and short implementation times.
LOG-NET Tinton Falls, NJ LOG-NET.com 732-758-6800	LOG-NET	Modular supply chain platform that provides WMS, order, freight, transport, and accounting management. Interfaces with carriers, forwarders, ERP, customs, and others.
Logimax Jacksonville, FL e-logimax.com 904-263-5625	WMS Software	A flexible, user-based system that delivers complete inventory control functionality plus integrated RF data collection, report writing, and web portal access.
Made4net Hackensack, NJ made4net.us 201-645-4345	WarehouseExpert	A robust WMS using state-of-the-art technology, and supporting Tier 1 functionality including putaway, pick and pack, replenishments, VAS, billing, and yard and labor management.
Magaya Corporation Miami, FL magaya.com 786-845-9150	Magaya WMS	Controls the movement and storage of merchandise within a warehouse. Receives and releases cargo. Utilizes barcode scanning, mobile WMS, and pick/pack.
Manhattan Associates Atlanta, GA manh.com 770-995-7070	Supply Chain Commerce	Speeds the flow of goods and information to enable flawless execution across inventory, labor, space and compliance. Accommodates omnichannel fulfillment and eliminates costly physical counts.
N'ware Technologies Dover, NH lisaproducts.com 603-812-6756	LISA Distribution WMS	Streamlines the entire supply chain and optimizes warehouse operations from order management to fulfillment and shipping. SAP-certified solution for SAP Business One, available for ByDesign.



WMS BUYER'S GUIDE 2017

COMPANY	PRODUCT	DESCRIPTION
Next View Software Orange, CA nextviewsoftware.com 714-288-0363	Next View WMS	Optimizes inventory, space, and labor across the supply chain. Provides complete visibility of raw materials, work in process, and finished goods across manufacturing, distribution, retail, and 3PL facilities.
Oracle Redwood Shores, CA oracle.com 800-392-2999	Oracle WMS	Provides complete warehouse management capabilities including advanced wave planning, crossdocking, and demand-driven replenishment. Can be implemented with Oracle E-Business suite or standalone.
PathGuide Technologies Bothell, WA pathguide.com 425-438-2899	Latitude WMS	Designed to automate core warehouse transactions such as receiving/putaway, paperless multi-zone picking, cycle counting and shipping, and employee performance and warehouse management reporting.
proVision WMS Toronto, Ontario provisionwms.com 416-675-3999	proVision WMS	Automates small/mid-sized warehouses and distribution centers, improving operational efficiencies and inventory accuracy. Supports RF/barcode/voice technologies and optimizes receiving, putaway, picking, staging, and shipping processes.
QSSI Somerset, NJ qssi-wms.com 732-805-0400	PowerHouse WMS	Improves inventory accuracy and customer service levels; reduces order processing time and putaway and picking errors; enhances labor and warehouse resources; and reduces inventory carrying costs and physical inventories.
Robocom Farmingdale, NY robocom.com 631-753-2180	R-WMS	Offers RF, voice, and paper processing options, plus functionality that enables distributors and 3PLs to manage all aspects of their warehouse operations.
SAP Newton Square, PA sap.com 800-872-1727	SAP Extended Warehouse Management	Features analytical tools that enable efficient operations management; supports the integration of multiple technologies - including voice and data capture - as well as control of automated materials handling equipment from a single system.
Snapfulfil Broomfield, CO snapfulfil.com 720-372-1250	Warehouse Management Systems	A class-leading warehouse management system for any size company in a range of industries that can be implemented with no upfront capital investment.
Softeon Reston, VA softeon.com 703-793-0005	Supply Chain Solution Suite	Highly configurable system for inbound receiving, putaway, picking, shipping, loading, and replenishment coordinating with processes such as distributed order management, web fulfillment, and vendor managed inventory.
SphereWMS Denver, CO SphereWMS.com 214-382-2680	SphereWMS	Mid-tier WMS that supports the entire warehouse and inventory management function in an easy-to-use cloud-based interface. Powerful capabilities in fulfillment, integration, scanning, mobility, and reporting/dashboards.

COMPANY	PRODUCT	DESCRIPTION
Suntek Systems Irvine, CA suntekscm.com 949-789-0070	iFULFILL	Provides streamlined process from fulfill order entry to shipping. Allows users to view inventory status at any time, anywhere.
Supply Vision Chicago, IL supply-vision.com 847-388-0065	Supply Vision WMS	Optimizes small/mid-sized warehouse receiving, putaway, picking and staging. Integrates with SVTMS for easy shipping, or as standalone WMS. Real-time inventory/order details 24-7 via customer portal.
Synergy North America Charleston, SC snapfulfil.com 843-577-5007	Snapfulfil	Automates all key warehouse processes with real-time task management to drive maximum efficiency and productivity. Efficiency improvements up to 30 percent. Implemented within 45 days.
SYSPRO Costa Mesa, CA syspro.com 800-369-8649	ERP Inventory Management Software	Enables effective customer servicing and improved profits by providing traceability, recall management, and stock control across the entire supply chain.
TAKE Supply Chain Austin, TX takesupplychain.com 800-324-5143	GeminiSeries	Integrates with existing Oracle ERPs to provide solutions for receiving, manufacturing, shipping, quality, labeling, and real-time inventory data, giving complete visibility to supply chain functions.
TECSYS Montreal, Quebec tecsys.com 800-922-8649	EliteSeries	Optimizes all warehouse operations, improves performance and profitability. Scalable and adaptable, quick onboarding. User-friendly visual applications, real-time visibility, and analytics with embedded WERC KPIs.
TransGroup Global Seattle, WA transgroup.com 800-444-0294	TransWarehouse	Manages multiple warehouses anywhere globally. View inbound inventory and create outbound shipments by SKU or product number, all with integrated tracking and PODs.
Westfalia Technologies York, PA savanna.net 844-391-9822	Savanna.NET	Optimizes, manages, and controls warehouse operations, saving time and money, while providing the flexibility to select the functions needed to meet specific business needs.
WITRON Arlington Heights, IL witron.com 847-385-6000	WITRON WMS	Allows distribution centers to automatically pick cases, build pallets of mixed SKUs, and stretch wrap and ship orders. Multi-language support for user interfaces allows the same platform to be used internationally.
Zethcon Lombard, IL zethcon.com 847-318-0800	Synapse	Processes multiple warehouses and multiple customers with different processing requirements, using the same database and software.

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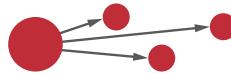
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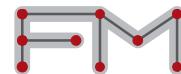
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Casebook | by Paul Vachon

Golf Ball Maker Hits Supply Chain Sweet Spot

Acushnet, maker of Titleist and Pinnacle golf balls, sought an ultra-lean product flow to bring its game to the next level. In the highly competitive world of manufacturing and marketing golf balls, bags, and shoes, the company needed an aggressive play to drive down costs and boost supply chain efficiency.

In 2016, the company teamed up with a solutions provider partner to scrutinize its total product flow, examining fill rates and inventory obsolescence. It took direct aim at supply chain complexity.

Fairhaven, Massachusetts-based Acushnet (named after neighboring community Acushnet, Massachusetts, where it was founded) manufactures and sells golf balls, clubs, and bags under the Titleist and Pinnacle brands, and golf footwear and apparel under the FootJoy name.

In 2015, the company had sales of approximately \$1.5 billion. Operating most of its production facilities out of the greater New Bedford area, the company employs about 3,000 people.

“For several years we’ve been looking at the ongoing challenge of supplying product—our model is SKU intensive,” explains Jay Traficante, director of supply chain and procurement at Acushnet.

The company sought a partner that could help improve fill rates, reduce inventory obsolescence, and dial back overall supply chain complexity. “We considered adding forecasting models or advanced planning systems to more accurately model demand,” says Traficante. “But many of these options were so expensive, we looked for an alternative.”

Traficante had previously taken classes in supply chain management at the Georgia Institute of Technology,

Sporting goods manufacturer Acushnet took a swing at a demand-driven replenishment process for finished goods and met peak season demand to a tee.



Titleist golf ball manufacturer Acushnet sought an ultra-lean product flow to bring its supply chain game to the next level. To reduce product obsolescence, it adopted a demand-driven logistics approach.

where his instructors included LeanCor CEO Robert Martichenko and Vice President Brad Bossence. Traficante quickly came to appreciate their approach.

LeanCor, founded in 2005 and based in Florence, Kentucky, is an end-to-end supply chain solutions provider that aims to “advance the world’s supply chains,” says Bossence. The company operates facilities in three states and Ontario.

Adaptable Team Player

LeanCor’s approach involves a high level of customization. “It might include working with customers in training, consulting, or third-party logistics operations,” notes Bossence. “We manage transportation; we manage warehouse operations. We implement high-impact engineering designs that are practical and that operators can easily understand.”

LeanCor’s technical savvy and reputation made it an easy choice for Acushnet. “They know how to implement Lean principles in a practical way,” says Traficante.

LeanCor undertook an exhaustive study and analysis of Acushnet’s operations before devising a solution.

The LeanCor team visited all the company’s production and warehouse locations, as well as its supplier facilities. They then assembled an eight-person team composed of representatives from each stage of the supply chain to come up with a strategy.

The research directed the team to concentrate efforts in particular product lines. The team selected a subset of SKUs accounting for about 40 percent of Acushnet’s total inventory. It consisted entirely of the company’s golf ball lines.

Pull Playbook

After considerable study, LeanCor and the Acushnet team developed a plug-and-play tool that utilized the Kanban-inspired model of pull—or demand-driven logistics—aligning the degree of end use or customer demand with the level of resupply.

A key feature of flexible pull is the maintenance of “risk pooling,” which starts by keeping manufactured golf balls stored but unpackaged. Product is packaged to demand, at the last possible moment, reducing its likelihood of becoming obsolete, or being in the wrong packaging configuration.

“One specific ball type might go in

any number of packaging configurations,” says Traficante. “We minimize risk by postponing that final step as late as possible.”

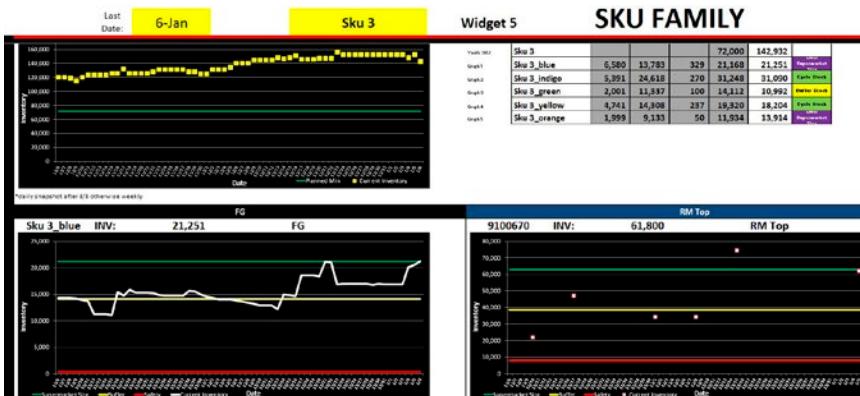
Taking Aim at Overproduction

Manufacturing, in turn, is governed by the “pull” at the other end of the supply chain (allowing for a reasonable margin or buffer in case of unforeseen events) to avoid overproduction.

Acushnet used a simulation system to keep tabs on inventory levels in real time. Called the Plug-and-Play E-Kanban tool, the solution monitors piece counts segregated by SKU family at each stage of the supply chain pipeline—production, transportation, storage, and fulfillment. Dedicated screens reflect the constant fluctuations of manufacturing and shipping cycles.

Each screen includes guide markers, which provide alerts to the buffer and safety stock levels, providing context to the data. The goal is to operate so that inventory counts remain constant within these carefully designated parameters.

During its initial two-month pilot period, Acushnet achieved a fill rate of 100 percent, yet did so with a 30-percent reduction in finished goods inventory.



Acushnet uses a simulation system to keep tabs on inventory levels in real time. Each screen includes guide markers, so the company can constrain inventory counts within these parameters to avoid overproduction.

It decreased rework costs (time spent reconfiguring incorrectly processed stock) by \$65,000 annually.

The SKUs covered by the program during its pilot phase represented 22 percent of Acushnet's total demand. Applying the same process improvements to 70 percent of demand, net cost savings are projected to reach \$250,000 per year. These metrics exceed the partners' initial goals.

Out of the Rough

The LeanCor approach relied on simple tools, weekly status meetings, and team training. "Over time, LeanCor has become an invaluable partner from a strategy, training, and execution standpoint," notes Traficante.

Process improvement also hinged on Acushnet's own team commitment. "Acushnet team members were engaged across the various supply chain functions and ready to advance supply chain processes," notes Vimal Patel, project manager for LeanCor. "The team consistently displayed a desire for sustained improvement."

Traficante sees the new culture, techniques, and tools that LeanCor introduced as setting a precedent that will help the company tackle other SKU-intensive product lines.

"We want to instill this new training and tools in the entire staff," says Traficante. "This will allow us to take

a dry subject and make it resonate with everyone on the team."

For its follow-through, the company is looking at rolling out this approach across other SKU-heavy product lines. For example, shoes come in myriad styles, colors, and sizes; golf clubs are available in both right- and left-handed versions.

In short, Acushnet has a great shot at supply chain efficiency across all its product lines. ■

ON COURSE FOR EFFICIENCY

A simulation tool and pull-replenishment playbook enabled sporting goods company Acushnet to:

- Improve inventory turns by **40 percent**
- Reduce rework costs by **\$65K**
- Increase fill rate by **100 percent**





Catch-Up Logistics

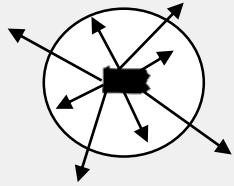
WAREHOUSING & DISTRIBUTION

Food Grade Warehouse

Dry/Refrigerated/Frozen Space

Raw Materials & Finished Goods

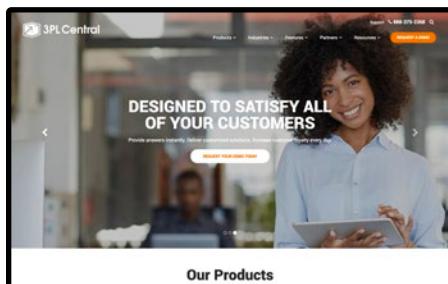
- Repacking & Labeling
- Consolidation
- Display Building & Club Store Variety Packing
- RF & Barcoding
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- Asset-Based Trucking
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- Import/Export



We are proud to announce our new organic certified 100,000 ft² 10 rail door transloading facility outside of Pittsburgh, PA.

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3PL

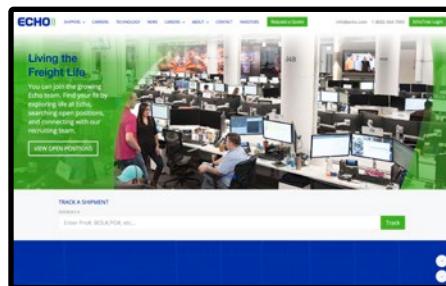


3PL Central • www.3plcentral.com

3PL Central provides the most popular cloud-based WMS solutions in the 3PL warehousing marketplace. Specifically designed for today's high-tech warehousing operations, our products feature EDI and shopping cart integration, 24-7 inventory visibility, order management, real-time reporting, billing automation, bar-code scanning and more. Powerful and affordable, our solutions have enabled our customers to grow by an average of 22 percent annually. Sign up for a test drive today.

Echo Global Logistics, Inc. • www.echo.com

Echo Global Logistics, Inc. (Nasdaq: ECHO) is a provider of technology-enabled transportation and supply chain management services. Echo maintains a proprietary, Web-based technology platform that compiles and analyzes data from its network of more than 30,000 transportation providers to serve its clients' needs. Offering freight brokerage and managed transportation services across all major modes, Echo works to simplify the critical tasks involved in transportation management.

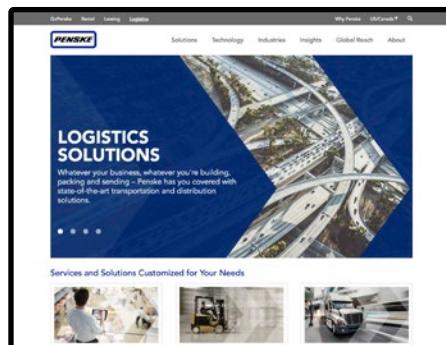


J.B. Hunt Transport • www.jbhunt.com

J.B. Hunt Transport focuses on providing safe and reliable transportation services to a diverse group of customers throughout the continental United States, Canada and Mexico. Utilizing an integrated, multimodal approach, the company provides capacity-oriented solutions centered on delivering customer value and industry-leading service. J.B. Hunt Transport Services, Inc. stock trades on NASDAQ under the ticker symbol JBHT, and is a component of the Dow Jones Transportation Average. J.B. Hunt Transport, Inc. is a wholly owned subsidiary of JBHT. For more information, visit www.jbhunt.com.

Penske Logistics • www.penskelogistics.com

Penske Logistics is an award-winning logistics services provider with operations in North America, South America, Europe, and Asia. Our products and services range from dedicated contract carriage and distribution center management to transportation management and fully customized solutions. No matter what your needs or industry, Penske Logistics engineers supply chain solutions that deliver business results like boosting productivity, improving service, and shrinking carbon footprints. Call us today at 1-800-529-6531 to learn more.



IN THIS SECTION:

3PL - Dedicated Contract Carriage



Pilot Freight Services • www.pilotdelivers.com

Pilot Freight Services, Inc. is a full-service transportation and logistics provider with over 75 locations throughout North America, as well as stations in Amsterdam, Toronto, Vancouver, Mexico City, and A Coruña, Spain. The company's freight forwarding services encompass every mode of transportation, including air, ground and ocean, serving all corners of the globe. Pilot's logistics programs offer a complete line of expedited and time-definite services, international shipping solutions, product warehousing and inventory management. In addition, Pilot's online shipment navigator, CoPilot, makes online shipping fast, convenient and secure. Learn more about Pilot Freight Services at www.PilotDelivers.com.

UTXL • www.utxl.com

Whether you need a core transportation service provider or a resourceful backup relief valve, turn to UTXL. UTXL handles truckload and multiple stop shipments (consolidated LTL) between any points in North America, and can arrange service to or from any state with satellite and/or cellular equipped teams and single drivers for your van, reefer, flatbed, or oversized shipments. Shippers nationwide rely on UTXL for reliable service and economical prices; you can, too. Check out the Web site for all the details.



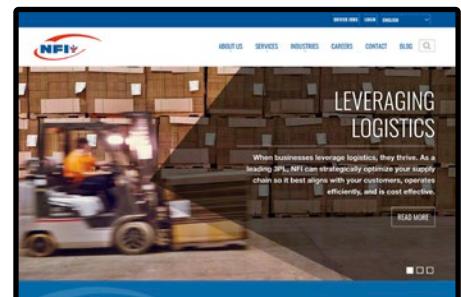
Veritiv Corporation • www.veritivcorp.com

Veritiv™ Corporation (NYSE: VRTV) is a North American leader in business-to-business distribution. A Fortune 500® company, Veritiv provides logistics and supply chain management solutions, packaging, facility solutions, print and publishing products and services.

DEDICATED CONTRACT CARRIAGE

NFI Industries • www.nfiindustries.com

NFI is a supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.



FREIGHT PAYMENT/AUDIT SERVICES



A3 Freight Payment • www.a3freightpayment.com

A3 Freight Payment partners with large-volume shippers who are seeking a high degree of customization, exceptional customer service, reliable processing, and minimum resource involvement in managing their solution. The A3 Freight Payment team has a track record of designing, implementing, and managing global freight payment solutions for some of the largest shippers in the world. This experience is crucial to the successful development and deployment of a solution, while ensuring a smooth transition for our clients.

Cass Information Systems • www.cassinfo.com

Cass is the nation's oldest and largest provider of freight bill payment, audit, and rating services. We offer a wide array of services for processing and paying freight bills, as well as our industry-leading Internet reporting service, CassPort. In business since 1906, and providing freight payment services since 1956, Cass continues to offer stability, security, and expertise in the freight audit, payment, and information market.



CT Logistics • www.ctlogistics.com

Since 1923, organizations have leveraged CT Logistics to provide global freight audit & payment and transportation management solutions. Partner with CT to design and implement customized supply chain and rate management solutions. CT's Business Intelligence platform provides global spend visibility and data analysis using SOCII and ISO 9001:2008 certified processes. Services also include: Shipment Execution, Bid Management, Shipment Planning and Execution Software, and Professional Services for consulting and advising.



CTSI-Global • www.ctsi-global.com

For more than 50 years, CTSI-Global has been a valuable resource to companies by providing the technology and industry expertise to help them manage all aspects of their supply chain—physical, informational, and financial—through freight audit and payment, transportation management systems (TMS), information management tools, and global consulting. The end results are improved shipping efficiencies, greater control, and significant ongoing savings. CTSI-Global is your link to supply chain solutions.



IN THIS SECTION:

Freight Payment/Audit Services



Data2Logistics • www.data2logistics.com

Data2Logistics provides the business intelligence you need to reduce transportation expense by 7 to 15 percent, and improve control of your freight and parcel shipments. For more than four decades, clients have relied on Data2Logistics to provide accurate pre-audit, post-audit, freight cost allocation, and robust global information. These services are provided as part of our worldwide freight bill payment capabilities. We process bills for all modes of transportation, including LTL, truckload, air, ocean, and parcel. We are a recognized source for actionable information, not just access to data. Data2Logistics has the experienced staff and global presence to service your locations in North America and around the world.

enVista • www.envistacorp.com

enVista is a leading global transportation spend management solutions company with experts around the globe who help clients reduce cost and improve visibility throughout their worldwide operations. enVista's audit and payment service utilizes myShipINFO®, our proprietary, transportation cost management platform, which includes unit of measure, currency conversions, multi-lingual translations, and VAT calculations to ensure carrier compliance for global shippers and 3PLs.



Fortigo • www.fortigo.com



Fortigo's team of experts specializes in logistics optimization and enterprise Web-based software. For companies seeking to reduce costs, improve customer satisfaction, and increase profitability, Fortigo automates, optimizes, and audits logistics decisions. Fortigo plugs into established supply chain applications and provides rapid return on investment by optimizing and deploying closed-loop logistics processes, minimizing ship-to-order times and streamlining collaboration with logistics providers.

nVision Global • www.nvisionglobal.com

nVision Global is a leading international freight audit, payment, and logistics management solutions provider. With locations in North America, Europe, and Asia, our staff is fluent in more than 25 languages, and processes and pays freight invoices from more than 190 countries worldwide. Over the years, our customers have come to rely on our prompt, accurate Sarbanes-Oxley-compliant freight payment services, as well as our leading-edge information management analytical tools including global mapping, graphing, benchmarking, modeling, and network optimization analysis to help them manage their overall supply chain costs.





RateLinx • www.ratelinx.com

For 15 years, RateLinx has developed and implemented the only logistics management software that standardizes freight invoice, track and trace, shipment, and order/item data. This creates unparalleled visibility and Integrated Shipping IntelligenceSM to solve your freight management problems. RateLinx deploys the modules you need to integrate with any ERP/WMS. Leveraging big data to provide predictive analytics, the multi-carrier, multi-modal, multi-location software monitors performance by product line, sales channel or entity.

SSI-Software Solutions Unlimited, Inc. • www.ssui.com

SSI transforms the complexity of modern-day global freight audit and freight payment into cash savings and business intelligence, providing actionable insights to maximize your profit potential. Our specialized software and customizable solutions scale with your growing business. Get modern data visualization tools, personalized reports, and relevant business insights to drive savings worldwide. SSI delivers results that appeal to C-level executives and transportation, logistics, and finance leaders in any industry. Developing a freight-audit RFP? Get free, expert insights at ssui.com/whitepaper.

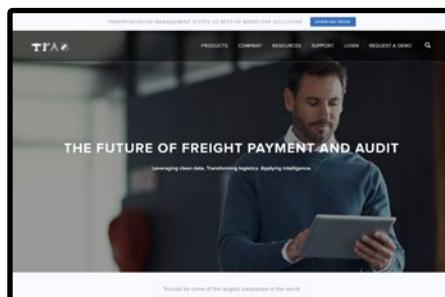


Trans Audit • www.transaudit.com

Trans Audit, the world's largest and most successful global freight and parcel post audit specialist, has performed worldwide post payment transportation audits on a contingent basis for hundreds of Fortune and Global 1000 corporations. Trans Audit's freight and parcel post audit services address all modes of global transportation and have delivered over \$1 billion of benefit to our clients' bottom line by recovering overbillings and overpayments, correcting erroneous billing, and reducing future expenses.

Trax Technologies • www.traxtech.com

Trax Technologies is transforming global logistics to help customers reduce risk, save money, and improve enterprise-wide efficiency. Unlike traditional freight audit & payment solutions, our innovative platform starts with a foundation of powerful data science. We then apply easy-to-use SaaS technologies and expert frameworks to help clients uncover valuable logistics business intelligence.



IN THIS SECTION:

Freight Payment/Audit Services - Logistics IT



U.S. Bank • www.usbpayment.com

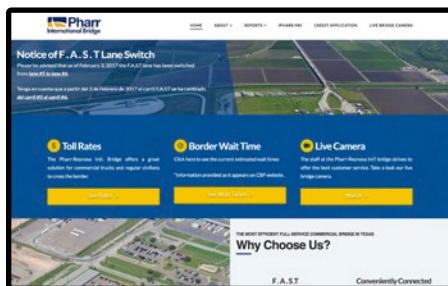
U.S. Bank Freight Payment improves control and reduces costs for shippers and carriers with a global transportation payment network that automates invoice auditing, processing and payment; integrates trade finance; and provides powerful business intelligence. Visit usbpayment.com today to learn how we can strengthen your physical and financial supply chain.

Veraction • www.veraction.com

Veraction is the leader in Transportation Spend Management solutions. Veraction combines industry leading cloud based applications with best in class services to help companies realize savings, visibility and control of their transportation spend across all transportation modes. With a global footprint and solutions spanning freight and parcel audit, bill payment, spend analytics, and expert consulting, Veraction enables companies to manage their critical and significant transportation spend more effectively.



GLOBAL TRADE



Pharr Bridge • www.pharrbridge.com

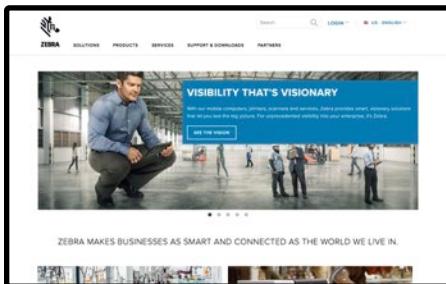
The Pharr-Reynosa International Bridge serves as one of the most important ports of entry for the U.S.-Mexico border. It handles both commercial and passenger-operated vehicles and crosses about 175,000 vehicles monthly. The Pharr International Bridge is also the only commercial bridge crossing in Hidalgo County, and is the number two bridge in the country for crossing of fruits and vegetables. The Pharr International Bridge connects US Hwy. 281/ I-69W to the City of Reynosa, Tamaulipas, the fastest growing city in Mexico.

LOGISTICS IT

WIN (Web Integrated Network) • www.gowithwin.com

WIN™ (Web Integrated Network) is the no-cost, no-fee transportation management system offering shippers savings opportunities, visibility, efficiency, and carrier choice (their incumbents or WIN network's). A product of Odyssey Logistics & Technology, a global logistics solutions provider with a freight network of over \$2 billion, WIN supports virtually all modes in North America and quickly and easily integrates with shippers' existing ERP systems. WIN also leverages the latest technologies for carrier communication including APIs or carrier web services.





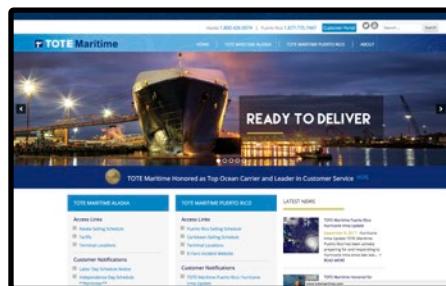
Zebra Technologies • www.zebra.com

When it comes to creating a real-time warehouse, only Zebra Technologies brings you true end-to-end solutions. Zebra products help your company wrangle increasing complexities by automating processes and simplifying operations. Zebra services help you get and keep your mobile warehouse solution up and running at peak performance and free your IT staff to focus on business objectives.

OCEAN

TOTE Maritime • www.totemaritime.com

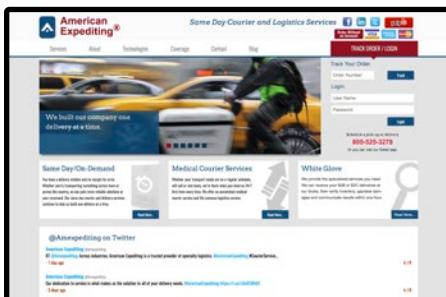
Operating in the Jones Act trade since 1975, TOTE companies strategically and efficiently route cargo from anywhere in North America to Puerto Rico and Alaska. The services offered by TOTE Maritime companies are critical to remote areas of the United States. Flexible, efficient, twice-weekly service to their dedicated trade routes ensures reliable, consistent and cost-effective cargo transport for U.S. residents in the non-contiguous states.



TRUCKING

American Expediting Company • www.amexpediting.com

American Expediting has grown over three decades - from a single operation to hundreds of dedicated logistics professionals nationwide. But its mission remains the same: to deliver on time, every time. Couriers are equipped with two-way communications devices and GPS, and the on-time performance metric is more than 99 percent. From messengers, couriers with cars, vans and trucks, to next-flight-out and direct drive shipments, to warehousing, distribution, fulfillment, and more, American Expediting's solutions are custom-tailored to your exact requirements, schedule, and budget.



Celadon • www.celadontrucking.com

For all your transportation and logistics needs, count on Celadon, one of the largest and most progressive transportation and logistics companies in North America. Celadon offers a range of truckload transportation services including long-haul, regional, local and dedicated. Celadon Logistics provides freight management services, less-than-truckload consolidation, and freight brokerage services, while Celadon Dedicated Services offers supply chain management solutions, such as warehousing and dedicated fleet services. More information is available on the Celadon website.



IN THIS SECTION:

Trucking



DHL Supply Chain • dhl.com/managed-transportation

DHL Supply Chain is the Americas leader in contract logistics and part of Deutsche Post DHL Group. We provide customer-focused solutions to the automotive, chemical, consumer, industrial, life sciences, retail, and technology industries. Solving problems. Pushing boundaries. Creating solutions. It's what we've been doing for 30 years – and what continues to make us different every day.

Kenco • www.kencologistics.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 Web site so that you might get to know its services. Then, contact Kenco so that you might truly understand its unique strategic advantages.



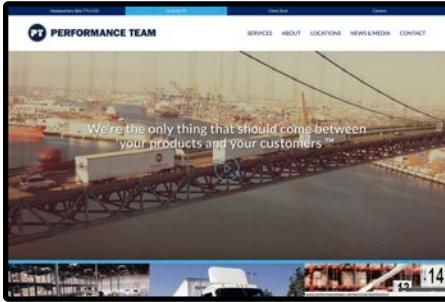
Landstar • www.landstar.com

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.

Old Dominion Freight Line • www.odfl.com

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



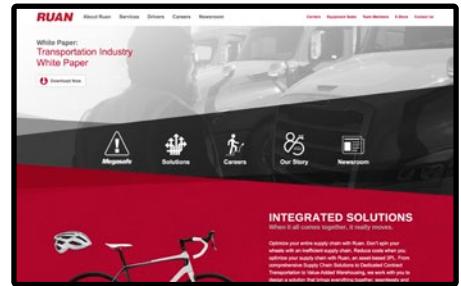


Performance Team • www.performanceteam.net

Performance Team (PT) is an industry-leading third-party logistics company with nearly 30 years of experience in warehousing, distribution, consolidation and transportation. PT has 12 domestic hubs (and nearly 7 million square feet of space) strategically located near major ports, interstate highways, and intermodal rail lines, allowing us to provide the retail and manufacturing industries with flexible B2B and B2C solutions for the movement, handling, and distribution of goods. PT also offers a full suite of retail, wholesale, e-commerce, and omni-channel distribution and transportation services.

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 Web site – ruan.com.



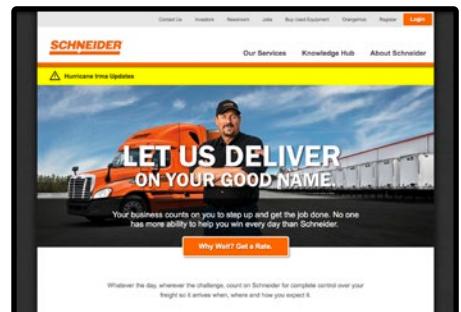
Saia LTL Freight • www.saia.com

For nearly 90 years, Saia LTL Freight has been providing customers with fast, reliable regional and interregional shipping. With 147 terminals located in 34 states, Saia LTL Freight offers a range of products and services that are backed up by a guarantee like no other in the industry. Our Customer Service Indicators, or CSIs, allow us to measure our performance each month against a set of six indices that our shippers said are the most important to them.



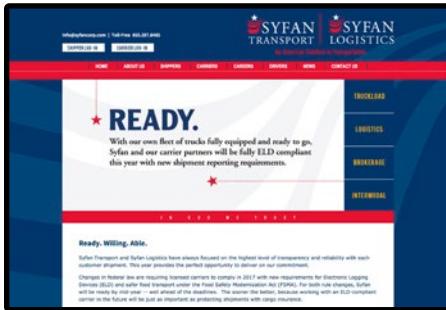
Schneider • www.schneider.com

Schneider is more than just truckload services, it's the leading provider of premium truckload and intermodal services. Schneider creates transportation solutions for customers using the broadest portfolio of services in the industry. Schneider has several divisions that provide transportation and transportation-related services: One-way Truckload, Dedicated, TruckRail, OptiModal, Brokerage, and Expedited. Visit Schneider's site to find out more about the company and the services it provides.



IN THIS SECTION:

Trucking - WMS

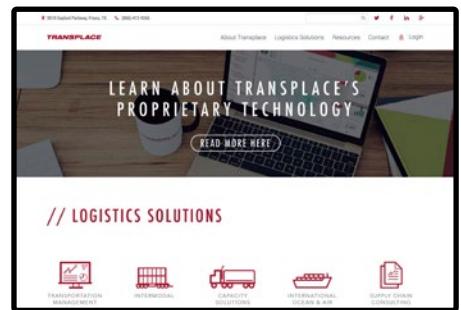


Syfan Logistics • www.syfanlogistics.com

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

Transplace • www.transplace.com

Transplace is a North American non-asset based logistics services provider offering manufacturers, retailers, chemical and consumer packaged goods companies the optimal blend of logistics technology and transportation management services. The company is the premier provider of managed transportation, consulting & TMS solutions; and intermodal, truck brokerage, and cross-border trade services. With operations centers located throughout North America, Transplace delivers integrated solutions tailored to meet in-county and cross-border supply chain needs.



WAREHOUSING



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 Web site – ruan.com.

WMS

BluJay Solutions • www.blujaysolutions.com

When you partner with BluJay, you gain the advantage of the largest global trade network, a cloud-powered portfolio of application services, hands-free customs, real-time data analytics, and the visibility and velocity to adapt quickly. BluJay's proven, advanced technologies scale with your business. Equally important, its customer-centric team has the transportation expertise and passionate commitment to help you soar.



WhitePaperDigest

Industry experts amass supply chain management best practices and skill sets, and invest in new research and evaluation tools. Now you can benefit. *Inbound Logistics* has selected this collection of whitepapers that will give you a jump on important supply chain issues. For more information on any of these whitepapers, visit the Web sites listed below.



enVista

TITLE: *Improving Transportation in the Real World*

DOWNLOAD: <http://bit.ly/enVistaImprovingTransportation>

SUMMARY: Talking about improving transportation operations is one thing, but successfully planning and executing is another. In this white paper, learn six steps that shippers and 3PLs can take to significantly improve transportation operations in the real world.

Kane is Able

TITLE: *The Ultimate Guide to Being a Great 3PL Customer*

DOWNLOAD: <http://bit.ly/KaneisAble>

SUMMARY: Many shippers commoditize the services of third-party logistics providers (3PLs), believing that the best result will come from micro-management and constant price pressure. In fact, the opposite is true. The more you, as the outsourcing company, invest in the relationship—as a partner, not an overseer—the more value is delivered. Here are 12 suggestions on 3PL relationship management that, while they create some work for you, pave the way for breakthrough supply chain performance.

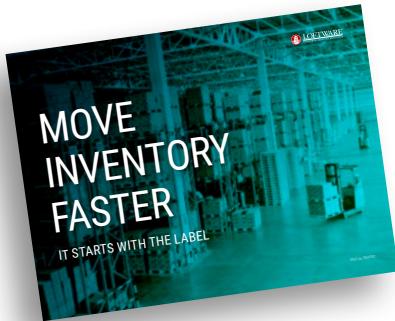
Purolator International

TITLE: *Customs Compliance: Has Your Business Taken the Necessary Steps?*

DOWNLOAD: <http://bit.ly/PurolatorCustoms>

SUMMARY: All businesses engaged in international trade have a critical need to understand their compliance responsibilities, and to ensure they have internal processes in place to meet those obligations. Download this whitepaper for an in-depth overview of the compliance process—including areas of particular vulnerability and recommendations for improving your internal compliance management.





Loftware

TITLE: *Move Inventory Faster: It Starts With The Label*

DOWNLOAD: <http://bit.ly/LoftwareLabel>

SUMMARY: Think about it...the label connects the supplier to you—well, to your ERP and, equally important, to the inventory itself. What if you could control the labeling outside your four walls so that shipments from suppliers and other trading partners were labeled with the information you required? Your data, your barcodes, your instructions, your process? Download Loftware's report to discover how enterprise labeling can improve your supplier transactions.

3PL Central

TITLE: *5 Proven Ways to Improve Your 3PL Warehouse Profitability*

DOWNLOAD: <http://bit.ly/3PLCentral>

SUMMARY: When it comes to running a warehouse, finding new ways to increase your profits can be one of your biggest challenges. That's why 3PL Central and inside industry experts created *5 Proven Ways to Improve Your 3PL Warehouse Profitability*. This free ebook details five crucial actions your warehouse can take to upgrade its bottom line.

Descartes

TITLE: *2017 Forwarder/Broker Benchmark Study*

DOWNLOAD: <http://bit.ly/DescartesSurvey>

SUMMARY: Descartes' forwarder and broker benchmark survey is different – it asks the right questions of the right market segments to reveal some interesting (and surprising) results. What is different about the survey? The questions and results speak to what the competition is doing, which is one of the main concerns of forwarders and brokers. In addition, the survey reveals differing perceptions among higher margin and lower margin respondents, as well as views of technology.



SEKO

TITLE: *Supply Chain Visibility*

DOWNLOAD: <http://bit.ly/SEKOSupplyChain>

SUMMARY: The emergence of supply chain software providers in the cloud that span the entire supply chain is happening now. This shift will provide smaller hard goods manufacturers and distributors more efficient and collaborative supply chains, which ultimately lower cost and increase profitability. Learn more in this whitepaper.

Share your whitepaper with *IL* readers!

WhitePaper Digest is designed to bring readers up-to-date information on all aspects of supply chain management. We're building a database of SCM whitepapers, and you can help. E-mail us with whitepaper recommendations: editorial@inboundlogistics.com

PRODUCT SPOTLIGHT

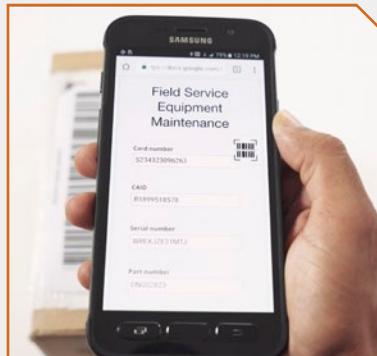
LOGISTICS HANDHELD DEVICES AND APPLICATIONS



Honeywell CN75 Mobile Computer: This rugged handheld features smart battery technology that provides power for a full work shift, eliminating dead batteries and downtime. It's also equipped with a high-performance imager that scans barcodes accurately, even in low-light conditions, with motion tolerance to prevent delays. The powerful device features a 1.5-GHz dual-core, multi-engine processor with 2 GB RAM and 16 GB Flash.



HighJump Supply Chain Advantage inMotion: This application turns consumer mobile devices into RF scanners. The solution directs workflows with the HighJump warehouse management system acting as the central nervous system of the operation. Smartphones and tablets running this app execute RF transactions and provide visibility into processes and inventory across the warehouse. The system can also be paired with hands-free scanners that streamline put-away, picking, and shipping processes.



Scandit Keyboard Wedge: This scanning application for Android, iOS, and Windows enables shippers to add enterprise-grade barcode scanning to any application without additional development or integration effort. The solution lets mobile ERP, WMS, and POS solutions scan via smartphone or tablet camera. On an Android device, users can scan barcode data into multiple input fields at once. The application is remotely configurable. Companies can manage distribution and scanner configuration through any mobile device management solution.

Zebra TC70/TC75 Touch Computer Series:

Designed to streamline logistics workflows, this mobile device series runs on both Android and Windows 10 IoT Mobile Enterprise operating systems. Workers can choose their data input pair: finger and gloved finger, or finger and stylus, which is designed for crisp signature capture. The 4.7-inch display automatically adjusts to the preferred data input method. With up to four times the loudness of popular smartphones and noise-cancelling technology, the TC70/TC75 provides clear audio on both ends of a call.



Panasonic Toughpad FZ-F1: Designed to boost productivity in the warehouse or on the road, this handheld computer has a quad-core processor, angled rear-facing barcode reader, and a warm-swappable long-lasting battery. It can help companies decrease fuel costs through intelligent route planning and reduce delivery errors with digital bills of lading that track cargo status in real time. In addition, the rugged device can survive a fall off a loading dock and work through extreme heat, cold, and vibration.





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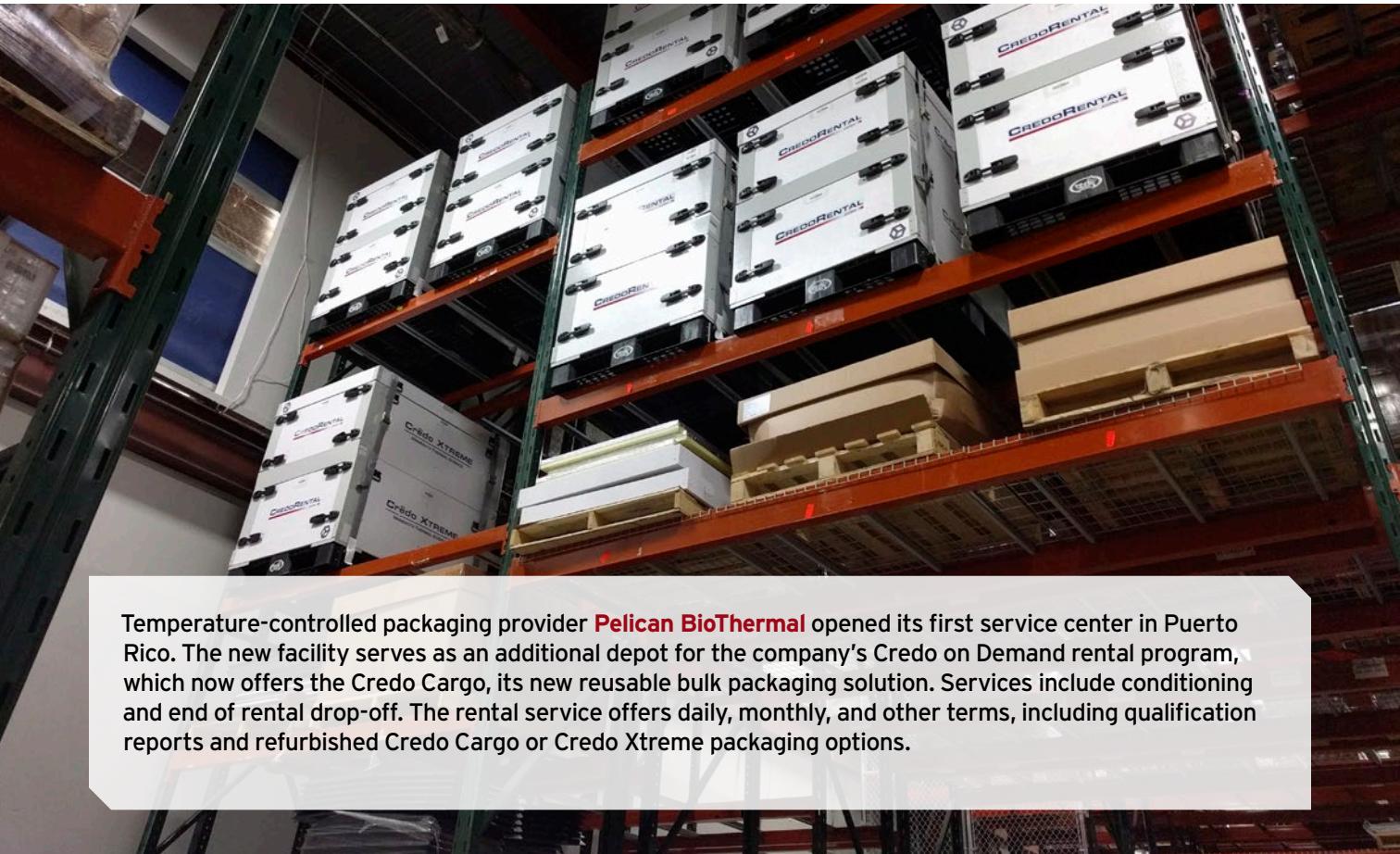
Freight Logistics is a forward-thinking worldwide transportation and logistics-solutions provider leveraging modern technology and significant industry expertise to create distinctive and innovative solutions. Our customers achieve maximum value through supply-chain optimization services that drive measurable cost savings by increasing efficiencies. By way of own offices in eight countries across three continents and a strategic, global-partnership network, Freight Logistics provides worldwide coverage for its forwarding and logistics customers.



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Temperature-controlled packaging provider **Pelican BioThermal** opened its first service center in Puerto Rico. The new facility serves as an additional depot for the company's Credo on Demand rental program, which now offers the Credo Cargo, its new reusable bulk packaging solution. Services include conditioning and end of rental drop-off. The rental service offers daily, monthly, and other terms, including qualification reports and refurbished Credo Cargo or Credo Xtreme packaging options.

// Services //

DHL opened a \$6.2-million, 50,000-square-foot-facility in Carrollton, Texas, to serve the East Dallas area, providing international shipments ranging from envelopes and small parcels to palletized and containerized freight. The facility, the company's second in the Dallas area, processes thousands of packages daily through its automated sort system and incorporates environmental features such as LED lighting in the warehouse, on/off sensors for lighting to conserve electricity, and electric forklifts.



Truckload carrier **Schneider** passed the halfway mark in its fleet-wide implementation of automated transmission trucks, replacing vehicles with manual transmissions. Its adoption of energy-efficient and easier-to-operate tractors is expected to attract more people considering a career in truck driving. The company, which made the decision in 2015 to start transforming its fleet, has found that both veteran and rookie drivers prefer the new transmissions.

South Carolina Ports Authority

opened a refrigerated container service area in the Port of Charleston, marking a \$14-million investment to support growing cold chain business in the Southeast. Enhancing reefer processing for shippers, the new 6-acre refrigerated container service area at the Wando Welch Terminal features a 12-lane service canopy, on-site storage, and staging for gen-sets and container washing stations.

IAG Cargo now offers its highest-priority service, called Critical, to Constant Climate shipments. The service enhancement means shippers sending urgent pharmaceuticals now have access to the non-off-loadable status and performance guarantees offered under Critical. Following trials of Constant Climate Critical across India, the UK, and Europe, IAG Cargo is rolling out the new offering across all 109 Constant Climate-enabled stations on its network.

//Transportation//

The **CMA CGM Group** is expanding its presence on South America's east coast by launching a new service to the Mediterranean in October 2017. The service, called Sirius, connects ports on the east coast of South America via its hub in Malta to ports in the eastern Mediterranean, North Africa in the Adriatic Sea, and the Indian subcontinent. The CMA CGM Group also adds the port of Algeciras, Spain, offering a fast transit time from Asian ports via transshipment.

Logistics services provider **Transitex** now offers a regular LCL cargo service between its warehouse in Johannesburg, South Africa, and the cities of Maputo (Mozambique) and Harare (Zimbabwe). Consolidated cargo departures from Johannesburg are weekly, with an estimated transit time of 48 hours to both destinations. Transitex continues to invest in South Africa, with increased infrastructure and services in the region.



▲ **All-cargo airline CargoLogicAir (CLA)** launched its first scheduled cargo route in August 2017, providing maindeck services connecting the United Kingdom and Mexico. Twice-weekly Boeing 747-400 flights depart from CLA's base at London Stansted Airport every Wednesday and Saturday. Flights operate to Mexico City International Airport via Hartsfield-Jackson Atlanta International Airport.

//Technology//

Sleek Fleet launched its web- and mobile-enabled freight marketplace to connect shippers with owner operators. Sleek Fleet maintains a verified drivers database, with driving histories and insurance information, and handles all transactions, paying drivers within four hours of paperwork submission. The system ensures no large carriers, brokers, or under-qualified drivers become part of the network. Upon being verified, drivers can log in, choose from actual loads based on location and equipment, and submit bids.

CX North America Information Services, a freight collaboration solutions provider, released the *Freight Vision* mobile app, a new product designed to give a range of



◀ **TOTE** is establishing a new domestic shipping service from the U.S. mainland to Hawaii in addition to its current service to Alaska (pictured). The company is working with Philly Shipyard to construct four environmentally advanced containerships,

custom built for the trade. In August 2017, TOTE began talks to secure the new deepwater Kapalama Container Terminal in Honolulu, a critical step in making the new service a reality.

users, especially at the management level, visibility into the status of their freight operations at any time. The app delivers on-demand, real-time status information on drivers and shipments over smartphones or other mobile devices.

Supply chain software provider **LLamasoft** released *Supply Chain Guru X*, a supply chain design software application. The latest iteration of LLamasoft's flagship product *Supply Chain Guru*, the solution incorporates features from the LogicNet Plus and CAST design applications acquired by LLamasoft in 2015. *Supply Chain Guru X* enables companies to build living models of the end-to-end supply chain to visualize inefficiencies; optimize for improvements in cost, service, and risk; and test hundreds of potential supply chain scenarios.

UPS Capital, a subsidiary of UPS, launched an online business-to-business payment service powered by Payoneer, a cross-border payments company. The payment service gives customers and companies in more than 200 markets and in 150 currencies the ability to utilize a secure, digital platform to conduct and perform B2B transactions protected by licensed escrow. The service offers a secure

alternative to more expensive traditional letters-of-credit, COD, credit card, payment-in-advance, and documentary-collection services. Orders shipped within the UPS network receive a 10-percent discount on the escrow fee.

//Products//

Toshiba America Business Solutions released its high-speed (12 inches per second) B-EX6 thermal barcode printers for label printing in manufacturing and supply chain applications. The B-EX6 series features Toshiba's proprietary Ribbon Save technology, which reduces waste. A large-capacity ribbon (up to 800 meters) reduces the need for media replacement. The dual-motor system improves media handling and ensures the printing of scannable labels. The product's printheads are backed by a 3-million-linear-inch warranty.

Digi International, a provider of connected hardware, introduced an automatic data logger that can wirelessly monitor the temperature of perishable goods in transit. The new data logger automatically monitors the temperature of the goods themselves, instead of the



▲ **Crown Battery Manufacturing** unveiled its new Crown1 AGM battery for materials handling and logistics applications. Designed to minimize downtime, the battery features proprietary fixed handles or lifting lugs for safe handling and easy installation. The battery offers a heat-sealed case and cover with anchor-molded standard terminals.

trailer or storage facility. The Digi Data Logger, which is attached to the shipment packaging or pallet, or placed in direct contact with the product, features up to six months of onboard storage and is now offered as part of a subscription-based Digi SafeTemps solution.

◀ The U.S. Department of Agriculture's BioPreferred program, which showcases sustainable products and promotes the use of renewable agricultural resources, has certified **Litco International's** Inca brand molded wood pallets and molded wood core plugs. Litco's Inca molded wood products are made from wood waste and resin. The pallets are 60 percent lighter than conventional hardwood pallets. They are also nestable, which saves shipping and warehousing space.





Global logistics company **Gebrüder Weiss** started operations in three U.S. facilities—Los Angeles (*pictured*), Atlanta, and Boston—and is opening two more locations in New York and Chicago, which will serve as the new head office for Gebrüder Weiss USA. In addition to various transport services focusing primarily on air and sea freight, Gebrüder Weiss's new locations offer logistics solutions such as goods storage, local distribution, and e-commerce fulfillment.

"Alexa, play the Inbound Logistics Podcast on Tunein."

An advertisement for the Inbound Logistics Podcast. It features a black Amazon Echo smart speaker with a glowing blue light ring. To the left of the speaker is a stack of three blue and white books and a set of keys. A teal speech bubble graphic contains the following text: "EPISODE 24: Is your supply chain business moving at the speed of technology or are you one of the companies getting left behind? inbound logistics SPECIAL GUEST: MIKE ZAYONC, DIRECTOR, PLUG AND PLAY SUPPLY CHAIN & LOGISTICS". At the bottom left, it says "NOW AVAILABLE VIA" followed by the Tunein logo.

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NOV
1

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AUDIENCE: Executives from the aviation, maritime, and logistics sectors

FOCUS: Enhancing the growth of the cargo industry; the latest security and safety regulations to secure cargo from the intrusion of biological, chemical, or explosive materials; manufacturer and shipper needs in high-growth cargo

FEB 4-6, 2018 Sea Island, Ga.
Georgia Ports Authority

Georgia Foreign Trade Conference

gaforeigntrade.com

AUDIENCE: Senior-level shippers, maritime executives, senior managers, and decision-makers

FOCUS: Challenges facing shippers, carriers, ports, terminals, and the maritime community; changing legislation and new technologies impacting global trade; current and future market conditions and growth opportunities

FEB 25-28, 2018 Phoenix, Ariz.

Retail Industry Leaders Association (RILA)

Retail Supply Chain Conference 2018

bit.ly/RILA2018

AUDIENCE: Stakeholders in the retail supply chain; logistics, supply chain, and distribution professionals

FOCUS: Changing retail landscape; the supply chain's key role in serving customers; leveraging analytics for supply chain advantage

CONFERENCES

OCT 15-17, 2017 San Antonio, Texas
American Production and Inventory Control Society (APICS)

APICS 2017

apics.org/annual-conference

AUDIENCE: Supply chain, operations, and logistics management professionals

FOCUS: Strategies to create more sustainable, strategic, and value-driven supply chains; simulation and optimization in complex manufacturing operations; reverse logistics trends

OCT 17-19, 2017 Houston, Texas
Breakbulk Events & Media

Breakbulk Americas

breakbulk.com

AUDIENCE: Project cargo and breakbulk transportation professionals

FOCUS: Project freight management from the shipper's perspective; maximizing cargo safety and vessel efficiency; steel challenges in 2017 and beyond; improving Incoterms rules for project cargo shippers; overcoming barriers in moving oversize/overweight cargo throughout North America

NOV 13-14, 2017 Philadelphia, Pa.
Worldwide Business Research

LogiChem

logichemus.wbresearch.com

AUDIENCE: Chemical supply chain and logistics professionals

FOCUS: Strategies for a customer-centric supply chain; exploring digitization to improve supply chain performance; supply chain leadership development; driving value through effective and efficient cargo securing; partnering with suppliers to ensure sustainability

NOV 30 - DEC 1, 2017 New York, N.Y.

Progressive Railroadng

RailTrends 2017

railtrends.com

AUDIENCE: Rail industry professionals

FOCUS: State of the rail industry; exploring the interrelationship of railroads, regulation, and technology; Kansas City Southern's operating strategy; digitalization of rail; updates from Florida East Coast Railway, Union Pacific Railroad, and Amtrak; precision scheduled railroading at CSX

JAN 22-26, 2018 Orlando, Fla.

PEX Network

OPEX Week: Business Transformation World Summit 2018

opexweek.com

AUDIENCE: Operational excellence and business transformation executives

FOCUS: Building a successful operational excellence program from the ground up; shifting focus from cost stripping to customer-centric growth opportunities; leveraging continuous improvement to boost customer experience; integrating global manufacturing, supply chain, and operational assets

JAN 29-31, 2018 Dallas, Texas

National Industrial Transportation League (NITL)

2018 Transportation Summit

bit.ly/NITL2018

AUDIENCE: Logistics professionals

FOCUS: Navigating the intergenerational workforce; rail, ocean, and highway freight transportation issues; trends in rail and ocean transportation; highway transportation update; energy outlook

SEMINARS & WORKSHOPS

OCT 14, 2017 San Antonio, Texas
APICS

Supply Chain Risk Management

apics.org/risk

AUDIENCE: Logistics and supply chain professionals

FOCUS: Mitigating global supply chain risk; leveraging a heat map tool to assess risk within your supply chain; business continuity planning; creating a resilient supply chain

NOV 7-8, 2017 Cambridge, Mass.
MIT Sloan Executive Education

Supply Chain Strategy and Management

executive.mit.edu

AUDIENCE: Logistics and supply chain professionals

FOCUS: Improving supply chain performance; strategic sourcing and make-buy decisions; integrating e-business thinking into supply chain strategy and management

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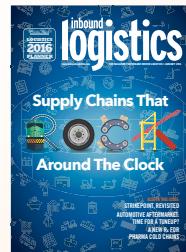
$$ICC = \frac{C + T + I + W + X + (S - R1) + (O - R2)}{\text{Annual \$ Material Cost}}$$

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ICC=inventory carrying costs C=capital T=taxes I=insurance W=warehouse costs X=shrinkage S=scrap O=obsolescence costs R=recovery

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RO-RO YOUR BOAT
Test Your
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Knowledge

How much do you know about shipping cars? This quick quiz by APL Logistics will get your automotive shipping IQ in gear.

1. How many vehicles can the world's largest roll-on/roll-off (ro-ro) vessel carry?

- a. 1,000
- b. 2,500
- c. 8,500
- d. 10,000

2. How many containers can the world's largest liner ship carry?

- a. 7,500 TEUs
- b. 10,100 TEUs
- c. 21,000 TEUs
- d. 40,000 TEUs

3. How many cars can an ocean container usually transport?

- a. 2
- b. 4
- c. 6
- d. It depends

4. Which is older?

- a. Ro-ro
- b. Container shipping

5. Which form of ocean liner has more sailings and ports of call?

- a. Ro-ro
- b. Containerships

6. On the New Silk Road between Europe and China, sea is a considerably less expensive mode than intermodal rail for transporting finished vehicles.

- a. True
- b. False

7. How much time will you cut off your transit if you choose to ship vehicles via train instead of ocean on that same lane?

- a. More than 50 percent
- b. 25 percent

8. How many touches/direct product handles will a typical ro-ro door-to-door shipment involve?

- a. 6
- b. 8
- c. 10
- d. 12

Score: 1-2 correct: Time to get your perceptions out of drydock.
3-4: Nicely done. You've got at least one oar in the water.
5-6: Huzzah. All signs point to smooth sailing ahead.
7-8: When it comes to cars-in-containers and ro-ros, you're a pro.

Answers: 1: c The *Hoegh Target* and *Hoegh Trigger*, currently the world's biggest pure car and truck carriers, can each carry up to 8,500 vehicles. **2: d** The *OOCL Hong Kong* recently became the world's first ship to cross the 21,000 TEU mark; it can carry 21,413 TEUs. **3: d** It depends on the size of the container and cars, and whether the container has enhancements such as racking or cassette systems. A basic container can accommodate two cars, while a container that uses racking or cassettes can hold four to six. **4: a** Ro-ro's history dates back to 1851, when the Fifth of Forth ferry began transporting trains across rivers. Container shipping celebrated its 60th anniversary in 2016. **5: b** There are more than 5,000 registered containerships and 1,200 registered ro-ro vessels, according to the World Shipping Council. Containerships also sail more often and call at more locations worldwide. **6: b** With ocean rates on the rise, and the Chinese government now subsidizing many rail lanes, both modes are currently comparable in price. **7: a** Typical rail transit between Europe and China takes approximately 15 days, while similar transit on a sea container takes between 35 and 50 days. **8: b** A typical ro-ro door-to-door transit includes at least eight direct vehicle touches as cars or trucks travel between production, road transport, port yard storage, ocean transport, feeder/road transport, and dealer compounds.

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