

WAREHOUSE BLUEPRINT FOR CHANGE

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Gina

The Uncomplicato



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Warehouse Makeover: Blueprint for Change

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TMS: Time to Make Your Move?

Transportation management systems are becoming less expensive and easier to own. Now, companies of any size can get in the game.

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6I TMS Buyer's Guide 2016

Inbound Logistics' TMS Buyer's Guide highlights leading providers and systems that can optimize your transportation operations.

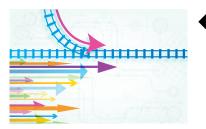
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ONLINE EXCLUSIVES



Shippers Should See Positives From the Trade Promotion Act bit.ly/TradePromotionAct

Tom Barnes, CEO, Integration Point Inc.

The Trade Promotion Act (TPA) allows U.S. companies to expand into markets that would normally be out of reach due to trade barriers. How will TPA assist the United States in future trade agreement negotiations? You'll find out right here.



Retailers Get Help With New DOT 'Reverse Logistics' Rules bit.ly/ReverseRules

Roger Marks, Content Writer, Lion Technology Inc.

The U.S. Department of Transportation finalized new shipping requirements aimed at retail stores that return hazmat products to a supplier or manufacturer for a refund. The new rule makes it critical for retail store owners and distribution managers to get up to speed quickly or risk costly violations.



Two Key Factors Drive WMS Adoption Today bit.ly/WMSAdoption

Eric Allais, President and CEO, PathGuide Technologies Inc.

Two key factors are driving the adoption of Warehouse Management Systems (WMS): shippers looking to drive efficiencies in a hypercompetitive distribution market, and retailers offloading e-commerce fulfillment onto distribution partners.

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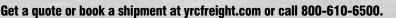
Proposal bit.ly/ILTruckingRFP

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CHECKINGIN

Kith Boudo



by Keith Biondo | Publisher

A Head in the Cloud?

re old-school logistics, transportation, and trade technology solutions about to get their SaaS's kicked? It seems so, based on recent reports. The migration to web, cloud, and SaaS solutions continues, as 50 percent of all providers responding to our April 2016 *Logistics IT Market Perspectives* study deliver their solutions these ways. It wasn't long ago when locally hosted solutions were all the rage. Nearly half of all respondents offer both locally hosted and web-hosted solutions, depending on customer needs. So, what's left? A mere 3 percent of IT providers say they only deliver solutions locally. That means 97 percent of providers either offer, or have the capability to offer, SaaS solutions if customers require it.

Recent reports from IDC and Forrester Research mirror *IL*'s findings. Here's how they document the growing move to cloud in the global business community:

Legacy vendors face a bleak future. By 2020, the market may be unrecognizable as IDC and Forrester predict that more than 30 percent of current IT vendors "will not exist as we know them today."

■ Cloud providers will be winnowed down. Monsters such as Amazon, IBM, Microsoft, Google, and Dell OEM IoT will gobble up a larger share of the growing cloud solutions market, pushing smaller (just about everyone else) vendors out. As a side note, Microsoft quietly surpassed \$1 trillion in revenue in Q1 2016 – driven, in part, by clouding up many popular Microsoft apps. The counterbalance to this trend? Specialty areas such as supply chain management and related IT solutions will fly under the radar of the Big Boys for a while.

■ Big data is not as big as it is going to get. Today, only 1 percent of all apps use cognitive services to analyze terabytes of big data on the fly, say the research firms. By 2018, however, 50 percent of all apps will do so.

■ You are what you need. By the end of 2017, digital transformation will be at the center of corporate strategy for two-thirds of the Global 2000 enterprises, turning large companies into software firms.

Revenue and investment in cloud infrastructure are exploding too, according to Synergy Research. Take a look at cloud infrastructure revenue in 2015 vs. 2014: Amazon +63 percent, Microsoft +124 percent, IBM +57 percent, Google +108 percent. Other companies show similar growth, and this is just the beginning.

What does this mean to you? An exciting future of improved supply chain control, and lower-cost and more powerful solutions as big data is truly applied to enterprise efficiency. Most importantly, you can choose from an array of new, robust enterprise change agents — from the lowest transactional levels to the highest strategic levels. You will love getting ahead in the cloud.



THE MAGAZINE FOR DEMAND-DRIVEN LOGISTICS

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SOUNDBITE

Today, a company's supply chain and logistics are under tremendous pressure. Costs continue to rise. To remain competitive, companies need insights. They need to know where and how their supply chain can improve.



- DOUG JONES, CEO, Grand Canal Solutions

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Lean Management: Ready, Set, Grow bit.ly/apexcasestudy



Supply Chain Modeling: What Does the Future Hold? bit.ly/supplychainfuture

in.EXCHANGE

Europe Raises the Compliance Bar. Is Your Supply Chain Prepared?

Sweeping regulatory changes in the European Union (EU) are raising complex questions for businesses and introducing new tensions along the world's supply chains. bit.ly/EUcompliance

> Brian Harrington, MBA, CPIM These new regulations are likely to surprise many U.S. exporters to EU. Time to get serious!

🗩 HASH IT OUT

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Fleet management platforms must continue to evolve and deliver more real-time visibility tools. bit.ly/beyondtracking

flaviacardalda @flaviacardalda We need real-time information to ensure integrity of the freight at all times.

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Small and mid-sized freight forwarders need to tap into new technologies to remain competitive with logistics giants. bit.ly/global_lLnov2015

> PierreLiguori @PierreLiguori Very true. Digital technologies also support agile customer service, a key added value.

READER EMAIL



Top 100 Logistics IT Providers bit.ly/top100lit

I have often expressed my respect for your publication. That said, how could your Top 100 Logistics IT Providers list not include JDA, ranked by every one of the professional services as the number 1 SCM suite, with the number 1 rated TMS? Or Descartes, tops in fleet management and at or near the top in others?

Chuck Franzetta CEO, Franzetta & Associates, Inc.

Editor's Note: Only companies that choose to participate by completing our questionnaire are considered for this distinction. The companies you cite did not.

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in 🔰

Good Question...

READERS WEIGH IN

Drones in last-mile logistics: hype or help?

While drones may appear as hype to some, they are very real, and will soon be used in practical ways. As the world continues to move at a faster pace, sameday delivery models will become the industry norm; and drones will be an integral part of that last-mile solution, helping to meet customer demands.

Jon Wiederecht Director, Lean Enterprise & Operations ModusLink

Drones will have a limited niche role in residential parcel deliveries due to hazards and the economics of transporting packages. While there may be some feasible applications, the future of residential parcel delivery is with USPS and crowdsourcing applications.

Adrian Kumar Vice President, Solutions Design North America, DHL Supply Chain

Depends on your horizon. Next one to two years? Hype. Next two to four years? Warmer. Five years and later? Definitely. Clarification of FAA regulations and limitations of battery technology are the biggest issues holding us back.

Matt McLelland

Innovation Research Manager Kenco Innovation Labs

Drones are increasingly being used in warehouse environments for surveillance and automating certain logistics operations. They could provide reliable and cost-effective last-mile delivery to remote and rural locations.

Derek Curtis

Vice President, DSD & Mobile Logistics Group, HighJump

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Drones will complement the strategies of complex supply chains and cultivate a culture that focuses on innovation. Drones will eventually provide more control/consistency of last-mile logistics, which will improve industry efficiencies; however, we are years from realizing this full potential.

> Peter Bolstorff, Executive Vice President, Corporate Development, APICS

While there have been many advancements in the design, cost, and application of drone technologies, it's mostly hype when associating this with last-mile logistics solutions. Restrictions in travel distance, payload capacity, and regulatory requirements limit drones' applicability to high-value, lightweight, and emergency deliveries. In the short term, they may be used for remote or complex locations that are challenging for trucks, vans, or courier delivery.

Gary Allen

Vice President, Supply Chain Excellence Ryder System, Inc. A better option is self-driving/autonomous electric vehicles and a package handler for last-mile delivery to the customer's door. There are too many logistical issues and regulations with drones.

> Garry Neeves Vice President, Regal Logistics

HAVE A GREAT ANSWER TO A GOOD QUESTION?

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

What are the characteristics of a great supply chain?

We'll publish some answers. Tell us at editorial@inboundlogistics.com.

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Choosing a Warehouse Management System

efore selecting a warehouse management system (WMS), it's important to know what drives your company so you can identify the key needs you want the solution to address. Steve Hitchings, senior vice president of information technology for Kenco, offers this advice for choosing the right WMS.

Assess your business needs. Know the problem you are trying to solve and match those requirements to the system's functionalities. Identifying your company's key business requirements plays an important role in WMS selection.

Assemble a cross-functional team. Utilizing a WMS is a decision that should involve both your business and IT teams. During implementation, your company's business and IT teams should work together to ensure a smooth process.

3 Create a scalable system. Make sure the system can address both the low-end and high-end requirements for each engagement. **Ensure interfacing capabilities.** Your WMS should have an open architecture and be able to interface with your enterprise resource planning system without incurring excessive costs. The WMS must also be able to integrate with your other materials handling equipment to improve warehouse efficiency.

5 Minimize modification costs. Select a system that is configurable to support different business processes. Over time, business requirements change and the system must be able to flex with your shifting needs. Ensure the WMS you choose is adaptable. Configuration, not modification, is the key to success.

Make data accessible. Look for a WMS that allows for easy data retrieval. The ability to provide flexible reporting and online queries (business intelligence) is critical.

Insist on a user-friendly system. If the system is not user-friendly, the operating staff will likely be unable to maximize its full benefits. Make sure you select a system that is easy to learn and use.

Examine implementation or deployment options. Determine if your solution should be on-premises or a hosted, cloud, or Software-as-a Service solution. Also decide if you should deploy it utilizing multiple methodologies.

Research vendor capabilities. Support is critical. It is important to select a WMS vendor that offers a responsive customer service center and enough resources to provide ongoing support.

Select a WMS provider that shares a similar focus. Choose a vendor that has a vision and values similar to your company. WMS implementations run smoother when you and your WMS provider work in lockstep. If you and your provider don't have the same vision, values, and work ethic, the project will likely fail. You are in it together for the long term.

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100% of supply chain execs think insurance is a good risk mitigation tool.Yet most think it's not their job to buy it.

-

Got 3PL challenges?

Risk from weather, theft and other unexpected disruptions is a fact of life in your supply chain. Not planning for it is an even bigger risk. That's why it's surprising that in a survey of supply chain executives, 100% said insurance was a very effective risk mitigation tool. But most thought purchasing it wasn't their job. At UPS Capital, mitigating supply chain risk is our job. We offer insurance solutions for freight and small parcels, regardless of mode or carrier. If you're not sure whose job it is, call us. We'll help you figure it out. upscapital.com | 877-263-8772



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TIME FOR CELEBRATION

One of John Fay's most enjoyable days as CEO of INTTRA came about thanks to an employee survey.

INTTRA conducted the survey in early 2015, asking for ideas to make the company even better. One suggestion was to celebrate diversity. "We have about 200 employees, but they work in seven offices around the world, with locations in Singapore, Mumbai, Hong Kong, Shanghai, Copenhagen, and Miami as well as our headquarters in Parsippany, N.J.," Fay says. Staff in those offices represent a wide variety of cultures.

As part of the new diversity initiative, INTTRA held an event in honor of Diwali, the Hindu festival of lights, in late 2015. "Each of our offices hosted its own celebration, where employees of Indian heritage spoke about their childhoods and what the celebration meant to them and to their families," Fay says. "At our meeting room in New Jersey, we paid rapt attention as our coworkers told stories about the holiday. To me, it was the perfect embodiment of a culture of trust, openness, and inclusion." LEADER**SHIP**

Conversations With The Captains of Industry **By Merrill Douglas**

Trading Stocks for Ships

OHN FAY MADE HIS NAME ON WALL STREET, AT companies that operate digital platforms for trading securities and other financial instruments. In 2014, he moved into the logistics world, taking the helm at INTTRA, a global marketplace for ocean transportation. That's not as big a leap as it might sound.

With 55 carriers and 110,000 shippers on its network, INTTRA provides the electronic conduit for approximately 24 percent of all booking and shipping instructions for ocean transportation. Its marketplace resembles a financial exchange. Instead of linking participants around the world to trade stocks and futures, INTTRA connects companies to buy and sell shipping capacity.

We talked with Fay about the opportunities posed by the accelerating push for automation in global logistics, and how he is leading INTTRA toward further success.

IL: Since you were named CEO at INTTRA, what has been at the top of your agenda?

My top priority for INTTRA is to grow its platform and service to existing customers. We want to continue to offer transactions of booking and shipping instructions, but also want to allow the platform to expand to other products, and add new features that customers want.

IL: What are the biggest challenges facing shippers who use the INTTRA platform, and how are you helping to address them?

All our customers, both shippers and carriers, are dealing with the automation and digitization of their processes. Many are rewriting their original systems to gain more efficiency, and to take advantage of new technologies such as the cloud. Quite a few of those customers were formed through consolidation and acquisition over the past decade or two. They operate multiple systems across multiple geographies, and tying those together is not a simple task.

INTTRA plays a critical role. The platform is designed to be neutral and sit in the center. Companies with the best, most modern technology can access INTTRA, and through it they can deal with all their trading partners, even those that are far behind the curve.

IL: Which recent developments in the technology world are making the biggest impact on your business and on your customers?

The cloud allows companies to change their cost base significantly. Instead of making

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a large, upfront investment in hardware and software licenses, they can follow a pay-as-you-go model. The cloud also enables companies to accelerate the development process and experiment with different technologies much more quickly and cheaply than they could in the past.

The other big change is the ability to access large pools of data and analyze what's happening in the supply chain in the early stages. We're just starting to unleash the power of big data. Today, each shipper has data about what's happening in its own shop, but there's no single, large pool of data to benchmark against. INTTRA has introduced several new decision support dashboard products over the past year, which customers use to evaluate suppliers in

areas such as booking response time and trade lane efficiency. Eventually, we'd like to allow our customers to benchmark their data against other customers—in the aggregate and with the customers' permission—so they can get a global view and use that knowledge to drive business decisions.

IL: What experiences in your career have helped to shape your leadership style?

I'm a strong proponent of inclusiveness, open communication, and transparency. Throughout my career, I've been most successful in environments that encourage people to contribute and to work together col-

laboratively. A command-and-control strategy can work in certain situations, but it produces far less innovation.

In the early 2000s, I worked for a small startup called Island, which developed the first electronic market for securities. It competed with the New York Stock Exchange and NASDAQ, which had people on phones and on the trading floor running around and waving papers. In less than seven years, Island grew from zero percent market share to more than 30 percent of all U.S. equity trades. And it had a great culture of inclusiveness and openness. It succeeded because it was able to produce technology that customers wanted, and translate customer needs into products. That's what we're trying to do at INTTRA.

IL: How do you discover and cultivate talent?

I've been most successful

in environments that

encourage people to

contribute and to work

together collaboratively.

A command-and-control

strategy can work in certain

situations, but it produces

far less innovation.

When I hire someone, I look for a proven record of success. It can be a series of small successes, and it can even include failure if the candidate has learned from the experience. I also consider whether the candidate will bring something to the culture of the company. I look for teams that have many different personalities—people who are outspoken and those who are quiet and thoughtful, people who love details and those who think at a higher level. It's important to have many different voices and per-

spectives in the room, and that comes only from diversity.

IL: How do you stay in touch with your customers' wants and needs?

First, I rely on my sales force and customer service people. In a technology business, they are your storefront. To get feedback from those groups, we hold regular meetings to talk about customer trends. Second, I try to stay close to those employees who speak to customers. When I visit one of our overseas offices, for example, I sit and listen to people talking on the phone with customers. Of course, I also go out and meet customers

myself. That's the most enjoyable part of my job. I always learn so much about the customer's company and industry. I'm able to put myself in the customer's shoes and think about how they're trying to solve their problems.

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

I spend a lot of time with my wife and three kids, who range in age from 14 to 22. We love to ski. When I'm not going to kids' games or participating in events with them, my own passion is cycling.

as told to Karen M. Kroll



READ

PROFILE

Dave Christensen is vice president of supply chain with Glazer's Inc., a Dallas-based distributor of alcoholic beverages. He has been with Glazer's since 2004.

RESPONSIBILITIES

Demand planning, replenishment, logistics, and master data management.

EXPERIENCE

Supply chain consultant, Accenture.

EDUCATION

BS, industrial engineering, Purdue University, 1998.

Dave Christensen: A Spirited Approach

ROWING UP, MATH AND SCIENCE WERE MY strengths, which led me to pursue an engineering degree. As a Minnesotan, I wanted to attend a Big Ten school with a strong engineering program. I also wanted to break away and be in a situation where I didn't know anyone. Purdue University in Indiana met those criteria.

During college, I did a summer internship with UPS. For one project, I stayed up all night to observe a box slide operation for packages with incorrect addresses. I spent the next two months working on a design to minimize the steps clerks had to take to research and apply the correct addresses. I finalized the design and sent it to engineering, which received approval to implement the changes. As a college student, it was cool to identify an issue, and take a solution from design to implementation in one summer.

After college, I joined Accenture, where

my first project was a supply chain software implementation for Caterpillar, the Peoria, Ill.-based construction equipment manufacturer. After that experience, I was hooked on the supply chain.

On a subsequent project for electronics company Ricoh, I focused on improving the end-to-end supply chain. I gained a better feel for how to understand a supply chain and look for opportunities in every segment to redesign and improve it.

In the early 2000s, Accenture shifted my focus to Manugistics, the supply chain software that's now part of JDA. I

The Big Questions

What's your idea of the perfect day off?

I put a lot of energy and passion into my work, so I like to chill and spend time with my family outside of work.

What are your favorite sports teams?

I'm a big Vikings fan, for better or worse. I also love the Cubs. Like they say, "Wait 'til next year." And I'm still a Boilermakers fan. With whom would you like to trade places for a day?

The Dalai Lama. He's compassionate, a teacher at heart, and a world leader.

What advice would you give your 18-year-old self? Don't always take the safe, easy,

comfortable path.

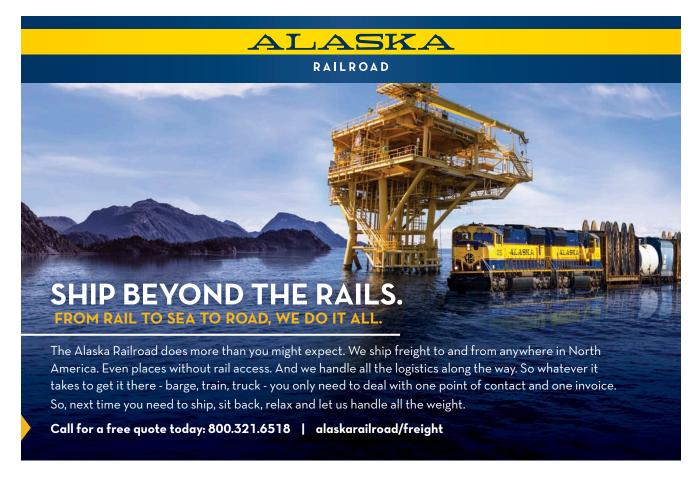
What's your favorite drink? Crown Royal. implemented and updated supply chain systems for Lorillard and Solo Cup. From there, I moved to Glazer's to help with its Manugistics implementation. We were the first alcohol distributor to use the system.

Because of differing regulations, we had to implement Manugistics in each state individually. As a first step, we converted buyers to demand analysts and gave them responsibility for managing forecasts. Then we centralized the replenishment and logistics functions. It took strong leadership and a proven track record to make these changes and implement the software. As we rolled out more states, we gained momentum.

With the implementation complete, I moved into a supply chain strategy role, and focused on improving the processes we'd recently rolled out.

In 2011, Glazer's asked me to join a SAP implementation. I initially led the supply chain part of the project, and then became deployment lead as we rolled out SAP to new states. I led the entire implementation in Oklahoma. It was a small team, and the highlight was implementing SAP on time and within budget.

Part of the excitement of my job is being able to look at a project and say, "We did it!" One challenge is continually trying to get people to understand the value of an effective supply chain and how it helps the company and the bottom line. At Glazer's we prove that value through both words and our track record.



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INFOCUS



SEALED DEALS



▲ Crane Worldwide Logistics signed a deal with Intertruck Group, a member of the Unipart Group of Companies and supplier of truck, trailer, bus, and off-highway vehicle parts, to expand its existing ocean freight contract. Crane Worldwide Logistics will now manage more than 35,000 individual line items of heavy-duty spare parts for Intertruck in its Dubai facility (*pictured*).

Wayfair, a home furnishings and décor e-tailer, expanded its deployment of **Descartes Systems Group's** home delivery solution to automate delivery appointment scheduling, route planning, route execution, and proof-of-delivery processes. Descartes' home delivery solution enables Wayfair to offer customers flexible and tighter delivery time windows, increase revenue through premium delivery services, reduce logistics costs, and capture critical delivery information. U-Haul International implemented logistics IT provider **Transplace**'s proprietary SaaS TMS to improve operational efficiencies and effectively manage its U-Box shipments. U-Haul utilizes Transplace's web-based technology and business intelligence analytics to optimize its U-Box transportation network-which includes approximately 50,000 containers shipped between 1,500 U-Haul facilities-viewing shipments in real time and reducing overall transportation costs. m

Dematic, a supplier of integrated automated technology, software, and services to optimize the supply chain, acquired NDC Automation, a provider of automated guided vehicles (AGVs) and software. The acquisition bolsters Dematic's ability to provide global AGV solutions for moving, storing, and retrieving goods.

SHOVEL READY

Amazon is set to occupy a new 822,104-square-foot fulfillment center (rendering below) at Logistics Park Kansas City in Edgerton, Kansas. NorthPoint Development developed Amazon's new facility, the area's largest industrial building built on a speculative basis. The new center creates approximately 1,000 full-time hourly positions, plus managerial and support roles for customer fulfillment.



Maintenance Supply Headquarters, a distributor of maintenance supply products, agreed to a long-term lease for its corporate headquarters and local distribution center within the 75-acre Beltway Southwest Business Park in southwest Houston. Beltway Southwest accommodates more than 950,000 square feet of logistics space.

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GOOD WORKS



◄ Averitt Express truck drivers and employees raised \$500,000 in 2015 and recently donated it to St. Jude Children's Research Hospital in Memphis, Tenn. The donation was fueled by weekly contributions from Averitt employees as part of Averitt Cares for Kids, the company's charitable employeegiving program. Celebrating the 30th anniversary of its inception, Averitt Cares for Kids has contributed nearly \$8 million to various charities.

For the seventh consecutive year, **FedEx** teamed up with the National Fish and Wildlife Foundation (NFWF) to protect and restore plants, fish, wildlife, and habitats in communities across the nation. More than 500 FedEx team members across 16 cities participated with local nonprofits in spring 2016 to address urban environmental challenges. The projects were chosen and funded by grants totaling more than \$592,000 from FedEx Cares, NFWF, and the other partners of the Five Star and Urban Waters program.



UP THE CHAIN

Melzie Wilson, vice president, compliance, at Mallory Alexander International Logistics, was appointed to the U.S. Department of Commerce's Advisory Committee on Supply Chain Competitiveness (ACSCC). ACSCC members advise the Secretary of Commerce on building a holistic national freight infrastructure, and designing a national freight policy to support U.S. export growth, foster national economic prosperity, and improve U.S. supply chain competitiveness in the domestic and global economy.



Intralogistics solutions provider Swisslog Warehouse and Distribution Solutions acquired Power Automation Systems, a provider of pallet shuttle automated storage and retrieval systems. The acquisition supports Swisslog's goal to offer increased speed and storage density for pallet warehouses.



recognition



▲ The Kimberly-Clark Corporation named third-party logistics provider Kane Is Able the President's Award winner for best overall distribution center performance. The award recognizes operational excellence in logistics throughout Kimberly-Clark's distribution system, which is comprised of 12 DCs. Key metrics include safety and load ready time conformance.

BDP International, a logistics and transportation solutions company, received the **2016 Responsible Care Partner of the Year Award** from the American Chemistry Council at the Annual Responsible Care Conference. The award recognizes the performance and safety record of companies involved in chemical distribution, transportation, storage, use, treatment-disposal, and sales and marketing.

XPO Logistics was awarded top honors in eight categories in the 2015 Mastio LTL Carrier Customer Value and Loyalty Report. Surveyed shippers ranked XPO Logistics number one for ontime pickup and delivery among national LTL carriers.

VASCOR, an automotive logistics provider, received the **Innovation Partnership Award** at the 2016 Automotive Leaders Summit Conference. VASCOR earned this honor for its work with Indian Railways to develop AutoLinx, a finished vehicle distribution solution operated by its Delhi-based joint venture with APL Logistics. This work included developing a new double-deck railcar design and car loading ramp, and managing transit times.

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Robots Coming Soon to A Warehouse Near You

ven with the rise of the Internet of Things and the advancement of automation technologies, 80 percent of global logistics facilities still operate manually, according to *Robotics in Logistics*, a report by Deutsche Post DHL. But the time for robots in logistics is upon us.

"Robots work in many industries, but haven't made an impact on logistics yet because of the complexity of the work—handling a wide array of different things in an infinite number of combinations, close to people and in confined spaces," says Matthias Heutger, senior vice president of strategy, marketing, and innovation at DHL Customer Solutions & Innovation. "Recently, however, technology is starting to catch up to meet demands for flexible and low-cost robots that could collaboratively work in logistics."

Even with the prevalence of automation and robotics technologies at use in factories, robots working in the warehouse might still seem like something straight out of a science fiction movie. But a new generation of robots will soon work alongside human laborers at precision tasks, and supplement a shrinking warehouse workforce that's trying to keep up with the growth of e-commerce.

Robots are in development for a number of logistics-related tasks, according to the DHL report. These include loading and unloading trucks, picking orders, packaging, inventory management, shipping, and last-mile deliveries. Deutsche Post is already testing robots that help workers carry and deliver heavy packages on its postal service delivery routes.

Some in the logistics sector are concerned that robots will make human labor obsolete, but the report specifies that these technologies are being designed to assist and supplement human workers. "Warehouse workers will be given more responsibility and higher-level tasks such as managing operations, coordinating flows, fixing robots, and handling exceptions or difficult orders," the report states.

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by Jason McDowell



Sleepy Truckers Get a Wake-up Call

A nongoing debate about the risks of obstructive sleep apnea (OSA) and driver fatigue may finally be put to bed. More than 72,000 crashes are the direct result of driver fatigue each year according to the National Highway Safety Traffic Administration. OSA affects 22 million Americans, so it's reasonable to assume that a percentage of truckers suffer from the disorder as well.



The government proposes that all truck drivers be tested for sleep apnea, which often causes daytime sleepiness and can result in drowsy driving.

The Federal Railroad Administration (FRA) and Federal Motor Carrier Safety Administration (FMCSA) are finally taking a stand and proposing rules to force all truck, bus, and train operators to be tested for the disorder. "It is imperative for everyone's safety that commercial motor vehicle drivers and train operators be fully focused and immediately responsive at all times," said U.S. Transportation Secretary Anthony Foxx in a public statement.

Eight hours of sleep for individuals with OSA can be less refreshing than four hours of ordinary sleep, according to the American Academy of Sleep Medicine. And truckers with untreated OSA are five times more likely to be involved in serious or fatal crashes, according to a University of Minnesota study.

FMCSA has appealed to the trucking and rail industries to provide comments to inform future decision-making on the issue. "The collection and analysis of sound data on the impact of OSA must be our immediate first step," said FMCSA Acting Administrator Scott Darling in a public statement. "We call upon the public to help us better understand the prevalence of OSA among commercial truck and bus drivers, as well as the safety and economic impacts on the truck and bus industries."

Large Truckload Fleets: Churn Rates Rise

The annualized turnover rate for large truckload fleets rose two percentage points in the fourth quarter of 2015 to 102 percent, the second straight quarter it was at least 100 percent and the first such streak since 2012, according to the American Trucking Associations (ATA), the largest national trade association for the trucking industry.

"This elevated turnover rate shows that the driver market remains a challenge for truckload fleets," says Bob Costello, ATA's chief economist. "Obviously, attracting and retaining drivers remains a top concern for the industry."

The turnover rate at small truckload carriers – fleets with less than \$30 million in annual revenue – surged 21 points to 89 percent in the final quarter of 2015.



Despite this surge, churn at smaller fleets is still six points lower than during the fourth quarter of 2014 and averaged just 79 percent.

"The rising turnover rate, coupled with anecdotal reports from carriers, shows what a premium there is on experienced, safe drivers," Costello says. "And those drivers have, and will continue to benefit from, rising wages and benefits."

The turnover rate at less-than-truckload carriers rose one point to 11 percent in the final quarter, and averaged 11 percent for all of 2015.

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Want a Sustainable Economy? Think in Circles.

he global economy is mostly linear. We dig resources out of the ground, and turn them into products that are sold, used, and dumped in landfills. But there has been a growing business movement toward a circular economy in recent years, according to *The Growth of the Circular Economy*, a joint study by UPS and GreenBiz.

Nearly nine out of 10, or 86 percent, of sustainability executives surveyed believe that a circular economy will be important to their business two years from now, according to the report. The circular economic model strives to keep resources in play as long as possible through recycling and reuse, and the supply chain will play a key role in making circular economies a reality. A strong effort to make the last mile more sustainable has already been made, but a focus on the "first mile" is important as well, the report says.

"Focusing on 'first mile' logistics is crucial to helping businesses implement a cost-effective circular economy," says Ed Rogers, UPS senior director of global sustainability. "UPS partners with customers to implement seamless take-back systems that include turnkey packaging, pickup services, and pre-paid return labels. Taken together, all of these assist in the reverse logistics processes needed for a successful circular economy."

Companies considering the adoption of circular practices will need to change up their business models accordingly. Recovered waste and recycled materials represent only a small fraction of current manufacturing materials in most industries, so supply chain professionals would need to redesign material inputs to include these more sustainable options. This might include redesigning products or exploring innovative methods for reusing materials.

The circular economy isn't going to take the world by storm next week, or even next year. But as consumers continue to demand that the companies they buy from go green, more logistics and supply chain executives will begin to examine the benefits of such a system.

WHAT ARE THE **BIGGEST BARRIERS TO IMPLEMENTING AN EFFECTIVE GLOBAL CIRCULAR ECONOMY?** Insufficient 38% 'business case" Logistics cost to 36% reclaim used goods Lack of excutive leadership 36% understanding/ education Lack of consumer 36% understanding/ education **Other business** 30% objective

SOURCE: UPS/GreenBiz Research Study 2016

taking priority

Investment in Warehouse IT to Accelerate by 2020

Consumer expectations will drive companies to increase investments in warehousing IT and operational functions over the next four years as manufacturing and logistics companies continue to adjust to delivering directly to consumers.

That's according to the results of Zebra Technologies Corporation's latest *Warehouse Vision Study*, which compares input from 1,378 IT and operations warehouse professionals in 12 countries on expectations in 2015 versus 2020.

Among the survey findings:

■ More than 40 percent of survey respondents cite shorter delivery times as a key measure requiring warehouse investment. Also indicative of increased consumer demand is the expected 76-percent increase in the number of warehouse locations and volume of items shipped out of warehouses.

■ Half of the surveyed IT and operations decision makers planned to move to a more modern, full-featured warehouse management system last year, while 75 percent plan this in 2020 to help manage the additional locations and items shipped.

■ 51 percent of those surveyed expected increased investment in real-time location systems that track inventory and assets throughout the warehouse last year, but this number escalates to 76 percent of respondents in 2020.

■ Warehousing executives anticipate an increase in inbound items that will be barcoded in the next five years, from 66 percent of survey respondents in 2015 to 82 percent in 2020.

Respondents cite plans to make investments in the following processes and tools by 2020 (*see chart, right*): equipping staff with technology (76 percent), barcode scanning (67 percent), tablets (66 percent)

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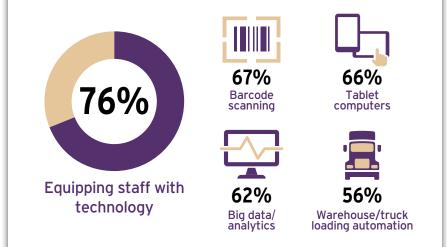
and warehouse/truck loading automation (56 percent).

"IT and operations decision makers in warehouses and distribution centers consistently need to identify new ways to improve productivity and reduce costs to remain competitive," says Mark Wheeler, director, warehouse solutions, Zebra Technologies. "Fulfillment is an integral part of the customer value chain and investment in technology and innovation in this area can go far to improve a customer's experience.

"Nearly half of survey respondents indicate a concern about labor performance in the order, pick, and fulfillment process," he adds. "We see this as an enormous area of opportunity: Providing workers with the tools they need to do their jobs accurately and productively will help companies meet and exceed customer expectations for accuracy and on-time delivery."

Top 5 Technology Expansion Plans

Zebra's *Warehouse Vision Survey* reveals transformational changes in asset visibility, warehouse productivity and supply chain integration.



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FW Warehousing has more than 50 years of experience in warehousing and third-party logistics providing distribution and fulfillment services for manufacturers, distributors, eCommerce and online companies worldwide. FW operates more than 4-million square feet of company-owned warehouse facilities throughout the Midwest & Southeast, including the St. Louis, Chicago, Kansas City, Indianapolis and Atlanta metro areas.

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Earthquakes Shake Up Global Supply Chains

The global supply chain is still feeling the aftershocks of a 6.5-magnitude earthquake that struck Japan on April 14, 2016, followed by a 7.3-magnitude earthquake two days later on Japan's island of Kyushu.

With property and local infrastructure severely damaged, many companies will continue to feel the effects in the coming months. Kyushu is a major manufacturing hub, so the companies below are only a few among dozens more—primarily automotive and electronics manufacturers and suppliers—that have experienced shutdowns, delays, and interruptions as a result of the earthquakes. **Toyota Motor Corp.** Toyota's supply chain is often viewed as something to aspire to, but its tight schedules leave little room for interruption. Due to supplier shutdowns caused by the earthquakes, Toyota was forced to temporarily close 26 assembly plants across Japan. Morgan Stanley estimates the closures will cost Toyota about \$277 million.

Honda Motor Co. Honda was forced to shut its motorbike plant in Kumamoto for a few days, but most of its plants in southern Japan stayed open despite the crisis.

General Motors Co. The U.S. automaker shut down four plants in the United States for two weeks while it assessed the effects of the earthquake on its supply chain. "This temporary adjustment is not expected to have any material impact on GM's full-year North America production plans or results," the company said in a statement.

Sony Corp. Sony temporarily closed its Kumamoto and Nagasaki plants, which manufacture image sensors for smartphones, including Apple's iPhone. "We are not expecting any immediate supply disruption as we have some inventories right now," a Sony spokesman told Reuters.

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Can Trade Weather Climate Change?

Add climate change to the factors that shape global trade. A permanent change in the weather can redirect trade flows, raise the price of goods, and create openings for new products. Research from Datamyne shows six current cases of climate change impacts on trade:

1. Gulf Coast wetlands are slipping away-and with them the habitats that support shellfish and other seafood. The United States has been turning to imports to meet demand for shrimp.

2. Ocean waters are becoming more acid-and lethal for oysters. Rising U.S. imports of oysters are one result.

3. Warming temperatures are bad for coffee beans, and good for plant-killing fungus and beetle infestations. The shape of things to come: a disappointing crop depresses Costa Rican coffee exports, while coffee prices rise.

4. Some plant species grow in South Africa and no place else. One is rooibos (or red bush) tea. Drought has decimated the 2015 crop and South African export shipments.

5. A shift to a droughtier climate will also have an impact on the way your beer tastes: the European harvest of hops, including Germany's hallertau hops, was disappointing last year, so brewers are paying more (as the trade data indicates) or finding alternatives.

6. Warmer temperatures are creating a more hospitable climate for UK vintners, and the United States is importing more English wine.

Does Africa Still Offer Opportunity?

Africa has often been referred to as one of the last frontiers for economic growth and development. Given the recent economic downturn and headwinds that the continent is experiencing, however, does the region still offer opportunity for investors?

In 2015, Sub-Saharan Africa's real Gross Domestic Product (GDP) grew at its lowest rate, 3.4 percent, since 2009, reports the World Bank's January 2016 *Global Economic Prospects*. This was down from the 4.6-percent and 4.9-percent growth that was reported in 2014 and 2013, respectively.

One company – DHL Express – firmly believes that the African continent will continue to grow as it has over the past decade due to the vast number of unexploited opportunities available for local and foreign investors.

"The drop in GDP growth for the region over the past year shouldn't deter investors," says Hennie Heymans, managing director of DHL Express Sub-Saharan Africa. "Africa will continue to thrive, albeit at a slightly slower pace than previously experienced."

Economically, 2015 was a tough year for Africa. A drop in demand for the continent's commodities, in addition to falling prices, declining currencies, political instability and widespread drought caused by El Niño have all contributed to the region's challenges. Despite this, "the region abounds with untapped prospects and offers growth opportunities in 2016 for those willing to seek them out," says Heymans.

The latest World Bank Africa's Pulse, an analysis of economic trends and data, supports Heymans' claim. "The good news is that domestic demand generated by consumption, investment, and government spending will nudge economic growth upwards to 4.4 percent in 2016, and to 4.8 percent in 2017," says Punam Chuhan-Pole, author of the report and acting chief economist for the World Bank Africa Region.

Some regions have higher growth prospects than others, according to the World Bank report. Cote d'Ivoire, Ethiopia, Mozambique, Rwanda, and Tanzania are expected to sustain growth of approximately 7 percent per year in 2015-2017, thanks to large-scale investments in resources, energy and transport projects, and consumer spending.



DHL Express is continuing to invest in developing and improving customer service and human talent across the African continent.

More countries in the region could be thriving if not for underdeveloped infrastructure and bureaucracy. Heymans points to the mining sector in Madagascar as one example. "This could be a potentially lucrative opportunity for investors due to the country's coal, nickel, and ilmenite resources," he says. "However, several legislative reforms are still needed.

"The opportunities are clearly there; it's all about having a long-term, sustainable focus on the region," Heymans says. "As we move into the second quarter of 2016, DHL Express will continue to invest in the Sub-Saharan Africa region, with the ultimate goal of seeing the continent thrive."

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Booming e-Commerce Sales Drive Intra-Asia Trade, Logistics

Intra-Asia trade will increasingly benefit from the rapidly growing consumption in Asia, as more cargo is shipped to end markets in the region instead of to destinations in other parts of the world, according to the latest IHS Global Insight report. In addition, rising consumption trends in Asia Pacific will benefit intra-Asian trade, and e-commerce shipping and logistics.

Among the report's key points:

Consumption in Asia Pacific as a share of world consumption will rise from 27 percent in 2016 to 39 percent by 2035, driven by the fast-growing number of middle-class households in emerging Asia, notably China, India, and Indonesia. ■ Intra-Asia containerized trade to and from China dominates all other container trade lanes in terms of volume, and is forecast to grow at 5.1 percent per year over the mediumterm outlook to 2018.

Total containerized trade in East Asia is forecast to rise from 25.9 million TEUs in 2014 to 31.6 million TEUs by 2018.

Chinese online retail sales of goods and services in Q1 2016 reached US \$158 billion, up 27.8 percent yearon-year, driving rapid growth in China's logistics sector.

India's e-commerce market is much smaller than China's, but is growing rapidly, with e-commerce sales estimated to have risen from US \$4 billion in 2009 to US \$40 billion in 2016, helped by strong sales of smartphones and tablets. In Q1 2016, sales of smartphones in India grew by 23 percent year-on-year, with Indian consumers becoming avid users of these devices to make online purchases.

The Indonesian e-commerce market is estimated to be worth US \$6 billion in 2016, dominated by e-sales for travel, particularly airlines and hotels. Indonesia will grow at about five percent annually over the next decade, with GDP forecast to reach US \$3.8 trillion by 2030, up from US \$930 billion in 2016. []

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Bunzl Distribution USA supplies various plastic packaging and disposable paper products to food processors, supermarkets, retailers, convenience stores and other users. With worldwide sales in excess of \$6 billion, Bunzl has more than 3,500 employees and 90-plus warehouses that serve all 50 U.S. states, Canada, the Caribbean, and parts of Mexico. To deliver higher levels of customer service, Bunzl wanted to transform and streamline its entire supply chain. Bunzl's internal branches needed to establish a comprehensive track-andtrace system for real-time visibility into their import shipments in transit.

THE SOLUTION

Bunzl selected Amber Road's solution for its ability to provide supply chain visibility and compliance solutions on a single platform, as well as its broad international trade content and strong standing in the marketplace. Integrated with Bunzl's order management system and connected with six carriers, Bunzl was able to significantly streamline its inbound supply chain. The company has a centralized import process where all its branches access all compliance reference data, in-transit shipment and inventory levels, and all import transactional data. This has improved coordination

across the company to meet higher service level agreements and to reduce supply chain costs.

The distributor has reduced fees associated with demurrage, detention, and per diem as a result of providing internal and external customers with increased visibility to their inventory in-transit and allowing for better planning. Brokerage and entry fees have also been reduced, since Bunzl can now pay its carriers directly, instead of paying via brokers. Furthermore, Bunzl has streamlined its payment process by establishing in-transit milestones to pre-determine when to initiate the payment process.





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TRADE COMPLIANCE STRATEGIST

BY BETH PRIDE President, BPE Global beth@bpeglobal.com | 415-845-8967

Of Course We're Claiming NAFTA

f you do business between Canada, Mexico, and the United States, we bet you are claiming NAFTA on your imports. The question of whether you are doing it knowingly or legally may be up for grabs.

Under the North American Free Trade Agreement (NAFTA), merchandise wholly obtained or produced in the United States, Canada, or Mexico may qualify for free or reduced duty rates. Incorporating, manufacturing, or further processing of goods that originate from a non-NAFTA country in a NAFTA country, however, does not necessarily qualify the goods as eligible for NAFTA.

The rules of origin in the agreement govern such determinations. The NAFTA rules of origin are extremely complex and require detailed analysis. Unfortunately, many companies fail to do that analysis, and falsely claim preferential duty treatment under NAFTA.

The most common cause of false NAFTA claims starts with the shipment's commercial invoice. If your supplier lists one of the NAFTA countries (CA, MX, US) as the country of origin, your customs broker will most likely ask one of your employees to provide a NAFTA certificate of origin.

The employee will provide NAFTA certification without appropriate analysis of the rules of origin, thinking the document is required to clear the goods through Customs. In many cases, employees don't realize that this certification obligates their company to comply with the terms of NAFTA.

We've also seen companies that establish NAFTA programs and routinely advise senior management on how many dollars the company is saving when they inadvertently make false NAFTA claims. Another cause of false NAFTA claims is when a customer requests a NAFTA certificate for goods purchased from you. The goods may have been produced in a NAFTA country, but many companies fail to ensure that their goods actually qualify for NAFTA before issuing a NAFTA certificate.

Paying the Price

Canada, Mexico, and the United States all impose criminal, civil, or administrative penalties for NAFTA violations. For example, exporters or importers who falsely issue a NAFTA Certificate of Origin, or make false claim for preferential NAFTA treatment on the customs import documentation, may be penalized. We've seen potential NAFTA false claims represent tens of millions of dollars in unpaid duties, not including interest and penalties that are due. The fines are steep and they add up quickly. So what's the right way to do it? First, measure your NAFTA reality. How many products do you make or ship among one of the NAFTA qualifying countries?

Once you quantify the number of eligible products, assign appropriate harmonized system classification numbers to those items. After the classification is assigned, review Annex 401 of NAFTA (www.cbp.gov/trade/nafta/annex-401) to identify the specific rule of origin that determines whether a product qualifies as an originating good under the terms of NAFTA.

Finally, calculate a return on investment. Measure your NAFTA opportunity—how many of the goods that you import actually qualify for NAFTA? If you import millions of dollars of NAFTA-eligible goods, determine how much it will cost to review each product for NAFTA eligibility, qualify those products, and then certify them. Just like any solid business decision, know your bottom line before signing any NAFTA certificates of origin.

So, how do you determine whether your company is at risk? Sign up for a free ACE account (http://l.usa.gov/lo551ar) and check out your NAFTA activity by running the AM-008 report. If the Primary SPI is Canada or Mexico, you're claiming NAFTA, just like a lot of other companies.

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*Source: Seamless Retail Survey Results 2015

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BY PAUL A. MYERSON

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Changing the Shape of Supply and Demand

emand sensing and demand shaping have become important strategies when considering customer collaboration and downstream visibility to improve supply chain efficiency.

Demand sensing refers to forecasting methods that use mathematical techniques and real-time information to create more accurate demand forecasts (a variety of supply chain analytics), while demand shaping is the act of influencing demand to match supply.

Demand shaping is both a strategic and tactical tool. Strategically, it attempts to align customers' longer-term demand patterns to longer-term resource and capacity constraints. Tactically, it uses price, promotion, and products/ services bundling to influence customer demand toward available supply.

One early effort to recognize and understand how shaping demand can help minimize the bullwhip effect caused by downstream demand variability on the upstream supply chain was the collaborative effort by Procter & Gamble and Walmart in the late 1980s that resulted in everyday low pricing.

This and similar efforts led to the development of tactics that influence demand to match supply, such as price incentives, cost modifications, and product substitutions to entice customers to purchase specific items at certain times.

Demand shaping falls into three major categories:

■ **Pricing.** Providing incentives such as discounts, coupons, increased advertising, and even internal sales incentives.

■ Counter-seasonal product and service mixing. Fully utilizing resources and allowing for a more stable workforce.

Back ordering during periods of high demand. This may avoid overtime and help keep capacity more constant.

In most cases, the supply chain management function oversees back ordering processes, but it can influence many other demand shaping options that are primarily controlled more by sales and marketing in a typical organization. One way to make the case for pricing adjustments and incentives occurs during a company's sales and operations planning process, where the goal is to match demand and supply.

Technology will have an increasing impact on the future of demand shaping. E-commerce businesses such as Amazon have been especially astute by adjusting prices frequently to influence demand through what is known as dynamic pricing. The idea is to use technology – think supply chain analytics – to better understand what customers are looking for and then manage their expectations. Some examples include:

■ If customers are looking for a product that isn't in stock, they could be prompted to buy a related item.

• A seller can use an online promotion to encourage a buyer to take a certain product at a special price for a limited time, today only for example.

As a particular product begins to run low, a site could raise the price on the remaining inventory.

Companies can also use demand shaping to increase supply chain efficiency by tracking supply inventory and then telling sales and marketing whether to promote or discount related finished goods and by better utilizing warehouse and transportation capacity. For example, they can offer free shipping during a distribution center's less busy time.

The benefits are clear; it's time to get your demand in shape.

Parts of this column are adapted from Lean Supply Chain & Logistics Management (McGraw-Hill; 2012), Lean Retail and Wholesale (McGraw-Hill; 2014) and Supply Chain and Logistics Management Made Easy (Pearson, 2015) by Paul A. Myerson with permission from McGraw-Hill and Pearson respectively.

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BY JOHN LAFORTE President, International Warehouse Group JlaForte@Intlwhsegrp.com | 631-694-4397

VIEWPOINT

Social Media Puts Supply Chain Change at Your Fingertips

ore and more companies are using social media to better understand the needs of consumers. When it comes to supply chain management, shippers can gain insight into which products are selling, how they're being distributed, and how to improve the entire supply chain.

Like any tool, social media is a way to collect more information, helping companies stay ahead of the competition.

Shippers can use their social media channels to tap into consumers' buying habits. A consumer who tweets a message endorsing one of your products can indicate an increase in demand. Thus, managers can prepare by adjusting supply. If a specific area sees a surge in interest in a product, managers can increase stock at that particular distribution warehouse.

Time Well Spent

Companies can mine their various social media channels to get a better sense of the kind of information that will impact sales and consumer demand. Some methods of social communication may be more effective than others. To truly grasp the power of social media, companies should invest time in building better relationships with consumers by posting often, limiting ads, and citing valuable and relevant information. Reach out to consumers via social media to further comprehend their concerns and preferences. The more energy your company invests in social media, the more valuable and insightful these channels will become.

Channeling Social Media

As powerful as social media can be, temper likes, posts, and tweets with other feedback. Strong online interest in a particular product may not translate into actual sales. Use social media in combination with other avenues of information including cultural or geographical trends, consumer sales reports, and performance reviews.

In addition to affecting supply and demand, social media can also improve a company's warehousing services. If any events impact the supply chain, instant updates can alert the supply chain manager. Social media increases communication between warehouses, departments, and trading partners. Managers can quickly broadcast information about a transportation delay, adverse traveling conditions, or the latest shipping methods. If an incident disrupts the supply chain, managers can use social communication to respond quickly, curtailing further delays.

#InTheWarehouse

Social media can also have a negative impact on warehousing distribution. If a manager increases supply prematurely based on a few tweets, a warehouse can get stuck with a surplus of unsold merchandise.

If used consistently and in combination with other information sources, however, social media can make warehouse distribution more productive, more accountable, and more accessible. Managers should be cognizant of how social media impacts warehousing logistics to better anticipate any changes in supply and demand.

Texts, tweets, and posts affect the ways in which the supply chain responds and operates. Suppliers and warehousing companies should use social media to communicate with consumers, maximize productivity, and identify potential growth opportunities.



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CBP's ACE Reporting Will Reduce Global Trade Risks

ven though the rollout of the Automated Commercial Environment (ACE) has had a bevy of delays, quicker and easier data access will benefit government agencies and the trading industry. As the U.S. Customs and Border Protection (CBP) continues to roll out the ACE Single Window program throughout 2016, the goal remains the same: to eliminate (or drastically reduce) paper-based processes, centralize import and export data, and make it easier for industries to comply with complex regulations. Additionally, shippers and government agencies will produce more complete and accurate reporting as they access a central repository of information, or what many identify as "one source of the truth."

The Single Window initiative offers the benefit of interacting with only one agency (i.e., U.S. CBP) for the electronic submission of all relevant admissibility requirements. However, it also increases the burden of advance and complete preparation by the importer for all required data elements prior to the arrival of goods to ensure an uninterrupted supply chain and Customs admission process.

For example, with advance and complete preparation, an importer will now be required to provide the Food and Drug Administration (FDA) additional data that may not have been collected previously, such as the FDA's specific commodity type, commodity sub-type, and intended use code for products that fall under their area of responsibility. Securing the appropriate data to fulfill these Partner Government Agency (PGA) declaration requirements may require new outreach programs internally, as well as with your supply chain partners, in advance of the shipment arrival date.

Additionally, while ACE updates will improve recordkeeping capabilities, CBP regulations will need to keep up as well. For example, despite the imaging capabilities available with ACE, the recordkeeping regulations 19 CFR 163 are still in play-meaning you must maintain and produce documents on demand in the format in which CBP requests. Keep an eye out as CBP aligns its regulations with changes in ACE.

ACE provides an avenue for shippers and PGAs to access its

data and generate reports via the ACE portal. The portal delivers to users the ability to:

- Access standard reports
- Run modified reports
- Create customized reports
- Share reports

Some examples of the standard reports for importers include the following (note that as of February 15, 2016, many standard reports were retired by ACE to improve system usability):

- AM-003 Entry Summary Lines by Filer
- AM-008 Entry Summary Line Detail report
- AM-068 Entry Summary Report
- AM-100 Courtesy Notice of Liquidation Report
- AM-071 Cargo Entries by Filer Code Report

As the ACE system continues to deploy throughout 2016, quicker access to import and export information for government agencies and private industries is a key benefit. The reporting capabilities remain an increasingly important component of ACE. Global trade users of all abilities can now quickly answer key questions that might help them better analyze global trade risks and performance. These questions include the following:

- What duties are involved or were paid?
- What is the country (or countries) of origin?
- What was the total dollar amount imported by individual suppliers and manufacturers?
- What was the cargo entry exam data by Harmonized Tariff Schedule (HTS) number?
- How can we best monitor antidumping/countervailing (AD/CVD) and Temporary Importations under Bond (TIBs)?

Good things come to those who wait; when the deployment of the ACE Single Window is complete, importers will gain the long-term benefits of streamlined reporting and quicker access to accurate trade information. Increased visibility by shippers, Customs, and PGAs will reduce today's manually intensive processes, cutting costs and, ultimately, improving the identification of dangerous or prohibited cargo and shipments.

Got 3PL challenges?



Tom Madzy, CIO, SEKO Logistics 800-228-2711 • hello@sekologistics.com

So You've Decided to Invest in a Global TMS – Now What?

he benefits of a Transport Management System (TMS) are well recognized, allowing users to replace separate management systems for their different logistical needs with an end-to-end solution that allows shipments to be booked in just a few clicks, saving vast amounts of time and money. It's no wonder then, that so many companies are moving over to this way of operating for their global air and ocean needs. However, when choosing a TMS, it's important to ensure that it will meet all of your requirements, and while each company's need is unique, there are several features you should look out for.

Complete Supply Chain Visibility

Your TMS should offer end-to-end visibility of your supply chain, allowing you to book, track, and trace your shipments all over the world from origin to destination, and easily view all bookings and shipping milestones – ideally with a simple search option to allow you to quickly find what you're looking for. This should also cover visibility of goods at Merge-in-Transit (MIT) facilities, and inbound shipments to ease planning. With goods travelling all over the globe, being able to consolidate them at individual locations and provide visibility to staff offers a solution to what was a huge obstacle under traditional systems.

Having all this information in a singular database will save time, cut costs, and increase productivity. In many cases, these databases can be customized for each user, so while all the information is there, an individual's log in will only give them access to the data that corresponds with their unique responsibility.

Real-time Correspondence with Carriers

Of course, for this information to be truly useful it must be updated in real time. A TMS that's integrated with your carrier will allow both parties to dictate exactly what information is transmitted, so carriers can give rates and complete bookings, sales orders can be imported, and corresponding documents can be edited, cloned, returned and sent to additional parties, all as soon as it happens. It also allows for instant tracking, as soon as bookings occur, so you're always up to speed.

Automated Documentation

Automating the generation of documentation, such as shipping labels and bills of lading, so that it is produced alongside the shipment removes an additional step in the process, creating a more efficient process that leads to faster, increased on-time and accurate delivery to the final customer.

Reporting

Ask anyone what the best part of their job is, and it's doubtful that they'll reply with "the paperwork." Reporting is time consuming, and takes resources away from more profitable areas, so a TMS that will create reports automatically from real-time carrier analytics is a much more efficient solution – especially if these reports can be created via subscription to automatically pull the report at timed intervals, delivering a weekly or monthly overview without you having to do a thing. It's also a good idea to make sure reports are customizable and exportable, so they can be distributed straight away.

In addition to these core areas, many 3PL providers are finding new ways to add value to the services they offer, and make their processes more personalized, streamlined, and efficient. Rather than an all encompassing solution where you'll be paying for features you don't use, choose a provider that can help you to identify your unique requirements and address those. For example "Hybrid 3PLs", which by bundling software and shipping solutions are connecting all the dots from vendor to final customer, reduce steps in the process and allow for more concise operation. This highly sophisticated approach provides a truly integrated end-to-end solution that's much more precisely tailored to your individual requirements.



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Three Key Points to Communicate To Become Your Customers' Dream Provider

ommunication and transparency are key to being a good partner to your clients. If your logistics organization is in the process of responding to RFP questions from a plum potential customer, positioning your logistics organization as the ideal fit for that customer depends on clear communication of three defining factors of your business: specialization, size, and scope.

Specialization

If your company is a warehousing provider that specializes in retail accounts, for example, your organization may be the best option for housing the product of a new body lotion client. Be sure to point out in your RFP response that you understand the natural cycle of order entries and closures, chargebacks, and the necessity of adjusting shipping schedules to meet Must Arrive By Dates (MABD). Additionally, be sure to communicate that your organization will be able to anticipate the volume of outbound shipments that may come with rush orders, promotions, and industry fluctuations.

Similarly, if your organization has extensive and specific experience in chemical and bulk logistics, be clear in your communications that your company excels at special handling of sensitive product. Mention any certification you have, such as ISO 9001 or Responsible Care. Emphasize that your company is a third-party logistics provider with employees who fluently understand the uses of different lift truck attachments to efficiently handle large products like paper rolls.

Size

When contacted by a potential client with an RFI or RFP, first ensure the size of your organization is a good fit with the potential client's product and volume. If you are a regional logistics provider with public warehousing options, your ideal client may be a raw materials supplier with just a few customers in your market, with a need for lots of flexibility in accessing its inbound and outbound product. If you are a multi-national logistics provider, your ideal client may need operations or fulfillment in dozens of countries. If you are a middle-market provider that focuses on a single country or continent, and are not limited to only regional activity, your ideal client likely will be more limited in geographic needs. Upfront communication during the RFP process helps the potential customer determine whether your organization's size matches their needs. Space can be an issue, depending on the amount of product your potential client has and the square footage needed. CBRE recently reported that open industrial real estate – read: warehousing space – is at a 15-year low of 9.4 percent. Is your organization tight on square footage? If so, communicate to your client that locking in space, especially at your dedicated and contract facilities, is key.

Similarly, site visits are vital to ensure the best-fitting partnership between client and provider. Be sure to point out your well-maintained facility, with pest control measures in place, clean floors, and well-organized racking, location and barcode systems. Savvier procurement officers from potential clients will check to see that material-handling employees look motivated, that safety equipment is in place, and that the warehouse has no glaring, poorly maintained items, such as non-functioning dock levelers or overhead lights. Addressing these eyesores and concerns before potential clients walk through your facility is paramount to securing future business.

Scope

Generally, transportation is the single biggest logistics cost for clients. The retail industry's new emphasis on same-day and nextday delivery makes prioritizing affordable transportation even more important to clients. Should your client seek to expand into new regions, it will want a logistics provider that features dedicated warehouse space around the country, including locations close enough to their customers to meet their shorter delivery windows. Be sure to communicate your geographic scope. Also, consolidating logistics services with one 3PL provider can save a client significantly on transportation costs. In the right instances, advertise any transportation services your company offers, including carrier brokerage! When applicable, emphasize that your organization has strong Transportation Management System capabilities, whether those capabilities include providing cloud-based software or interfacing with your potential client's existing TMS.

If your client regularly faces shipment challenges, order entry difficulties, or problems with invoice reconciliation, make sure it knows of your company's additional logistics services, particularly if you have strong Warehouse Management System and Electronic Data Interchange capabilities.

Do you have more ideas to share for effectively communicating with customers in our industry? Send us an email: InquirylL@wsinc.com.

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Thom Campbell, Chief Strategy Officer, Capacity, LLC 732-348-7224 • inboundlog@capacityllc.com

Managing Warehousing Requirements During Peak Periods (Without Committing to Long-term Contracts)

anaging peak period shipment volume is a structural challenge in the U.S. economy. Those preoccupied with executing order fulfillment services spend much of the year thinking about and planning for it. The surge is a three- to four-month peak in first inbound, and then outbound shipments, with overlap. Shipments to retailers come first, followed by a huge spike in shipments directly to consumers. Industries such as toys can see as much as 80 percent or more of their sales in a very short timeframe.

This is primarily an issue for consumer products, because other verticals do not have such spikes in volume during peak season; demand for baby products and medical devices, for example, tends to be relatively flat throughout the year while demand for gift items spikes strongly toward year end.

Warehouses can use a number of techniques to maintain service level agreements (SLAs) – the "guaranteed" turnaround time for an order to go out – during peak demand periods. These techniques include:

1. Manage laborers carefully. From Labor Day to Christmas Eve, ask employees to avoid vacation time, except in areas such as sales and finance. Make additional use of temporary labor, but rely more on additional shifts of previously trained workers. Feather in additional day shifts and night shifts as needed. Start well before peak season, in order to be ready when it comes. Shake out any issues with training or attendance before crunch time. Cross train supervisors and other employees on different tasks, facilities and shifts. Add flexibility and scalability wherever possible, but always at the lowest possible cost.

2. Incentivize staff. When smaller, rely on a core team. If needed, use overtime to help address the challenges of volume spikes, which routinely are between five and 10 times the norm and require additional hands on deck. Hourly workers are incented by the prospect of overtime pay, but the cost curve goes up more steeply than the productivity curve. The latter goes down as steeply, if not more so. Good service is highly correlated to happy, well-rested workers, and vice versa. Provide a career path for all

workers, whatever level they start at, and offer benefits and pay for performance along that path.

3. Set expectations. Plan with clients who have significant historical volume spikes, and be realistic about the ability to maintain SLAs during peak. That may mean running an extra day shift right after Black Friday, working the weekend, whatever it takes. Work Sunday afternoon shifts to address the weekly spike and accumulated volume of the extra online shopping days over the weekend. Get ready to attack the larger seasonal volume spikes, and even the smaller ones – it's like training for the really big ones.

4. Watch out for carrier issues. Ultimately, all supply chain systems are physical, and subject to physical constraints. The idea that parcel carriers can infinitely multiply their human and hard assets for 22 days of the year is not realistic; there will be a cap to the extra drivers, equipment and sorting capabilities. This is experienced most acutely in ground service delays during those absolute peak days. Carriers can also get hurt if they over-staff and prepare for more volume than they get, as they learned in 2014 when they tooled up in response to shortfalls in 2013. All carriers are more incented to not over-staff and over-equip for the volumes because that negatively impacts profits.

5. Technology improves throughput. There is no denying that the move toward ever more sophisticated IT solutions can increase productivity dramatically. But that is impossible without disciplined, expert implementation. Many software implementations fail. Hardware is fickle. Be prepared and expert at troubleshooting, duct tape, spit and vinegar.

The opportunity to manage a highly complex problem requires expert deployment of people, places and things to lead through challenging and demanding times. It is not for everyone, but for those who are up for and excited by the challenge, there is nothing better. Every iteration of the improvement cycle looks different, depending on the unique needs of the organization and how quickly it can be expanded to other areas of the business. That process runs a lot more smoothly when there is a clear mission statement for a peak demand improvement program and a focused plan to roll it out.

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WAREHOUSE MAKEOVER: BLUEPRINT FOR CHANGE

To meet new shipper and consumer demands, modern warehouse design plans are larger, taller, wider, brighter, smarter, and more flexible.

BY CHARLIE FIVEASH

hen it comes to realignments in the global supply chain, mega-retailers such as Amazon, Alibaba, Target, and Walmart flood today's headlines with announcements of strategic acquisitions, new distribution and fulfillment centers, and multi-million-dollar investments to overhaul existing supply chain operations.

But, it's not only the global retail giants that gain market share and operating efficiencies through flexible supply chain strategies. Achieving flexibility should be the goal of every supply chain leader, especially in today's complexoperating ecosystem. One area of progressive solutions is flexible distribution center (DC) design. The warehouse has evolved from its basic function as a storehouse to an intelligent component of the entire global supply chain. The warehouse design of tomorrow is transitioning to meet the physical needs of the basic warehouse operator, as well as the more highly automated e-commerce fulfillment center.

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Along with agile and lean, flexible is a common supply chain buzzword these days. But what does it mean to be flexible from an operations standpoint? Academically speaking, the word flexibility in supply chain terminology refers to the ability to adapt quickly to market demands and deliver products and services to customers promptly, according to Marc Schniederjans, author and business professor, University of Nebraska.

It's important to fully grasp the concept of flexibility — not only its definition, but also its real-life operational applications. Flexibility leads to agility, and agility provides organizations across the supply chain a competitive market advantage. In supply chain speak, flexibility can convey a multitude of applications. As DC managers transition from tactical to strategic approaches in supply chain management, companies of all sizes are evaluating flexible alternatives in building and network design, expanded value-add customer services, and strategic software applications.

MAXIMIZING THROUGHPUT

When Walmart took a strategic overview of its supply chain in 2005, one area of focus was maximizing throughput in its distribution network. At the time, with almost 300,000 SKUs, the global retail giant assessed how its perishable commodities and dry goods functioned in the distribution system.

In a strategic move to promote flexibility, the company elected to open 40 high-velocity cross-dock distribution centers designed specifically for perishables distribution to store locations. Built on a smaller footprint, these temperature-controlled facilities required less automation, thus promoting quicker inventory turns than the larger DCs in Walmart's distribution network.

Soon thereafter, Walmart's supply chain managers were so enamored with the idea of high-throughput DCs that the company elected to consolidate fast-moving, high-turnover dry merchandise — such as paper goods, seasonal items, and toiletries — in the perishable facilities. The



Because it constantly evolves its delivery network, flexibility is a core feature of Amazon's North American fulfillment and distribution operations.

consolidation strategy of combining highdemand dry goods with perishables paid off, further enhancing efficiencies and flexibility in Walmart's supply chain. Fast forward a full decade and Walmart is realigning its network design to capture the emerging e-tail market with a \$1-billion investment in specialized fulfillment facilities, automated high-throughput equipment, and new supply chain talent.

When it comes to DC network designs, Amazon wrote the book on flexibility in facility specialization. With a total of 160 (and growing) current U.S. distribution facilities, Amazon has seven distribution facility prototypes across its North American supply chain. The distribution focus and number of each warehouse facility type are:

- Fulfillment and redistribution centers (75)
- Sortation centers (26)
- PrimeNow hubs (43)
- Delivery/sortation stations (16)

In Amazon's ever-evolving delivery network, new facility prototypes include Delivery Station Networks, which are located close to metropolitan population centers and smaller in size—less than 100,000 square feet. Amazon has also introduced two new delivery concepts for groceries that require independent operating facilities: Amazon Fresh for perishables and Amazon Pantry for same-day delivery of dry goods. As delivery channels evolve from the point of production to the point of consumption, Amazon and other multi-channel retailers are realigning supply chain strategies.

DC DESIGN DYNAMICS

Today's modern warehouse design is larger, taller, wider, brighter, smarter, and more flexible. Basic design in the 21st century DC includes higher ceiling heights (36 feet and higher), flat concrete floor surfaces, LED and natural light features, expanded trailer storage, and highly automated materials handling equipment operated by intelligent software.

Mandated by a more sustainably conscious corporate mindset, LEED-certified buildings were more commonplace in the pre-recession era. In today's more costdriven environment, LEED is no longer the required standard in warehouse design.

"Developers or tenants don't want to pay for the extra cost of upgrading to LEED certification," notes Stuart Price of Conlan Construction, a general contractor that specializes in constructing distribution facilities. "Today, we build to what we call LEED-light."

DOES THIS PRODUCT MAKE MY FLOOR LOOK FLAT?

Just when it seemed industrial developers had introduced every imaginable upgrade to improve operating efficiency and throughput, the issue of a better warehouse floor has surfaced. Similar to warehouse roof systems, floor slabs are an entity unto themselves, producing various operational optimization complexities.

The latest trends in DC building design include super-flat floor surfaces and specialized concrete to ensure a level and solid pour. Known to settle, curl, crack, chip, and sweat, warehouse floors have progressed from rough concrete slabs to a smooth, flat, and sheen surface, designed

"Our WES acts as the conductor in an orchestra of software applications."

– **Dave Williams,** Director of Software Solutions, Westfalia

to enhance floor-load capacity.

"A level floor slab is more important than ever," says Mike Gray, president of Ridgeline Development, a real estate developer of bulk distribution properties in major North American markets. "Requirements for a flat and level floor system are increasing due to the materials handling equipment servicing higher cube heights and narrow aisle widths in modern warehouse facilities."

An Illinois-based concrete innovator recently introduced a new design — Ductilecrete — in floor slab structures. The concrete product is stronger and more durable than traditional warehouse floor systems. The floor guarantees against curling, shrinkage, and moisture — issues that plague an aging floor slab.

The concrete surface is not only more resilient but contains fewer expansion joints, which equates to less floor damage and wear on materials handling equipment and lower maintenance costs. The surface also provides a light-reflective sheen that minimizes glare and mitigates risk for forklift operators.

"No other occupant of a warehouse facility benefits more from a slab system with fewer expansion joints than today's e-commerce user," Gray says. "A flat and expanded floor surface area enables higher and tighter rack configurations and level conveyor installation."

A slab with up to 75 percent fewer expansion joints maximizes the floor surface area for flexible applications. The flat floor throughout the warehouse enables more solid footing for high-bay pallet rack-

> ing, heavy machinery, and high-speed conveyors used in e-commerce fulfillment centers. Fewer expansion joints, combined with today's wider column spacing, equate to flexibility in rack systems and conveyor layout design.

"New designs in flat floor slab systems resonate with our distribution customers," explains Thomas Cobb of Oakmont Industrial Group, a

national developer that specializes in bulk distribution properties. "The floor strength enables our tenants to increase storage capacity and flexibility due to the heavier floor loads without the increased costs associated with a thicker slab foundation."

In late 2015, Interface Carpets, an international flooring company that specializes in modular carpet tile, leased a 370,000-square-foot cross-dock facility from Oakmont for a southeast regional DC.

"Some of the main drivers in the selection of this property were the 36-foot ceiling clear height and the increased load capacity offered by the super-flat floor system," Cobb explains. "The floor design enabled Interface to maximize its storage requirements with higher racking and a narrow aisle configuration."

In addition to advanced building features, such as higher ceilings and flat floor surfaces, e-commerce facility design

TOP 10 TRENDS in DC DESIGN

- **1.** 36- to 40-foot ceiling heights for stacking, racking, and e-commerce mezzanines.
- 2. Flat and dry concrete slab surfaces for optimal rack layout, void of any moisture issues.
- Exterior and interior LED lighting systems, coupled with natural light from clerestory windows (in favor of traditional roof-mounted skylights).
- **4.** Extra car parking areas designed to accommodate e-commerce employees.
- 5. Deeper truck courts with 100-percent concrete surfaces and specific trailer storage drop areas.
- 6. "LEED-light" sustainable design, which includes white roof systems, indigenous plants material, recaptured rainwater, low-flow toilets, fewer blacktop surfaces, locally sourced construction materials, and bike racks to encourage alternative commuting.
- Wider column spacing (56 to 60 feet between support beams) to optimize staging for rack designs and conveyor systems common in e-commerce facilities.
- 8. Narrow aisle widths to maximize storage capacity (modern materials handling equipment complements today's tighter aisle configurations).
- Dock equipment tailored to the occupant's specific needs (edge-of-dock, pit-style, and mechanical load levelers).
- **10.** Cross-dock building design to maximize throughput.



To capture e-tail market share, Walmart invested \$1 billion in specialized fulfillment facilities and automated high-throughput equipment.

also calls for flexibility in truck court and employee parking areas. As distributors demand more on-site trailer parking in DC locations, developers are challenged with designing truck courts and storage yards with higher trailer parking ratios.

Additionally, asphalt truck courts are becoming obsolete in favor of all-concrete designs.

"With heavy truck traffic in a typical distribution center, it makes sense to design the truck court with 100-percent concrete — from a maintenance and utilization standpoint," says Conlan's Price. "Concrete generates less heat than asphalt, providing a practical, sustainable solution."

FROM HARD SURFACES TO SOFT LANDINGS

While upgrades in DC design are trending to meet the high volume demands of fulfillment centers across North America, software solutions targeting inventory management and throughput optimization are evolving to address omni-channel distribution models.

Warehouse Management Systems (WMS) were introduced two decades ago to manage inventory, but software systems have advanced as the demand for data flow and supply chain intelligence has increased. From the legacy WMS

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platforms, Warehouse Control Systems (WCS) were launched to interact with advanced materials handling equipment, such as sortation and picking simulation systems.

The latest evolution in next-generation supply chain software is the Warehouse Execution System (WES) — an IT platform that interfaces with an existing ERP system or WMS to optimize inventory flow and execute more complex picking production commonly found in e-commerce facilities.

"Our WES acts as the conductor in an orchestra concept," says Dave Williams, director of software solutions at Westfalia, a warehouse automation firm based in York, Pa. "The WES conducts the other software applications, allowing a shipper to track inventory downstream in the supply chain all the way to the retail level.

"Our software gives shippers the ability to track inventory from the raw material stage to the consumer purchase point," he adds. In a highly regulated industry such as food and beverage, flexibility is the key to high throughput and lean operating systems to eliminate food waste.

"How a customer rotates inventory is a primary concern," says Williams. "Our WES software enables a distributor to track perishable expiration dates to ensure quality and freshness. The 'first expired/first out' concept is a huge driver in the way our WES interfaces with product flow. We build flexibility into our software tools."

WAREHOUSE FUNCTIONALITY EXPANDED

Today's modern warehouse encompasses more than just a storage box with four walls to house inventory. Next-generation DCs include value-added services (VAS) and intelligent applications. Across the global supply chain, the 21st century DC offers flexibility to the end customer. In today's competitive landscape, distribution companies across North America are enhancing their value proposition.

Companies are providing customers more value-added services, particularly in modern e-commerce operations. For example, New England-based ModusLink recently partnered with a top tier electronics manufacturer to provide flexible postponement, customized assembly,

Building a Flexible e-Commerce Center

These are some elements of a flexible e-commerce warehouse/fulfillment center.

- High-speed, multi-level conveyor systems (up to 25,000 units per hour).
- Goods-to-Person and Goods-to-Equipment fulfillment.
- A warehouse execution system (WES) that syncs with existing WMS, ERP software, fulfillment picking, and materials handling equipment.
- Robotic technology for order picking and retrieval.
- Handheld applications for order accuracy and user mobility.
- Value-added services, including product customization and postponement.

packaging, and last mile delivery strategies to enhance the shipper's B2C strategy.

"From our solutions center, we provide full flexibility with a custom fit for the consumer's phone," explains Shel Virden, group business director of global account management for ModusLink. "Our process starts with the online order, includes adding personalized phone accessories, and ends with direct delivery to the end user."

Shippers and manufacturers trust third-party providers to execute flexible value-add services beyond traditional warehouse functions. "We manage the customer's inventory supply side as well," Virden says. "We're the last group in the supply chain to touch the phone before it gets in the customer's hands, so we are given a high level of trust from brand execution to final-mile delivery."

When it comes to e-commerce specialization in warehouse flexibility, Mason, Ohio-based Intelligrated provides advanced sortation automation with its Dynamic Discharge Compensation (DDC) technology. DDC provides for high-speed conveyor processing up to 25,000 units per hour with 99.99 percent accuracy.

Through enhanced vision technology, DDC detects each item's exact size and location on the conveyor and relays the data to intelligent software, adjusting the product's discharge timing from the belt to enhance throughput and order accuracy.

"The high-speed conveyor provides near perfect intelligence and precision to compensate for the product size and location on the belt once the item is discharged from the belt," says Satyen Pathak, Intelligrated's senior product manager.

GAINING A COMPETITIVE EDGE

Keeping pace with the latest in materials handling equipment, software solutions, and facility design features can be daunting for supply chain managers. Where does an organization invest resources to help maintain a competitive edge in the distribution game?

Senior management scrutinizes key metrics such as ROI, so deciding where to invest capital to enhance DC flexibility



Intelligrated's dynamic discharge compensation technology provides highspeed conveyor processing.

and functionality can be the difference between gaining or losing market share.

Taking flexible warehouse solutions to a new level, newcomer Flexe has introduced the ultimate in warehouse space utilization. Through a cloud-based platform, the Seattle start-up connects short-term users of warehouse space with companies across North America that have excess storage capacity.

"Our platform works well for companies that can't predict what the next three to five years will look like," according to Ryan Morel, Flexe's general manager of market development. "We can coordinate storage for a single pallet or meet a large seasonal storage need where a 3PL may not be the answer."

In the end, flexibility is about service to the customer and providing operating efficiency across the supply chain. As updated building design features support higher throughput and storage capabilities, advanced warehouse execution software complements a synchronized distribution platform.

Technology applications, advanced automation, and progressive building design all add up to provide flexible support to the end-to-end supply chain.



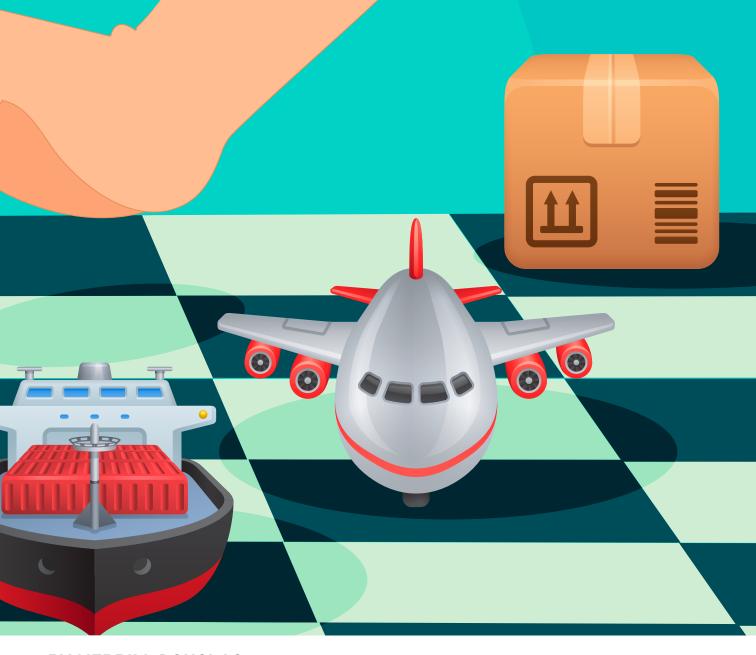
Transportation management systems are becoming less expensive and easier to own. Now, companies of any size can get in the game.

TIME TO MAKE YOUR MOVE?

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TMS

Got 3PL challenges?



BY MERRILL DOUGLAS

hanks to recent advances in technology, transportation management systems (TMS) promise to deliver more bang for the transportation buck to more shippers. Vendors keep adding features and functions, and offering easier and more economical ways to implement TMS solutions.

Most Tier 1 shippers — those that spend \$100 million or more annually on freight — already use TMS solutions. But smaller companies find it hard to justify the expense of implementation.

"TMS solutions have an approximately 15-percent market penetration into Tier 2 companies," says David Landau, executive vice president at Cloud Logistics, a TMS vendor based in West Palm Beach, Fla. The smallest firms—those that spend \$5 million to \$10 million annually on freight—rely mainly on manual methods and spreadsheets to manage transportation, he adds. That is starting to change, though, as the cloud and other technologies reduce the cost and labor attached to TMS solutions.

"Small, mid-segment shippers and logistics companies that did not even consider deploying a TMS in the past are now increasing adoption," says Vikram Balasubramanian, senior vice president of strategic product development at MercuryGate International, a TMS supplier based in Cary, N.C. "The market is growing purely because technology is becoming more affordable."



A TMS can take many forms. It might be a standalone product, or a component of a broader supply chain management or enterprise resource planning suite. Simply put, a TMS is technology for managing the part of the supply chain that puts commodities in motion.

"A TMS helps companies efficiently, reliably, and cost effectively move freight from origin to destination," says Chris Cunnane, a senior analyst at ARC Advisory Group in Dedham, Mass.

ARC divides the TMS market into two solution types. "Planning and execution systems are for freight moves involving carriers; fleet management solutions are for freight moves involving transportation assets the company owns," Cunnane says.

Some packages combine both types. MercuryGate, for example, recently added fleet management to its TMS. "Shippers can manage a private fleet, execute transportation, and procure freight from common carriers, all on a single platform," explains Balasubramanian.

FEATURES AND FUNCTIONS

The functions included in a TMS vary from one product to the next, but systems often include the following:

Procurement. Conducts bidding events and manages contracts with carriers.

Planning and optimization. Chooses the most efficient modes and routes, and finds opportunities to implement efficient strategies such as load consolidation.

■ Execution. Conducts day-to-day shipping activities, such as matching loads with appropriate carriers, tendering and dispatching loads, generating shipping documents, exchanging information with carriers, and monitoring freight progress.

Freight bill auditing and settlement. Manages the financial aspects of a freight transaction.

Reporting and analytics. Analyzes carrier performance, internal performance, and transportation costs.

Solutions that ARC classifies as fleet management may also include functions such as GPS tracking and transportation asset management. The TMS market is broad, deep, and continually evolving. Here's a look at some of the latest developments.

A WALK IN THE CLOUD

In the old days, if you wanted to implement a TMS, you licensed the software and installed it on servers within your own walls. Today, TMS — like so many other kinds of software — is increasingly moving to the cloud.

Vendors tout the fact that cloud computing — also called Software-as-a-Service (SaaS) — eliminates the labor and upfront investment that traditional software implementations require. The TMS vendor hosts the software or maintains it on infrastructure owned by a company such as Amazon or Salesforce.com, and provides it to the user by subscription.

"The use of the cloud has improved the economies of scale, so companies get a faster return on investment," says 2015, called *Same Day TMS*. It's aimed at small companies that don't have resources to support a lengthy implementation and can't justify a large software investment.

"We've come up with a way to deploy our system, along with some of the technology behind it, in one day," Landau says. The secret lies in the fact that *Same Day TMS* doesn't require much integration with other software that shippers use, although Cloud Logistics can provide such integration for more sophisticated companies.

"This system's user interface is designed for companies that don't handle a lot of volume and don't have help from their IT departments," Landau says. Such companies work with just a few carriers, which use a web portal to interact with the TMS.

"Shippers simply key in their orders, and it takes one to two minutes to create an order in the system," he adds.

Another TMS vendor that promises speedy implementation in the cloud for

"The TMS market is growing purely because technology is becoming more affordable."

- Vikram Balasubramanian, Senior Vice President, Strategic Product Development, MercuryGate International

Balasubramanian. That's part of the reason more companies are adopting TMS solutions, he adds.

"As companies realize they need some kind of automation to manage transportation, they are creating a lot of pent-up demand," says Landau. Freight transportation is complex, and managing it manually is simply not effective.

Some suppliers of cloud-based solutions — including Cloud Logistics promise not only to lower the cost of using a TMS, but also to get the technology up and running in record time. "We implement our system in four to 12 weeks, rather than four to 12 months — and sometimes faster," Landau says.

That "sometimes faster" refers to a product Cloud Logistics introduced in

smaller companies is Kuebix, based in Maynard, Mass.

Kuebix offers two TMS products: *Kuebix Enterprise*, a customized solution designed for multi-billion-dollar corporations with specific freight optimization needs, and *Kuebix Small Business*, a standardized system that a smaller enterprise can get up and running in about 10 minutes.

"First, shippers log on and sign up for a free trial," explains Dan Clark, president of Kuebix. "If they like it, they swipe a credit card." The online interface offers a variety of how-to videos to help new users with every application in the system.

"Within 10 minutes, they are up and running with a full transportation system," he adds.

Among the smaller firms that have

migrated to a TMS in recent years is Badcock Corporation, a furniture chain that also sells mattresses, electronics, appliances, and seasonal items. Based in Mulberry, Fla., Badcock uses the Cloud Logistics TMS solution.

Badcock and its franchisees operate 325 Badcock Home Furniture & More stores in eight southeastern states. The company sources product from suppliers in the United States and Asia, and moves it to the stores through three U.S. distribution centers (DCs).

Badcock uses common carriers for inbound freight and a private fleet to deliver product from the DCs to the stores and to customers' homes.

A MODEL OF INEFFICIENCY

Until recently, Badcock used mainly manual processes to manage transportation. "We had a traffic manager," says Greg Brinkman, the company's senior vice president of supply chain. "Two traffic people who worked on our private fleet would back him up, and make decisions on inbound freight.

"We managed through spreadsheets," he adds. "When suppliers called, we manually looked up which carriers they were supposed to use."

That process bred inefficiencies. "Trying



A TMS solution helps furniture retailer Badcock Home Furniture & More manage its transportation dollars monthly, before receiving invoices. Having a high-level view of merchandise en route also improves transportation planning.

to keep up with all the phone calls would delay shipments," Brinkman says. The company tried adding extra workers during busy times, but it's hard to employ the necessary talent on a temporary basis.

Manual processes also made it hard to optimize loads. "When employees got busy, they would route freight to whomever they happened to be talking to that day, rather than to the lowest-cost carrier," Brinkman says. "The wrong trucking companies were getting our business."

Today, the Cloud Logistics TMS helps Badcock's traffic department make more cost-effective matches between carriers and loads. Also, the system generates reports that provide better insights into carrier relationships. "We know how much freight each trucker is getting," Brinkman says. "We also know how they performed and if any shipments were delayed."

Brinkman says he hopes that, in the



Small companies can gain the benefits of a TMS through vendors such as Kuebix, which offers a cloud-based system with no costly installations, maintenance fees, or upgrades.

future, Cloud Logistics will tie Badcock's overseas suppliers and international carriers into the system, along with domestic trading partners. The goal is to learn about potential production delays as soon as possible, so the company can adjust its transportation and marketing plans.

"The more visibility we can have into production, the better," Brinkman says. "Also, when we can decrease lead times, we save money on safety stock, which goes right to the bottom line."

ONE PLATFORM, MANY TENANTS

Besides reducing the cost of ownership, speeding ROI, and cutting implementation time, the cloud provides a platform for a more social version of transportation management. When a vendor provides a single-tenant solution — implementing its solution once, and then connecting customers, carriers, and suppliers to that solution — it can direct data among hundreds, or thousands, of supply chain participants.

A multi-tenant solution reduces the time needed to set up data links between shippers and their service providers. That's the case with Chelmsford, Mass.-based Kewill's *MOVE TMS*, a system whose roots go back about 17 years to a company called Nistevo.

"Over the years, we've built a large carrier network," explains Walt Heil, vice president, multimodal transportation solutions at Kewill. "Once we establish our standard EDI [electronic data interchange] or XML [extensible markup language] data flow with a carrier, our customers can leverage that communication. It's a simple certification for the customer to use that carrier."



Some shippers want to exchange more data points with their carriers than others. "Levers in the system can turn those data flows on or off for certain companies," Heil says.

A multi-tenant TMS also helps with another challenge that many shippers face today: a desire to gain a global view of their transportation.

"Most companies, in just about every industry, have a global footprint," Heil says. But often, a global company uses different TMS solutions to manage transportation in different regions. "Multiple platforms multiply risk and increase cost," he says. Also, shippers often prefer to deal with just one IT vendor for their TMS, rather than several.

In the past, a company that wanted to develop a global TMS had to conduct a large, expensive project with an ERP vendor. Only the largest companies could afford that. Today, with multi-tenant cloud solutions, much smaller companies can implement TMS in all their markets, in a reasonable length of time, at a reasonable cost. "A shipper can have a global strategy around one platform," Heil says.

LIKING THE 'FACEBOOK EFFECT'

Shippers using MercuryGate's TMS can choose between a multi-tenant and a single-tenant cloud. In either case, shippers benefit from the large number of carriers doing business on the network.

"It's the Facebook effect," explains Balasubramanian. "Shippers still have an onboarding process because they need to ensure that carriers comply with their EDI and other standards, but these carriers are already integrated as part of the system."

As Balasubramanian draws comparisons to Facebook, Landau points to another popular social network to explain the logistics activity stream on the Cloud Logistics multi-tenant cloud. "Think of it as a Twitter feed for your transportation network," he says. The activity stream provides updates on every event in the life of a shipment.

"It also allows real-time instant messaging dialog with participants in the network," Balasubramanian adds. This kind of



Agropur Ingredients chooses to use two different TMS solutions to handle transportation of its food ingredients. One system manages truckload shipments, while the other handles LTL freight.

collaborative activity is possible because of the way the cloud-based system links all trading partners.

Some vendors—including Philadelphiabased Elemica — call this kind of collaborative platform a supply chain operating network (SCON). Elemica designed its SCON for chemical companies and other process manufacturers. The SCON's TMS functions reside within a portion of the product called the *Logistics Management Suite*.

"The supply chain operating network has three functional layers: B2B integration, process automation and collaboration, and visibility and analytics," says Cindi Hane, Elemica's director of logistics operations. But the value of that network, she adds, also lies in the participating community of trading partners.

One benefit arising from this community is better visibility into the status of freight. "Visibility has been a hot topic for our customers," says Hane. "I hear comments like, "Why is my customer the first one to tell me when my shipment is late?"

Good visibility relies on high-quality data, she notes. When a SCON serves as a hub, the TMS vendor can make sure that the data loses nothing in translation as it moves among partners.

"First, is the data available?" Hane asks.

"Next, are you getting it in a usable way?" Consider what happens, for example, when two partners express the same information in different formats. "If my partner passes a ZIP code as a numeric field, the system might drop any leading zeroes," she says. "We can fix that format in our network, and make sure that, when it gets through, it's a properly formatted ZIP code."

HAVE IT YOUR WAY

For some shippers, the key to TMS happiness is the ability to implement only the functions they need and leave the rest on the table. Agropur Ingredients, a food ingredients producer based in La Crosse, Wis., uses that strategy. In 2015, it implemented select modules of the Transporeon TMS to help manage truckload transportation.

The logistics team at the La Crosse facility used to rely on paper documents, email, and phone calls to manage transportation, recalls Sean Smith, supply chain director at Agropur. "This wasn't efficient for the volume of freight we were starting to handle — both our own inbound and our customers' freight," he says. Without a TMS, Smith would have needed a larger staff.

Agropur uses the Transporeon TMS, from Transporeon Group Americas in Fort Washington, Pa., to conduct transportation procurements, bid out spot freight, and dispatch loads. "My logistics coordinators say, 'I need a truck on this date, going from here to there,'" Smith says. By checking a routing guide, the system offers the freight to the most appropriate carrier for that lane. If that carrier declines, the system moves on to the number-two carrier, then farther down the list if needed.

Agropur uses Transporeon's reporting features mainly to analyze costs — for example, to distinguish a fuel surcharge from a base rate. But because the company doesn't have problems with late arrivals or dock scheduling, it chose not to implement performance reporting.

It also took a pass on visibility features. "We don't have much of a problem with shipments disappearing or arriving late," Smith says. Agropur chose the cloud-based Transporeon TMS because it's easy to use, and because the software vendor charges a monthly fee, based on transaction volume. "There was no way my company was going to give me \$200,000 outright to buy a full TMS," Smith notes.

With a pay-as-you-go model, the TMS adds just a small extra cost to each shipment. "If you spend \$1,000 for a shipment, then what's \$1,001?" he asks. "It's worth it if you don't have to hire another person."

In keeping with its pick-and-choose strategy, Agropur turned to an entirely different TMS, from Indianapolis-based Spot Freight, to manage its less-than-truckload (LTL) transportation. It started using that solution in April 2016.

Truckload and LTL shipments have different requirements and are usually handled by different carriers. "We decided to keep them in two different systems," Smith says.

MOBILE TMS

Given the impact of mobile technology in general, it's no surprise that the TMS world is also feeling pressure to put business functions in the palm of the user's hand.

That's particularly true as more millennials enter the workforce. "Millennials don't use desktop computers, and they don't use laptops," says Heil. "The era of the big office of cubicles with PCs for people who are running freight departments is coming to an end." With transportation apps on tablets and smartphones, people can work remotely, or they can manage and monitor shipments while walking the warehouse floor.

When Kewill first started offering mobile applications — for use by carriers — in 2008, carriers weren't interested. "At the time, nobody had a smartphone," Heil says. But a lot has changed since then. Kewill now offers mobile apps for use by carriers and shippers, and is developing some for use by suppliers.

At Kuebix, making applications compatible with mobile devices used to be tough, but new technology has eliminated that problem. Now, every system the company develops will run on a mobile device.

"If you don't have a solution that's mobile compatible, you probably don't have the right solution," Clark says. Mobile platforms give shippers tremendous flexibility. "You could be having a martini in Tahiti, and process everything that the system does by working on your tablet or smartphone," he says.

Elemica recently introduced its first mobile app, the *Elemica Track* solution for shipment visibility. The new function is designed not only for logistics staff, but also for customer service and sales reps. "The solution provides access to customer shipment activities in an easy, straightforward way," Hane says.

Another trend that has changed the face of TMS is the arrival of web services. These services involve the use of application programming interfaces (APIs) to transfer data among IT systems. Among other benefits, web services improve the way a TMS solution maintains a shipper's database of LTL carrier rates.

"In the past, shippers would get a tariff [a schedule of rates] from the carrier," Clark says. "They would get a base rate, a negotiated discount, and different statespecific discounts. They'd have minimums, maximums, and fuel surcharges, among other parameters." Shippers would upload the tariff into their information systems. Then, every time the tariff changed, they would have to upload a new version.

"Today, carriers are exposing an API," Clark says. Companies such as Kuebix use the API to set up an interface with each carrier. Then, any time shippers log in, they receive current rates in real time, directly from the carrier.

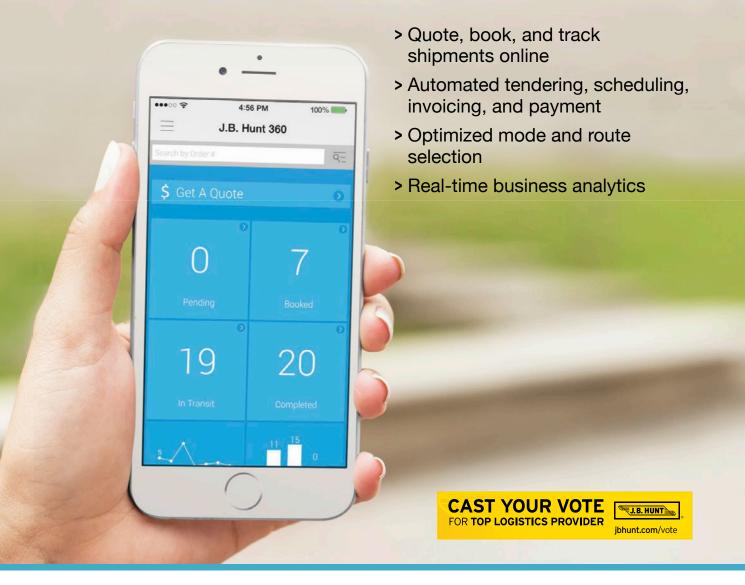
"It minimizes the work shippers previously had to do to update those tariffs," Clark says. "Web services also allow carriers and shippers to exchange other data—such as tracking information, pickup appointments, proofs of delivery, and invoices—in real time through the TMS."

These features, and many new ones, will continue to move small companies toward embracing the benefits of TMS.

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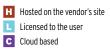
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	VENDOR	PRODUCT	DESCRIPTION
С	360data Appleton, WI www.360data.com	360data TMS	Maximizes carrier selection. Ensures compliance with routing guides. Provides automated load optimization according to specific business rules, including price, delivery time, past damage claims, and carrier on-time performance.
H L C	3Gtms Shelton, CT www.3gtms.com	Transportation Management Software	Order-settlement TMS for shippers and LSPs focuses on simplifying complex transportation management, including multi-stop and pool distribution optimization.
H L C	4flow Troy, MI www.4flow.com	4flow vista	Integrates network optimization and transportation management – from strategic development to tactical planning and daily execution, including claims. Offers individual shipment and route optimization.
С	Acuitive Solutions Charlotte, NC www.acuitivesolutions.com	Global TMS	Helps large companies quickly rate, route, and audit air and ocean shipments, with fewer people. Provides control, with little direct shipper involvement.
С	Agistix San Mateo, CA www.agistix.com	Agistix	Helps shippers of all sizes gain visibility into inbound, outbound, and third-party shipments across all carriers, modes, and service levels.
С	ALC Logistics Charlotte, NC www.alclogistics.com	Transportation Management Software	Provides visibility and accountability, while reducing costs. Software can be customized to meet unique transportation needs.
H C	Aljex Software Middlesex, NJ www.aljex.com	TMS	Automates shipment execution with least-cost routing, EDI, document imaging, integrated emailing and faxing, and burst communication. Shippers can view reports on carrier transit time and terminal data.
L	Amber Road East Rutherford, NJ www.AmberRoad.com	Trade Automation	Importers, exporters, and 3PLs can centrally manage contracts and rates, optimize carrier selection and booking using KPIs, automate freight audit, and perform detailed lane analysis.
H L C	AndSoft Miami, FL www.andsoft.com	e-TMS	Supports high data volumes, customizations, and changes in real- time. Web-based solution for FTL, LTL, and small package deliveries.
H L C	AR Traffic Consultants New York, NY www.artraffic.com	CalcRate	Provides rating, routing, domestic, and international documentation for parcel, LTL, and truckload shipments. Powerful analytics offer actionable information to understand and control freight costs.

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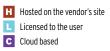


	VENDOR	PRODUCT	DESCRIPTION
С	Blinco Systems Toronto, ON www.3rdwave.co	3rdwave Global TMS	Enables companies to execute and control global supply chains from freight RFQ and contract management to destination delivery with total visibility and border management.
H	Cardinal Hosted Logistics Concord, NC www.cardinalhostedlogistics.com	Service Manager	Dispatching tool allows users to quickly make changes to pre- planned or manually built routes from data received.
H C	CargoSmart Limited San Jose, CA www.cargosmart.com	CargoSmart Transportation Management	Provides shipment management solutions that benchmark ocean carrier sailing schedules, performance, and contracts. Leverages big data for greater visibility and live exception management.
H L C	Carrier Logistics Tarrytown, NY www.carrierlogistics.com	FACTS: Total Transportation Management System	Integrates operations, invoicing, and accounting for multi- terminal, high-volume, over-the-road shipments.
H L C	CDM Software Solutions Houston, TX www.cdmsoft.com	CDM Logistics Suite	Includes complete air, ocean, trucking, intermodal, export/import operations, documentation, shipment compliance, shipment tracking, and full visibility throughout the shipment supply chain.
С	Cerasis Eagan, MN www.cerasis.com	Cerasis Rater	Web-based rating of multiple LTL, full truckload, and small package carriers. Includes transportation accounting functions, analytics, freight claims management, carrier rate maintenance, and integration capabilities.
H C	Cheetah Software Systems Westlake Village, CA www.cheetah.com	Cheetah Freight, Cheetah Delivery	Plans delivery routes, predicts accurate arrival times as it adapts – live and automatically – to changing operational conditions.
H C	ClearTrack Brentwood, TN www.cleartrack.com	Load Tender X-Change	Carrier cloud-delivered load bid and tender; negotiates pricing and terms; distributes bid requests to private and public carrier network; analyzes carrier freight bid performance.
С	Cloud Logistics Fort Lauderdale, FL www.gocloudlogistics.com	Cloud Logistics TMS	Cloud-based TMS for manufacturers, retailers, distributors, and 3PLs. Supports planning, rating, visibility, collaboration, and social networking for TL, LTL, intermodal, and ocean freight moves.
H L C	CT Logistics Cleveland, OH www.ctlogistics.com	FreitRater & FreitLion	Global supply chain management, cost reduction, and TMS solutions including TranSaver, FreitRater, Lion, and FreitLion.



	VENDOR	PRODUCT	DESCRIPTION
H C	CTSI-Global Memphis, TN www.ctsi-global.com	CTSI-Global TMS	Empowers domestic and global shippers and 3PLs to manage orders, optimize loads, select carriers, tender shipments, manifest parcels, track deliveries, and manage claims.
H L C	Descartes Systems Group Waterloo, ON www.descartes.com	Descartes Transportation Management	Helps logistics managers, shippers, and third parties evaluate transportation alternatives simultaneously to find efficient shipping methods. Manages contract carriers from shipment planning through execution and settlement.
С	Elemica Wayne, PA www.elemica.com	Elemica Logistics Management	Connects to LSPs giving end-to-end comprehensive view. Provides transport execution, optimization, slot booking, carrier rate management, and freight invoice management.
L C	Eyefreight Chicago, IL; Bunnik, Netherlands www.eyefreight.com	Eyefreight SaaS TMS	Provides a single platform for central coordination and detailed data visibility over complex transportation operations to reduce costs, increase service levels, and ensure sustainability.
L C	Fastercom Montreal, QC www.fastercom.ca	TMS	Helps companies control, optimize, and export data to spreadsheets, GPS, or mobile phones. Takes into account delivery times and a multitude of other compatibilities.
С	Fortigo Austin, TX www.fortigo.com	TMS Software	Automates, optimizes, and audits logistics processes across the supply chain. Supplies one system of record for logistics across multiple sites; interfaces with supply chain solutions.
С	Freightgate Fountain Valley, CA www.freightgate.net	Logistics Platform	Consolidates orders, builds loads, optimizes routes, and maintains end-to-end visibility. Allows shippers to collaborate with other stakeholders, and audit/pay bill when it arrives.
С	Freightos Miami, FL www.freightos.com	Freightos	Enables advanced freight rate management of ocean, air, and trucking rates, instant international pricing/routing generation and live comparison, and booking from industry freight rates.
H C	Freightview Overland Park, KS www.freightview.com	Freightview	Helps small and midsize businesses streamline quoting, booking, tracking, and reporting for LTL or TL shipments. Supports multiple users and API access.
H C	GTG Technology Group Houston, TX www.gtgtechnologygroup.com	Intermodal Management System and Extensions	Manages global transportation management systems for intermodal, brokerage, and drayage transportation companies of all sizes. All-inclusive software with EDI, document imaging, and integrated accounting.

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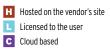
	VENDOR	PRODUCT	DESCRIPTION
L C	HighJump Bloomfield, CT www.mile.com	Prophesy DispatchSeries Software	Dispatches trucks, manages carriers or drivers, handles IFTA and DOT compliance, tenders loads, handles commissions and billing all from one trucking software solution.
H C	Highway905 Hillsborough, NJ www.highway905.com	Highway905 TMS	Provides omni-modal optimization, shipment planning and execution, visibility, carrier management, freight billing and audit, cost-to- serve analytics, and tactical KPI. Tracks assets with signed POD.
С	InMotion Global Brandon, FL www.TheFreeTMS.com	AscendTMS	Allows complete control over daily freight movements, without fees, installs, annual licenses, contracts, hardware, or configuration. Compliant with any device. Instant access, no setup.
H L C	INSIGHT Manassas, VA www.insightoutsmart.com	SAILS, ITOS, IBA	Strategic transportation planning tools help planners make routing decisions quickly. Improves dispatch quality by exploiting transport opportunities. Analyzes transportation bids for cost control.
С	International Asset Systems Oakland, CA www.interasset.com	IAS Dispatch	Brings together drayage assignment, appointment times, amendment management, invoicing, visibility, rates, optimization, and business intelligence. New mobile dispatch management.
۵	Invata Intralogistics Conshohocken, PA www.invata.com	Warehouse Execution Systems	Provides dynamic route building and load planning through interactive dashboards. Optimizes freight spend by evaluating alternative ship methods inclusive of any accessorial charges.
H L C	JDA Software Group Scottsdale, AZ www.jda.com	JDA Transportation Management	Creates sustainable value by synchronizing all critical transportation processes, from order management through delivery. Balances costs and constraints with service goals.
L	Kewill Chelmsford, MA www.kewill.com	Kewill Transport	Simplifies planning and optimization of inbound and outbound transportation with a built-in network of more than 16,000 carriers.
H C	Kuebix Maynard, MA www.kuebix.com	Kuebix TMS	Offers a complete logistics solution with a full range of enterprise applications and integrations.
С	LeanLogistics* Holland, MI www.leanlogistics.com	LeanTMS	Provides one platform for planning, execution, settlement, and procurement to deliver increased efficiency and reduced spend.

*Acquired by Kewill in May 2016.



	VENDOR	PRODUCT	DESCRIPTION
H L C	Logility Atlanta, GA www.logility.com	Logility Voyager Transportation Planning & Management	Automates multi-modal shipment planning, execution, and freight accounting. Supports automated, unattended operation by monitoring activities with real-time alerts. Analyzes productivity using KPIs to deliver reports.
8	Logistix Solutions Herndon, VA www.logistixsolutions.com	Logix	Optimizes private fleet, LTL, or multi-stop carrier transport, accommodating customer, vehicle, driver, and load constraints. Schedules drivers across multiple days or weeks.
H L C	Made4net Hackensack, NJ www.made4net.us	RoutingExpert	Offers a rule-based route optimization engine that plans order deliveries on trucks with a driver proof-of-delivery supporting application.
H L C	Manhattan Associates Atlanta, GA www.manh.com	Transportation Management	Simplifies, optimizes, and reduces the operational costs of managing a complex transportation network.
8	MatchBack Systems Green Bay, WI www.matchbacksystems.com	Software As A Service	Automates the street-turn process to lower costs, improve planner efficiency, and reduce emissions.
С	MercuryGate International Cary, NC www.mercurygate.com	Transportation management solutions	Supports all modes of transportation, enabling users to procure, plan, optimize, execute, and settle freight movements.
H C	Navegate Eagan, MN www.navegate.com	Navegate	Allows visibility into entire supply chain, giving shippers access to vendor and manufacturer compliance, delivery, and pick-up confirmations.
L	Next Generation Logistics Inverness, IL www.nextgeneration.com	FreightMaster TMS and Dynamics TMS	Manages LTL and TL multi-stop requirements. Easy workflows for carrier selection, load planning, auditing, online settlement, carrier collaboration, and analytics.
H C	Nulogx Toronto, ON www.nulogx.com	TMS Online	Supports all the activities necessary to manage and execute the full lifecycle of the transportation process.
С	Odyssey Logistics & Technology Danbury, CT www.gowithwin.com	WIN (Web Integrated Network)	No-cost, no-fee browser-based system lets shippers transact with carriers and brokers plus access new ones, while simplifying processes, increasing visibility, and offering savings.

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	VENDOR	PRODUCT	DESCRIPTION
H L C	Oracle Redwood City, CA www.oracle.com/scm	Oracle Transportation Management	Manages all transportation activity throughout global supply chains. Supports both shippers and logistics service providers.
۵	Paragon Software Systems Frisco, TX www.paragontruckrouting.com	Paragon Routing & Scheduling Systems	Features include optimization, advanced planning, business modeling, reporting, home delivery, and advanced mapping. Offers solutions for fleets of 10+ vehicles.
H L C	Precision Software (div. of QAD) Lisle, IL www.precisionsoftware.com	PRECISION International Shipment Execution and Global Trade Management	Streamlines shipment execution, automates business processes, and handles freight payments. Users can rate, route, produce labels, and manage service levels for any shipment mode.
H L C	ProShip Brookfield, WI www.proshipsoftware.com	ProShip	An enterprise solution for companies using multiple modes and carriers, offering rating, tracking, and reporting capabilities. Integrates with existing host systems and technologies.
H C	Railinc Cary, NC www.railinc.com	RailSight Data Services	Delivers rail shipment and equipment management data for shippers, rail equipment owners, 3PLs, and transportation management software providers.
H L C	RateLinx Madison, WI www.ratelinx.com	ShipLinx	Streamlines global shipping with all modes, and supports all major parcel carriers including UPS, FedEx, USPS, OnTrac, Purolator, Loomis, Canpar, and Canada Post.
С	Revenova Chicago, IL www.revenova.com	CRM-enabled TMS	Built entirely on Salesforce.com to provide multi-modal transportation management on any device anywhere in the world for manufacturers, distributors, freight brokers, and 3PLs.
С	Riege Software International Georgetown, CT www.riege.com	Scope	SaaS global multi-modal transportation management system provides modules for air, sea, truck, customs, and related units.
H L C	SAP Newton Square, PA www.sap.com	SAP	Creates and monitors a transportation plan that fulfills constraints such as service level, costs, and resource availability.
С	ShippersEdge Minneapolis, MN www.shippersedge.com/info	ShippersEdge TMS	Manages LTL and truckload shipping. Provides rating, routing, consolidation, tracking, reporting, and auditing. Highly configurable, with quick implementation. Integrates with external software.



	VENDOR	PRODUCT	DESCRIPTION
С	ShipXpress Neptune Beach, FL www.shipxpress.com	ShipX Portal	Provides truck tendering, dispatch, rail tracking, fleet management, and rate quotes from multiple carriers. Manages transportation costs and freight accruals.
L	TECSYS Montreal, QC www.tecsys.com	TECSYS TMS	An end-to-end event tracking and delivery management system. Provides security, visibility, and efficiency throughout the delivery network from warehouse dock to customer.
H	TMW Systems Cleveland, OH www.tmwsystems.com	TMS Solutions	Transportation business technology for complex, domestic logistics service providers. Full order-to-cash workflow, fleet asset and/or carrier management, execution, detailed cost-tracking, EDI, web portals, customer visibility.
H L C	Trans-i Technologies Fort Lauderdale, FL www.trans-i.com	TransTransport	Enterprise TMS applications for cartage/drayage and intermodal logistics. Fully integrates with vendor's TransMobile, web customer, and dispatcher portals. Digital POD, live tracking, SMS communication.
H	TransCore/IntelliTrans Atlanta, GA www.intellitrans.com	CarrierPoint	Includes bid management, automated tendering, dock scheduling, freight rating and payment, and integrated analytics on a multi-tenant, SaaS platform.
C	Transporeon Fort Washington, PA www.transporeon-group.com/us	Transporeon	Cloud-based and modular platform helps shippers procure, execute, and manage transportation while enabling carriers to gain efficiencies.
H L C	TransportGistics Bohemia, NY www.TransportGistics.com	TGI:TMS	Features global multi-modal shipment bidding, rating, routing, planning, vendor compliance, execution, visibility, tariff management, freight audit and payment, analysis, business intelligence, and data mining.
С	Transwide New York, NY www.transwide.com	Transwide TMS	Modular, on-demand solution that enables shippers to source, plan, execute, settle, and analyze transportation with maximum cost efficiency.
С	U Route Warren, MI www.uroute.com	U Route TMS/FMS	Tightens link between shippers and carriers. Provides an option for companies that have outgrown spreadsheets and are seeking a straightforward TMS.
С	UltraShipTMS Fair Lawn, NJ www.UltraShipTMS.com	UltraShipTMS	SaaS solutions for shippers in food production, packaging, retail, and other industries. A single-source solution for optimization, transportation, and settlement across all modes.

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THE 3PL Shippers can gain access to transportation management system functions through their third-party logistics (3PL) provider. Here's a sample of some 3PLs offering TMS, either as a standalone option or part of the outsourced transportation service. a standalone option or part of the outsourced transportation service.

VENDOR	PRODUCT	DESCRIPTION
APL Logistics Scottsdale, AZ www.apllogistics.com	ShipMax	Streamlines collaborative shipping and increases transport efficiency. Pairs freight with compatible partners, shipping to common customers and destinations for improved load utilization and delivery optimization.
BlueGrace Logistics Riverview, FL www.mybluegrace.com	BlueShip TMS	Allows shippers to customize their transportation process, providing functions such as rating, routing, tracking, and reporting.
Coyote Logistics Chicago, IL www.coyote.com	Collaborative Transportation Management (CTM)	Provides solutions to fulfill shippers' specific business needs, including network engineering, data consulting, order management/ consolidation, reporting dashboards, bid management/analysis, mode/ route optimization, training, and project management.
DHL Supply Chain Westerville, OH www.dhl-usa.com/supplychain	TMS	Offers highly specialized transportation solutions, including dedicated fleet, managed transportation, and freight brokerage, along with warehousing, value-added services, and international air and ocean freight.
Echo Global Logistics Chicago, IL www.echo.com	Echo TMS	Simplifies transportation lifecycle. Automates order management and consolidation, mode/route optimization, shipment tender and tracking, exception management, and invoice audit/settlement. Fully integrated with customized reporting.
J.B. Hunt Transport Lowell, AR www.jbhunt.com/360	J.B. Hunt 360	Automates and optimizes multi-mode shipments throughout the freight shipping lifecycle. Features include real-time rate quotes, automated tendering, mode/ route optimization, load consolidation, tracking, and freight payment.
LeSaint Logistics Romeoville, IL www.lesaint.com/technology/ TransTech.asp	TransTech TMS	Gives shippers visibility into shipping costs and activities.
Redwood Supply Chain Solutions Chicago, IL www.redwoodscs.com	TMS.10	Changes and simplifies TMS integration, process orchestration, and data translation. Enables shippers to send data, in any format, via any protocol, facilitating supply chain collaboration.
SEKO Logistics Itasca, IL www.sekologistics.com	TMS	Fully customizable application with a status/event-driven design that automates quoting, consolidates orders, customizes and runs reports, and audits freight bills.
TMC, a division of C.H. Robinson Chicago, IL www.mytmc.com	Managed TMS	Features procurement software, mode/route optimization, shipment tender, rate assignment, freight payment, yard and dock management, appointment scheduling, business intelligence, and global language/currency capabilities.
Transplace Frisco, TX www.transplace.com	Transplace TMS	Enables route and mode selection, load consolidation, asset utilization, and reporting. Automates order management, shipment optimization, shipment tracking, and overall performance.
Werner Enterprises Omaha, NE www.werner.com	SMART	Provides customized shipment validation, visibility, and optimization for long-term savings on a domestic or global scale.

Voit Real Estate Services is Proud to Congratulate **Taylored Services** on their Recent 225,636 SF Lease within the Newly Constructed Alere Property Group 36' Clearance Building in Fontana, CA.

> **Taylored Services**, which offers logistics and customized solutions to continuously improve the support of your supply chain, now occupies over 1 million SF in the Inland Empire.

> > Pictured left to right: Tom McCormack, CIO Mike Yusko, CFO Jim Deveau, CEO Chase MacLeod Shy Assar

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Meet Me in St. Louis

The most powerful word in the language of logistics is location. It's a word heard over and over again in St. Louis. But location is just the beginning of the story.

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Meet Me in St. Louis

Geographically situated in the mid-section of America, the St. Louis region has it all when it comes to freight assets. Located within 500 miles of one-third of the U.S. population, the St. Louis region is a premiere freight hub and a transportation capital.

"I can't think of any place in the country whose history is more closely linked with trade than St. Louis. That's what we are talking about—trade. It's about commerce. It's about expanding economic opportunity," said Administrator Gregory Nadeau of the Federal Highway Administration, during a visit to St. Louis on April 27, 2016, for the launch of the St. Louis Regional Freightway, the new freight district that is uniting public and private entities on both sides of the Mississippi River in southern Illinois and eastern Missouri on a scale unlike anything else, except for maybe St. Louis Cardinals baseball.

Through public-private partnerships, the mission of the St. Louis Regional Freightway is to accelerate regional economic growth through job growth in manufacturing and logistics, while optimizing the region's prime multimodal infrastructure assets. It is the newest enterprise of Bi-State Development, which is empowered by Congress to lead economic development in the St. Louis region. "We've reached a transformative moment in the history of our freight economy. In other words, the time to start planning and investing for the future is now," Nadeau said. "Regionalism and this kind of smart strategic thinking...are leveraging maximum benefits for the people we all serve, and creates jobs and opportunities."

The *Beyond Traffic* study, released by the U.S. Department of Transportation in 2015, projects the U.S. population will grow by 70 million people and freight volume will increase by 45 percent by 2045. The St. Louis Regional Freightway is positioning itself to capture a major share of that future growth by establishing itself as the St. Louis region's go-to source for coordinating freight activity, and attracting and expanding the industrial business market on both sides of the Mississippi River.

"How many other regions around the United States can say they are home to six



Located only 30 minutes from St. Louis, the Lakeview Commerce Center in Edwardsville, III., offers easy air, rail/intermodal and ocean freight access. Companies locating in the industrial park can reach more than half of the U.S. population and businesses within two days.

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INTRODUCING THE ST. LOUIS REGIONAL FREIGHTWAY. The St. Louis region's go-to

source for coordinating freight activity, providing site selection and other assistance to manufacturing, logistics, and multimodal transportation companies and their service providers. The Freightway represents the City of St. Louis and seven adjacent counties in Missouri and Illinois, offering a unique combination of competitive advantages unavailable anywhere else in the country.





ST LOUIS REGIONAL

Your Gateway to the World

For more information regarding freight-based industries and opportunities, please contact the St. Louis Regional Freightway Executive Director:

Mary C. Lamie, P.E. 314.982.1562 mclamie@TheFreightway.com

🗞 A Bi-State Development Enterprise

Meet Me in St. Louis

Class I railroads with international market access, home to the third-largest inland port, home to two international cargo airports, and home to four interstates that provide great access to the north, south, east, and west along the nation's freight corridors? The St. Louis region can," says St. Louis Regional Freightway Executive Director Mary Lamie. "We have the largest manufacturing workforce compared to our peer cities, and we offer low transportation costs. In addition, we offer close proximity to manufacturing suppliers, plus well-posi"We partner with local real estate developers and incorporate them into the region's competitive advantage," Lamie says. "We talk about national companies within the region and global companies that are investing in the region's industrial space."

"Big picture, it all started with FedEx and UPS," says Terry Stieve, managing director at commercial real estate firm Jones Lang LaSalle (JLL), which has corporate offices and operations from coast to coast. "Both FedEx and UPS have had major expansions in our region in the past two years. Their



With 50-plus company-owned trucks and 200 trailers servicing the continental United States, FW Warehousing offers shippers same-day service within 325 miles of St. Louis, and next-day service up to 550 miles.

tioned and available industrial real estate. All of that is music to the ears of site selectors. We are truly your gateway to the world."

The St. Louis Regional Freightway provides assistance to site selectors, manufacturing, logistics and multimodal transportation companies, and their service providers. It is a key resource for all manufacturing and logistics companies considering the St. Louis region for a new or expanded operation. The freight district's new website, TheFreightway.com, provides a one-stop comprehensive data experience for prospects evaluating the St. Louis region for investment. presence here is growing and that bodes well for the growth of our market."

Because of these global investments in the St. Louis region, developers are investing in industrial space by building speculative warehouses even before tenants are signed. "That is a great indication of the confidence in the market," says Stieve. "We are seeing a record amount of speculative warehouse space, either under construction or planned, in the St. Louis region."

From the vantage point of his extensive experience in the St. Louis region, Stieve says the St. Louis Regional Freightway's partnership approach will translate into even more progress in the years ahead.

Mark Branstetter agrees. "Bi-State Development is making this a very collective effort," says Branstetter, a partner at Panattoni Development Company, the largest commercial developer in the St. Louis region. "This phenomenon is pretty new."

"Critical to our success is our unified approach — working collectively as a region and focusing on our combined assets," Lamie says.

A perfect example of where this kind of collaboration can lead is the Lakeview Commerce Center, a 750-acre distribution park with 330 acres available for development in Edwardsville, Ill. The park now comprises four buildings totaling more than 3.4 million square footage. The newest building in the park is a 769,500-squarefoot speculative building completed by Panattoni Development Company called Lakeview IV. Panattoni Development has the capacity to build an additional 4.5 million square footage at the Lakeview Commerce Center.

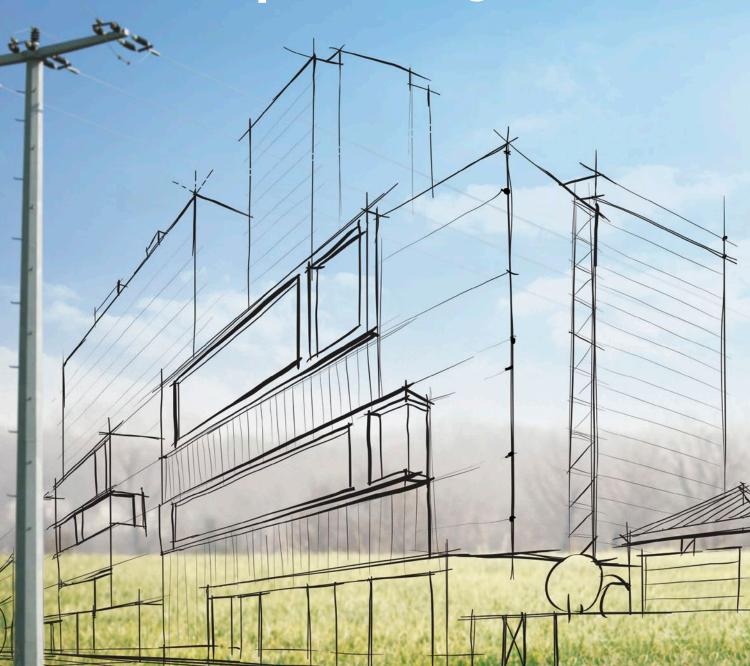
Lakeview, which was developed by Panattoni and is being represented by JLL, was the product of extensive "public-private partnerships designed to better coordinate our region's efforts to serve every step of the supply chain," Stieve says.

Infrastructure Takes Priority

To foster future freight growth, the St. Louis Regional Freightway is setting multimodal transportation priorities through regional collaboration with public officials and private sector leaders. Prioritizing freight development infrastructure projects will help the St. Louis region potentially secure infrastructure funding needed to keep the freight district competitive worldwide. Those infrastructure projects are aimed at enabling the supply chain to work effectively for the region's manufacturing and logistics industries, and to support their immediate and future growth and success.

One priority is replacing the Merchants Rail Bridge over the Mississippi River, which carries Class I railroads. It is the sixth-busiest Mississippi River rail bridge in the nation, serving the third-largest rail hub. Another proposed high-priority project

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is widening Interstate 270 in both Illinois and Missouri. Interstate 270 is one of the most travelled freight corridors in the St. Louis region. The project list will be finalized in summer 2016.

Proximity to Demand

At FW Warehousing, the "location, location, location" mantra goes a few more beats. "Logistics is all about location, infrastructure, labor, and the technology that ties it all together," says Bob Shallenberger, vice president of business development.

FW operates more than four million square feet of company-owned warehouse facilities throughout the Midwest and Southeast, including the St. Louis, Chicago, Kansas City, Mo., Indianapolis, and Atlanta metro areas. The company has more than 50 years of experience in warehousing and third-party logistics, providing distribution and fulfillment services for manufacturers, distributors, e-commerce, and online companies worldwide. "At FW Warehousing, we know we are in the real estate and labor business," Shallenberger says. "Over the past few years, we added technology to the mix, but the gist is still the same: What's most important is location, the proximity to demand."

The St. Louis region fills that bill nicely. Similarly, the region offers an ideal transportation infrastructure to move goods, skilled labor to meet the peaks and valleys of industrial demand, and the availability of highly qualified IT personnel to manage staff and facilities as efficiently and costeffectively as possible.

"We spend most of our efforts on improving the management of our facilities and labor through technology to provide customers with the best pricing and service possible," says Patrick Carter, IT director at FW Warehousing.

But location is still king. "St. Louis is located smack-dab in the middle of the United States," Shallenberger says. "It is the closest American logistics hub to the population center of the country—Plato, Mo.—and the interstate system of St. Louis is unparalleled." Four major interstates—I-70, I-64, I-55, I-44—converge in downtown St. Louis.

Shallenberger calls the St. Louis region the "alpha and omega" of the North American railroad system. As the third-largest rail center in the country, the region is home to the easternmost terminus of BNSF and Union Pacific and the westernmost of Norfolk Southern and CSX. Canadian National and Kansas City Southern also serve St Louis.

In addition, the Mighty Mississippi is at the heart of St. Louis inland barge traffic from Canada to the Gulf of Mexico. And the Missouri River — often overlooked as the longest river in North America — also runs through St. Louis.

FW Warehousing takes full advantage of its location, boasting the most diverse footprint of contract and transactional warehouses in the St. Louis region. With



warehouse facilities throughout the Midwest & Southeast, including the St. Louis, Chicago, Kansas City, Indianapolis and Atlanta metro areas.

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warehouses on both sides of the Mississippi and rail spurs in Missouri and Illinois, FW offers facilities dedicated to industrial dry goods, food grade commodities, chemicals, pharmaceuticals, and e-commerce fulfillment.

"We have facilities for transloading and crossdocking, high-turnover goods, and longer-term dead storage," Shallenberger says. "We offer co-packing, product sampling, pick-and-pack, end-of-aisle display building, kitting, labeling, and anything else our customers dream up. Our in-house IT department is the silent strength behind everything we do.

"Our in-house staff manages, implements, and customizes logistics solutions for customers," he adds. "We do not sub out computer programming like some thirdparty companies. We build our own EDI and API, and manage our own file-transfer protocol across virtually all platforms.

"We also provide real-time inventory visibility through the FW Customer Portal, as well as data backup and security that rivals the largest international logistics and warehouse companies," Shallenberger says.

FW offers ambient, conditioned, refrigerated, and frozen storage in multiple facilities. "If we don't have existing space, our in-house construction team will build a customized solution," Shallenberger says.

On the Up and Up

Over the past two-and-a-half years, FW has added more than one million square feet of warehouse space in the St. Louis region. The trend continues in 2016, with the addition of a 475,000-square-foot facility in downtown St. Louis near the intermodal terminals. "We recently renovated a 1,200-foot rail spur in downtown St. Louis, adding wet and dry on-site silos as well as wet and dry tanker transloading equipment," Shallenberger adds.

In addition to warehousing, FW offers trucking services with more than 50 company-owned trucks and 200 trailers servicing the continental United States. FW offers same-day service within 325 miles of St. Louis and next-day service up to 550 miles.

What is the power behind St. Louis' logistical strengths? "The combined



Lambert-St. Louis International Airport operates 24/7 and provides uncongested access to the interstate network, offering quick and easy distribution within and beyond the region.

advantages of strategic location, excellent infrastructure, and a skilled labor force propel a large and growing manufacturing sector in the bi-state St. Louis metropolitan statistical area (MSA)," says Cheryl Welge, senior business development executive for Ameren, an investor-owned electric and natural gas utility that serves approximately 2.4 million electric and 900,000 natural gas customers across 64,000 square miles in Illinois and Missouri.

"The region is also perfectly situated for distribution in the central United States, with access to a vast network of transportation infrastructure, a large labor force, and low cost of doing business," Welge adds. "The two-state Ameren service area — including the St. Louis metropolitan area — is competitively positioned as the Midwest's hub for distribution, manufacturing, and agribusiness."

The utility operates as Ameren Missouri in the city of St. Louis and surrounding communities, and as Ameren Illinois in southwestern Illinois. It functions as a key factor in the region's logistics advantages by offering customers cost-effective and reliable energy resources.

"Ameren's reliable, low-cost energy rates reduce operating costs and provide businesses with the energy they need to compete in an ever-expanding global market," Welge says. "The service area is home to world-renowned and groundbreaking research in agriculture, biofuels, and supporting technologies, with groundbreaking agriculture and technology research being conducted across the region."

With more than 6,700 manufacturing firms and 280,000 manufacturing workers producing \$130 billion-plus of manufactured goods per year, the St. Louis region also looks to Ameren to provide valueadded development services to businesses considering a Midwest location. Those services include project management support in partnership with state and local development agencies, comprehensive community profiles and workforce demographics, internet-based building and site inventory, technical utility infrastructure and cost analysis, and access to energy efficiency programs and qualifying incentives.

"At Ameren, we understand that growing companies must be agile, strategic in their business decisions, and prudent in their investments," says Michael Kearney, Ameren's director of economic development. "Site selection decisions must be absolutely on target. Ameren's economic development team is focused on making connections throughout the bi-state region."

Today's customers have high expectations for the energy that powers their quality of life, Kearney says, so the utility is focused on building a next-generation energy and delivery system for the region it serves. As one of the Midwest's largest investor-owned utilities, Ameren brings a breadth of knowledge and understanding of business location criteria to positively affect the long-term cost competitiveness of any business. Ameren offers the following value-added development services to businesses considering a Midwest location:

Project management support in partnership with state and local development agencies.

Comprehensive community profiles and workforce demographics.

■ Internet-based building and site inventory with GIS mapping capabilities.

Technical utility infrastructure and cost analysis.

Access to energy efficiency programs and qualifying incentives.

Built on a foundation of strong relationships and a common stake in sustainable community and regional development, Ameren supports regional development efforts, such as the St.

Louis Regional Freightway, within the bistate region.

Taking Flight

The St. Louis region has access to two airports, including Lambert-St. Louis International Airport (STL), serving FedEx



and UPS hubs, and MidAmerica St. Louis Airport, both of which are located in designated foreign trade zones (FTZs).

STL is the primary airport serving the region for both cargo and passenger transportation. The City of St. Louis owns and operates the airport, which is located 11 miles northwest of downtown St. Louis, between I-170 and I-270 in St. Louis County.

The airport controls approximately 3,970 acres of land, including 1,845 acres inside a secured operating area of 2.8 square miles. It also owns more than 2,125 acres outside of fenced area.

With more than 80,000 departures annually, STL's passenger operations also move cargo to and from the region. FedEx, UPS, and DHL dedicated cargo operations complement these flights, and so do multiple cargo charters throughout the year.

"In 2015, 130 million pounds of cargo moved through the Lambert-St. Louis International Airport," says David Lancaster, STL's director of cargo development. "The airport operates without restrictions or curfews every day, 24/7, and is easily accessible by the major interstates that pass through St. Louis.

With two cargo areas and a third under development, the airport is a key part of the region's logistics focus."

STL's cargo operations offer aircraft parking adjacent to

facilities, main deck loaders, bonded storage, secured warehouse facilities, direct ramp access, storage areas for cargo that requires special handling, workstations for make-up and breakdown of unit loading devices, and on-site U.S. Customs and Border Protection.

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Meet Me in St. Louis

St. Louis recently expanded FTZ No. 102, fostering regional growth and reinvestment by mitigating the cost of importing goods into the United States. To further enhance trade and lower operating costs for local companies, the St. Louis County Economic Council and St. Louis County Port Authority received approval to designate all of St. Louis County and the City of St. Louis as foreign trade zones eligible under the Alternate Site Framework option recently made available by the U.S. Department of Commerce. This allows a company to receive the FTZ designation at its place of business, even if it is not within the established boundary of FTZ No. 102.

Upon arriving in the United States, goods transported to an FTZ receive special benefits, allowing companies that use the zone to defer, reduce, or eliminate customs duties on imported goods admitted into the zone for storage, manufacture, or processing. These benefits translate into considerable cost savings that can increase cash flow and grow business, giving local importers a competitive edge.

With four runways, STL is a large facility with significant capacity to meet the needs of expanded logistics operations that require uncongested access to the interstate network for distribution within and beyond the region. And, with the St. Louis region's clear skies ahead, there are plans to grow.

"We are currently working on a 60-acre logistics development with the potential for more than 1 million square feet of terminal, direct access to the runway system, and the opportunity to re-activate a previously used rail spur," Lancaster says. "This is planned to be operational in phases starting in 2017."

That Word Again

"As in real estate, it's location, location, location," says Milton Cornwell, chief operating officer of Materialogic, a St. Louis-based third-party fulfillment, distribution, and logistics provider. "We're centrally located near the population center of the United States, and that allows us to address today's two key fulfillment issues: time in transit—the time from when our client's customer places an order until they receive it—and freight expense." Cornwell cites the St. Louis region's location at the intersection of four major interstate highways as a particular advantage. "St. Louis has an existing infrastructure for easy access to both inbound and outbound transportation," he says. "The St. Louis region also has two underutilized airports capable of handling the largest cargo planes, in addition to rail service and the Mississippi River to provide all modes of transportation."

The soon-to-be-completed expansion of the Panama Canal will make it easier to bring products produced overseas into



From its central location in St. Louis, Materialogic offers shippers fast transit times and lower transportation costs.

the Midwest, which will make St. Louis an even more attractive option in the years to come, he notes. But while the region's logistics advantages may begin with its physical location, they do not end there.

"The moderate cost of living and good school systems provide a solid workforce for Materialogic to draw from," Cornwell says. "And Mother Nature tends to be kind to St. Louis. We do not experience the radical swings in weather, such as massive winter storms or hurricanes, that can sometimes paralyze wide regions of the country.

"Our most common weather events are tornadoes and river flooding, which have a limited effect on warehousing facilities and transportation modes," he adds.

Materialogic recently reconfigured its St. Louis-based warehouse operations to more efficiently handle the needs of e-commerce clients in the future. The reconfiguration includes a new 163,000-square-foot distribution facility in Bridgeton, Mo.

"The new building is a perfect fit for our current needs and future expansion plans," Cornwell says. "This state-of-the-art facility has the capabilities to store and distribute products and materials that require temperature control, high security, and special handling. It even has one of the largest FDA drug vaults in the country."

Materialogic also maintains a facility in American Canyon, Calif. It can use the two points of origin separately or together, as demand requires. It can reach most nationwide customers in three days or less. "We operate multiple climate-controlled, FDA/ food-grade registered facilities for clients who require special needs," Cornwell says.

The company's *Infoplus* software enables clients to minimize transit time and maximize freight savings. "We offer services that support omni-channel e-commerce and retail clients who need both B2C and B2B distribution," Cornwell says. "And we have an experienced and long-tenured workforce that understands logistics and the technology that drives it."

Materialogic is a founding partner of the Materialogic Supply Chain Alliance, whose members collaborate to provide end-to-end supply chain management and e-commerce solutions for clients. The company's partners include leading companies in the fields of ad specialty, call center, e-commerce, marketing, media replication, printing, transportation, and warehousing.

Preparing Logistics Leaders

Just as the St. Louis region offers a host of benefits, the University of Missouri-St. Louis (UMSL) also has natural advantages, including a hub for logistics and supply chain education. Dr. James Campbell, professor and chair of UMSL's Logistics and Operations Management Department, cites the department's three major assets: educational excellence, real-world relevance, and value. "One of our program's key ultimate values is documented by students' success in their careers," Campbell says. "We want to educate students not just for their first job, but also for their fourth — and 14th — position as they build their career."

To that end, he says, the school's academic programs concentrate on the core areas within logistics and supply chain management, and on analytics. He explains supply chain management in terms every consumer understands.

"Look at the Old Navy website," he says. "It amazes me that you can find more than 50 different flip-flops — in myriad colors and patterns, all made halfway around the world — and the cost is as low as \$1. How do they do that? Supply chain management."

If that illustration does not make the point, he uses another example his students appreciate. "Beer has a long heritage in St. Louis with Budweiser and Anheuser-Busch, so I ask my students to think about how many continents are represented in their local grocery store's beer section," he says. "Usually it's five or six continents. Then I ask the students to think about the cost of that six-pack travelling from Australia or someplace far away. It's heavy and sent halfway around the world, so it ought to cost much more than the beer brewed in downtown St. Louis. But it doesn't. Why is that? Supply chain management."

UMSL's Logistics and Operations Management Department offers a full range of programs, including a bachelor's degree with concentrations in logistics, supply chain, and operations management; an MBA with emphasis in logistics, supply chain and operations management, and business analytics; and a Ph.D. in logistics and supply chain management.

"Our current focus is on raising the profile of the undergraduate supply chain program," Campbell says. "Our department has long been known for excellence in research and graduate education, but we want to refine our undergraduate focus on supply chain management, as that better reflects what we do and the great opportunities and workforce needs in this region. We plan to roll out new supply chain programs as we move to our new College of Business Administration building in 2017."

Key aspects of the focus on undergraduate supply chain education are new student engagement activities including internships, a transportation and supply chain club, and mentoring programs through the school's advisory board. "We also work to leverage the resources of the College of Business Administration," Campbell says, adding that supply chain management is a broad field covering nearly all areas of business.

Real-World Students

Campbell says UMSL students are well positioned to take advantage of the broad spectrum of supply chain offerings. "Our students are often more non-traditional than at many other schools," he says. "We like to say they are a 'gritty bunch.' We mean that in the best possible way; our students are mature, work part- or full-time, and are in school for the right reasons — to learn and advance their education and careers. They know what it means to work hard and they value how we blend classroom learning with experiential opportunities."

All of which contributes to the school's emphasis on real-world relevance, which "comes from several aspects of our programs, including our corporate advisory board, focus on applied research, and active internship program," Campbell says. "We pride ourselves on applied research in the St. Louis region and beyond, and we strive to engage students in research projects that apply our knowledge to create real and lasting impacts for organizations."

The school is closely associated with two research centers in the college — the Center for Business & Industrial Studies and the Center for Transportation Studies. Research projects have included drone delivery alternatives, barge transport on the Upper Mississippi River, airport ground operations, and decision support systems for a variety of supply chain settings.

"There is great value in being an urban public research university," Campbell says. "We have great placement and internship opportunities for students, as well as opportunities for applied research in a wide range of firms that face an array of challenging problems. We also provide the workforce for the St. Louis region with more than 90,000 alumni, most in the St. Louis region, and more than 27,000 alums from the College of Business Administration."

The right people in the right place at the right time meet in St. Louis. Now that's a perfect location.



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St. Louis



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America's Central Port • www.americascentralport.com

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St. Louis Regional Freightway • www.thefreightway.com

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University of Missouri-St. Louis • umsl.edu/divisions/business/ms

Looking for a career in supply chain management and logistics? Look no further than the Logistics and Operations Management Area at University of Missouri-St. Louis. This area of study covers a wide range of topics including logistics, production and service operations management, business analytics, management science, operations research, supply chain management, lean production, quality, forecasting, and statistics. Get started by visiting the website.



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One key step to finding answers to any logistics, supply chain, or technology challenge is knowing the right questions to ask.

Inbound Logistics assembled a team of supply chain and logistics technology leaders, and asked for their perspectives on the important logistics challenges and opportunities impacting your business.

More importantly, these logistics thought leaders can give you guidance when considering improvements to your business processes.

THOUGHT LEADERS

86 JAY MORIS

President, Invata Intralogistics

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Vice President, Schneider Supply Chain Management

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RICH CHRZANOWSKI

Logistics & Supply Chain Best Practices Manager, UltraShipTMS

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Advantages of Waveless Order Fulfillment

Q: What is waveless order fulfillment?

A: It is a software-driven order fulfillment processing methodology that continuously pulls orders into a fulfillment operation based on the availability of the resources, people, and inventory needed to fulfill orders.

Q: How does waveless order fulfillment differ from wave processing?

A: In traditional wave processing, a warehouse management system (WMS) "pushes" waves of orders into a fulfillment operation based on predetermined criteria that are independent of the actual conditions in the facility. This causes the warehouse to scramble to accommodate the volume of orders at the front end of the wave, while it underutilizes resources at the tail end of the wave. Productivity in wave processing subsequently emulates a sine wave, with peaks during the initial release, and valleys as productivity slows while awaiting the completion of a few unfulfilled orders, before the transition to the next wave can be made.

In waveless operations, a warehouse execution system (WES) continuously "pulls" orders from the available pool of orders based on dynamically changing warehouse conditions as well as algorithmically evaluated opportunities. This enables the warehouse to avoid the valleys in productivity associated with wave processing, while consistently maximizing productivity by assigning orders on a real-time basis as resources and fulfillment opportunities become available.

Q: What are the benefits of waveless fulfillment?

A: Waveless fulfillment increases throughput, while diminishing labor and equipment requirements. Operations running waveless use fewer people, require less material handling equipment, and turn orders over faster and more predictably.

Q: Can my WMS or WCS provide the benefits of waveless fulfillment?

A: Only a select few WES or WMS/WCS hybrid systems are capable of waveless processing. A traditional WMS cannot operate wavelessly because it lacks automated equipment controls expertise, real-time dynamic processing capabilities, and visibility into real-time conditions. WMS platforms also tend to be one-size-fits-all applications that carry unnecessary functionality that slows processing. As a result, a WMS lacks the focused, process-driven functions, targeted logic, and sophisticated database design necessary for waveless execution. Traditional WCS applications can tie together multiple machine level control systems, but they typically do not have the control of inventory and labor resources needed to manage waveless operations.

Q: What is needed to implement waveless fulfillment?

A: True waveless processing requires a holistic approach to systems automation that combines purpose-driven design (derived from the data sciences of analytics, modeling, simulation, and optimization) with sophisticated warehouse execution software into one comprehensive solution capable of orchestrating all the simultaneous and parallel processing associated with waveless fulfillment. As a result, only a company with experience in, and an understanding of, waveless fulfillment can give you what you need.

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> > President

Invata Intralogistics

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Unleash the Full Potential of Your Supply Chain

program to improve procurement, supplier management and risk mitigation

 A shipper committed to maintaining its own supply chain department but desires assistance with technology or key value-added services

Regardless of the compelling reason, there are numerous models available to shippers. Technology advancements have allowed greater visibility, planning and optimization. It is important for shippers to outline long-term objectives and consult with experts within the profession.

Q: What are the compelling reasons a shipper seeks outsourced logistics support?

A: Companies are realizing the differentiated value their supply chains provide in the areas of customer retention, brand reputation and overall bottom-line performance. However, the focus and commitment to enhance supply chain programs are often viewed as a distraction from core functions. Shippers seek outsourced support to either complement or completely represent their logistics or supply chain department. By tapping this outside expertise, shippers arm themselves with the technology, talent and experience at a lower price than employed resources, which allow companies to invest and focus on their core competencies.

Q: Can you describe the typical customer that employs an outsourced logistics model?

A: Often times the shipper is struggling through a transformative challenge that has led them down the path of questioning their long-term strategy. Examples include:

- A merger, acquisition or divestiture in which a shipper requires assistance to understand and execute their new network
- An organization going through a period of rapid growth and needs help building scalability and resiliency within its supply chain
- Some organizations seek help after a significant loss of revenue to focus on network optimization and cost savings
- An organization evolving from a decentralized decision-making program to a more centralized

Q: What value can an outsourced model provide interested shippers?

CHA

A: Aside from providing shippers the freedom to focus on their core competencies, an outsourced model such as a 4PL program or Lead Logistics Provider (LLP) will improve tactical execution processes, deliver network savings (measured as supply chain return on investment) and mitigate risk.

The right provider will leverage an industry leading transportation management system (TMS) and specialized technology to increase visibility of supplier performance and network costs. The business intelligence enables proactive planning and continuous improvement.

A key competency is carrier qualification, procurement and management. With capacity volatility and uncertainty of pending regulatory changes, it is critical that shippers leverage expertise in capacity generation, qualification with an eye on safety and financial viability, and a proven management program. This work strengthens routing guide options and improves performance while reducing costs and risks.

Aside from managing the supply chain operation, strategic programs deliver savings. Proven experts in this area will leverage the shippers' key stakeholders and the supplier community to enable change management, which can be difficult at times depending on the individual situation. Your outsource partner should be experienced with relevant examples of how they have helped other companies unleash the potential of supply chains.

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Vice President Schneider Supply Chain Management

An Incremental Approach to TMS Acquisition

Q: If savings from a TMS deployment can be significant, what are the benefits of an incremental approach to acquisition?

A: It's true, studies show that savings from a TMS deployment can exceed eight percent of annual freight spend in some verticals. These savings are derived from visibility, analytics, optimization, process improvement and enforcement. In pure numbers, a company spending \$150 million annually on freight can spend roughly \$1 million and up to \$2.5 million on a TMS.

In order to achieve these savings, either the TMS must be adapted to the company's processes or the company's processes must be adapted to the TMS workflow. As a result of this adaptive period, promised savings are postponed while expenses are quickened. The larger the system, the longer the implementation, the higher the costs, the longer the return.

With Incremental TMS Acquisition, companies can deploy a series of solutions in consecutive fashion while propelling a shorter run up to ROI. This serves to accelerate savings, decelerate expenditures, and reduce the impact on existing, macro-operations. It also provides a greater degree of flexibility; changing a plan is much easier than changing installed systems and processes. This incremental approach focuses attention on solving experiential issues, whereas deploying all-at-once TMS solutions requires a longer outlook relying upon forecasts and predictions.

Q: Are you saying, "Why buy an aircraft carrier when you need a patrol ship?"

A: Yes and no. Serial deployment of TMS micro-solutions does not preclude the ultimate deployment and full implementation of total TMS functionality. However, doing so achieves a faster run up to ROI, defers some expenditures and is less intrusive to dayto-day operations. It enables companies who need an aircraft carrier to begin reaping the low-hanging benefits before its long and costly completion.

Alternatively, a company's operations and processes might not present a need for total TMS functionality. In this instance, it would make sense to buy only the minimum to meet the requirement. In addition, by reaping the easier, achievable benefits early on, subsequent ROI evaluations can take place on remaining, unemployed micro-solutions to determine cost/benefit of adding such functionality. After all, why waste time and money attempting to implement world-class when excellence will suffice?

Q: Should I look to source solutions from multiple suppliers or should I seek out a provider that offers end-to-end functionality in a building blocks approach?

A: Sourcing TMS micro-solutions from a provider that offers end-to-end TMS functionality is the optimal approach (assuming that the solutions have the ability to be seamlessly integrated with one another). This tactic ensures that each TMS micro-solution works well with one another and that you are engaging with a partner that has an intimate knowledge of your requirements and macro-TMS vision.

On the other hand, taking an incremental approach to TMS acquisition allows companies to source the most appropriate solution to meet their specific requirements. TMS solutions cover a wide breadth of operations and functionality. If a company's issues are with segments that can be carved out and isolated, bundling solutions from multiple suppliers may be an appropriate method.

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President TransportGistics

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Best Practices for Effective Carrier Management

Q: Can you share some best practices for effective carrier management?

A: There are three that I always recommend. First, seek a TMS platform supporting the use of carriers of all sizes - small to mid-sized to large. It should support EDI and other contemporary technologies utilized by the larger carriers, but also deliver things like a mobile app and online portal for small carriers. There is value unique to carriers of all sizes, and a shipping organization is strengthened by its ability to harness the unique benefits of all carriers.

Next, focus on solutions providing exceptional performance measurement capabilities. It's the cornerstone of the strong carrier relationships shippers need to succeed. The best solutions provide clear, regularly reported metrics not just to the shipper, but also to the carriers themselves. When given access to their own performance metrics, carriers may correct problems before performance challenges become an issue with their shipper/partners.

I also suggest shippers engage a TMS solution flexible enough to offer this level of collaborative performance monitoring across all modes-not just truckload, LTL and intermodal, but also consolidators and parcel shippers. Many shippers don't realize that these other modes have grown capable of integrating with TMS and other logistics IT solutions, and can send EDI or flat files to facilitate status updates from all modes.

Q: What are some key carrier management metrics shippers should examine to support the good relationships you described?

A: Metrics surrounding carrier performance are essential because they ensure you're putting the best players in the most appropriate positions, consistently across your transportation network. I suggest setting KPIs for metrics such as:

- On-time performance
- Check call compliance

- Accuracy of data entry
- Timeliness of status updates

Monitoring and analyzing these few critical metrics can really strengthen a shipper's position when it comes to periodic rate negotiations with carriers.

Q: What carrier management functionality should shippers seek when selecting a TMS?

A: It's all about collaborative capability when it comes to harnessing carrier performance metrics as a productivity/efficiency-boosting tool. The leading TMS solutions are categorically cloud-based because of the cloud's proven collaborative capacity. Moreover, top cloud TMS tools are designed to automatically generate and distribute performance scorecards to all relevant parties-carriers and shippers alike. Gone are the days of manually compiling carrier scorecards. They also support exception management, issuing exception reports automatically whenever a carrier is out of compliance with business rules.



Logistics & Supply Chain **Best Practices Manager UltraShipTMS**

RAIL/INTERMODAL:

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Moving in the Right Direction

THE DEMAND FOR SUPPLY CHAIN EFFICIENCY AND SPEED POINTS TO INVESTING IN AND MAINTAINING U.S. RAIL/INTERMODAL INFRASTRUCTURE. s shippers continue to increase demand for supply chain efficiency and speed, and focus their attention on improving the environment by reducing emissions as much as possible, U.S.-based transportation organizations are investing considerable funds in either developing or restoring their rail/intermodal infrastructure.

Currently, the United States is home to approximately 1,100 intermodal facilities, including container yards, depots, and rail terminals, according to the Intermodal Association of North America. This aggregate, especially for rail terminals, is expected to rise in the coming years.

"Intermodal infrastructure investments will create new services and open new opportunities to reach a broader array of shippers in traditionally under-served areas," says Phil Shook, director of North America intermodal services for Eden Prairie, Minn.-based third-party logistics (3PL) provider C.H. Robinson. "These investments are planned to help make intermodal a more attractive option for shippers, limiting the number of miles freight has to travel by truck after reaching the intermodal terminal.

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"As intermodal service continues to improve, it presents a compelling story for shippers looking to capitalize on potential cost savings," he adds.

Improving New Mexico's Infrastructure and Economy

On April 1, 2014, Omaha, Neb.-based Union Pacific (UP) opened a 2,200-acre rail facility in Santa Teresa, N.M. The Santa Teresa Intermodal Ramp was a \$400-million investment. In addition to its prime location along UP's Sunset Route, a 760-mile rail line that connects El Paso to Los Angeles, the facility also offers shippers a variety of logistics efficiencies.

The facility's intermodal ramp currently offers an annual lift capacity of 225,000 units, and is capable of

growing to 700,000 units, and is capable of growing to 700,000 units as it attracts new customers. An eight-lane automated gate system improves truck turn times, as well as gate and terminal throughput. Much like the intermodal ramp, the system can also be expanded—to 12 automated gates as volume rises. Of equal importance, the facility maintains 74,000 feet of track, which can potentially rise to 145,000 feet if necessary.

Given the fact that the facility is located at a site that Union Pacific believes is pivotal for shippers interested in reaping the economic benefits of shipping freight by rail, along with the notion that rail transportation is four times more fuel efficient than trucking (a statistic previously released by the rail carrier), the ramp is expected to have an overall economic impact of at least \$500 million. The facility also has created hundreds of permanent jobs for residents in surrounding communities. In fact, by 2025, when the facility is projected to reach full capacity, it will employ more than 600 workers. investment currently handles at least 30 trains per day, resulting in an annual throughput capacity of nearly 2 million containers.

Since 2011, the terminal has operated on 24,000 feet of working track; seven wide span cranes currently service eight tracks. Each crane measures 100 feet high and 95 feet wide, weighing in at more than 1 million pounds each. In addition to the working track, the terminal also provides 100,000 feet of block swapping track, as well as parking for approximately 280 units.

To further serve its customer base, CSX invested nearly \$40 million in an expansion project in 2015. As a result, the terminal will now be able to handle up to 1 million lifts annually, an increase of approximately 50 percent.



Union Pacific's Santa Teresa Intermodal Ramp in New Mexico, the newest facility on the carrier's 23-state network, offers Southwest shippers efficiencies along UP's Sunset Route, the rail line running from El Paso to Los Angeles.

Candidates for Conversion

To expand its service offerings and capture a share of the 9 million truckloads that are potential candidates for intermodal conversion in the East, Jacksonville, Fla.-based CSX Transportation has invested more than \$700 million in its intermodal network since 2011.

"CSX is building the intermodal network of the future, which includes considerable investments in new and expanded terminals," says Wesley Ann Barton, director of intermodal marketing for CSX Transportation. "We are investing in network flexibility that can quickly and nimbly adapt to changes in the market environment, including any potential shifts in freight flows.

"Significant infrastructure development is needed and underway at East Coast ports, and efficient rail connectivity will be a key factor to success," she adds.

In 2011, CSX opened its 500-acre Northwest Ohio Terminal in North Baltimore, Ohio, a suburb of Toledo. The \$175-million "Traditionally, shippers have turned to intermodal rail to move freight more than 1,000 miles," Barton says. "But, thanks to infrastructure developments, shorter lengths of haul – 500 to 1,000 miles long – can be good candidates for intermodal conversion opportunities.

"By identifying and converting sub-optimized freight from the highway to intermodal rail, shippers can realize immediate and long-term benefits, including the ability to secure access to scalable capacity, reduce freight transportation costs 10 to 15 percent, and cut carbon emissions by 75 percent, when compared to moving freight solely over the road," she adds.

Immediate Access to Intermodal Rail

As the largest port complex in the United States, the twin ports of Los Angeles and Long Beach are well regarded as the Pacific gateway for products that are imported from Asia. In response, Carson, Calif.-based Watson Land Company, one of the country's leading industrial developers, has created millions of square feet

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of master-planned centers that are located less than 20 minutes away from the complex.

In addition to proximity to the ports of Los Angeles and Long Beach, the company's master-planned centers are also close to Union Pacific's Intermodal Container Transfer Facility, which serves multiple shipping lines, and a BNSF Railway intermodal facility.

"Our master-planned centers are developed within locations that provide immediate access to major freeways, ports, airports,



Investment in talent will continue to grow the intermodal industry. Union Pacific, for example, develops and delivers quality programs and services to attract and retain a skilled, diverse workforce.

and intermodal rail," says Lance Ryan, executive vice president and chief operating officer of Watson Land Company. "This provides companies speed and flexibility – whether they are transloading imports, exporting raw materials, or distributing their own manufactured products." Watson Land Company built its first master-planned center in the 1960s. Today, that facility measures 6.5 million square feet, and is almost entirely located within the Port of Long Beach's Overweight Corridor.

"Watson Land Company is uniquely positioned, with more than 11 million square feet of its portfolio located in Carson," Ryan adds. "This designation allows master-planned center customers to handle import and export containers, thus providing an opportunity for significant transportation cost savings by consolidating shipments into fewer containers."

As a further means of cost reduction, Watson Land Company also has a Foreign Trade Zone (FTZ) designation on more than 8 million square feet of its distribution buildings. Through the FTZs, Watson Land Company can significantly reduce operating costs, particularly through methods such as single weekly entry of containers, which reduces merchandise processing fees, and duty deferral.

Industrial Real Estate Hotspots

Since 2002, CenterPoint Intermodal Center (CIC)-Joliet/ Elwood has been the largest master-planned inland port in North America. Owned and operated by Oak Brook, Ill.-based CenterPoint Properties, a transportation-advantaged real estate company that develops, acquires, and manages industrial real estate, the CIC-Joliet/Elwood features more than 6,500 acres of rail and highway adjacent land.

Aside from its accumulation of property, the CIC-Joliet/Elwood also offers logistics professionals an ideal location, as it can reach 65 percent of the country's population within a one-day drive. Consequently, two of the world's largest Class I railroads, BNSF Railway and Union Pacific, operate intermodal rail terminals on the property.

The 770-acre BNSF Logistics Park Chicago is considered North America's most active inland rail terminal, as it provides international intermodal service to and from each of the West

The Must-Haves

When evaluating intermodal service, make sure these two features are available.

24/7 accessibility. Intermodal rail terminals should have 24/7 accessibility, which provides carriers maximum flexibility, particularly in the times they can pick up loads and bring them into ramps (at origins), or pick up at ramps and deliver to customers (at destinations).

"In contrast, a terminal that is accessible only eight hours per day, five days a week results in a higher cost to serve because all the work needs to be concentrated in a tighter window of time," says Tom Bartel, director of intermodal strategic planning for Schneider, a transportation services provider based in Green Bay, Wis. "Terminals with fewer operating hours can still offer excellent service, but the cost of providing that excellence is higher."

Density. If intermodal rail terminals have or enable higher

volumes, they can also enable higher service levels.

"Typically, terminals with high density levels offer more service options, including more sources of backup assistance," Bartel says. "While building consistent, repeatable processes is always the cornerstone of service excellence, having a backup supply has merit. Even just-intime operations typically keep some level of safety stock."

But lower density levels do not automatically result in low service or high cost. "For example, terminals closer to a shipping or receiving point can provide lower dray costs versus a more dense long dray coverage from a larger ramp," Bartel says.

"Or a smaller location may enable a more customized solution, versus the standard options available at a larger location," he adds. "There are always tradeoffs, but in general, density enables low-cost, high-service options."

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Coast's primary ports. On the other hand, the 835-acre Union Pacific Intermodal Terminal, which opened in 2010, offers international and domestic service to and from every West Coast port.

"In addition to its location – 40 miles southwest of Chicago – the CIC-Joliet/Elwood offers logistics firms and retailers in-park container and equipment storage, as well as lower fuel and drayage costs," says Michael Murphy, chief development officer for CenterPoint Properties.

A rise in intermodal facilities across the United States is leading to the development of industrial real estate hotspots – areas in close proximity to multiple transportation modes and population centers – according to Murphy.

"Organizations that capitalize on intermodal have more options for moving goods, making them less likely to experience increased expenses or unanticipated delays due to natural disasters, infrastructure concerns, or other supply chain fluctuations," Murphy explains.

Intermodal's bottom-line savings potential has driven the development of industrial real estate. "As firms seek new ways to cut costs, the prospect of having immediate access to cost-effective transportation methods more than offsets the initial investment of relocation or facility development," he adds.

Costs Remain Top Priority

According to a survey conducted by Georgia College and the University of Tennessee, 36.7 percent of shippers view cost reduction as their first priority in 2015, a 4.5-percent rise over 2014's findings.



CenterPoint specializes in developing intermodal industrial parks to help rail carriers and shippers enhance their supply chains to perform more effectively and reduce transportation costs.

And, the Council of Supply Chain Management Professionals finds that more than 60 percent of supply chain costs are associated with transportation-related expenditures.

"Shippers can reduce transportation costs and secure access to alternative capacity by diversifying their modal portfolio and incorporating rail for freight moves longer than 500 miles," says Barton. "Furthermore, by locating near intermodal terminals, shippers can easily access a reliable source of scalable capacity that can cut transportation costs by 10 to 15 percent, when compared to truckonly freight moves."

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THE POWER BEHIND THE SUPPLY CHAIN

Ithough they may not receive as much attention as ERP systems or refrigerated trucks, for example, pallets are critical to distribution and logistics. They are key links in most companies' supply chains, essential for transporting everything from T-shirts to automotive parts to pharmaceuticals. When outfitted with the right technology, pallets also can provide visibility into the movement of the goods they carry. "Pallets are the cells of the supply chain," says Glenn Meeks, director of sales and marketing with Bettaway Transportation Logistics and Pallet Systems.

More than two billion pallets are in circulation at any given time in the United States, according to industry analysts. Approximately 94 percent of industrial and consumer goods in the United States travel on a pallet at some point in their movement from production or manufacturing plant to distribution facility to end customer.

Demand for pallets has been on the upswing. "The U.S. economy's recovery from its sluggish phase has led to an increase in procurement, production, and sales activities," says Sharan Raj, analyst with market research firm Technavio. These increases are driving demand for materials handling activities and products, including pallets. The global pallet market will grow at a compound annual rate of 4.6 percent between 2014 and 2019, predicts Technavio's *Global Pallet Market* 2015-2019 report.

Several other trends are affecting the pallet industry. Shifts in how consumers purchase products — such as the growing popularity of smaller stores and direct-to-consumer sales — are influencing pallet sizes. More companies are concerned about the impact of pallets on the environment, leading to a greater focus on sustainability and reusability. In food transportation, pallets with the ability to maintain a clean, contamination-free environment are garnering attention. In addition, more shippers are looking for technical capabilities that enable them to monitor pallet movements through the supply chain.

The pallet industry also is engaging in more outreach to other industry groups focused on the supply chain, such as trucking and warehousing associations, as well as government agencies charged with issuing regulations that impact pallets. With the proliferation of social media, incorrect information about the environmental impact of pallets can spread quickly. "As an industry, we need to dispel false information," Meeks says.

Identifying an optimal pallet solution starts with clear, thorough communication between the pallet provider and the shipper. Both need to know how the pallets will be used, and

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in which warehouse system and business model they'll operate. For instance, the right solution for a closed-loop system — where pallets travel from a company's distribution center to its own stores and back again, all via a private fleet — likely will differ from a system where pallets move from a firm's manufacturing plant to separate wholesalers and on to a variety of other locations.

Five qualities determine whether a pallet is right for a particular operation, according to Meeks. These are:

- 1. Strength: Can it handle the load?
- 2. Stiffness: Will it hold its shape under the weight of the load?
- 3. Durability: Will it hold up under the handling it will receive?
- **4. Functionality:** Is it right for the unit load and the handling equipment?
- 5. Price: Does it provide value?

Many pallet solutions providers work with their customers to identify the best options. CHEP, a global provider of supply chain solutions for the consumer goods, food and beverage, and manufacturing and retail sectors, works closely with its customers to understand their needs.

"CHEP provides a wide array of supply chain platforms, including pooled, recycled, fractional, and custom pallets," says Dan Martin, senior vice president of sales at CHEP USA's North American headquarters in Atlanta. "In addition, our supply chain solutions portfolio of services, which we launched in June 2015, adds tremendous value by saving companies money, time, and resources."

A CUSTOMIZED APPROACH

iGPS, a provider of world-class supply chain solutions that leverage sustainable, intelligent shipping platforms, approaches "all our clients cognizant of their unique needs and differences," says Jeff Liebesman, CEO. "We provide customized supply chain solutions."

Processes and business approaches may differ between working with a manufacturer or a retailer. "The solutions need to be relevant to their specific needs, utilizing a total system approach," Liebesman says.

Along with communication between the pallet provider and the user, proper training is key. For instance, warehouse workers switching from wood to plastic pallets may need to learn how to handle the material. "Companies can work with us to identify the best practices in materials handling," says Mike Ludka, senior product manager for the retail supply chain with ORBIS Corporation, a Oconomowoc, Wis.-based provider of plastic reusable packaging programs.

MATERIAL ASSETS

Pallet users can choose from a variety of materials. Currently, wood accounts for about 95 percent of the pallet market. "Wood pallets are strong, durable, inexpensive, and highly customizable," says Raj. They're also available in a variety of sizes and strengths. However, demand for pallets made from alternative materials, especially plastic, is expected to grow. All materials have unique characteristics, and the right choice can vary from one application to another.

Wood is all natural and fully recyclable. Manufacturing costs for wood pallets are significantly lower, which keeps prices down across the supply chain, says Adrian Potgieter, senior vice president of sales with PECO Pallet, an Irvington, N.Y.-based leader in pallet rental services.

PECO pallets also have been certified by the Safe Quality Food Institute. The certification "is a testament to our commitment to providing high-quality pallets that meet or exceed U.S. Food and Drug Administration (FDA) safety requirements," he adds.

PECO pallets are constructed from quality number two grade Douglas fir and southern yellow pine wood that's responsibly harvested in North America. The denser grain of these woods results in greater durability. In addition, the lumber used in PECO pallets is kiln-dried, rather than chemically treated. This seals the wood cells to reduce contamination risk, and creates a stiffer pallet that is less prone to deflection and breakage.

Safety goes hand-in-hand with quality. PECO pallets can hold 2,800 pounds and can be safely stacked and loaded in high-reaching overhead racks. "PECO's high-quality pallets work smoothly in automated processing lines, avoiding equipment jams that might lead to employee injury or product damage," Potgieter says.

Plastic pallets have several shortcomings. "They tend to slip in refrigerated environments, and can be prone to deflection when stored in overhead racks," Potgieter says. "When damaged, plastic pallets are more difficult and expensive to repair than wood pallets."

> But plastic pallets also offer many advantages. "Our pallets are less prone to breaking than wood, which reduces product dam-

age," Liebesman says. They eliminate wood splinters and nails that frequently jam manufacturering equipment and can shut down assembly lines and automated storage and retrieval systems (AS/RS), which can negatively impact productivity. Likewise, plastic pallets are lighter,

CHEP's innovative halfpallet reduces distribution and retail labor, while increasing operational efficiency.

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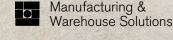


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which can reduce the risk of injury to handlers and cut transportation costs.

Unlike wood, plastic pallets cannot absorb bacteria and are exceptionally easy to clean, Liebesman adds. That reduces the threat of product contamination, eliminates the need for fumigation or chemical treatments, and minimizes other outside pollutants that can materialize from wood pallets.

The issue of hygiene and sanitation within the supply chain has been a growing focus of regulatory agencies including the U.S. Department of Agriculture and the FDA. "While always a concern for the industry, hygiene issues have moved to the forefront," Liebesman says.

One example is the recently issued final rule on the Sanitary Transportation of Human and Animal Food, which is part of the Food Safety Modernization Act. The regulation advances the "FDA's efforts to protect foods from farm to table by keeping them safe from contamination during transportation," according to the administration.

STRENGTH AND STABILITY

Like the pallets they offer, the companies behind them should be strong, stable, and capable of handling the job they are assigned. When considering a pallet provider, Meeks of Bettaway recommends asking, "Does the provider have the resources, stability, and experience to provide the pallet management solution that meets your company's needs?" Any evaluation should consider the provider's ability to supply the right pallet at the right place and time. After all, pallets aren't of any use if they aren't in place when they're needed.

Given how pallet needs can vary between companies and industries, providers should offer a range of solutions. For instance, most consumer-facing companies move products at a relatively fast pace. "This is where pallet recycling, reuse, and recapture becomes even more important," Meeks says.

Conversely, companies that operate in business-to-business markets tend to turn products less frequently, but may require specialized sizes or types of pallets that can handle big, heavy, or bulky items. "Shippers should look at the opportunities to leverage different services, whether that's recapturing pallets or using specially designed ones," Meeks adds.

CUSTOMERS COME FIRST

Strong customer support and service also contribute to a quality pallet solution, and should include more than just an 800 number. PECO, for instance, employs dedicated service reps throughout North America. They work directly with customers to follow up on questions and identify new ways to increase efficiencies and reduce costs throughout the supply chain.

Bettaway offers national coverage complemented by local service. "We strive to provide pallet management solutions that allow customers to focus on their core business," Meeks says. As a full-service third-party logistics provider that also offers asset-based trucking and warehouse services across the nation, Bettaway can provide a total supply chain solution, he adds.



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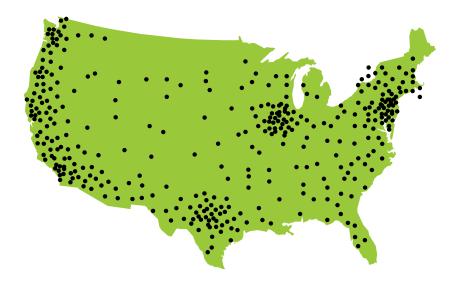
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A pallet provider's capacity to offer innovative solutions is another factor to consider. For instance, ORBIS operates a materials innovation facility. On-site chemists constantly evaluate different materials to provide customers with the pallet solutions that best meet their needs, Ludka says.

When working with customers who have unique needs, ORBIS assesses whether it can best serve them by creating a new solution. For example, because distribution companies often need to conserve space, ORBIS offers a pallet design that nests individual units within one another. When the pallet isn't loaded, its feet compress into the open foot pockets, slashing its height by about two-thirds. The pallet's light weight also allows for easier maneuvering by operators, yet it's durable enough to withstand the handling that occurs as it moves through the supply chain.

ORBIS also launched the Pally – a pallet and dolly in one. By

The same technology also can provide real-time information on environmental changes, help reduce product damage or loss, and even notify supply chain managers of suspicious activity.

Bettaway offers a mobile app its customers can use to "manage and track the movement of their goods from their phones," Meeks says.

Red<>Link[™] is a proprietary online management tool for PECO customers. Users can log in 24 hours a day to place orders, check delivery dates, view invoices, and generate reports. "By providing our customers easy access to the same information PECO uses, we can work together to manage pallet flows, identify problem areas, and find new ways to reduce costs," says Potgieter. PECO also offers sophisticated analytical tools such as Roambi and Tableau, which provide real-time visibility for companies with complex networks.



iGPS offers plastic pallets that lack the protruding nails and splinters that sometimes injure workers and damage products and equipment.

pressing the foot pedal, an operator can shift the Pally from static to mobile. In the warehouse, the Pally can be used like a true pallet; it's also static and thus safe to use on trailers. But when the Pally is used to deliver products to retailers, operators can activate the mobile feature and offload the trailer without additional equipment. Companies can save money and space by cutting their inventory of both pallets and dollies.

REPORTING FOR DUTY

One area where technology and innovation play an important role is in reporting and analysis capabilities offered by pallet providers. Many companies operate increasingly lengthy and often global supply chains, and are undertaking efforts to hold less inventory in their pipelines, which is driving their focus on decision support. More companies are demanding systems that allow them to track their goods and the pallets moving them, and pallet providers are responding.

"Our customers want to become more efficient and save money without sacrificing quality or on-

time delivery," says Martin. Through its data-driven Value Chain Mapping solution, CHEP helps customers evaluate their entire supply chain to identify an average of 12 ways they can become more efficient, save money, and reduce environmental impact.

"CHEP has collaborated closely with its customers on supply chain solutions that have saved them \$13 million over the past nine months by identifying opportunities and implementing solutions that increase efficiency," Martin says.

iGPS works with manufacturers and retailers to map and optimize their supply chains. Wherever possible, iGPS helps them efficiently employ underutilized capacities — say, in transportation — to drive shared savings, Liebesman says. The company's iDepot and Total Pallet Management programs generate shared savings and income to retailers, driving down total costs and increasing efficiencies throughout the supply chain.

In addition, iGPS's "track and trace" intelligent platform features integrated RFID technology. Every pallet contains a unique serial number that can provide actionable reporting in real time.

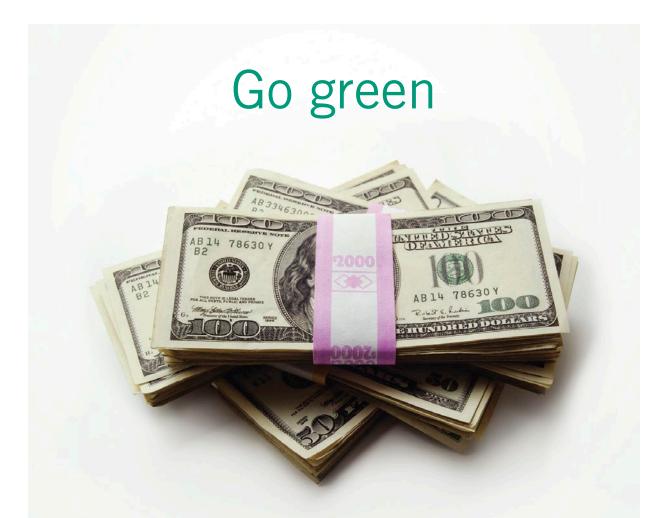
ONE SIZE DOES NOT FIT ALL

Within the United States, the most common size wooden pallet is the standard 40-inch by 48-inch Grocery Manufacturers Association (GMA) pallet. Working with a single size aids efficiency, as warehouses and equipment can standardize around it. Costs increase when pallet dimensions vary, as more of them need to be manually unloaded, Raj notes. In addition, a uniform size and design allows for optimizing warehouse space through efficiencies in stacking or racking pallets loaded with products.

At the same time, demand for varying pallet sizes appears to be growing. Just 25 percent of new pallets are the GMA standard, according to one industry source.

Changing customer demands are prompting pallet providers to offer a wider range of sizes. For instance, the proliferation of small-format retail stores — such as convenience and smaller drug stores — along with the increase in direct-to-consumer shipments is prompting a shift away from traditional pallet footprints.

The traditional 40-inch by 48-inch pallet, a staple in the United





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States, is set up for bulk deliveries. However, few smaller stores, let alone consumers, take deliveries in bulk. Convenience or dollar stores, for instance, may struggle to accommodate 40-inch by 48-inch pallets.

Half-pallets, which measure 40-inches by 24-inches, are a popular alternative. They work well for end-aisle displays in grocery stores, as well as for businesses with smaller footprints. CHEP's half-pallet solution is proving to be a popular option because it increases delivery flexibility and decreases operational costs, especially when it comes to inventory optimization and pick operations in multiple store formats.

"Our half-pallets can reduce warehousing labor and handling costs by up to 25 percent," Martin says. "In addition, they may reduce out-of-stocks of high-volume products, and improve retailer support and sell-in for new products and seasonal promotions."

STAYING IN SPEC

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No matter which size is best for a particular application, "the uniformity and accuracy of pallet dimensions is critical, especially for companies that use automated production lines," Potgieter says. "Pallets that are out of spec or damaged can cause equipment jams." This often leads to employee downtime and possible injury, and can increase equipment repair costs, and/or product damage.

Conversely, accurate pallet design and size can enhance material handling efficiency in all phases of unit loading. In particular, adhering to tight tolerances is essential when pallets operate through large AS/RS, as it helps ensure ease of movement and can eliminate delays resulting from system failures and hang ups.

PECO builds pallets to strict specifications, and inspects and repairs pallets as needed, every time they cycle through a PECO depot. That way, the company ensures its customers get uniform, high-quality pallets every time, Potgieter says.

iGPS plastic pallets are a uniform and consistent size, shape, and weight, Liebesman notes. In addition, they aren't altered during the supply chain process. Most companies that use pallets want to minimize any negative impact on the environment. Today's pallet solutions — both wood and other materials — can help them achieve that goal.

To start, most pallets are designed to be reused over a period of years. In addition, the companies that produce both wood and plastic pallets take steps to do so efficiently.

"Whenever you can talk reusable packaging, there's a huge sustainability advantage," Ludka says. Reusing pallets, rather than continually turning to new pallets, can cut the amount of water and energy used and produce fewer carbon emissions. Most pallet providers have seen their products in use for years—and even decades—after they were manufactured.

"If a company gets the right pallet size and uses it properly—that is, doesn't go outside the parameters—they'll get extended use out of the product," Ludka says.

Each PECO pallet is utilized in an average of four operations each year, and is in use for more than 10 years, Potgieter says. That's a result of the high-quality wood from which the pallets are manufactured, as well as the company's strict maintenance standards, he adds.

Pallet solution providers can help customers cut their environmental impact in additional ways. CHEP's unique transportation solutions, for example, allow shippers to eliminate empty truck miles by identifying fleet optimization and cost-saving carrier synergy opportunities.

"For instance, over a nine-month period, CHEP helped customers eliminate almost 4.5 million empty truck miles and generate \$5 million in new revenue," Martin says. "That solution also allowed those companies to eliminate more than 23 million pounds of carbon emissions."

As these examples show, pallets — and the services offered by the companies that provide them — can help companies streamline and improve their supply chains. Pallets are "one of the key considerations in modern logistics," Raj says. They help products travel efficiently, reliably, and safely.



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s the world's largest producer of extruded aluminum solutions, Sapa Extrusions' work crosses into nearly every industry segment, including automotive, transportation, building and construction, and thermal management. Sapa's extrusion plants take aluminum alloy in billet form, and force it under high pressure through the shaped opening of a steel die to create an extruded shape or "profile." Based in Rosemont, Ill., Sapa maintains locations in more than 40 countries, and operates 23 production facilities in North America that make custom aluminum profiles of different sizes and capacities.

"Extruding aluminum, which is a tremendously versatile metal, brings a variety of key benefits that have helped our company grow," says Kevin Mitchell, Sapa's North American manager of transportation and logistics.

Despite its success, Sapa had an information problem. The range of locations in North America — not only geographically but also in terms of size and type of operations — meant that the company generated a lot of data, such as cube, weight and route sequence, available capacities, and delivery windows. But money was leaking out the front doors of its facilities across companies because Sapa was not harnessing that information in order to operate efficiently.

Also hindering its ability to operate efficiently was a lack of accurate visibility into the freight it was moving across North America. "We also saw a lot of opportunity for cost savings," Mitchell notes.

The company needed to assemble all its data into one place to enable key



performance indicator (KPI) reporting, especially because its facilities across the company are not uniform; some companies became part of Sapa through acquisition.

Sapa lacked a central location to track what was going on across its organization. This led not only to redundancies, but also to what Mitchell calls "maverick freight purchases" — having to request last-minute quotes for unplanned shipments.

Looking to the Cloud

To address these issues, Sapa partnered with Cloud Logistics, a West Palm Beach, Fla.-based transportation logistics solutions company that provides transportation management solutions for the global supply chain market. The two companies had not previously worked together. Mitchell found Cloud Logistics through an online search.

"I looked at about 10 different transportation management systems (TMS) before selecting Cloud Logistics," he recalls. "Cloud Logistics offered systems that were easy to use, and easy to modify; those were the biggest factors that led me to select it over other providers.

"Cloud Logistics saw our vision and identified our needs immediately," adds Mitchell.

"With multiple companies, each one running its own enterprise resource planning [ERP] system, Sapa needed a single, centralized system to provide factory-to-customer optimization and visibility," says Mark Nix, CEO of Cloud Logistics.

For example, as part of its work in North America, Sapa acts as a major automotive supplier. To make those deliveries, the company heavily leverages flatbed carriers for multi-stop shipments across its network. In the past, information about these deliveries was missing, but for the company to improve its operations, it needed to identify and fix any transportation inefficiencies.

"For example, some of Sapa's flatbed truckload shipments have 15 stop-off deliveries, so they must quickly find the best carrier, based on performance and price, to move the load," says Nix.

To address the issue, the two companies



To manage its aluminum processing facilities across more than 40 countries, Sapa needed to improve transportation efficiency. A new cloud-based TMS fit the bill.

created a solution that used Cloud Logistics' existing APIs for Oracle, SAP, Microsoft, and other ERP business management systems while also using "comma-separated value uploads," which involve "taking 45 seconds to manually key in a shipment for smaller sites that ship 10 to 20 shipments daily," says Nix.

"Once this architectural design and feature was set, Sapa was able to quickly get its shipments rolling," he adds.

No More Going Rogue

Cloud Logistics' Request for Quotation function provided a quick return on investment for Sapa "by limiting maverick freight purchases across existing carrier contracts," notes Mitchell. "It allows us to react quickly and get competitive rates without being taken advantage of in a lastminute expedite situation."

As a result of its partnership with Cloud Logistics, not only is Sapa seeing more efficient operations, but it is also saving on operational costs: The company doesn't need to maintain the software, purchase the TMS program plus thirdparty software, and pay maintenance fees for multiple systems. Nor does it need a database manager or IT staff to monitor and maintain the system. Nix credits Cloud Logistics' modern interface and rapid implementation for the successful rollout, which spanned three months and included less than half a day of training for end users. "We are able to train users in a few hours because we hid the complexities of older technologies behind the configurable workflow architecture, and our navigation bar simplifies the overall experience," explains Nix.

The easy adoption on Sapa's end was crucial, too, not just in setting a new tone for logistics, but in making each facility comfortable with the new system. "The go-live was a smooth one-day non-event," recalls Mitchell.

Not only did Sapa achieve immediate return on investment, but it expects to see that return increase as it continues to use Cloud Logistics' solution, which allows multi-stop truckload selection, tendering, rating, match-pay, analytics, alerting, and end-to-end visibility.

At press time, the TMS was still relatively new, but Sapa has seen a 6.5-percent savings "just in carrier selection," says Mitchell. "And we have already seen ROI from giving our sites and carriers better visibility." He expects to derive more benefits from the system—and take account of total savings—as the Cloud TMS rolls on.

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MEBCITE C

IN THIS SECTION: 3PLs - Global Logistics

3PLs



Echo Global Logistics • www.echo.com

Echo Global Logistics, Inc. (Nasdaq: ECHO) is a provider of technologyenabled 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.

Ofer Express Services Inc. • www.oferexpress.com

Want one dedicated shipping pro to handle ALL of your logistics needs? An Ofer Express specialist will manage both your specialized moves and your no-frills shipments from inception to completion. Ofer has more than two decades of experience in both domestic and international services. From LTL and FTL to expedited services – via land, ocean or air – we manage the logistics process for you door-to-door, and work 24/7 to guarantee success. Our cutting-edge TMS capabilities and experienced associates will save you time and money. Call now: 203-798-8756 or email Tom@OferExpress.com.



BARCODE/RFID



SATO America • www.satoamerica.com

SATO is a pioneer in the Automatic Identification and Data Collection (AIDC) industry, and the inventor of the world's first electronic thermal transfer barcode printer. It revolutionized the barcoding industry by introducing the Data Collection System (DCS) & Labeling concept – a total barcode and labeling solution providing high-quality barcode printers, scanners/handheld terminals, label design software, and consumables. SATO is one of the first in the industry to introduce a complete, multi-protocol EPC-compliant, UHF RFID solution. Turn to SATO for all your barcode and RFID printing needs.

GLOBAL LOGISTICS

Amber Road • www.amberroad.com

Amber Road's (NYSE: AMBR) mission is to improve the way companies manage their international supply chains and conduct global trade. As a leading provider of cloud-based global trade management (GTM) solutions, we automate and optimize the supply chain functions required to import and export goods: collaborating with foreign suppliers on design and quality assurance; executing import and export compliance checks; booking international carriers and tracking goods as they move around the world; and minimizing the associated duties through preferential trade agreements and foreign trade zones.



IN THIS SECTION: Logistics IT - Pallets

LOGISTICS IT



FLEXE • www.flexe.com

FLEXE makes on-demand warehousing possible by connecting organizations in need of additional space to organizations with extra space. Its cloud-based platform powers unified warehouse sourcing and set up, while also streamlining material handling operations. FLEXE requires no technology investments, long-term leases, or process interruptions. As a result, adding storage capacity is now easier, more flexible, and more cost effective than ever before.

PALLETS

BettAway Pallet Systems • www.bettaway.com/baw/palletsServices

BettAway Pallet Systems was designed as a more effective alternative to traditional pallet programs. Its pallet inventory management system provides customers with a national single source for supply, retrieval and tracking, and our 20 years of pallet management experience was instrumental in the development of software and systems that allow BettAway to efficiently supply, retrieve, and repair millions of pallets every year.





CHEP • www.chep.com

CHEP issues, collects, conditions, and reissues more than 300 million pallets and containers from a global network of service centers, helping manufacturers and growers transport their products to distributors and retailers. Combining superior technology, decades of experience, and an unmatched asset base, CHEP handles pallet and container supply chain logistics for customers in the consumer goods, produce, meat, home improvement, beverage, raw materials, petro-chemical, and automotive industries.



iGPS Logistics • www.igps.net

iGPS Logistics is North America's only pooler of 48x40 plastic pallets. iGPS pallets generate measurable savings in transport, reduced product damage, and other operational efficiencies. The world's only multi-use pallet to receive NSF Food Equipment Certification, iGPS' platform is a major advance in supply chain hygiene – a platform that can easily be cleaned. Contact us at 1-800-884-0225 or visit www.igps.net.

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ORBIS • www.orbiscorporation.com

As leading companies continue to drive sustainability in their business, they scrutinize every point of their supply chain, including the packaging used to move their product. ORBIS provides reusable plastic containers, pallets, dunnage, and bulk systems that improve the flow of product all along the supply chain to reduce costs, enhance profitability, and add sustainability.

PECO Pallet • www.pecopallet.com

PECO Pallet is the North American leader in pallet rental services with an outstanding reputation for quality, service, and sustainability. Leading consumer goods manufacturers utilize PECO's sturdy red wood block pallets to ship to grocery and warehouse retailers in the United States, Canada, and Mexico. For more information, visit www.pecopallet.com.



SITE SELECTION



CenterPoint Properties • www.centerpoint-prop.com

CenterPoint Properties is focused on the development, ownership, and intensive management of industrial real estate, and related rail, road, and port infrastructure. We add value to our customers through forward-thinking solutions aimed at enhancing supply chain and operating efficiencies. We seek long-term relationships with customers, public and private business partners, internal colleagues, and the communities where we invest and operate. Member of NASCO.

Watson Land Company • www.watsonland.com

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



IN THIS SECTION: TMS

TMS



CT Logistics • www.ctlogistics.com

CT Logistics can help you save money, no matter your company's size. For small and medium-sized shippers, CT Logistics offers its TranSaver shipper cooperative buying program. Larger shippers can simplify their freight spending with CT Logistics' exclusive FreitRater freight bill rating and processing system. And businesses of all sizes can benefit from AuditPay freight payment services. Add to these offerings a wealth of online collaboration and reporting tools, and it's easy to see why shippers have trusted CT Logistics with their freight payment needs for more than 86 years.

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 shipto-order times and streamlining collaboration with logistics providers.





J.B. Hunt Transport Services, Inc. • 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.

Magaya • www.magaya.com

Magaya's logistics software is designed specifically for freight forwarders, NVOCCs, logistics providers, warehousing and distribution centers, importers, exporters, and others in the logistics industry. Our software is a complete package that integrates logistics, communication, and accounting features built on the award-winning Magaya Network. Companies can exchange documents for shipping, and more, with their customers and agents worldwide via the Network and give them real-time tracking.



WEB CITE C

IN THIS SECTION: TMS



MercuryGate • www.mercurygate.com

MercuryGate delivers a multi-modal TMS solution that allows shippers, freight brokers, and third-party logistics providers to plan, execute, track, and settle freight movements. Customers use a single SaaS or self-hosted application to realize savings through consolidated loads, optimized carrier selection, and process improvements. For more information, visit www.mercurygate.com.

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/enterprise/shiplinx-tms

RateLinx provides transportation management solutions, TMS technology, and freight payment and auditing for companies for all modes, as well as providing cutting-edge Vendor Compliance technology and methodologies for companies with vendor compliance programs and the vendors that utilize them. RateLinx manages and/or services freight in the billions of dollars for thousands of shippers both domestically and internationally, and is recognized as a leading manufacturer of integrated logistics software for small parcel, LTL, truckload, ocean, air, and expedited shipping. For more information, visit our website or contact us at sales@ratelinx.com.

RR Donnelley Logistics • www.rrdonnelley.com/logistics

Experience the benefits that only come from working with a major, global shipper that is also a top-ranked 3PL. We offer multiple transportation modes, an established multi-carrier network, volume-leveraged rates and service levels, along with technology-enabled systems and processes. Visit our website and contact us today to see why customers have relied on us for nearly 150 years.



IN THIS SECTION: TMS - Trucking-LTL



TransportGistics • www.transportgistics.com

TransportGistics is a global, multi-product and services company that provides market-leading, simple, incremental solutions for transportation management and logistics functions within the supply chain. Our Web-based solutions enable our customers to source, procure, and execute transportation services; enable collaboration; reduce costs; improve processes; identify hidden costs of transportation; improve vendor compliance routing guides; improve Supplier Relationship Management; monitor vendor performance; improve shipment visibility; generate automatic, status-driven alerts; and monitor carrier performance with respect to time in transit, service failure, and billing.

UltraShipTMS • www.ultrashiptms.com

UltraShipTMS offers award-winning software-as-a-service solutions to leading shippers in food production, packaging, retail and other industries. UltraShipTMS and LoadFusion Transportation Optimizer (the Stevie Awards' 2013 Transportation Product of the Year) provide a single-source solution for optimization, transportation, and settlement for inbound and outbound shipping across all modes of transport. Robust private fleet management capabilities unmatched by any other solution currently available make UltraShipTMS an emerging leader in the supply chain management industry.



TRANSPORTATION

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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.

TRUCKING-LTL

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.



WEBCITE C

in this section: Warehousing

WAREHOUSING



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.

Approved Freight Forwarders • www.approvedforwarders.com

Since 1991, Approved has been dedicated to the unique shipping needs of the Hawaii and Guam trades, and provides freight forwarding throughout the mainland U.S. Approved accommodates all types of commodities and all sizes of freight. Its highly trained logistics experts use advanced technology to tailor shipping solutions that fit your specific requirements. Approved works hard to ensure that your shipment arrives on time and intact, and keeps you updated every step of the way. To learn more about Approved's freight and logistics solutions, sailing schedules, and competitive rates, visit the website.





Capacity LLC • www.capacityllc.com

Whether it's developing delivery solutions for local startups or international shipping for global brands, preparing EDI integration for household name vendors or packaging for luxury brand beauty products, there's little in the supply chain industry that the Capacity team has not done or seen. With its investment in technology, responsive team, and process-based approach to order fulfillment, Capacity has all the elements to become your ideal fulfillment partner.

Celadon Logistics • 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: Warehousing



DF Young • www.dfyoung.com

DF Young has more than 100 years of experience providing international businesses with a full range of transportation and logistics solutions. DF Young's customized, person-to-person services are proven to meet today's challenging logistics requirements. DF Young paves the way for international shipments clear across continents, using the most sophisticated air, sea, and land transportation services available. Each move is backed by state-of-the-art technology and Internet access that spans the globe.

FW Warehousing • www.fwwarehousing.com

Whether you need warehousing for dry goods, food products, or hazardous materials, visit our Web site and protect your business with free evaluation tools and a free report to assist you in selecting the best warehousing and fulfillment provider. Our team can help you in St. Louis with cost-effective solutions as your third-party warehousing, distribution, and logistics partner. Strong relationships with brokers move your goods to any shipping point or freight forwarder within the North American continent. Our AIB Superior rating from AIB International is critical to our food grade warehousing and FW Warehousing takes this responsibility seriously.



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Kenco Logistic Services • www.kencogroup.com

Adding value to your bottom line? That's the mission of Kenco Logistic Services. For more than 50 years, Kenco Logistic Services 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.

Lynden • www.lynden.com

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





IN THIS SECTION: Warehousing



NFI Industries • www.nfiindustries

Founded in 1932, NFI offers a variety of integrated supply chain services to help businesses manage, grow, and succeed in today's marketplace. The company is one of the largest privately held third-party logistics providers in North America. NFI divisions include Warehousing and Distribution, Logistics, Transportation, Intermodal, Canada, Real Estate, Contract Packaging, Transportation Brokerage, Trailer Leasing and Storage, Solar, Global and Consulting services. NFI is an EPA SmartWay Transport and WasteWise Partner.

RR Donnelley Logistics • www.rrdonnelley.com/logistics

Experience the benefits that only come from working with a major, global shipper that is also a top-ranked 3PL. We offer multiple transportation modes, an established multi-carrier network, volume-leveraged rates and service levels, along with technology-enabled systems and processes. Visit our website and contact us today to see why customers have relied on us for nearly 150 years.





Saddle Creek Logistics Services • www.sclogistics.com

Saddle Creek is an omnichannel supply chain solutions company providing a variety of integrated services, including warehousing, fulfillment, transportation and packaging. We leverage these capabilities, advanced technology, and our nationwide network to customize scalable solutions that help manufacturing, retail and e-commerce customers support their business goals.

SEKO Logistics • www.sekologistics.com

SEKO prides itself on a commitment to customer service, whether it's a 2 a.m. pickup for a critical industrial part for a plant that is 4,000 miles away, or the cost savings achieved from proactive communication with your vendors overseas. SEKO offices have the knowledge and expertise to expedite or to consolidate, depending on your need. From Hong Kong to Amsterdam, SEKO knows how to serve its clients. As a non-asset-based third-party logistics provider, SEKO has the flexibility to meet your supply chain needs using a variety of modes and carriers.



IN THIS SECTION: Warehousing - WMS



Suntek Systems • www.suntekscm.com

Suntek provides its logistics management software, *iLogisys*, for freight forwarders, NVOCCs, 3PLs, and customs brokers. As the company's flagship solution, *iLogisys* offers simple and efficient methods of logistics operation, collaboration tools between related parties, extensive supply chain visibility, B2B EDI connectivity, and more control over business management. The cost-effective and feature-rich *iLogisys* products boost your customer satisfaction, and increase sales opportunities for business growth.

Veritiv Corporation • www.veritivcorp.com

Veritiv Corporation is one of North America's largest businessto-business distributors, and employs the most experienced professionals. Serving virtually every industry, Veritiv provides print and publishing, packaging, facility, and logistics solutions that give customers a competitive edge and help shape their success.





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

Reliability is everything. At WSI, that has been our approach to integrated logistics and supply chain solutions for more than 40 years. Our promise of Condition, Count & Time ensures accurate, timely, and sound performance – every time. Recognized as one of the top 3PL companies in North America, WSI delivers custom solutions for warehousing/distribution, fulfillment, transportation, import/export, information technology, and customer support services. Depend on WSI for increased efficiency, reduced costs, and absolute reliability.



Invata Intralogistics • www.invata.com/we-are-invata

We are experts in the design, implementation, and life cycle support of automation systems for distribution centers, fulfillment centers, 3PLs, and reverse logistics centers. We offer complete intralogistics solutions that begin with in-depth operational analysis and end with fully optimized, purposebuilt, turnkey systems. Our warehouse automation solutions incorporate an elegant mix of advanced material handling technology (ASRS, sortation, order fulfillment systems, etc.) and algorithmic-rich warehouse software (WMS, WCS) in scalable, supportable, and financially justifiable configurations.



White Paper Digest

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.



DHL

	Business conective i.o. Fai thering Reborn
DOWNLOAD:	http://www.dhl.com/Bus-Collective
SUMMARY:	Most organizations still conduct business as separate entities with
	"us versus them" relationships. But globalization, and the fact that
	competition now comes from anywhere and can disrupt entire markets
	overnight, is making this approach insufficient. Enter Business
	Collaborative 1.0, where multiple organizations meld together to face
	the market as one single commercial entity. They eliminate the barriers
	that traditionally separated not just internal departments but external
	partners up and down the supply chain.

Port Logistics Group

TITLE: Bridging the Gap: The Role of Retail 3PLs in the Journey to "Shopping Redefined"

DOWNLOAD: http://bit.ly/1WD1zTe

SUMMARY: Are you omni-channel ready? Learn why retail 3PLs are uniquely positioned to help retailers bridge the gap to an omni-channel shopping environment with their expertise in these key capabilities: inventory visibility, optimized fulfillment, and perfect packing.

HighJump Software

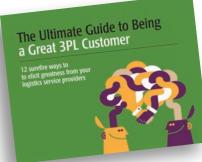
 TITLE:
 Push & Pull Distribution in Today's High Expectation Consumer Market

 DOWNLOAD:
 http://bit.ly/23WgelH

 SUMMARY:
 Are your distribution and logistics systems designed to meet today's high expectation consumer market? In today's market, a push and pull-based distribution strategy that's responsive to omnichannel needs is not built on traditional systems. It requires new technology that meets today's needs while remaining nimble for future market demands. This whitepaper outlines ways you can react efficiently to customer demands, while taking into account economies of scale within your operations.



120 Inbound Logistics • May 2016



Kane is Able

 TITLE: The Ultimate Guide to Being a Great 3PL Customer

 DOWNLOAD: http://bit.ly/1rS4Q4O

 SUMMARY: Many shippers commoditize the services of third-party logistics

 (3PL) providers, believing that the best result will come from micromanagement 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. To learn more, download this easy-to-read eBook, which includes 12 practical suggestions on getting the most out of your 3PL partners.

ICC Logistics Services

TITLE: 7 Critical Mistakes Shippers Make When Negotiating Transportation and Logistics Contracts

DOWNLOAD: http://bit.ly/1TigDjA

SUMMARY: Master the fine art of negotiating transportation and logistics contracts. Download this whitepaper to learn the seven critical mistakes shippers make and how to avoid them. Do it right and you can create a strong strategic alliance that will yield financial rewards and exceptional service and support for the long term.

C.H. Robinson

TITLE: Do Higher Truckload Rates Bring Better Carrier Performance? DOWNLOAD: http://bit.ly/1TICjPg SUMMARY: Higher quality products and services that cost more often outperform the lower-quality, cheaper versions. But when shippers pay higher transportation rates per mile, do they really receive better on-time performance and load bander approximation performance their exprises?

transportation rates per mile, do they really receive better on-time performance and load tender acceptance patterns from their carriers? This whitepaper provides highlights of recent research findings about potential correlations between transportation carrier rates and performance.

Unyson

TITLE: Failure of Traditional LTL

DOWNLOAD: http://bit.ly/1TehlhF

SUMMARY: Learn how Toys "R" Us converted its traditional less-than-truckload (LTL) origin/destination terminal network into a unique consolidation system powered by Unyson technology to significantly lower expenses, increase visibility with advanced tracking, and shift to a more sustainable supply chain.

Loftware

TITLE: Barcode Labeling is Changing. Are you Ready? Top 5 Trends.

DOWNLOAD: http://bit.ly/1T6WWOn

SUMMARY: As customer labeling demands increase, are you keeping pace? Label regulations evolve, do you have a strategy? Deployment models are changing, is your labeling ready? This report outlines shifts in barcode labeling that impact global supply chains.







GT Nexus

TITLE: State of the Global Supply Chain

DOWNLOAD: http://bit.ly/2020BBo

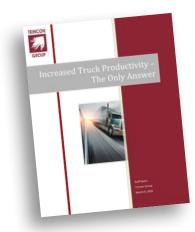
SUMMARY: Manufacturers expect major supply chain challenges and risks in 2016, stemming from external factors. While meeting rapid-fire customer demand is deemed a priority, this study of manufacturing executives suggests their execution roadmaps are misguided, focused more on cost-cutting than strategy. In fact, 76 percent of manufacturers operate without a Chief Supply Chain Officer. With almost half of manufacturers reporting a disruption that impacted business in the past 12 months, this gap in strategic direction to address broader supply chain agility is a major concern.

J.B. Hunt

TITLE: Electronic Logging Device Impact

DOWNLOAD: http://jb.ht/ELDImpact

SUMMARY: The Federal Motor Carrier Safety Administration (FMCSA) passed a regulation in December 2015 that requires all commercial trucks and buses manufactured after 2000 to be equipped with an electronic logging device (ELD). An estimated three million drivers who currently use paper logs will have to convert to a digital log. This may affect HOS compliance and carrier capacity. This executive briefing offers more information about this mandate and how it affects the industry.



Trincon Group

TITLE: Increased Truck Productivity - The Only Answer

DOWNLOAD: http://bit.ly/1R6JLYH

SUMMARY: Years ago, manufacturers learned that success and profitability weren't dictated by how many products they produced but by how many products they sold. Manufacturers have learned to balance capacity, and retailers learned to balance inventory based on customer demand. Sounds pretty obvious. Why, then, do many trucking companies continue to spend money on capacity that they're not using? The definition of success for trucking companies is not how many trucks you have, not how many drivers you employ, not how much warehouse space you have, but how effectively you use those assets. Sometimes things you can't control get in the way, but there is one thing you can control: Productivity. It's the one thing that is most responsible for the success of your business. Learn how to boost productivity by downloading this whitepaper today.



C3 Solutions

DOWNLOAD: http://bit.ly/27whwi7

TITLE: SaaS Supply Chain Management Systems

SUMMARY: As we rely more and more on global visibility into supply chain operations, whether across carriers, modes, or continents, cloud-based SaaS applications will become the standard. Can you trust cloud-based supply chain systems? This whitepaper compares and contrasts SaaS versus licensed supply chain IT systems offering benchmarks related to cost and security while also exploring functionality, features and vendor selection advice.

3PL Central

TITLE: The Five Point Tune-Up For Your Warehouse

DOWNLOAD: http://bit.ly/25aGswQ

SUMMARY: Ready to make your warehouse smarter, stronger – and more profitable in every way? Then download this recent whitepaper. Written by industry professionals, this guide was specifically created to help you catapult your warehouse to the next levels of performance and profitability. Download your free copy today.



Amber Road

TITLE: Supply Chain Disruptions and Risk Still Looming: How to Create a More Resilient Supply Chain

DOWNLOAD: http://bit.ly/27wiYRH

SUMMARY: Manufacturers today must make sourcing decisions in an environment where they don't know all of the factors. Globalized sourcing operations increase the likelihood of risk or disruption at every turn. Despite these perils, many companies are not taking risk management seriously and have paid dearly as a result. Learn how you can improve your company's level of resiliency to better respond to supply chain disruptions by downloading this whitepaper.

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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



NEW SERVICES & SOLUTIONS



//Services//

Inchcape Shipping Services (ISS), a maritime and logistics services provider, launched ISS Brokerage Services to provide U.S. Customs assistance across all North American ports. ISS Brokerage Services handles ISF filing, continuous bond, duty drawbacks, import consulting, TIB entry, and warehousing and delivery. LTL carrier **Old Dominion Freight Line** expanded its network of service centers in Texas by adding a facility in Lufkin to serve shippers in the East Texas region. The new nine-door, two-acre center supports significant shipment growth throughout Texas by enabling the carrier to deliver earlier in the morning and pick up shippers' freight in the evening. Yusen Logistics Indonesia launched an airfreight forwarding consolidation service from Semarang Airport (Achmad Yani International Airport) in Central Java. The service provides shippers with a fast and cost-effective forwarding solution, which facilitates integrated in-house handling and includes both customs clearance and collection.



// Products //

Materials handling company **Crown Equipment** introduced the Crown PTH 50PS Series powered scissor lift hand pallet truck, which improves worker comfort and efficiency by eliminating unnecessary bending and lifting. Designed for use with open-bottom pallets, skids, and totes, the Crown PTH 50PS functions as both a hand pallet truck and mobile work positioner, making it suitable for applications requiring frequently varied working heights.



Milliken & Company unveiled the Hyperform HPN 210 M, a nucleating agent for injection molded highdensity polyethylene (HDPE) applications. The new additive bolsters materials handling products such as totes, crates, and pallets, improving mechanical performance and increasing stiffness by up to 50 percent compared to standard HDPE. This stiffness enables thinner-wall designs and lighter-weight products. **Big Ass Fans** introduced the Powerfoil X3.0 industrial ceiling fan with SmartSense control technology, which matches fan speed to seasonal conditions. As the temperature rises, the fan automatically speeds up; conversely in fall and winter, SmartSense automatically slows the fan to push down rising warm air from a facility's heater without creating a draft.

Entrematic expanded its line of Kelley loading dock seals by introducing ArmorGuard (models ADS-HP and ADS-HC) seals. Featuring fabric with an abrasion-resistant compound, the ADS-HP and ADS-HC dock seals withstand movements caused by air ride suspensions and intermodal trailers.

RFID Inventory Systems introduced the Tower Inventory System (TIS), a warehouse inventory scanning machine that enables faster cycle counts. The TIS is comprised of four 6-foot pRFID (passive radio frequency identification) panels stacked vertically to create a 24-foot mobile array. It conducts autonomous cycle counts and inventory reconciliation while being transported throughout a warehouse by a single forklift operator.

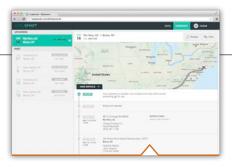




//Technology //

Revenova, which provides a multimodal TMS deployed on the Salesforce cloud platform, partnered with technology provider project44 to enable LTL rate shopping, tendering, and reconciling invoices across hundreds of LTL carriers through a single TMS platform. The integration combines customer and order details with real-time LTL freight rates and data, and makes information available to shippers, brokers, and 3PLs securely from any device.

LeanLogistics, a supply chain management technology company, expanded its Software-as-a-Service program *LeanTMS* to serve ocean shippers. The new module, *LeanGlobal*, is designed to streamline logistics processing. *LeanGlobal* allows shippers to plan and book FCL ocean moves directly with vessel carriers and freight forwarders, provides full visibility of FCLs from pickup to delivery, and ensures compliance with international trade laws.



Loadsmart, a truckload broker for produce companies, launched an online platform that lets shippers schedule a truck, track freight from pickup to delivery, manage electronic bills of lading, and process payments from a desktop or mobile device. Loadsmart's proprietary algorithm matches the shipment with a carrier based on requirements such as price, transit time, and temperature control.

ORBCOMM, a provider of machine-tomachine and IoT solutions, released *CargoWatch Secure*, a real-time cargo security and condition monitoring solution that provides complete shipment lifecycle visibility of dry and refrigerated cargo in transit and



Active and passive cold chain solutions manufacturer **CSafe Global** unveiled CATS, the Container Automated Tracking System, which gives shippers of biologics and other temperature-sensitive products instant access to detailed, real-time, active container information. Shippers leasing containers can use the new CATS Customer Portal to manage and oversee inventory. in storage. The application enables shippers to detect, manage, and correct supply chain anomalies in real time to reduce losses and claims.

AT&T launched AT&T Asset Management Solutions for Shipping Containers, a storage tank monitoring system for businesses in the oil and gas industry. The technology lets companies remotely monitor levels of oil, chemicals, and compressed gasses in containers.

Recently launched online freight exchange **ShipX** offers LTL shippers a streamlined approach to booking freight. ShipX connects shippers to carriers through an online process, letting them compare freight rates from carriers and book shipments for one flat rate, regardless of volume.

Intelligence engine provider **KPMG Spectrum** launched a digital tool called *Third Party Intelligence*, which forecasts supply chain disruption. By monitoring and reporting third-party vulnerability, as well as projecting its future impact, *Third Party Intelligence* enables companies to pinpoint third-party risks and take pre-emptive action, potentially averting financial and reputational damage.

iContainers, an ocean transportation intermediary, freight forwarder, and NVOCC, added door-to-door service to four ports in Europe: Rotterdam, Hamburg, Bremerhaven, and Antwerp. Shippers using the iContainers API platform receive online freight shipping rate information from and to these four ports, which handle an estimated 23 million containers per year. In addition, shippers can customize freight and inland shipping routes based on timing, cost, and other preferences.

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Got 3PL challenges?

// Transportation //

IAG Cargo launched a B777-200 Cape Town, South Africa, service, set to operate three times per week from London Gatwick starting in November 2016. This route supplements the three times weekly A330-300 Madrid-Johannesburg service, due to start August 2016, and the existing London Heathrow-Cape Town and Johannesburg services.

AirBridgeCargo (ABC) Airlines added a third weekly Boeing 747 freighter operation to its services in Singapore. The new Friday service offers onward connections to Hong Kong and to points across ABC's global route network. Singapore, via AirBridgeCargo's Moscow hub, is connected to major European cargo gateways including Frankfurt, Paris, Amsterdam, and Milan as well as to U.S. freight markets served by ABC's international route network.

YRC Freight, an LTL provider, introduced Accelerated service, a shipping option that delivers shipments to destinations one to two days faster than standard transit times. The Accelerated service is available throughout the continental United States and cross-border between the United States, Canada, and Mexico.

CMA CGM launched the WEMED (West Med-East Med) service, offering shippers direct transport solutions to Eastern Mediterranean countries (France, Spain, Algeria) and Western Mediterranean countries (Turkey, Lebanon, Egypt). The shipping group's first service dedicated to intra Mediterranean trades offers competitive transit times: seven days from Turkey to Valencia and nine days from Turkey to Marseille.

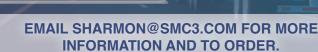


The Atlantic Sail, the second of five new vessels in ACL's G4 fleet, took its place in the carrier's transatlantic schedule in early May 2016. The remaining three G4 vessels will be delivered throughout 2016. The ACL G4 vessels are the largest multipurpose RORO containerships ever built. They incorporate a new design that increases capacity without significantly changing vessel dimensions. Their container capacity is more than double older vessels at 3,800 TEUs, with a car capacity of more than 1,300 vehicles.

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SEPT 1-2, 2016 Miami, Fla. ClaroTime

Ports & Commodities Americas 2016

bit.ly/ports_commodities

AUDIENCE: Latin American and U.S. port operators, railway operators, and commodity traders FOCUS: Terminal operations, technology, and logistics management; importers/ exporters' opportunities and challenges

SEPT 12-14, 2016 Dallas, Texas

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PARCEL Forum '16

www.parcelforum.com/conference

AUDIENCE: Distribution, logistics, supply chain, and warehouse managers; smallpackage supply chain stakeholders FOCUS: Advancements in technology (SaaS, voice recognition), operations/ facilities (automation, materials handling, DC optimization), packaging (void fill, on-demand), distribution (omni-channel, same-day), and management

SEPT 18-20, 2016 Houston, Texas Intermodal Association of North America

Intermodal Expo 2016

www.intermodalexpo.com

AUDIENCE: Supply chain and transportation professionals, intermodal shippers and stakeholders Focus: Technologies impacting intermodal; how to strengthen shipper/ drayage partnerships; recent trucking regulations and funding-and their implications on intermodal; intermodal solutions exhibition

SEPT 20-22, 2016 Detroit, Mich. Automotive Logistics Global Conference

bit.ly/ALglobalconference

AUDIENCE: Professionals in the automotive logistics sector including car manufacturers, tier suppliers, logistics providers, infrastructure operators, and technology solutions suppliers FOCUS: Automotive logistics strategy; taking a holistic approach to global automotive supply chains; building supply chain flexibility to meet changing consumer demands and vehicle preferences

SEPT 20-22, 2016 Princeton, N.J. Worldwide Business Research

LogiPharma 2016 www.logipharma.com

AUDIENCE: Pharmaceutical supply chain stakeholders

FOCUS: Customer-centric supply chain management; innovating the cold chain; managing network complexity; creating a healthcare value chain map; the future of life sciences logistics; utilizing serialization and traceability data

SEPT 25-27, 2016 Washington, D.C.

American Production and Inventory Control Society

APICS 2016

www.apics.org/annual-conference

AUDIENCE: Supply chain and logistics professionals

FOCUS: Best practices to create more sustainable, resilient, strategic, and value-driven supply chains; strategies for remaining agile amid instability and unpredictability

SEPT 25-28, 2016 Kissimmee, Fla. Council of Supply Chain Management Professionals (CSCMP)

CSCMP's 2016 Annual Conference

www.cscmp.org/annual-conference

AUDIENCE: Supply chain, logistics, and transportation professionals FOCUS: Latest supply chain management insight, research, and industry developments; supply chain best practices; strategies for transforming supply chains

SEPT 26-30, 2016 Boston, Mass. IQPC (International Quality & Productivity Center) and Cold Chain IQ

14th Cold Chain GDP & **Temperature Management** Logistics Global Forum

www.coldchainglobalforum.com

AUDIENCE: Stakeholders in temperaturecontrolled life science supply chains FOCUS: Exceeding supply chain expectations; cold chain trends; optimizing global supply chain networks; cost reduction, and risk and data management; supply chain security

OCT 11-12, 2016 Long Beach, Calif. Informa Exhibitions

Cargo Logistics America

www.cargologisticsamerica.com

AUDIENCE: Supply chain stakeholders such as beneficial cargo owners, logistics providers, multimodal transportation providers, and port authorities Focus: Products, services, and technologies to optimize the supply chain; multimodal case studies showcasing best practices; port productivity

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JUL 21-22, 2016 Cambridge, Mass. MIT Sloan Executive Education

Supply Chain Strategy and Management

executive.mit.edu

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