

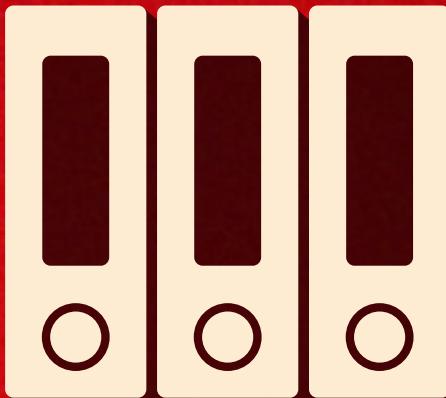
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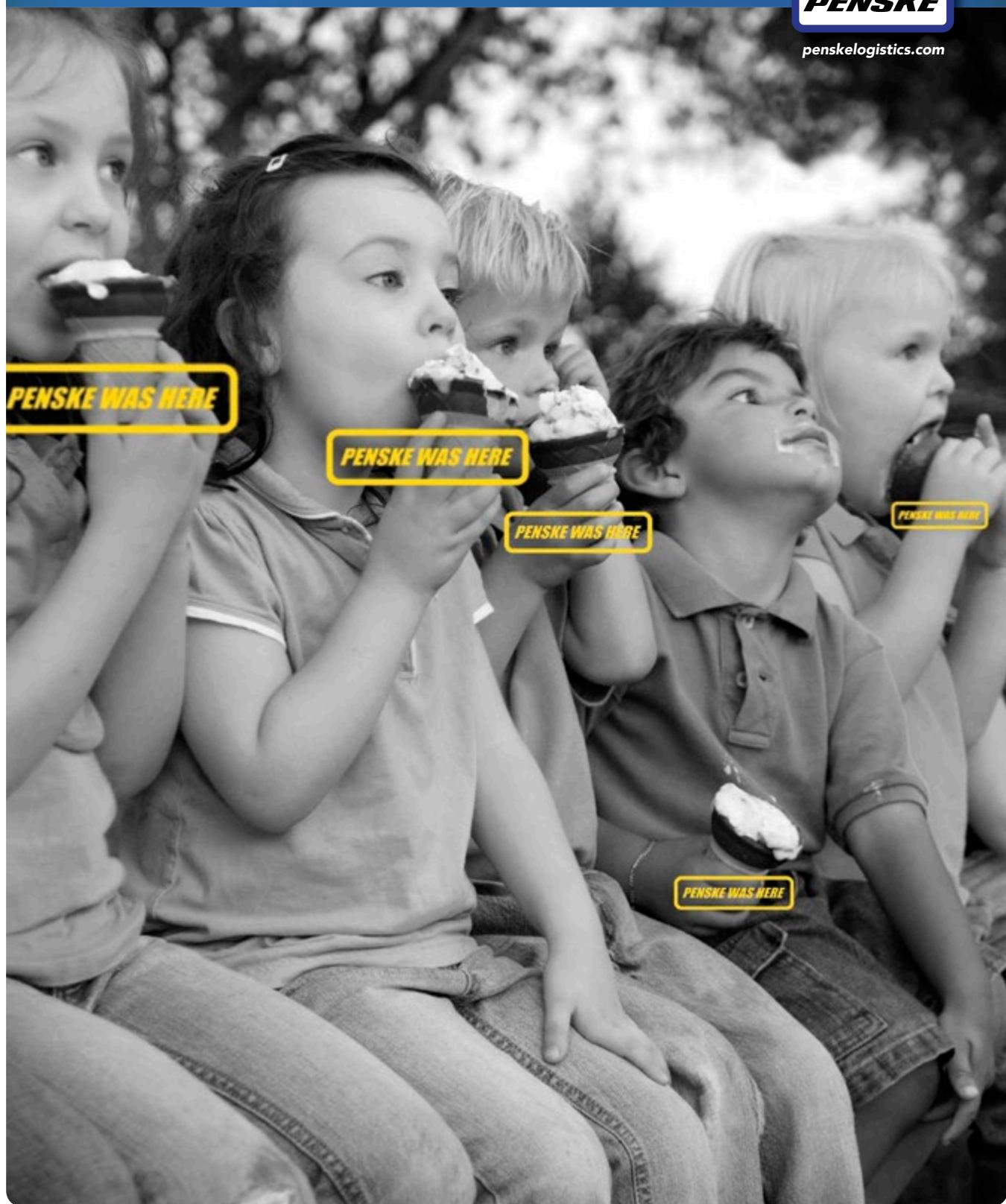
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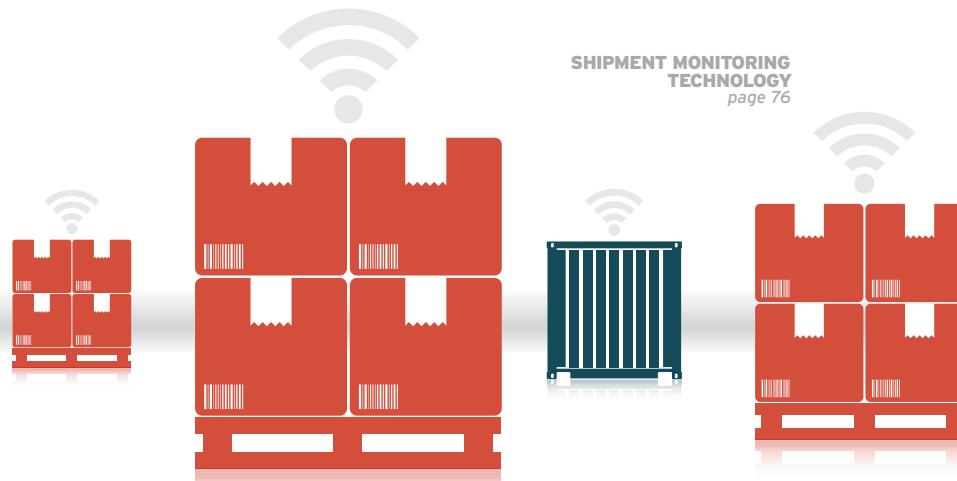
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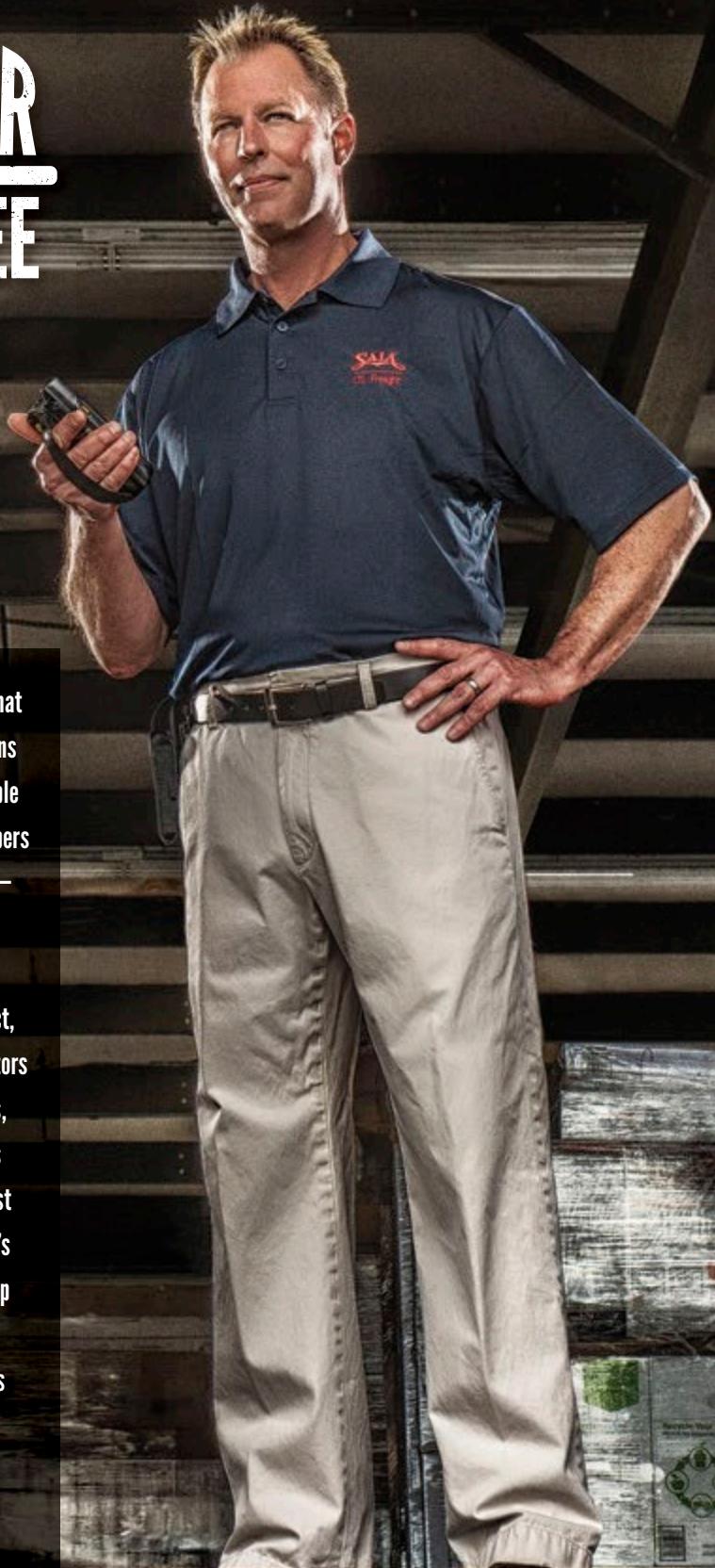
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CHECKING IN

Felecia Stratton

by Felecia Stratton | Editor



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— Dean Fasnacht, MRO Manager, Trident Seafoods



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Jan Gaines

Good to know. *Inc. Magazine* lists this area as showing more than 10 percent growth annually. That is huge. I represent one of the top global software developers of supply chain management, and I can say firsthand, certification is hot!



I noticed one misstatement in your excellent article last month on certification and certificate programs (*Certifiably Savvy*, February 2014). It said: “A certificate... proves you have completed a non-credit course of study.” Some college certificate programs are non-credit, but others are offered for credit. For example, all 18 units of the Logistics Management Certificate

program at Norco College are for credit. They transfer for elective credit to the California State University (CSU) system. Half of our course credits articulate for upper-division subject matter credit with our nearest CSU.

— Rex Beck, Professor, Business Logistics Management, Norco College

In the last two years, I've become an avid fan of *Inbound Logistics*, and visiting inboundlogistics.com has become a daily routine. I read your case studies and other featured articles, and I use the RFP and Logistics Planner. The Web_Cite City tool, which I just started exploring a few weeks ago, is tremendous stuff. If any logistics professional is still using Google to fulfill their browsing needs, they need to get with the program. I was also very excited to see that February was your annual education issue. You provided much-needed insight into CTL certification. *Inbound Logistics'* content has played an integral role in my professional development over the past



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— Matt O'Dowd, Logistics Analyst,
The Chefs' Warehouse



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10 TIPS

STEP-BY-STEP SOLUTIONS

by Deborah Catalano Ruriani



Tapping Social Media To Power Your Supply Chain

Social media provides a platform for companies to share knowledge and opinions, and broadcast information to an audience of followers. It also generates valuable data about how your customers think, shop, vote, and spend their leisure time. Many companies have jumped into social media to improve supply chain operations. Cindi Hane, vice president of technical product management, and product manager for logistics at supply chain technology provider Elemica, offers these tips for putting social media to work for your supply chain.

1 Subscribe. Get to know the most popular channels: Facebook, LinkedIn, Twitter, and YouTube. These platforms provide access to a user community relevant to your business and customers.

2 Employ filters. Set preferences to fine-tune your feeds and minimize social media fatigue. Reviewing tweets and status updates should not cause stress.

3 Explore and observe. Determine which platforms provide the best, most applicable information for your company. Look for quantifiable supply chain information from expert sources. Figure

out the contributors' motives—are they cleverly advertising something, or are they truly seeking a community with which to collaborate? Advertising has its place, but you should recognize it for what it is.

4 Identify opportunities. Determine which supply chain processes would benefit from better collaboration through an unstructured data channel. You can proactively check the reputation of vendors and potential vendors with social network users.

5 Share relevant news. Broadcast information that might help logistics partners be more proactive or make better decisions. For example, share news about port disruptions. This allows shippers and carriers to better communicate transit delays to the end user.

6 Be prepared to evolve. Some of your efforts will be fruitless. Don't be afraid to delay or abandon some outlets or initiatives—there are plenty of others to try.

7 Contribute often. Share your lessons and best practices, especially with your trading partner community. Using social media can make your business

proactive instead of reactive; better able to respond to market volatility; and flexible to meet the specific needs of each customer.

8 Empower your staff. Don't dictate a social media strategy to your supply chain operations staff. Let one evolve naturally as they use the outlets to get to better know your customers and partners. They will be able to increase effectiveness and customer retention, and promote cross-selling opportunities.

9 Enlist help from others. Find the people in your organization who are comfortable with social networking, then ask them to help identify some creative uses. It is a perfect way to increase employee engagement and promote cross-training.

10 Build better relationships. Use social media in your supply chain network to discover, create, and build new or more robust relationships faster. In addition to being an efficient method for broad collaboration, social media provides the ability to quickly analyze the marketplace and assess partner performance. You'll gain insights you can't get anywhere else. ■



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READER PROFILE

as told to Merrill Douglas



Bob Kalland is inventory and logistics manager for Atlas Copco Mining and Rock (MR) Excavation, located in Commerce City, Colo. The company is a unit of Atlas Copco, a Swedish manufacturer of industrial tooling and equipment. He has held this position since 2011.

RESPONSIBILITIES

Managing all inventory and logistics for the MR business.

EXPERIENCE

Inventory cycle counter, warehouse supervisor, inventory control supervisor, Weidercare Sporting Goods; inventory control supervisor, Fisher Scientific; inventory and logistics coordinator, Rock Drilling Tools (RDT) product line, Atlas Copco.

EDUCATION

BS in management science, emphasis on production and operations management, Virginia Tech, 1994.

Bob Kalland Knows the Drill

MY WORK IN ATLAS COPCO'S MINING AND ROCK (MR) Excavation business covers three product lines: geotechnical drilling and exploration; rock drilling tools and mining; and rock excavation products and services. My team maintains the inventory for those products, including capital equipment, consumables, and service parts.

We order those products from Atlas Copco's distribution centers and production facilities – known as product companies (PCs) – in the United States and abroad. We use inbound product to fill customer orders, maintain inventory for service operations, and stock our network of 14 U.S. warehouses.

My team at the U.S. customer center is also responsible for transportation within the United States. The PCs arrange international freight, but we provide input to help them make sound decisions when working with our freight forwarders.

We use two information systems to support inventory management. *Supply Chain*

Concept from technology provider Syncron handles forecasting, order levels, lead times, fixed order quantities, and other inventory concerns. The system uses data from our enterprise resource planning (ERP) solution, Infor's *Business Planning and Control System* (BPCS), to generate purchase recommendations based on factors such as current stock levels, estimated demand per month, and lead times.

Because we make a lot of product outside the United States, lead times pose a critical concern. To maintain inventory at the correct levels, we must make sure our systems contain accurate data on lead times for all products.

The Big Questions

When you're not at work, what do you do for fun?

Fly fishing is my true passion. It lets me rejuvenate and recharge, and, at the same time, experience an adrenaline rush fighting and landing a 20-inch trout.

Who have been your mentors at work?

Gene Mattila (business line manager, RDT) and Ed Tanner (vice president of store operations for MR). Both have taught me how to be a more confident

leader and handle personnel issues. They have also helped me understand how the business is managed, and what end customers expect from us.

What's your alter-ego dream job?

I'd own an outfitting business – snow skiing in the winter, and fly fishing and rafting in the summer.

Do you have a hidden talent?

I tie my own fishing flies.

If we were to keep all parts, consumables, and machines in stock at all times, we would have 100-percent product availability. But carrying costs and the risk of obsolescence would increase drastically. Maintaining balance between working capital and customer service is our largest challenge.

Another challenge we're preparing to tackle is migrating our customer center operations from BPCS to an ERP solution from SAP. Our Canadian counterparts in the MR business are serving as a test site for

this implementation, planning to take the system live in early 2015. We're still working on details for the rollout to the other three major customer centers—the United States, Australia, and South Africa.

Currently, U.S. team members—along with our colleagues from South Africa and Australia—are working with the Canada team to ensure the new system will fit the business processes in each country. We all spent two weeks in Canada in February 2013 identifying and addressing

gaps in the solution blueprint to ensure the system meets our requirements. I also have a daily conference call with the owners of this project in Belgium.

Atlas Copco has already implemented SAP in some European countries such as Switzerland and Germany, where its operations are smaller. Now it is addressing the large customer centers that represent the majority of the company's revenue. This will be a big project, and I'm looking forward to the challenge. ■

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NOTED

THE SUPPLY CHAIN IN BRIEF

SEALED DEALS

Honda of the UK Manufacturing

(HUM) renewed its outsourcing contract with Yuzen Logistics. Yuzen manages inbound freight at HUM's Swindon facility, including planning more than 100 daily routes, and interacting with 60 vendors.



SEALED DEALS

▼ **Porsche** selected Georgia's **Port of Brunswick** as its port of entry into the United States for the 918 Spyder hybrid. The



automobiles are manufactured at Porsche's plant in Stuttgart, Germany, then shipped through Brunswick to East Coast markets.

As a result of expanding its contract with **Ocean Spray**, third-party logistics company **NFI** will construct a 980,000-square-foot distribution center in Pennsylvania's Lehigh Valley to serve the beverage company's local just-in-time manufacturing facility. The DC is scheduled for completion in summer 2014.

Flagship Logistics Group implemented **3GTMS'** 3G-TM execution software package. The solution manages order capture, carrier assignment and tendering, document imaging, dispatch, tracking,

shipment history, and integration with legacy finance and reporting systems.

Medical equipment manufacturer **Drive Medical Design & Manufacturing** chose third-party logistics company **Genco** to manage its transportation and logistics functions, including rating and routing, load optimization and planning, mode and carrier

selection, rate procurement, carrier contracting, and freight payment and audit.



► **Welch's** chose **Transplace's** Software-as-a-Service transportation management system (TMS) to handle daily North American transportation operations. Welch's expects the TMS will more efficiently manage shipments, increase visibility, and identify improvement and savings opportunities.



Third-party logistics company **Coyote Logistics** merged with **Access America Transport**. Coyote gains additional less-than-truckload and flatbed shipping options, while Access America gets improved technology and rail pricing.

Logistics software provider **ShipXpress** purchased the rail fleet management software business of **FreightCar America**, a railcar maintenance management and repair billing software provider. ShipXpress plans to integrate the FreightCar America platform

with its existing suite of rail fleet management and maintenance solutions.

Bay Grove subsidiary **Lineage Logistics** acquired **Millard Refrigerated Services**, a third-party distribution and warehousing provider. The purchase expands Lineage's network by 30 locations.

▼ **Roadrunner Transportation Systems** (RTS) bought global logistics provider **Unitrans International Corp.** The purchase adds Unitrans' international transportation management, customs brokerage, and domestic logistics solutions to the RTS portfolio.



UP THE CHAIN

▼ **Gerald Perritt** was appointed the new president and CEO of third-party logistics provider **Kenco**. His most recent position was UTi Worldwide's senior vice president of contract logistics for the Americas. Perritt's experience includes serving on the Warehousing Education and Research Council's board of directors, and the International Warehouse Logistics Association's governmental affairs committee.



Boston Beer Company, brewer of the Samuel Adams brand, appointed **David Rocco** senior director of supply chain. Rocco's responsibilities include planning, customer service, order fulfillment, and procurement.

recognition

Rayonier Performance Fibers presented its **Export Carrier of the Year** award to ocean carrier **APL Limited** for its customer service, on-time delivery, and equipment availability.

Kraft Foods Group honored **Breakthrough Fuel** with its **Transportation Partnership Award**, which recognizes the fuel management services company's contribution to Kraft's capability enhancement, cost management, and service improvement initiatives.

For the third year in a row, Walmart named **Averitt Express** its **LTL Regional Carrier of the Year**. Walmart honored the carrier for its safety standards, professional service, and ability to exceed expectations.

Wallenius Wilhelmsen Logistics (WWL) earned a nod from John Deere as a **2013 Partner-level Supplier**. WWL was evaluated in categories including quality, cost management, delivery, technical support, and responsiveness.

GOOD WORKS

▼ **Union Pacific** was recognized as one of the nation's 25 Most Influential Companies for Veteran Hiring by **Profiles in Diversity Journal**. The railroad was selected for its commitment to veteran hiring, progressive reservist policies, and dedication to supporting employee veterans.



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TRENDS

SHAPING THE FUTURE OF LOGISTICS



Shopping for Retail Trends

The National Retail Federation (NRF) drew a record 30,000-plus attendees to its January 2014 BIG Apple Conference to “touch and feel” the latest hot trends and innovations in the retail industry. For some attendees, like Mark Ledbetter, global vice president for SAP Retail, the reality is even more compelling.

by Joseph O'Reilly

Ledbetter, who has been a regular at NRF's event for the past decade, offered *Inbound Logistics* a man-on-the-ground perspective of some key takeaways from this year's show.

Retail is big business. Everything about the retail business continues to expand. “Sellers and consumers face infinitely more options—technology and SKUs chief among them—which only raises the bar as industry takes analytics and innovation to new levels,” Ledbetter says.

Death of the channel. “Whether it's multi-channel or omni-channel, retailers are moving away from the whole concept of managing channels via brute force,” he says. “The focus now is on eliminating multi-channel inefficiencies.”

In effect, more companies see inventory in an agnostic way. Distribution networks, supply chain processes, technology, and materials handling systems are falling into place accordingly. Amazon, Walmart, and others

are forcing the issue for many retailers as they come to grips with their own channel strategies.

"Retailers that typically have managed multi-channel fulfillment by brute force didn't have commingled inventory or processes to support a unified brand experience," Ledbetter adds. "But now they realize that, from an efficiency perspective, it is too expensive to do multi-channel fulfillment the same way they have in the past."

Strategic urgency emerges. For a long time, retailers were experimenting with how to approach the e-commerce market. "In the late 1990s, for example, retailers roped off a part of the warehouse and called it Store 9999," says Ledbetter. Then, suddenly, e-commerce exploded.

"Strategic urgency stems from retailers recognizing they can't fulfill orders efficiently enough to compete where segments are largely driven by price," he adds. "They have to fulfill from all the stores, the DCs—any place where inventory is."

Marketing breaks out. "Retail was always marketing at its core," Ledbetter notes. "But now we talk about what chief marketing officers are doing. The whole concept of marketing owning customer engagement, and merchants owning the merchandise, is evolving with the emergence of marketers driving decision-making in retail," says Ledbetter.

Social commerce is the norm. "Retailers recognize that social networking is a great marketing tool, but not a selling tool," he explains. "It's better for advertising and crowdsourcing demand."

The perfect storm is looming. "Efficiency issues are surfacing, and marketers are trying to drive a brand experience as opposed to a channel base," says Ledbetter. "The brand experience is pushing for these channel silos to come down."

"Senior leadership who recognize the challenges know if they're not the first ones to address and solve some of these multi-channel fulfillment problems, they might be the first ones to go away," Ledbetter cautions.

Are Local Couriers the Future Of Last-Mile Logistics?

Customer expectations for speedier delivery times and later cutoffs force retailers and their logistics partners to live on the edge. Shipping guarantees, whatever the cost, get consumer buy-in. But as e-commerce continues to expand, and expedited services become the norm, are retailers promising too much? Can supply chains deliver to the last mile at the last minute?

Inbound Logistics recently met with Rob Howard, CEO of GrandJunction, a San Francisco-based technology platform that serves the local delivery industry, to talk about 2013's holiday hijinks, and what it means for the industry moving forward.



**Rob Howard, CEO,
GrandJunction**

UPS and FedEx's failure to deliver millions of packages in the lead-up to Christmas 2013 delivered a shock to the industry. What happened? Is there a last-mile lesson to be learned?

Both companies were dealing with a double shift: a growth in both residential and e-commerce volume. It's the new normal and will not change. Amazon anticipated this growth, and started working with local delivery companies directly—a

safety valve against UPS and FedEx spikes.

The question becomes: Is the local delivery market a viable alternative? The industry has historically been so fragmented it has been difficult to work with. But that's changing.

Retailers have to address the same issue. If UPS and FedEx aren't going to invest in assets or infrastructure, it's up to retailers to find alternative delivery means.

What advantages can shippers gain by partnering with local courier companies?

Mom-and-pop-driven local delivery companies vary wildly across the country. In the past, a local delivery option with consistent, professional, technology-enabled customer support didn't exist. Now it does. The local delivery industry is improving to the point where it is becoming viable.

Couriers excel in some aspects of customer service. For example, the local delivery industry offers more flexible cutoff times. UPS says it needs a package by 4 p.m. or it won't be delivered the next day. A local courier may accept shipments up to midnight. More flexibility equates to better customer service for shippers.

In addition, the cost of using local delivery is equivalent to, or better than, express carriers in many cases because it's a non-unionized industry with fewer marketing costs.

What are the constraints on using local couriers?

Shippers that have local inventory benefit from using couriers—whether it's to serve retail storefronts or multiple DCs. This is why Amazon is pushing all its distribution centers out to multiple markets. Companies that are centralized, with one or two DCs, will have limited access to the local delivery industry because they don't have inventory there.

(continued on page 20)



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(continued from page 18)

Shippers can get around that by building a truckload, shipping it into a market, and tapping a local carrier at the cross-dock—but they need significant volume to make it worthwhile.

How does a local delivery strategy enable same-day delivery?

Local delivery is service level-driven. It's about the retail storefront becoming a DC. Retailers can offer same-day delivery—order in the morning, deliver in the afternoon—at reasonable pricing on a national scale if they have that type of local delivery partnership.

I don't expect the emergence of same-day to be a service consumers ask for; rather it's a service the competitive environment forces retailers into. eBay and Google offer same-day delivery programs. Amazon now has 64 DCs located close to cities for that reason. The moment competitors offer that delivery option, others have to as well.

Retailers also started talking about one-hour delivery because they can do it. The reason Amazon can't is because its DCs are in suburban outlying areas. One-hour delivery is still an expensive option, equivalent to a taxi ride—pick up an item at the store and deliver it directly to the customer. It's a premium service where retailers can win.

We've heard speculation about some retailers looking to crowdsource delivery. Is this realistic?

Crowdsourcing delivery is a matter of identifying how to dispatch jobs directly to drivers. It has to be a curated experience, with quality standards and background checks. You have to collect information about the quality of the experience and rate the driver.

All independent contractors are capable of picking up from a retail store and delivering direct to the consumer as long as they are enabled with the technology to make it happen.

Retailers going directly to a driver is even cheaper than working through a courier. That model, as it evolves, will be highly disruptive to the local delivery market.

Ocean Carrier Industry Awash in Risk

The ocean freight industry has been anchored by excess capacity and challenged by shifting demand over the past few years. Steamship lines are jockeying assets and expanding alliances to create more stability. But it may not be enough.

The container shipping industry's financial distress has hit its highest level since 2010, suggests a recent report by consulting firm AlixPartners.

The study, which analyzes the world's 15 publicly traded carriers, documents several concerns, including a drive to build, fill, and route mega-ships.



The container shipping industry is facing the greatest risk of financial distress in years, according to an AlixPartners study.

is creating an environment of haves and have-nots, where smaller carriers, in particular, may face some hard choices moving forward.

AlixPartners also contends that changing trade routes in some parts of the world, cost trumping transit time, and a newfound pressure on the part of some of the stronger lines to squeeze, or even totally bypass, NVOCCs are creating further imbalances in the worldwide fleet.

To hedge against these risks, the study urges shippers to:

- Monitor carriers' financial health.
- Avoid "over-consolidating" so they don't have alternatives.
- Consider index-linked contract options.
- Benchmark rates and service levels via objective third-party resources.

Retailers Make Labor Day Plans

Although container truck drivers servicing Port Metro Vancouver recently reached a deal to end a prolonged strike, that labor impasse was a wakeup call for U.S. importers—not that they needed another reminder. The 2002 West Coast port strike, and more recent stoppages nationwide in 2012 and 2013, serve as cautionary cues.

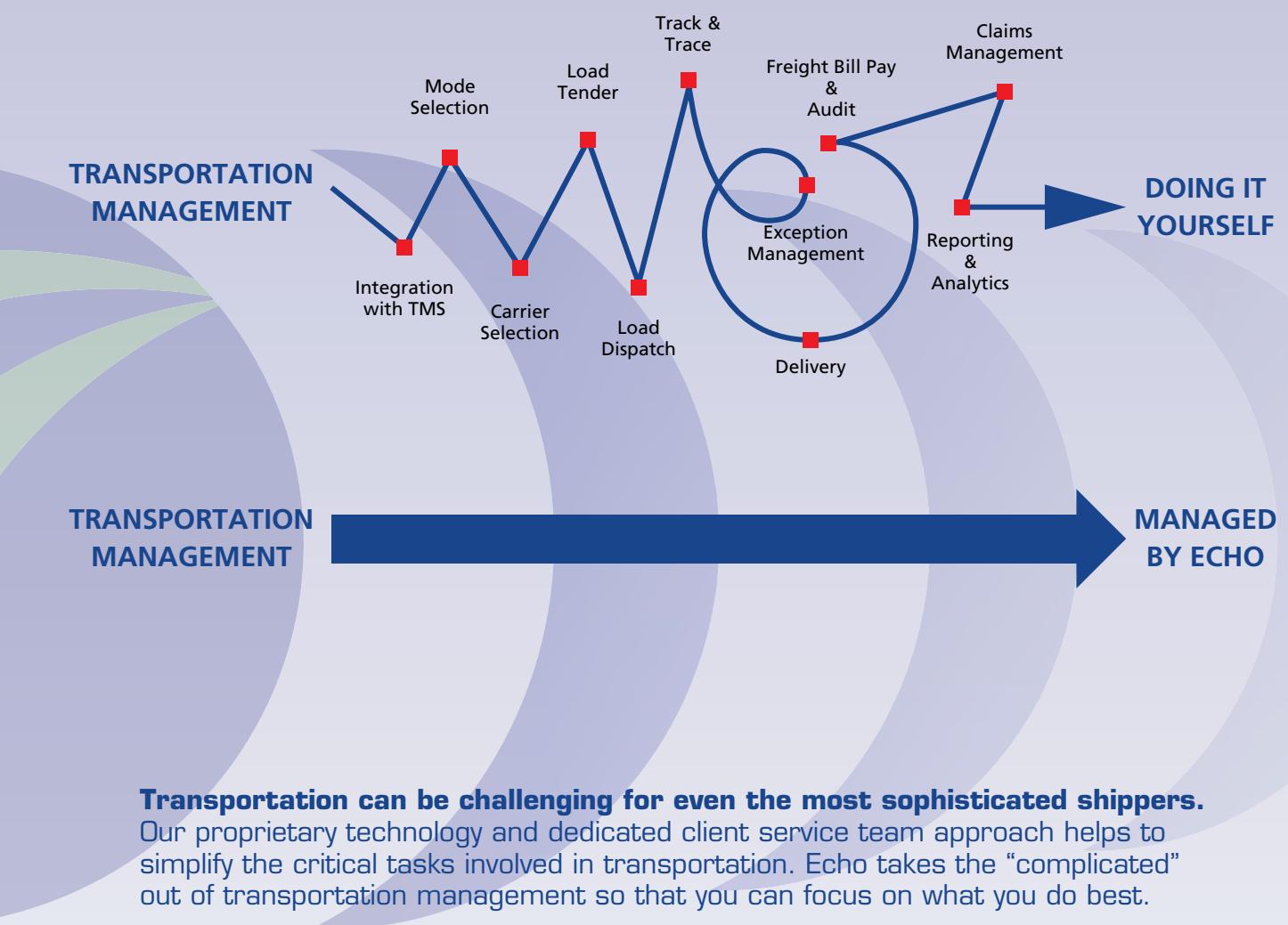
But as the June 30, 2014, expiration date for the International Longshore and Warehouse Union's (ILWU) six-year

labor contract with the Pacific Maritime Association nears, shippers are on high alert.

Labor strikes are a recurring concern for logisticians who manage supply lines pulled taut to demand. And it was a focal point of the March 2014 Georgia Logistics Summit. While panelists at an import session voiced cautious optimism that a resolution would be quickly reached after

(continued on page 22)

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posturing from both sides, they also hedged against the alternative.

For instance, Brentwood, Tenn.-based farm and ranch retail chain Tractor Supply Company (TSC) shared how it opened a hybrid regional DC and import center in Macon, Ga., in 2013. The facility is purposed to restock both stores and other warehouses. It can accommodate bulk buys and full pallet loads coming through Savannah when local demand elsewhere in its network is more nuanced.

Creating additional inventory latitude and bandwidth in the event of an exception was one factor that drove the Macon deployment. "We can replenish inventory to other DCs out of our import center with minimal disruption, unless the problem is long term," says Kyle Fletcher, general manager of the Macon center.

Another panelist, big-box juggernaut Target, is also proactively working to circumvent potential bottlenecks come July. "We made plans to divert some critical products if we need to," says Steve Carter, Target's director of global logistics planning and strategy.



Many retailers are acting to minimize supply chain disruptions caused by labor stoppages. Tractor Supply Co., for example, opened a combined regional DC and import center that can restock local stores as well as accommodate bulk shipments during a strike.

For Target, it's less a matter of increasing inventory and more about preemptively routing shipments elsewhere. The company has built resiliency and responsiveness into its supply chain by design.

Target directly imports about 30 percent of its product. It also sources indirect imports through domestic vendors—Mattel

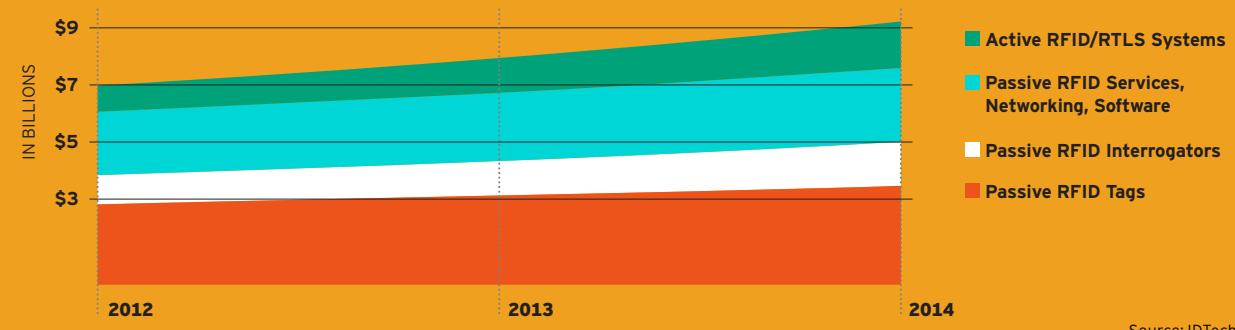
is one example. Most shipments originate in Shanghai and Shenzhen in China, then come through Long Beach and Seattle on the West Coast, and Norfolk and Savannah on the East Coast. It's a 65 percent/35 percent balance west to east.

Following the Sept. 11, 2001, terrorist attacks, Target decided to become more

RFID Identifies Robust Market Growth

The hype surrounding radio frequency identification (RFID) may finally be living up to expectations. The global RFID industry is primed for significant growth over the next decade, according to new research conducted by Boston-based market intelligence firm IDTechEx. The market—which includes tags, readers, software, and services for passive and active RFID—will grow from \$7.88 billion in 2013 to \$9.2 billion in 2014, and surpass \$30 billion by 2024.

In the near term, passive UHF tags will see rapid sales growth, from a total of more than three billion tags in 2013 to 3.9 billion tags in 2014. Fewer passive HF tags will be sold in 2014 (2.5 billion), but they come with a higher average sales price, so the money spent will be almost 10 times more. The highest volume sector for passive UHF systems is retail apparel, which still has some way to go, with RFID penetrating only about seven percent of the total addressable market in 2014.



proactive in sourcing offshore. As a charter member of the Customs-Trade Partnership Against Terrorism (C-TPAT), it began taking control of inbound transport from the point of origin. With its overseas suppliers, especially in China, all freight is shipped Free Carrier (FCA), which means "we pick up product at the factory in China or Vietnam," says Carter.

In addition to facilitating security and compliance, taking ownership of the product and process farther upstream makes good business sense. "When you take control of the supply chain, you find all kinds of hidden costs," Carter adds, referencing the labyrinth of customs zones, container freight stations, and middlemen shippers have to navigate in China.

Target is leveraging these intermediaries to help gain more control. It developed an in-house overseas transportation management system, then deployed people on the ground in Shanghai and Shenzhen to work directly with local truckers.

"In China, the average trucking company fleet is three to five trucks; it's very fragmented," Carter adds. "By taking control, we injected money into several carriers. Now they operate hundreds of brand new, all standard trucks."

One challenge Target and other companies face as they try to make inroads in areas such as China, Vietnam, and India is the lack of infrastructure. Absent adequate resources, visibility is also limited. That's why control upstream is important—especially when the potential for disruptions is imminent.

Other shippers have fewer options and less leverage as they look to mediate exceptions. For example, Floor & Decor, an Atlanta-based flooring retailer with 39 stores primarily in the U.S. Southeast, Southwest, and Midwest, is the epitome of demand-driven. "Flooring is a fashion item, and we want to make sure we're in sync with what the market wants," says Becky Bowling, director of international logistics.

The company empowers local store managers—referred to as chief executive merchants—to own the assortment of products they sell. So, in effect, no two stores are alike. Each reflects the unique market it serves.

Floor & Decor relies heavily on imported product from China, Europe, the Mediterranean, South America, and Mexico. It operates four DCs in Los Angeles, Houston, Savannah, and Miami. Floor surfaces and tiles are heavy, so containers often max out on weight rather than cube. Because transport cost is often upward of 70 percent of total expense, the company depends on a port-centric network of hubs to reduce dray distances.

Invariably, the company is sensitive to port disruptions. "It's hard to create a contingency plan without losing the entire margin on a product because the top is so thin to begin with," says Bowling.

To offset potential labor problems, the company will likely carry more inventory for higher demand items, use air freight if necessary, and re-route shipments. ■

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THE WORLD AT A GLANCE

by Joseph O'Reilly



U.S. Creates 'Single Window' for Import/Export Data Transmission

The U.S. government has always been light years behind the private sector in technology innovation and implementation. So President Barack Obama's executive order to streamline U.S. import and export documentation shines a ray of light on the trade community as the government emerges from the Dark Ages of paper-laden processes.

The new International Trade Data System (ITDS), which is expected to go into effect by December 2016, "allows businesses to electronically transmit, through a 'single-window,' the data required by the U.S. government to import or export cargo," according to a White House statement.

Shippers and U.S. agencies still largely communicate information using

paper-based documentation, which adds extra cost and time to the compliance process.

"With the single window, an importer/exporter can provide—through one transmission—not only data that Customs requires to release a shipment, but additional information that another government agency might need based on the product," explains Travis Hull, director of business services for Toronto-based customs broker Livingston International. "Customs can share that data with any government agency through the concept of interoperability."

The ITDS has been in the works for some time, but ran into Congressional inertia—the reason for the executive

order. Considering that 47 government agencies—several with official hold authority—work with Customs to review and release goods, public and private sectors can seize a huge opportunity to improve collaboration and streamline the process.

"While the Customs Reauthorization Bill is currently held up in Congress, the ITDS is a great step forward to try to meet some global commitments the United States has made as part of the World Trade Organization trade facilitation agreement," explains Eugene Laney, vice president for international trade affairs at DHL Express.

The single window model is not unique. Mexico, Korea, Japan, and Singapore have endeavored to create the same unified process.

"Defining exactly what a single window model is depends on who you talk to," says Laney. "Ideally, someone imports a

product and gets one release. In many countries, however, an imported product may be released by Customs 98 percent of the time, but it also has to go through other authorities with jurisdiction over that product."

Large companies often employ compliance teams who can handle the madness and minutia of dealing with government bureaucracy. But for small organizations without the resources to navigate regulatory mazes, the time and cost can be considerable and cumbersome.

The upside to getting government agencies and shippers/consignees working more collaboratively through a single-window platform is clear: faster turnarounds. But the ITDS could have a more significant impact farther upstream in the supply chain.

"If you're trading in data, rather than paper, government can more quickly identify your product as compliant, legitimate trade, and provide release determinations," says Hull. "The interface between agencies will be electronic rather than some other form of communication."

Just getting agencies to communicate electronically compared to other archaic means is a win. But shippers also have an opportunity to harmonize data to ensure compliance, speed processing, and receive more accurate and timely information about a shipment in transit.

"Moving everything to a database or data-driven functionality allows shippers to centralize processing," says Laney.

For example, if a company is importing a product from Germany to the United States, trade data could be submitted once in Europe, and the consignee/shipper would know whether a product will be released or held before it reaches final destination.

If all the information a government agency requires can be aggregated and shared at the point of origin in one data dump, acceptance at the U.S. border becomes a formality. It provides greater assurances to shippers, and allows them to more accurately plan moves farther downstream in the supply chain.

The other potential benefit of the

ITDS is getting government and industry to review the data elements currently required, and identify redundancies or areas where they can standardize inputs.

A few pilot programs are currently in the works to test the feasibility of the new system, says Hull. As these projects move forward, shippers will likely have opportunities to engage Customs and learn more about ITDS.

China Rolls Dice On Yangtze River Project

Government officials in China have confirmed plans to build three major shipping centers along the Yangtze River—the Shanghai international shipping center located downstream, the Wuhan shipping center located mid-stream, and the Chongqing shipping center located upstream, reports the *Want China Times*. The expectation is that better infrastructure

Deutsche Post Expresses Economic Optimism

Deutsche Post's forecast for 2014 could be a good omen for Europe's economic recovery. The world's largest courier company, with headquarters in Bonn, Germany, expects its international express business to grow after a strong finish in 2013.

E-commerce continues to drive package delivery, and Deutsche Post's projections validate this worldwide trend. The company benefitted from an uptick in online shipping and parcel deliveries during the 2013 holidays, as did UPS

and FedEx. Whether that surge in consumer spending catalyzes into sustainable long-term economic growth is still in question.

"The economy may improve a bit, but a strong global recovery will take more time to materialize," said Frank Appel, CEO

Deutsche Post, during a recent earnings call with reporters. "Nonetheless, we intend to continue our positive earnings momentum."

Appel noted the strong growth coming out of Spain,

Italy, and Greece, where small businesses are looking to export as domestic demand remains sluggish. The growing importance of small and medium-sized businesses in global commerce is a

continuing trend. Moreover, Deutsche Post's DHL brand's time-definite international service, which provides door-to-door next-day delivery, is growing faster than UPS, FedEx, and TNT.



Deutsche Post continues to perform well in a challenging business environment, according to a recent earnings report by CEO Frank Appel.



China is seeking to drive growth by developing logistics centers along the Yangtze River.

will help boost development of the Panxi-Liupanshui region.

The area, located due north of Vietnam and Laos in south central China, features abundant natural resources such as timber, coal, limestone, and tobacco. But it remains impoverished and underdeveloped. Authorities believe that by developing logistics centers farther upstream on the river, they can drive growth along the entire Yangtze economic belt.

This project is part of a broader national blueprint enacted by the Chinese government to make the river a more competitive option for commerce. The Yangtze is already the world's busiest inland river shipping corridor, ferrying 1.9 billion tons of cargo in 2013.

Trade Imbalance Tops NAFTA Summit

Canadian Prime Minister Stephen Harper acknowledged an imbalance in the Canada-Mexico trading relationship during a recent summit in Mexico City marking the 20th anniversary of the trade pact between North America's three largest economies.

Two-way trade between the countries totaled \$28 billion, according to data from Canada's parliament. But three-quarters of that activity is focused on imports from Mexico. Exports to Mexico from Canada were \$4.8 billion as of 2012. Data also indicates the stock of Mexican direct investment in Canada totaled \$109 million in 2011—a fraction compared to Canada's \$5-billion investment in Mexico over the same time period.

One area where Canadian businesses stand to make inroads, and help offset this imbalance, is in Mexico's emerging energy boom. As Mexican President Enrique Pena Nieto looks to open up the country's mining sector and boost production, foreign investment will be key. Canada's expertise in energy exploration and production could position domestic companies favorably as they tap into this new growth market.

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Mexico Rail Reform Off Track

Mexico has been busy lately, enacting economic reforms to stoke competition, reduce costs, and improve service. But railroad officials are now calling on the government to ease further restructuring to ensure industry continues to invest in infrastructure.

Lorenzo Reyes, COO of Grupo México subsidiary Ferromex, argues that rail freight reform will hinder capital expenditure and impede progress as the country's railroads expand. He and his counterparts say opening the market to more competition will reduce service levels and investment.

The opposition comes after Mexico's lower house of Congress approved a rail freight reform law in February 2014 that seeks to open up an industry dominated by a duopoly between Grupo México's Ferromex and Ferrosur railroads and



Senior management at Ferromex, Mexico's largest railroad operator, argue that approval of freight rail reforms will reduce investment in the Mexican rail system.

Kansas City Southern de México.

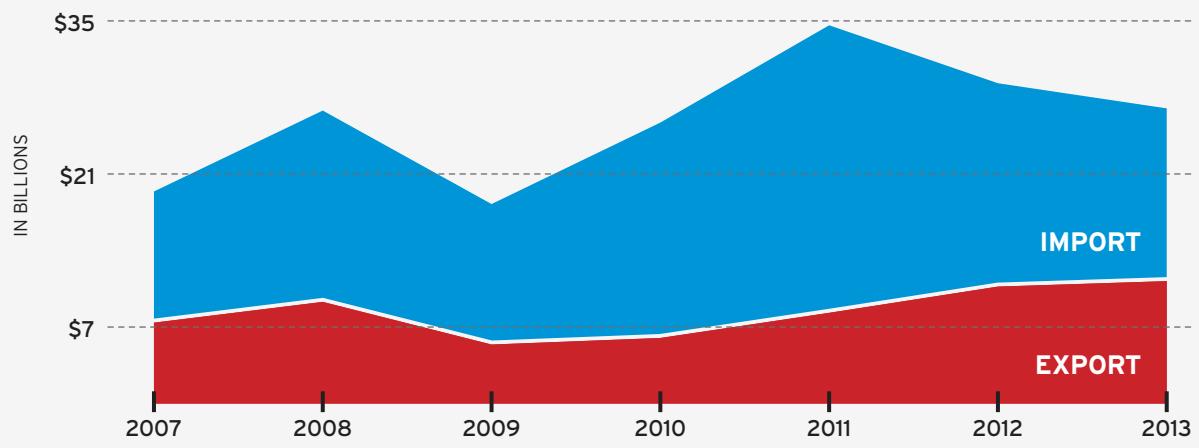
The railroads object that the freight reform law would violate their concessions, which still have 15 years of exclusivity. They also believe this reversal would set a bad precedent as Mexico seeks new

investment to tap its oil and gas potential.

Ferromex CEO Rogelio Velez also warned the government that Union Pacific, which owns about one-quarter of Ferromex, will pull investment if the bill moves forward. ■

U.S. Trade With Russia by Total Value

U.S. trade with Russia may slow in 2014 as tensions rise between the two nations. Most U.S. imports from Russia include fuel oil and industrial products, which have been the topic of new U.S. government sanctions. In 2013, the U.S. imported more than \$26 billion in goods from Russia, a steady decline since 2011. U.S. exports to Russia have risen in the past few years, and peaked in 2013 at more than \$11 billion. If new sanctions are imposed, this chart may look very different in 2014.



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Plan Better Truck Routes: Long-range Itinerary Generation Enhances Operations

Not so long ago, route planning, fleet optimization, and driver allocation relied almost exclusively on the guile, instincts, and experience of operations managers and dispatch personnel. Long-range forecasting was theoretical at best. The tools used static data, and couldn't handle the inevitable adjustments required by the dynamics of day-to-day operations. This is changing fast. While operations and dispatch personnel's skill and knowledge will always be vital, the tools available today – long-range trend analysis and planning – make for better, faster, more cost-effective decision-making. This is changing the competitive landscape.

Dealing with Realities of the Road

Data is helpful only if it's usable to make better decisions. The challenge all logistics companies have historically faced is the relevance of long-range trend data to short-term operational decision-making. With the tremendous evolution in analytical tools and ability to integrate decision rules and processes into tool sets, the foundation to create far more meaningful links between long-range planning and real-world agility is changing the paradigm.

Solving the Problem

HP was asked to look at ways to build route plans that would more efficiently use driving resources within a very large service area. There were a number of required business rules, including company and DOT driving constraints. It was very clear from the beginning that longer planning, using seasonal, volume, and trend analytics coupled with real-time data captured from multiple sources – sales, operations, maintenance, weather forecast, and road conditions – could satisfy the demand for capacity. And direct cost and resources needed to meet those demands could be optimized.

Like most logistics issues, the problem has three dimensions:

1. **Who** – or a combination of several who's in the case of team loads or tag, relay loads – should carry a given load?
2. **What** order should they schedule loads?
3. **When** – in this case – is the optimal sequence of geography, load balancing, customer delivery, and pickup windows?

To meet this challenge, alternative itineraries and resource maps were generated for each driver or load, derived through a rules-based decision support engine – and the optimal one was selected for each.

Gaining Ground with Long-range Planning

What are the benefits of looking farther ahead during the planning cycle? First, transportation companies can improve the ratio of revenue to empty miles. Expected savings from better routing will vary – depending on the firm's business practices. But reasonably, they can be expected to range from two percent to 10 percent of total miles driven. For a 500-truck fleet, 2,500 miles per truck per week and \$1 operating cost per mile translate into \$1.3 million to \$6.5 million in annual savings. This does not include the extra capacity now available because empty miles are not being driven.

Second, one surprising result was observed when implementing the long-range planning system: an increase in backhaul activity. The increase occurred because fleets got the right truck to the backhaul origin as a result of the increased visibility that long-range planning provides.

Long-range planning systems also make allocating and dispatching personnel more productive. While certain aspects of the driver-dispatcher relationship will not change, fewer dispatchers can support a larger number of drivers. Operators can move to a management-by-exception mode, with some assignments automatically accepted and forwarded to the driver for execution.

Increased driver satisfaction is another benefit. Some operations have trouble attracting and retaining drivers. Increasing driver pay is usually not an option, and the cost of finding and hiring drivers is high. Long-range planning allows drivers to be home when promised, increasing driver satisfaction and retention rates.

Total savings from these measures can be considerable. And additional savings can be realized by handling some loads on contracted or private fleet capacity, rather than a short-term, spot basis. Long-term traffic lanes, currently handled by outside carriers, can be assigned to in-house resources.

Drive Home Operational Efficiency

Investing in a rules-based, analytics decision-making engine that links long-range planning with the need for short-term agility is a compelling proposition. It holds the promise of better managing assets, preserving capital, and increasing driver retention and customer satisfaction, which all drive better margins and operational efficiency.

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Fusing Big Data and the Supply Chain: The Future is NOW

Only 8% of shippers and 5% of 3PLs surveyed have implemented Big Data initiatives involving the supply chain, according to the 2014 18th Annual Third-Party Logistics Study produced by Dr. C. John Langley and Capgemini Consulting. Conversely, nearly all shippers and third-party logistics providers believe Big Data is vital in future 3PL efforts to help shippers improve tactical and strategic operation of their supply chains. A similar study by eyefortransport shows 84% of executives working in supply chain or logistics think that Big Data will have a significant impact on their company.

If the demand among shippers and 3PLs for Big Data solutions is so high, why haven't more of them built and implemented their own?

Expense clearly is a factor. Leading enterprises capitalizing on Big Data are investing millions in technology and human capital to capture those elusive strategic insights in the cloud. Data management challenges are also a major obstacle to development. According to Langley, only half of shippers and 3PLs surveyed have access to necessary supply chain and operations data to construct viable Big Data solutions. Langley states that other major challenges are "a disconnect between internal supply chain and Information Technology operations and a lack of supporting IT infrastructure."

Popular first steps toward incorporating Big Data in the supply chain focus on leveraging structured data in spreadsheets and databases to improve supply chain visibility, geo-location/mapping and product traceability. But there's more than that to a Big Data solution. Recent statistics show the following:

- More than 90% of data in the world today has been created in the last two years, with 80% of it being unstructured, such as images, audio, video, social media, web pages and emails.
- 1.8 trillion gigabytes of new data were created in 2011.
- Data is expanding at a rate that doubles every two years.
- By 2020, the digital universe will be 40 trillion gigabytes.
- Most U.S. companies have at least 100 terabytes stored.

The Internet of Things (IoT) is another significant factor that is shaping the supply chain. By some estimates, in 2020 we will see over 200 billion devices/sensors/gizmos collecting data from manufacturing line throughput to Point of Sale (POS) information, all in real time.

But how do shippers leverage all of this data – and a growing list of data sources – to improve their decision-making? Where do they store that data once they obtain it?

Leading the development of powerful Big Data solutions is LEAN Enterprise Logistics Provider Transportation Insight. Insight Fusion™, Transportation Insight's proprietary interactive business intelligence

engine, assimilates and fuses data from multiple, disparate sources and formats, transforming it into actionable business intelligence delivered directly to clients. Clients then use that powerful BI to orchestrate time-critical supply chain activities. As a result, clients obtain competitive advantage they might have never envisioned.

Transportation Insight clients are turning to Insight Fusion as the answer to their Big Data challenges because it:

- Makes information more transparent, usable and available
- Provides accurate operational information on everything from inventories to transit times
- Sharpens understanding of variations and boosts performance
- Encourages better customer segmentation to improve targeting of products or services
- Supports creation of sophisticated analytics that enable real-time decision-making rather than reaction to historical trends
- Improves the next generation of goods and services
- Offers access to a web-based Big Data solution that grows with their business, without massive capital investment
- Impacts profitability through reduction of supply chain costs
- Enhances demand planning and sales and operations planning

By partnering with Transportation Insight, shippers leverage this innovative technology to realize these benefits. Executive leaders understand the enormous potential in strategically leveraging supply chain data to win in their industry and increase long-term enterprise value.

Transportation Insight helps companies overcome complex Big Data challenges. Further, Transportation Insight's bundled logistics solutions empower clients to become better companies by improving processes, reducing logistics-related costs and providing strategic business insight. Insight Fusion, Transportation Insight's game-changing business intelligence tool, allows clients to access and manage massive volumes of fused and unstructured data, to accurately interpret that data with end-to-end visibility and to adapt to supply chain changes with high velocity.

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Tom Heine, CEO, Aljex Software
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Invest in Productivity

Start with what I consider low-hanging fruit – any investment in productivity that pays for itself in less than one year.

Think about that return: 100 percent in one year.

If you bought a portfolio of stocks and it went up 15 percent in one year, you would be a savvy investor. Earn 20 to 30 percent, and you are either very lucky or you are investing in a pyramid scheme.

In your business, you can reach for much higher returns – returns that either increase profits, lower costs compared to your competitors, or both.

Some low-hanging fruit is simple to pick in almost every company. Start with the basic technology used in virtually every office.

For example, I read in the *Wall Street Journal* that the average employee loses about five days every year to slow computers. What a waste – especially when fast systems are so cheap. More importantly for morale, nothing says "We don't care about your productivity" like a slow computer.

Think about how good you feel when you're working on a new, fast computer. If you have access to a great computer, don't you get more done?

In my opinion, new computers are great morale builders. A great computer costs maybe \$800; a nice 28-inch monitor, maybe \$250 or \$300. So you invest \$1,100 in your \$40,000 to \$100,000 employee, and you get to depreciate it. Over the three-year lifespan of a PC, what is your net cost per year? Almost zero! What do you gain? Your employees can move more freight, answer more calls, and give quicker answers.

Multiple monitors should be considered low-hanging fruit. Every extra monitor you provide your employee is a \$200 to \$300 investment. The more monitors each employee has, the better.

Having multiple monitors is amazingly beneficial. You can see more; copy and paste faster between two applications; monitor your in-box more easily; and greatly increase productivity.

Now let's take it to the next level: A super-fast computer with four video heads is maybe \$1,600; three extra monitors cost another \$750. For a total of \$2,350, you can equip an employee with a top-of-the-line, super-fast computer and four monitors. Yes, you can upgrade for half that price, but why would you when you can gain productivity?

Another smart investment is faster Internet service. I have been to offices where the Internet is not nearly as fast as it could be. Those owners are paying while their people wait for screens to draw and files to upload. Upgrading the Internet connection saves everyone time – from top executives to summer interns. The Internet is your link to your customers and vendors, to your GPS systems and your EDI partners. It's crazy not to get the fastest service in your area.

Another great investment is updating to faster software. You're not really saving with slow, inefficient software. Sure, you spend less on the software, but you are paying for the time it costs your employees. And their time is very expensive – by far your number-one expense.

If you had to dig a very big hole, would you hire a person with a shovel or would you hire a person and provide them a bulldozer? Why not give each employee the most productive tools out there? If you can get more from each person, why not equip them with the most efficient tools? The economics are the same as those for faster computers, monitors, software, and Internet.

Every second that someone is waiting instead of working is lost forever, and a good percentage of any investment that speeds up high-cost employees goes directly to your bottom line.

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Access to Reliable Transportation Regardless of Transportation Market Conditions

Over the past 25 years I've been in Supply Chain, I've come to the realization transportation rates are difficult to forecast due to elastic variables (perceived or real) in the supply chain. Depending upon your role and point of view, rates could increase by low single digits or double digits over the next year.

You are probably asking yourself, "How can this be?" It's well documented the headwinds the carrier community faces: changes in HOS, rising equipment costs, and higher fuel costs to name a few. In addition, the winter storms that swept across the United States have caused equipment shortages in certain markets. Consequently, capacity is tighter than usual heading into spring retail season. The near term economic outlook is favorable for the trucking industry.

The degree in which shippers experience supply chain disruptions from both service and cost heading into the busy season depends on several variables; one of which I believe to be the most important is whether carriers view customers as a "shippers of choice" or a "transactional partner". The answer to this question will dictate how well organizations perform during uncertain times.

Averages simply do not work during times of supply chain uncertainty. Organizations that are viewed as "shippers of choice" are less likely to experience changes in performance levels during times of tightened capacity and will be on the lower end of the price increase spectrum. The inverse is true for those shippers who are viewed as transactional customers. These companies will more than likely see a decline in performance levels while paying higher rates to secure capacity.

The keys to becoming a shipper of choice seem basic, however seldom followed by organizations.

Key criteria to be a "shipper of choice":

1. Carrier Strategy – develop an overarching carrier strategy that is complementary to your business and takes into consideration different modes and partnerships to include: dedicated, intermodal,

brokerage, and asset-based carriers, as well as national and regional partnerships. Align organization with relationships that are mutually beneficial for all partnerships. This will provide the foundation for sustainable relationships that provide business continuity.

2. Transportation Visibility – ensure expectations are clear and understood by all parties. Set up TMS to execute on commitments and measure performance. Keys to success include establishing and managing to agreed upon performance levels that include the following criteria:

- Routing guide compliance
- Tender acceptance
- Appointment scheduling
- Loading and unloading times
- On-time performance
- Web-settlement (timely payment)

3. Business Partnerships – successful relationships require consistent communication and commitment. Regularly scheduled meetings to review tactical and strategic initiatives are imperative to long-term success. Best-in-class partnerships have regular cadence of reviews that include:

- Bi-weekly tactical meetings to review performance (include Analysts and Managers)
- Monthly meetings to discuss forecast and review performance (Directors and Managers)
- Quarterly Top-to-Top meetings – Strategic in nature to include (VPs, Directors and Managers)

The one consistency in transportation is the ever changing demands of supply and demand. The organizations that have a clear strategy around transportation management, processes and technologies in place to manage the business, and passionate and dedicated staff are the ones who will consistently deliver high levels of service at the lowest costs; regardless of marketplace conditions.

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Automating Key Steps to Strategically Optimize Inbound Supply Chains

The increasing growth and complexity of global trade means organizations must work with a range of partners, suppliers and functional teams within the organization. Best in class companies use a variety of global trade automation tools to lower inbound costs and improve processes. According to a recent AberdeenGroup report, "Strategic Inbound Optimization: Foreign Trade Zones and Reshoring Increase," over 85 percent of companies recognize the importance of strategically optimizing their inbound processes.

Based on AberdeenGroup's research, best in class companies automate several key inbound strategic actions. Some of the results achieved include:

1. Optimization of carrier selection, shipment consolidation and multi-leg and multi-mode optimization. Managing the flow of goods across borders involves many more steps and parties than a domestic move. As such, companies need solutions tailored to addressing international transportation management. The benefits of automating these steps include reduced transportation costs; improved customer service with increased on-time deliveries; minimizing freight expediting costs and increasing operational efficiencies by eliminating manually intensive processes. An end-to-end international transportation management system addresses several issues, including: contract and rate management; carrier selection and booking; route optimization; retrieving and comparing rates across multiple legs, transhipment points, weight tiers, providers, and services.

2. Accurate landed cost calculations. The logistics costs associated with operating a global supply chain can be 6 to 11 percent of revenue, roughly 3 to 5 times more than a domestic supply network. These logistics costs are not transparent. Companies must calculate fluctuating rates from accessoriels, such as fuel adjustment factors; determine total shipment cost with multiple charge elements not traditionally available in one format or from a single source; compare all available routes under contract; and centrally manage international transportation contracts to ensure company-wide standard practices and visibility.

3. Dynamic hub optimization. A single data repository accessible company-wide allows individuals to access the wealth of operational data available in logistics, compliance and trade processes. This data can then be used to run reports or manage and share key metrics and operational data across compliance, logistics and procurement domains; make data-driven decisions; develop continuous improvement programs; and have one aggregated source of cleansed data.

4. Real-time supply chain control. Real time control, including alerts and event management capabilities, allows companies to respond rapidly to supply chain events; realign sourcing, mode or routes as needed; redirect in-transit flows and orders in response to higher demands or inventory imbalances; and support programs such as DC Bypass. Other benefits include lessening operational bottlenecks and reducing cycle times; eliminating excess inventory; minimizing expedited shipments; and improving customer service. Organizations can also collect and analyze key compliance metrics from real-time control to improve operations.

5. Inbound/global trade functionality. Companies gain many benefits by adding global trade automation to their inbound processes. In addition to gaining complete visibility into the import process, reducing inbound cycle times and decreasing supply chain costs, and improving landed cost accuracy, companies can proactively manage the import process; improve regulatory data accuracy and reduce errors; intelligently screen trading partners and other entities; and ensure adherence to import compliance regulations. Automating document management, entry management, post-entry actions, product classification and admissibility review and security filing are all processes that facilitate inbound supply chain management.

6. Improvement of suppliers' information exchange. Automating supplier management increases supplier order fill rates and order accuracy; lowers inventory safety stock levels; shortens inbound supply lead times and order cycle times; improves purchase order (PO) compliance and reduces regulatory risks; increases inbound supply predictability; streamlines the PO import process and reduces brokerage fees.



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[3PL LINE]

BY SEAN COAKLEY

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Laying the Foundation For a Long-Term 3PL Partnership

Many companies start working with a third-party logistics (3PL) provider to fix an isolated problem at the lowest possible cost. Unfortunately, these relationships are often short-lived and serve only to fill an operational gap. But thoughtfully planned 3PL partnerships can produce invaluable results using a long-term approach that focuses on sustainable operational gains, rather than a temporary price break.

Achieving sustainable partnerships begins with first impressions—namely the 3PL's presentation of its capabilities, services, and principles. Initial sales calls or consultations should not be about driving a hard bargain. Instead, they should focus on identifying pain points and ensuring an alignment of vision and values. This will lay the foundation toward mutually beneficial collaboration, rather than an arrangement in which one party “wins” at the expense of the other.

The University of Tennessee (UT) has conducted extensive research on a business model called vested outsourcing, which coordinates the customer and service provider in a balanced, long-term relationship.

The most effective partnerships require little discussion about the service provider's processes. The focus is on the outcomes, which are expressed in terms

of a limited set of high-level metrics.

“Under the purest form of vested outsourcing, the customer pays only for results, not transactions; rather than being paid for the activity performed, service providers are paid for the value delivered by their overall solution,” says Kate Vitasek, UT faculty member.

The 5 Rules of Vested Outsourcing encourage partners to:

1. Lay the foundation
2. Understand the business
3. Align interests
4. Establish the contract
5. Manage performance

Constant Attention

The last rule is not focused on deliverables, but rather the ongoing development of the relationship between the 3PL and shipper. Both should repeatedly evaluate the effectiveness of

the team, the communication flow, and execution strategies.

Implementing this kind of partnership isn't easy. Both the shipper and 3PL may need to overcome a long-standing culture of winner vs. loser price bargaining. Each should approach the partnership with a “servant leadership” mentality, indicating a willingness to make sacrifices in the interest of cumulative reward.

As you begin your partnership, you also need to establish boundaries for each party. Sometimes called guardrails, these checkpoints ensure that both parties are oriented toward the desired outcomes. Identify the major steps that will propel you toward your goals, but also schedule key dates to check in with the team and measure success. If progress is lagging, it may be necessary to revisit the original plan and modify goals or processes.

Establishing the right set of measurement criteria is vital to saving time and money. But, a work plan that is too stringent can inhibit the 3PL from tapping into its creative expertise to reach intended objectives.

The 3PL-shipper relationship should be focused on results, creating a sustainable partnership that delivers long-term success for all parties. ■



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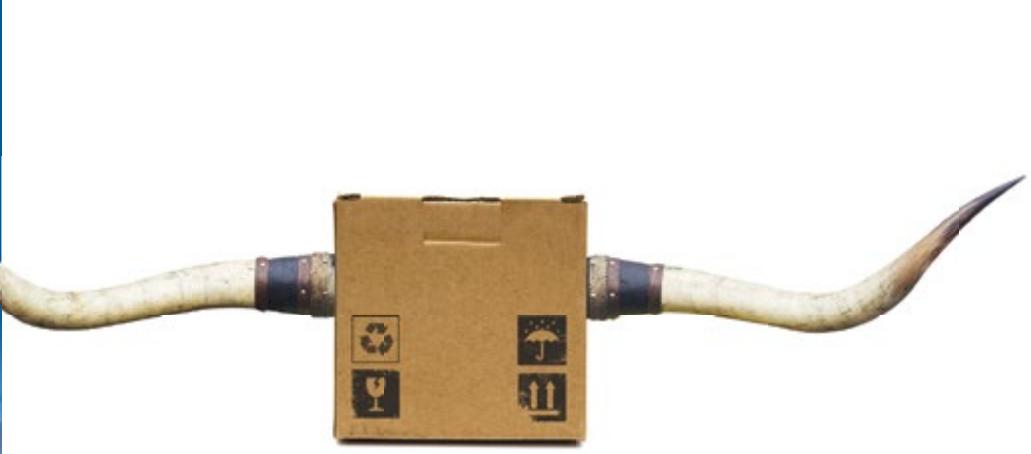
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THE LEAN SUPPLY CHAIN

BY PAUL A. MYERSON

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Streamlining Inventory Through SKU Rationalization

While supply chain and logistics managers pursuing Lean operations generally seek to eliminate excess inventory, sales and marketing programs often lead companies to increase the volume of products they keep in stock.

During the past few decades, the number of stockkeeping units (SKUs) retailers offer has soared. For example, in 1970, the average grocery store carried 7,000 SKUs. Today the average is more than 40,000.

This surge is the result of several factors, including increased popularity of private label brands; brand extensions, such as low-sodium and low-fat versions of existing products; shorter product development cycles and lifecycles; and the emergence of mass customization.

The Price of Holding On

Managing the increased number of SKUs has proven difficult for manufacturers, wholesalers, and retailers. Many logistics executives and business owners are in denial when it comes to paring down inventory. They don't always realize that the longer the inventory stays around, the more it costs them.

Carrying or holding costs—the money spent to keep and maintain a stock of

goods in storage—can range from an extra 15 percent to 40 percent of the product cost every year.

Companies can always make excuses to keep slow-moving products or inactive inventory around:

"The customer may want it eventually."
"It's still selling."

"We spent \$25,000 on the mold for this item."

SKU rationalization—analyzing the merits of adding, maintaining, or removing items from a retailer's range of products—is a valuable Lean process that can help streamline inventory.

One of the best ways to start a SKU rationalization project is to conduct an ABC analysis of current inventory.

ABC inventory management uses the Pareto Principle—also known as the 80/20 rule—to identify the relatively few items that contribute the most revenue or profit to the bottom line (the A-ranked products), and the many items that don't contribute much, other

than taking up space and money (the C-ranked products).

An example of how extreme this imbalance can get is a craft supplies distributor that had 5,000 SKUs in inventory. Of those, only two percent—or 105 products—were considered A items. The company's situation was so extreme that analysts assigned a D ranking to the more than 4,000 stock items that generated only five percent of annual sales.

After the ABC analysis, the next—and often more challenging—step is developing a plan to dispose of excess or inactive inventory. That plan may involve disposal and write-off, re-work, repair, or finding alternative distribution channels at potentially marked-down prices.

Once this plan is in place, the company must work to not only follow through with it, but also use tools such as root cause analysis to avoid building up excess inventory again. The business can also use ABC inventory management for forecasting and planning to keep inventory under control. ■

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

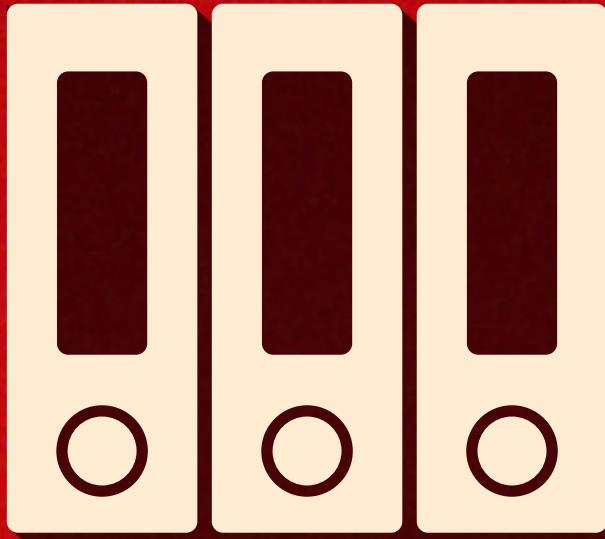


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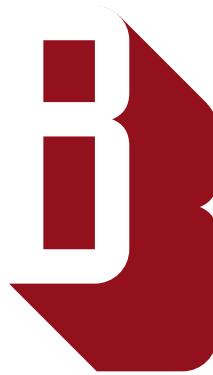
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LEVERAGING BIG DATA

BY MERRILL DOUGLAS

Think big – but start small – when mining big data to propel your supply chain forward.



Big data is big news. In 2013, 64 percent of respondents to a Gartner survey of 720 companies worldwide were investing or planning to invest in big data technologies.

While it is generating interest, the concept of big data also creates a fair amount of confusion. For all their desire to mine insight from the mass of information their companies collect, many corporate leaders are puzzled about how to put big data to work.

Among the respondents to the Gartner survey, 56 percent say determining how to get value from big data is a major challenge, and 41 percent cite challenges with defining their big data strategies.

What's the big deal about big data? How can companies use it to better manage logistics and supply chain operations?

First, a few definitions.

Big data usually means the practice of collecting electronic information from numerous sources and applying analytics to identify patterns, trends, and other intelligence. The analysis might point to things that have happened but weren't easy to perceive, or it might help a company predict what will happen in the future.

One company using big data in supply chain management is Amazon, which recently filed a patent for technology to support



Amazon's anticipatory shipping system analyzes big data such as customer purchasing history, product searches, and shopping cart contents, enabling the retailer to move items to a shipping hub close to the customer in anticipation of an eventual purchase.

"anticipatory shipping." This technique will help the online retailer adjust inventory to anticipate customer demand in specific locations, based on factors such as previous purchases, which products customers searched for online, and how long they spent looking at specific items.

"Amazon wants to pre-position items based on understanding its customers and their demographics, identifying trends, and ramping up to match them," explains Bret Wagner, associate professor of management and director of the integrated supply chain management program at Western Michigan University (WMU), Kalamazoo, Mich.

The "big" part of big data refers to the volume of information available to analyze. In the supply chain realm, that might include data from point-of-sale systems, bar-code scanners, radio frequency identification readers, global positioning system devices on vehicles and in cell phones, and software systems used to manage transportation, warehousing, and other operations.

NUMBERS, TEXT, AND MORE

But volume is just one of several factors that define big data. A second is variety. Not only does the data come from a wide range of sources, but it may include more than structured data—information recorded in fields within databases. Big data may also

encompass information contained in text, image files, and other formats.

"The data is not just numbers anymore," says Erick Brethenoux, director of business analytics and decision management strategy at IBM. "Companies have access to a lot of unstructured data—for example, from social media sites, online communities, and call centers. They also get feedback from drivers about vehicle performance."

Tweets, "likes," blog posts, emails, product reviews, and online comments all hold information that, when aggregated and analyzed, can help companies determine what customers want, and when and where they'll want it.

A third dimension of big data is speed. "It used to be sufficient to review models or analyze data daily, weekly, or monthly," says Brethenoux. But today, if companies want to head off problems such as inventory shortfalls, or late deliveries due to bad weather, they must conduct analyses in real or near-real time.

"The importance of speed has accelerated tremendously in the past 10 years, because customer service expectations have changed radically," he says.

EXTRACTING INSIGHT FROM OCEANS OF DATA

Although the term big data is a recent addition to the lexicon, the idea that companies might pull important insights from vast oceans of ones and zeroes is not new.

"There have always been cases where data has been too big for the available tools," says Mark Flaherty, chief marketing officer at InetSoft Technology, a business intelligence technology developer based in Piscataway, N.J. In the 1980s, for example, telecommunications providers collected data on the traffic they carried, in volumes too large for them to analyze through available means.

Today, however, the market offers new tools for extracting meaning from masses of data, so big data is garnering fresh attention.

"The influence of the Internet, global commerce, and analytics technologies to respond to constantly changing world and market conditions drives companies to look for new ways to be competitive," says Mary Shacklett, president of Transworld Data, a technology and supply chain consulting and research firm in Olympia, Wash. Companies harness big data technology in the hope of gaining innovative knowledge that provides new insights and strategies, she says.

One technology that has emerged to provide those insights is in-memory computing.

In the past, companies that wanted to analyze data from transactions in enterprise resource planning (ERP) and other operational systems would move that data into separate business warehouses. Those repositories resided on high-capacity hard drive systems, so they could handle a lot of data.

"But the speed was slow," Wagner notes. It was also hard to ensure that the data being analyzed was up to date and accurate.

Today, it is possible to conduct big data analysis within an ERP system while it runs transactions. "With business warehouse systems, the data could be a few days old," Wagner says. "Now users can query right to the second—for example, locating materials,

trucks, or planes—without disrupting the system's operation."

The market also offers tools that handle data in numerous formats. "Technologies allow companies to leverage and quickly combine structured, unstructured, and semi-structured data at such a rapid pace that data is available in a central repository that doesn't require the traditional design that enterprise data warehouses require," says Steffin Harris, North American big data lead at Paris-based technology consulting firm Capgemini.

Some tools lay one kind of data over another—for example, inbound shipment data onto weather forecasts for the regions those shipments will traverse—to support predictions.

In addition, developers offer visualization tools that pour the results of data analyses into reports and on-screen dashboards for easier interpretation.

DIGGING INTO 5 MILLION TRANSACTIONS

Among supply chain organizations, much of the big data action involves mining information from large volumes of business transactions. Shippers use business intelligence tools to pull data from multiple sources, merge and analyze it, and create reports to present the results.

One company that uses big data that way is Avnet, a Phoenix-based global distributor of electronic components. Mainly a small-parcel shipper, Avnet conducts more than five million shipping transactions annually. "Each of those transactions has more than 50 columns of data, resulting in more than 250 million data values," says Marianne McDonald, the company's vice president of global transportation.

That's far more data than Avnet can review productively on its own. So the company contracts with a service provider to audit and pay carrier invoices.

The main goal of this partnership is to ensure Avnet pays only what it owes for transportation. But the service provider also gives Avnet tools to pull business intelligence from shipping data.

One report the vendor provides is a series of key performance indicators (KPIs) that identify which carriers make the most invoicing errors. "This type of information enables us to meet quarterly with carriers, and review how their performance stacks up against other carriers we use," McDonald says. Carriers that don't improve performance risk losing Avnet's business.

The tool also reveals how much Avnet's business units spend on different transportation services, such as next-day, second-day, and three- to five-day ground.

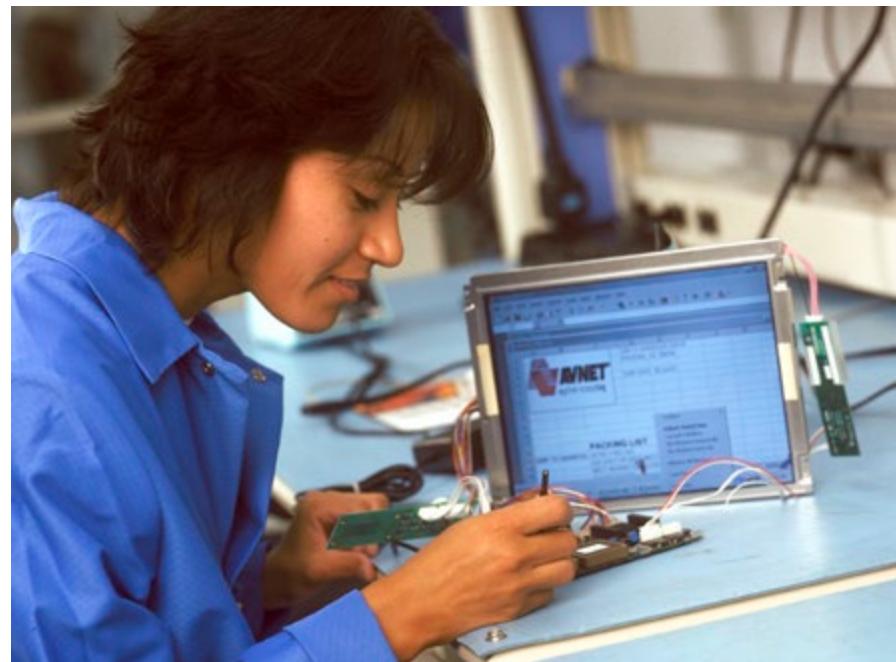
"In the past, it wasn't possible to identify a unit's shipping style," says McDonald. "Now we can pinpoint—to the penny or percentage, and by service level—exactly what those styles look like." Then her team recommends money-saving adjustments, such as swapping a three-day service for a less-expensive three- to five-day option.

Information about shipping styles also helps Avnet negotiate with carriers more intelligently. "This data helps my team strategize the direction for our next discussion about requests for proposals, because we now understand exactly what we're shipping," McDonald says.

More recently, Avnet has started using big data to help decide where to locate distribution hubs around the globe. "That work has progressed from an offline, intensive exercise—putting data from a lot of sources into a spreadsheet—to a more analytics-driven approach, with the tool doing 95 percent of the work," says Mike Buseman, Avnet's chief global logistics and operations officer. With technology to crunch the numbers, planning teams can now focus on developing strategy.

WHERE'S THE GREATEST IMPACT?

Lancaster, Ohio-based Glasfloss Industries, which manufactures air filters for heating, ventilation, and air conditioning systems, is also mining its transaction data. In 2009, the company contracted with Hickory, N.C.-based third-party logistics (3PL) provider Transportation Insight to help with carrier selection and routing, and to manage freight claims and audits. In 2013, Glasfloss started



Electronic component distributor Avnet processes more than five million shipping transactions annually, resulting in about 250 million data values the company can analyze to inform distribution and transportation decisions.

using Transportation Insight's analytics solution, *Insight Fusion*, to uncover new intelligence about its supply chain.

Insight Fusion merges data from different supply chain systems and outside data sources—such as transportation management, warehouse management, resource planning, and manufacturing—and provides access to a company's complete supply chain information in real time.

"It doesn't matter where the data comes from, or the format in which we receive it," says Jim Taylor, vice president of information technology at Transportation Insight. Technology is now available to translate it all, and manage it in an enterprise data warehouse.

Users access *Insight Fusion* through a Web portal using a PC, mobile phone, or tablet to display custom-designed reports about their operations.

Information from *Insight Fusion* will help make significant improvements to the company's logistics operations, says Greg Gardner, manufacturing operations manager at Glasfloss. "It will



A third-party analytics solution merges data from different logistics systems and outside data sources to provide air filtration manufacturer Glasfloss access to complete supply chain information in real time.

allow us to better focus time and effort, and the company's money, on areas that have the most impact on customer satisfaction or the bottom line," he explains.

One fact the tool has already revealed is that Glasfloss sends an unusually large number of shipments to one particular state. Thanks to that insight, Glasfloss is now seeking a carrier that offers better rates to that area, based on volume.

The company also is looking at performing consolidation for a few customers, which could help control costs and improve customer service. "If we're sending three small shipments to the same location for a customer, we'll suggest consolidating them, even if it means waiting an extra day or two for delivery," Gardner explains.

Thanks to *Insight Fusion*, Gardner decided to convert some less-than-truckload (LTL) shipments into two- or three-stop truckloads. Even if Glasfloss pays extra for a multi-stop run, it still costs less to move freight that way than by LTL. "The numbers made that very clear," he says.

The biggest benefit from *Insight Fusion* arose when Glasfloss examined customer damage claims by manufacturing plant and by

state. "We realized that certain states filed more claims compared to others," Gardner says. Further investigation showed that by improving the way it ships to just a handful of customers, Glasfloss could dramatically reduce damage claims.

"This is exciting because we will see a significant return on a limited number of transactions," Gardner says.

To help curb damage, Glasfloss is looking for better ways to ship to those customers. "For example, if we're shipping loose freight, maybe we need to palletize," Gardner says. "We also switched carriers in one situation, because we determined it just wasn't a good

lane. And we're looking at running a two-stop truckload instead of multiple LTLs to another customer."

Insight Fusion has helped Glasfloss reduce the number of claims filed by 36 percent, and increased its 60-day claims closure rate by 83 percent.

PINPOINTING MISPICKS

In Cleveland, Hillcrest Foodservice has been using InetSoft's *Style Intelligence* tool since 2010. Hillcrest distributes food to restaurants, retail stores, and institutions in northern Ohio and western Pennsylvania.

"The InetSoft system allows more management team members to access information in a quick, standardized manner," says Jim Schnurr, director of customer solutions at Hillcrest Foodservice.

In the past, managers had to pull data from multiple systems, including a Retalix enterprise solution running on an IBM AS/400, a Roadnet Technologies routing system, and several Microsoft Access databases. Moving those numbers into

Microsoft Excel to create presentations was a laborious process.

"The information was there, but I had to rebuild it each time," recalls Schnurr. *Style Intelligence* automates that process.

The system also paved the way for several operational improvements. For example, in the past, if a pizza restaurant complained that Hillcrest delivered ketchup instead of tomato sauce on several occasions, getting to the root of the problem would have been hard. To find out whether human error or a system glitch was to blame, Schnurr and his team had to move data from Retalix into Access, and set up a query.

"As wonderful as Access is for grabbing and communicating information, the reporting function is not as user-friendly," Schnurr says. "With InetSoft, we can run the report automatically."

Style Intelligence qualifies as a big data solution because, for a company of its size, Hillcrest manages a great deal of data. "We have about six million lines of invoice detail over several years, with 50 fields," says Schnurr.

The company also captures a bar-code scan each time a warehouse worker picks, pulls, or relocates product. "We need that

capability to identify which worker picked an order," he says. Hillcrest uses the data to manage an incentive program based on picking accuracy.

Hillcrest recently implemented a mobile delivery management system called *Driver Pro*, from SAE Systems, which has started feeding driver activity data to InetSoft. "We'll know whether our drivers arrive on time, which is critical for service reporting," Schnurr says.

The new data also will help determine whether Roadnet is allotting drivers the right amount of time to complete a delivery at each location. "Different products can take different amounts of time to deliver," he notes. "This new analysis will allow us to make more informed decisions and, we hope, service our customers better."

DELAY THE DYE

Consultants who work with companies on analytics projects cite additional supply chain improvements that result from big data projects. Shacklett recalls an online retailer that uses sales data to predict what color sweaters consumers will buy in the greatest quantities at different times of the year. As a result of that information, the company now has its suppliers make sweaters without color, then dye them later, based on customer demand determined in near-real time.

Harris cites a client whose shipments often reached customers late, especially from December through March. The company was losing money as a result, and management wanted to know why. An assessment showed that the company wasn't dynamically connecting shipping, inventory, or sales information. Nor was it monitoring comments about its product in social media.

The company also wasn't taking advantage of third-party weather information. "Because no one was able to predict an impact based on weather, they could not make decisions about how to reroute, optimize routes, or pull inventory from another location to meet demand," says Harris.

With all that data in place, Capgemini ran models that showed the pros and cons of taking different actions in response to weather delays in various situations. "Giving the company the ability to make decisions at just-in-time intervals empowered it to be more effective in managing the operation," he says.

For companies that want to harness big data in the supply chain, one major challenge might be finding employees with the knowledge to exploit the opportunity.

"Hire people as quickly as you can," advises Brethenoux. "An analytics skills gap is developing, and if you start looking in one or two years, the talent won't be available to help you."

Wagner agrees that it's hard to find people with the right skills to implement big data. WMU's integrated supply chain management program is trying to fill that need—for example, by adding a business analyst minor.

In the absence of new hires with specialized qualifications, a company might fill the gap by training people already in its ranks—perhaps in the finance or IT departments—who show a flair for analytics.

It's also important to educate managers who will integrate the results of analytics into their decision-making. "They have to understand what's possible—and what's not possible—with analytics," Brethenoux says.

If you implement a big data project effectively, valuable new insights and business improvements will follow. ■

DIVING INTO BIG DATA

Whatever you do, don't wait too long to dive into big data. "Start with a small scope, and do it right away," recommends Erick Brethenoux, director of business analytics and decision management strategy at IBM.

Mark Flaherty, chief marketing officer at business intelligence technology developer InetSoft Technology, agrees. "Don't worry about trying to plan out your ultimate business solution from beginning to end," he says. "Just get started with one burning request from one department." The experience will provide a valuable education, and prompt others in the company to ask for business intelligence solutions as well.

When you start a project, make sure you're using good-quality data. "If the data that you pour into your big data analytics process is of low quality, your results won't be reliable," says Mary Shacklett, president of technology and supply chain consulting and research firm Transworld Data.

Before starting a big data initiative, develop a clear business case describing how you want to use your data and what you expect to gain from the exercise. "Most importantly, don't let a vendor define this for you," Shacklett says. "And if you don't have big data expertise or resources internally, take the time to research a dependable vendor-partner that can help you."

Don't become so dazzled by all the available technology that you fail to define your strategy and goals. "Many times, you can chase the technology and lose the opportunity to solve the business problem in a meaningful way," says Steffin Harris, North American big data lead at technology consulting firm Capgemini. "Start with the business problem, then the technology will naturally follow."

TOP 100 LOGISTICS IT PROVIDERS

Information is power. *Inbound Logistics'* annual logistics IT research survey uncovers the latest trends powering the supply chain, and reveals the Top 100 sector leaders.



BY JOSEPH O'REILLY

Logistics technology has the power to transform organizations, supply chains, and commerce in remarkable ways. It's also demand driven—to the point where today's industry is undergoing its own radical metamorphosis.

The continuing maturation of e-commerce delivers a new set of expectations, and brick-and-mortar retailers and manufacturers are trying to keep pace. Consumer buying habits are increasingly sophisticated. With SKU selectivity more acute, and fulfillment speed accelerating, IT companies are challenged with helping shippers manage these new complexities.

Web-based solutions have created a much more robust and competitive technology ecosystem. Big data is diving deeper into granular-level analytics, which inevitably narrows IT focus. Software developers, in turn, are tailoring products to address specific functions—and even verticals. Gone are the days when shippers could simply latch on to the latest legacy ERP system and expect a silver-bullet solution that would satisfy all their needs.

To help make sense of this changing landscape, *Inbound Logistics'* annual logistics technology market research—culled from more than 200 IT vendor questionnaires—underscores industry trends. Our Top 100 Logistics IT Providers list serves as a capstone to this analysis, providing detailed information about best-in-class providers selected by *IL* editors.

ANY WAY YOU LIKE IT

Cloud computing is shaping a new trajectory for logistics technology engineering. Software-as-a-Service (SaaS) and crowdsourcing online platforms have quickly become new standards for deploying solutions. This lowers the barrier of entry for shippers of all sizes, while providing affordable, sustainable, and faster implementations—welcome news for shippers that are looking for ROI in a matter of months, not years.

Nearly 40 percent of technology companies surveyed in 2014 provide a Web-hosted solution. By contrast, only four percent offer local systems exclusively. The majority, 57 percent, can deliver both.

While the Internet has created a fertile incubator for solution development, a recessionary mindset has changed the way companies shop for technology. They are no longer willing to dump significant capital up front in uncompromising systems. Buyers want flexibility to adapt and change. They are more willing to build a technology architecture incrementally over time, rather than jump in all at once. The new wave of IT solutions supports this plug-and-play shift.

To that point, technology companies are very flexible with the way they price their offerings. In 2014, more survey respondents (72 percent) provide transactional, pay-as-you-go subscriptions than system-based pricing (61 percent)—a reversal from past years. It's indicative of SaaS popularity, where users lease applications on demand. Sixty-two percent of surveyed technology companies offer per seat/user pricing.

One notable trend is the growing number of companies (10 percent) that consider their solutions "free." The majority of these vendors are third-party logistics (3PL) providers offering managed technology services—where fees are determined by gain-sharing and other variable cost structures. It's a telling indicator that shippers are increasingly sourcing bundled IT solutions indirectly through 3PLs.

Consequently, more IT companies are targeting intermediaries—exclusively, or in addition to shippers. Software developers recognize that service providers offer a ripe wholesale channel to deliver product to market. Some even allow third-party customers to private-label their solutions. 3PLs and carriers, in turn, understand that providing logistics technology capabilities—and often bundling services around these solutions—creates additional value beyond transactional transportation and warehousing.

This market shift is apparent among Top 100 survey respondents

(see Figure 1). The majority of IT companies surveyed (90 percent) serve 3PLs, warehouses, and carriers, followed by manufacturing (83 percent), wholesale (76 percent), retail (75 percent), and

e-business (57 percent). It's worth noting that retail traction has dropped noticeably over the past few years, while e-commerce has conversely appreciated. This suggests that e-commerce is likely cannibalizing

some of that market share.

Moving forward, it will be interesting to see how the rapid emergence of omni-channel retail impacts the way IT companies serve virtual and

THE IT FACTOR

Logistics technology is inherently demand sensitive. So IT vendors have an acute understanding of the challenges and opportunities shippers face as they go to market. *Inbound Logistics* asked IT companies responding to our Top 100 questionnaire to share their perspective – through the prism of their customers. Here's what they have to say...

...ON EFFICIENCY

"Everybody is looking to do more with less money, fewer people, and fewer mistakes."

"Customers want to reduce inventories and costs, while consuming fewer resources. There is strong demand from companies that experience hard-to-forecast intermittent demand for most of their products, especially in service/spare parts organizations, and the aerospace, automotive, and electronics industries."

...ON BIG DATA

"Companies are looking for more big data solutions that help them view every part of their supply chain at a granular level. They are seeking ways to glean intelligence from a combination of structured and unstructured data to stay ahead of shifts in customer demand."

"There is growing need and ability to connect brands and suppliers to downstream consumer data. Manufacturers and consumer packaged goods companies can streamline supply chain operations by working directly with their trading partners to pull demand-driven data. Based on inventory and service level agreements, manufacturers can leverage this information to fulfill demand without producing excess."

...ON VISIBILITY

"Customers want to track high-value items via advanced data capture mechanisms including RFID, bar codes, GPS, and image capture at point of origin."

"Port strikes, weather disruptions, and expanding ocean carrier alliances that may cause schedule changes and impact service levels at ports are a few factors driving a need for greater shipment visibility to ensure smoother supply chains."

...ON TRANSPORTATION

"A solution that can execute on all transportation activities, and collect data for advanced modeling, will provide the greatest long-term value for shippers."

"The future is in next-generation continuous and incentive-centric route optimization that can handle complex scenarios

in dynamic environments such as same-day home delivery. This will require integrated fleet routing and TMS to holistically manage transportation on a single platform."

...ON OMNI-CHANNEL AND E-COMMERCE

"With the rise of different commerce channels, including mobile and Internet, the shopping experience is changing. Customers are more aware of prices and more informed of product information than ever before. At the same time, retailers are more influential in shaping demand with promotions and other events."

"Back-end systems that connect to online shopping carts and manage inventory, shipping, and returns are in demand."

...ON REGULATIONS

"Shippers and logistics service providers need systems to help them comply with increasing global security regulations. In 2014, Japan's Advance Filing Rules went into effect for non-vessel-operating common carriers (NVOCCs) to submit advance manifest information for all Japan-bound ocean cargo NVOCCs. Canada is also scheduled to implement its eManifest requirement for forwarders in 2014. Logistics technology can help shippers and logistics service providers submit filings more efficiently, and integrate with their process flows to reduce data entry and monitor filings for compliance."

"Companies today must contend with a host of new regulations, including the California Transparency in Supply Chains Act, the Consumer Product Safety Improvement Act, Conflict Minerals Reporting, the Maine Toxic Chemicals in Children's Products Law, and the Washington Children's Safe Product Act. Companies are looking at supply chain technology to maintain critical information such as factory safety records, vendor scorecards, compliance audits, performance and quality history, standards of vendor engagement, as well as to streamline and manage the complex regulatory compliance process."

"Demand is growing in food and beverage because margins are getting tighter due to rising commodity costs, increased energy costs, and more regulation on the horizon with the Food Safety Modernization Act."

FIG. 1 INDUSTRIES SERVED

Transportation (includes 3PLs, warehousing, carriers, int'l trade)	90%
Manufacturing	83%
Wholesale	76%
Retail	75%
e-Business	57%
Services/Government	44%

FIG. 2 SOLUTIONS OFFERED

Supply Chain Management	69%
Transportation/TMS	68%
Optimization	66%
Routing & Scheduling	59%
Inventory Management	52%
Load Planning	48%
Modeling/Forecasting/Predictive Analytics	46%
Supplier/Vendor Management	46%
Auditing/Claims/Freight Payment	45%
Warehousing/WMS/WCS	44%

FIG. 3 LIT BUYERS' TOP CHALLENGES

Cost Reduction	87%
Integration	71%
Visibility	70%
Customer Service	67%
Transport Optimization	59%
Data Management (Big Data, Quality, Synchronization)	58%

brick-and-mortar supply chains inclusively.

One unique characteristic of the logistics IT market is the relative balance that exists in terms of what solutions vendors provide. As in previous years, no single technology dominates the space. This reflects growing competition and function specificity.

Supply chain management (69 percent), transportation management (68 percent), optimization (66 percent), and routing and scheduling (59 percent) round out the most popular service offerings (see Figure 2), according to this year's Top 100 respondents. Priorities remain focused on cost reduction—the top challenge for technology buyers, according to 87 percent of solutions providers (see Figure 3).

More telling, integration (71 percent)

now trumps visibility (70 percent) and customer service (67 percent) as top concerns among shippers. This is a marked change compared to 2013. But it speaks to the changing technology paradigm.

With so many affordable options on the market, and solutions developers growing “through niche functionality within verticals,” as one survey respondent documents, buyers are challenged with how to integrate these systems. That has become a pivotal question when buyers court new IT vendors.

“Logistics technology that can be easily integrated (local and Web) and customized to the exact needs of the customer will continue to be a driving force in the market,” shares another respondent.

GOING GLOBAL

Integration also transcends geography. More shippers want solutions that can be purposed across global networks. Accordingly, 65 percent of surveyed software companies tailor their products to both U.S. and global users. The world marketplace is hungry for easily deployed Web-based solutions where existing IT architecture in some places is nebulous at best. The growth of global e-commerce, and increasing demand from global 3PLs, present new sales opportunities for logistics software companies looking to grow their customer base.

Closer to home, rapidly changing consumer trends are shaping how retailers and manufacturers leverage software to manage new complexities. The “death of the channel” and new retail formats are forcing some to reconsider how they position, then pull, inventory to demand.

“Anytime/anywhere consumers now demand a range of shopping formats catering to all their needs and wants,” says one IT company.

Data management is one way industry can better understand consumer behavior, as well as benchmark performance. Fifty-eight percent of IT companies identify this as a challenge for their customers—up six percent over 2013 figures. Big data serves both the demand and supply sides. Consumers have access to more information, which informs how and where they

buy product. Retailers, wholesalers, and manufacturers have access to similar business intelligence. In some instances, this allows them to shape demand. In effect, it becomes a cat-and-mouse game of trying to accurately forecast how the other will react.

This molecular-level market intelligence will dictate how consumers, retailers, and manufacturers approach omni-channel, e-commerce, mobility, and last-mile delivery.

Adds another survey respondent: “Technology that closes the loop between product availability and demand shaping activities—and can precisely align availability with channel demand—will be in high demand.” ■

2014 TOP 100 LOGISTICS TECHNOLOGY PROVIDERS

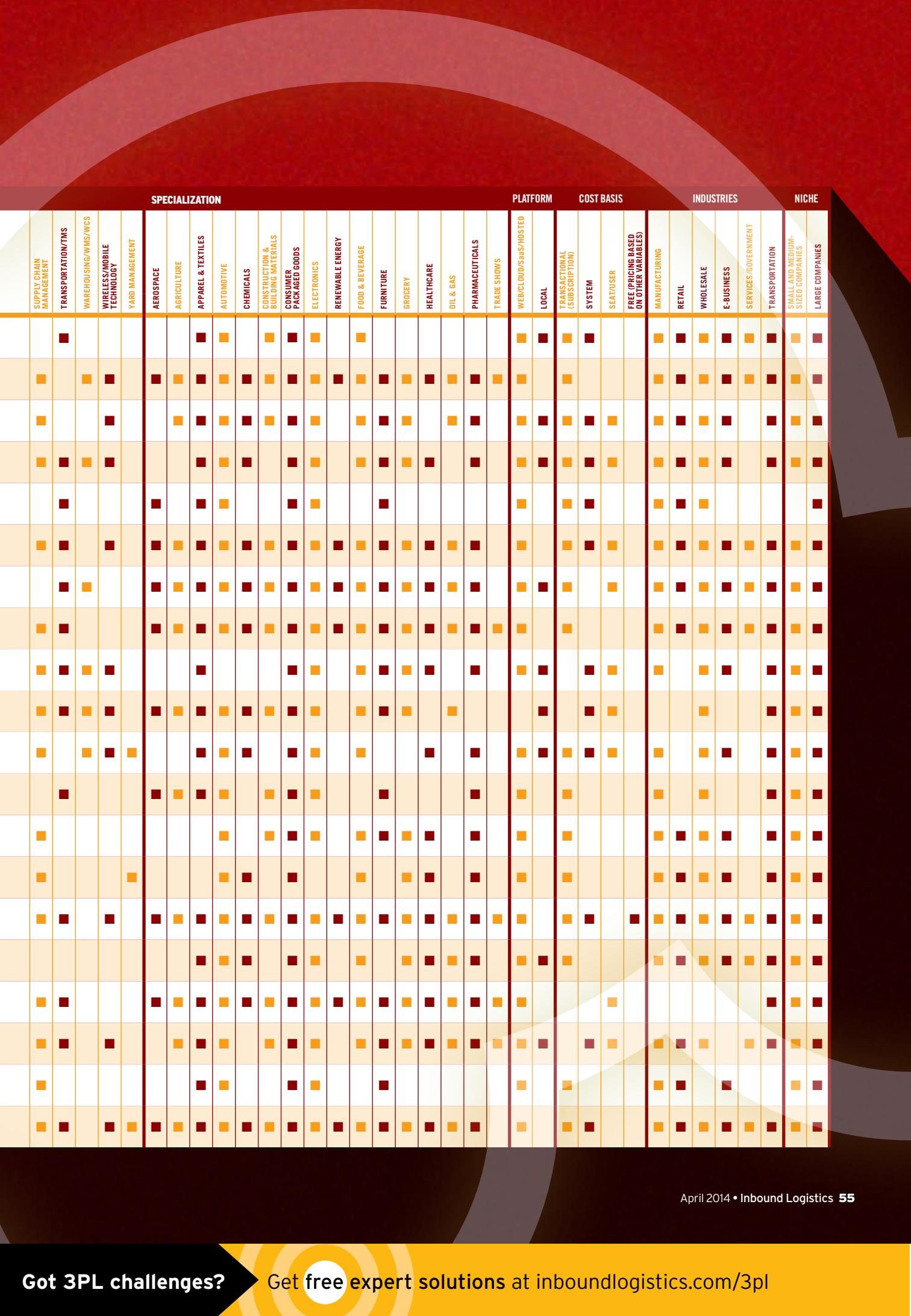
IL editors pored over more than 200 questionnaires and conducted extensive research online and over the phone to winnow down this year's crop of Top 100 Logistics IT Providers. We value transportation, logistics, and supply chain technologies that are core. We also prize IT companies that document and celebrate retailer/manufacturer successes. From global trade platforms to last-mile routing and scheduling, on demand or out of the box, these solutions providers capture the rich diversity and robust functionality of today's logistics IT landscape. Turn the page and browse the 2014 Top 100 Logistics IT Providers list. For questions or comments about the list, email editor@inboundlogistics.com

TOP 100

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COMPANY NAME / WEBSITE		PHONE	AUDITING/CLAIMS/FREIGHT PAYMENT	CUSTOMER RELATIONSHIP MANAGEMENT	Demand Management	DISTRIBUTION RESOURCE PLANNING	Enterprise Resource Planning	Global Trade Management	Inventory Management	Labor Management	Load Planning	Material Resource Planning	Modeling/Forecasting/Predictive Analytics	Optimization	Procurement	Product Lifecycle Management	Rate Bidding Management	Reverse Logistics	RFID	Routing & Scheduling	Sales & Operations Planning	Security	Supplier/Vendor Management	Supply Chain Control Tower
3Gtms	3gtms.com	203-513-9336	■							■				■			■	■				■		
3PL Central	3plcentral.com	888-375-2368							■									■					■	
Aankhen	aankhen.com	408-387-0083												■							■		■	
Accellos	accellos.com	877-805-8388							■	■	■			■			■		■	■	■	■	■	
Acuitive Solutions	acuitivesolutions.com	267-744-4939	■														■							
Agistix	agistix.com	888-244-7849	■					■		■	■	■	■	■	■		■	■	■	■	■	■	■	
Aljex Software	aljex.com	732-357-8700	■	■			■	■		■					■		■	■	■					
Amber Road	amberroad.com	201-935-8588						■													■	■		
Apprise Software	apprise.com	610-991-3900	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Argos Software	argosoftware.com	559-227-1000	■	■	■	■	■	■								■		■	■		■			
ASC Software	ASCsoftware.com	937-429-1428		■	■			■		■	■	■	■	■	■			■	■	■	■		■	
BestTransport	besttransport.com	614-888-2378								■								■			■			
Blue Ridge	blueridgeinventory.com	404-214-0856			■											■	■	■						
C3 Solutions	c3solutions.com	514-315-3139														■				■				
CargoSmart	cargosmart.com	408-325-7650	■	■				■								■	■	■		■	■	■	■	
Cass Information Systems	cassinfo.com	314-506-5500	■																					
Catapult International	gocatapult.com	913-232-2389						■										■			■	■		
Cheetah Software Systems	cheetah.com	805-373-7111								■		■	■	■			■		■	■			■	
ClearTrack	cleartrack.com	877-377-4400	■					■				■	■				■						■	
Cloud Logistics	gocloudlogistics.com	561-284-2085	■					■		■		■	■	■	■	■	■	■	■	■	■	■	■	

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Compliance Networks compliancenetworks.com	877-267-3671	■										■									■	
CT Logistics ctlogistics.com	216-267-2000	■					■		■		■	■	■	■	■	■	■	■	■		■	
CTSI-Global ctsi-global.com	901-766-1500	■				■		■	■	■	■	■	■	■	■	■	■	■	■		■	
Cypress Inland yardview.com	303-781-3430																					
Data2Logistics data2logistics.com	609-577-3756	■	■														■					■
Datex datexcorp.com	800-933-2839							■									■		■			
Demand Management demandsolutions.com	314-991-7100			■	■	■		■		■	■	■	■	■	■				■		■	
Deposco deposco.com	877-770-1110			■	■				■	■	■	■	■	■	■	■	■	■	■		■	
Descartes Systems Group descartes.com	800-419-8495						■												■	■	■	
E2open e2open.com	650-645-6500							■				■	■	■	■				■	■	■	
Elemedia elemedia.com	610-786-1200					■		■				■	■	■	■						■	
Epicor Software epicor.com	800-999-1809		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Fortigo fortigo.com	866-376-8884	■																				
Foxfire Technologies foxfiresoftware.com	864-868-5243							■	■	■	■	■	■	■	■	■	■	■	■		■	
Freightgate freightgate.com	714-799-2833	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
GE Transportation getransportation.com/rail/software	404-355-7936	■	■	■	■			■	■	■	■	■	■	■	■	■	■	■	■	■	■	
GT Nexus gtnexus.com	510-808-2222	■			■	■	■	■	■	■	■	■	■	■	■			■	■			
HighJump Software highjump.com	800-328-3271					■		■	■	■	■	■	■	■	■	■		■	■			
Infor infor.com	800-260-2640	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
INSIGHT insightsoutsmart.com	703-366-3061				■	■		■				■	■	■	■	■	■	■	■	■	■	

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Integration Point IntegrationPoint.com	704-576-3678						■	■						■						■	
Interlink Technologies thinkinterlink.com	800-655-5465							■	■	■							■	■	■		
International Asset Systems interasset.com	510-844-3000	■					■		■	■	■	■	■	■				■	■	■	■
INTTRA inttra.com	973-263-5100	■					■						■			■		■	■	■	■
Invata Intralogistics invata.com	860-819-3200							■	■	■			■			■	■	■	■		
JDA Software jda.com	480-308-3000	■		■				■	■	■			■	■	■	■	■		■	■	■
Kewill kewill.com	877-872-2379						■	■		■				■		■		■	■	■	■
Knighted, an Intelligrated Company knightedsoftware.com	914-785-8800			■	■			■	■	■	■	■	■	■	■	■	■	■	■	■	■
LeanLogistics leanlogistics.com	866-584-7280	■					■		■		■		■	■	■	■	■	■			■
LLamasoft llamasoft.com	734-418-3120							■					■	■				■	■	■	■
LOG-NET log-net.com	732-758-6800	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
LogFire logfire.com	678-261-9000			■			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Logility logility.com	800-762-5207	■		■				■		■		■	■	■	■				■		■
Logistix Solutions logistixsolutions.com	703-796-0141													■	■		■	■			
Logisuite Corporation logisuite.com	800-318-1834		■		■	■	■									■					
made4net made4net.com	201-645-4345								■	■	■								■		
Magaya Corporation magaya.com	786-845-9150								■									■	■		
MagicLogic Optimization magiclogic.com	250-594-6322									■					■						
Manhattan Associates manh.com	770-955-7070			■	■			■	■	■	■	■	■	■	■	■	■	■	■		■
MercuryGate International mercurygate.com	919-469-8057						■						■			■		■			

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Navegate navegate.com	800-944-2471			■			■	■			■	■	■	■		■	■					
NGC Software ngcsoftware.com	800-690-0642				■	■	■			■				■		■	■				■	
NTE nte.com	888-607-9371	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
nVision Global Technology Solutions nvisionglobal.com	770-474-4122	■														■	■		■	■		■
One Network Enterprise onenetwork.com	972-985-8630	■		■	■	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	
Oracle Corporation oracle.com	650-506-7000	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Paragon Software Systems paragonrouting.com/us	972-731-4308																		■			
PeopleNet peoplenetonline.com	888-346-3486														■	■			■			
PINC Solutions pinsolutions.com	510-474-7500	■						■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Precision Software, a Division of QAD precisionsoftware.com	312-239-1630						■												■			■
QuestaWeb questaweb.com	908-838-4328						■											■		■	■	■
Quintiq quintiq.com	610-964-8111														■				■	■	■	
Railinc railinc.com	800-724-5462					■																
RateLinx RateLinx.com	262-565-6150	■								■					■	■	■	■	■	■	■	■
Roadnet Technologies roadnet.com	410-847-1900				■						■			■		■	■		■		■	
Robocom Systems International robocom.com	631-753-2180					■		■		■	■											
SAP sap.com	610-661-1000	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
SciQuest sciquest.com	888-638-7322															■	■					■
ShippersEdge TMS shippersedge.com	888-237-2465	■							■						■		■	■	■	■		
ShipXpress shipxpress.com	904-241-5850	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	

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TOP 100

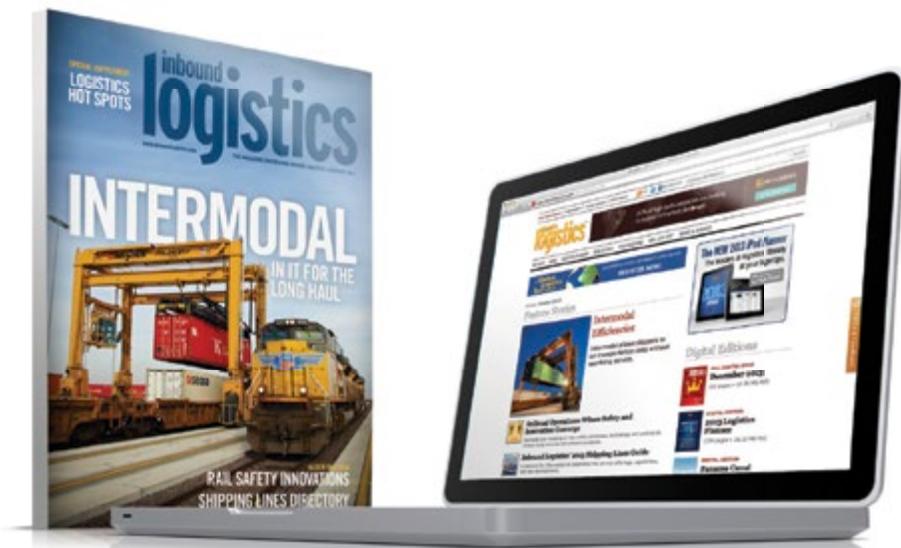
LOGISTICS IT PROVIDERS 2014

COMPANY NAME / WEBSITE	PHONE	SOLUTIONS OFFERED																		
		AUDITING/CLAIMS/FREIGHT PAYMENT	CUSTOMER RELATIONSHIP MANAGEMENT	Demand Management	DISTRIBUTION RESOURCE PLANNING	Enterprise Resource Planning	Global Trade Management	Inventory Management	Labor Management	Load Planning	Material Resource Planning	Modeling/Forecasting/Predictive Analytics	Optimization	Procurement	Product Lifecycle Management	Rate Bidding Management	Reverse Logistics	RFID	Routing & Scheduling	Sales & Operations Planning
Smart Software smartcorp.com	800-762-7899			■				■										■		
SmartFreightWare smartfreightware.com	913-529-2345	■							■			■	■				■	■	■	■
SMC ³ smc3.com	770-486-5800	■									■	■	■				■	■		
Softeon softeon.com	703-793-0005	■		■		■	■	■	■	■	■					■	■	■	■	
SPS Commerce spcommerce.com	612-435-9400				■	■					■					■				■
Suntek Systems ilogisys.com	949-789-0070		■			■														
Systems Logic warehouseinabox.com	866-967-7226							■	■								■			
TCLogic tclogic.com	317-464-5152			■	■	■	■	■	■		■	■	■	■	■	■	■	■	■	■
TECSYS tecsys.com	514-866-0001		■	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■
Terra Technology terratechnology.com	203-847-4007			■				■				■	■							
TMSforce TMSforce.com	919-844-7724	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
TMW Systems tmwsystems.com	800-401-6682									■								■		
ToolsGroup toolsgroup.com	617-263-0080			■	■			■				■	■					■		■
TOPS Software topseng.com	972-739-8677									■					■					■
Trans-i Technologies trans-i.com	954-524-1501	■	■				■				■	■		■				■	■	■
TransportGistics transportgistics.com	631-567-4100	■											■	■	■	■	■	■	■	■
Transwide transwide.com	877-763-3240	■											■					■		
TransWorks trnwrks.com	260-487-4450	■	■	■	■	■				■			■			■		■	■	■
U.S. Bank usbpayment.com/freightpayment	866-274-5898	■																		
UltraShipTMS ultrashiptms.com	800-731-7512	■	■							■		■	■	■	■	■	■	■	■	■

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	SPECIALIZATION	PLATFORM	COST BASIS	INDUSTRIES	NICHE
Supply Chain Management	Aerospace	Web/Cloud/SaaS/Hosted	Local	Manufacturing	Transportation
Transportation/TMS	Agriculture	Transactional (Subscription)	System	Retail	Small and Medium-sized Companies
Warehousing/WMS/WCS	Apparel & Textiles	Seat/User	Free (Pricing Based on Other Variables)	Wholesale	Services/Government
Wireless/Mobile Technology	Automotive	Trade Shows	Manufacturing	E-Business	
Yard Management	Chemicals	Pharmaceuticals	Manufacturing		
	Construction & Building Materials	Renewable Energy	Manufacturing		
	Consumer Packaged Goods	Food & Beverage	Manufacturing		
	Electronics	Furniture	Manufacturing		
	Grocery	Healthcare	Manufacturing		
	Oil & Gas	Oil & Gas	Manufacturing		
	Pharmaceuticals	Pharmaceuticals	Manufacturing		
	Trade Shows	Trade Shows	Manufacturing		
	Web/Cloud/SaaS/Hosted	Web/Cloud/SaaS/Hosted	Manufacturing		
	Local	Local	Manufacturing		
	Transactional (Subscription)	Transactional (Subscription)	Manufacturing		
	System	System	Manufacturing		
	Seat/User	Seat/User	Manufacturing		
	Free (Pricing Based on Other Variables)	Free (Pricing Based on Other Variables)	Manufacturing		
	Manufacturing	Manufacturing	Manufacturing		
	Retail	Retail	Retail		
	Wholesale	Wholesale	Wholesale		
	E-Business	E-Business	E-Business		
	Services/Government	Services/Government	Services/Government		
	Transportation	Transportation	Transportation		
	Small and Medium-sized Companies	Small and Medium-sized Companies	Small and Medium-sized Companies		
	Large Companies	Large Companies	Large Companies		

A Perfect Match



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THE MAGAZINE FOR DEMAND-DRIVEN LOGISTICS

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

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Connect, Secure, and Manage the Supply Chain

Q: How are transport and logistics firms using mobility to improve employee engagement?

A: Mobility once meant giving each driver a cell phone. Today, however, connected devices with communication applications allow drivers to get news and road updates, connect with family, and do business anywhere and anytime. By accessing training programs while waiting for a pickup, for example, drivers are more productive, and have more time for family when at home.

Mobile broadband enables field personnel by providing secure access to business applications, expert analysis, and data on inventories, parts availability, and procurement. Broader wireless connectivity helps keep drivers on the grid. Effectively engaging remote employees can improve morale, and potentially reduce turnover.

Q: What's the latest thinking on leveraging sensors to monitor and secure shipment integrity?

A: RFID, bar-code scanners, shipment-aware sensor devices, and other mobile technologies are helping secure and more effectively manage the supply chain.

Logistics providers then require an effective strategy to manage this content-rich data to help predict potential service issues, and detect possible tampering with freight or fleet systems.

In the event of a security breach or other emergency, mobile systems can forward automatic alerts and location data to service technicians or first responders.

Q: How are companies using telematics to improve business operations?

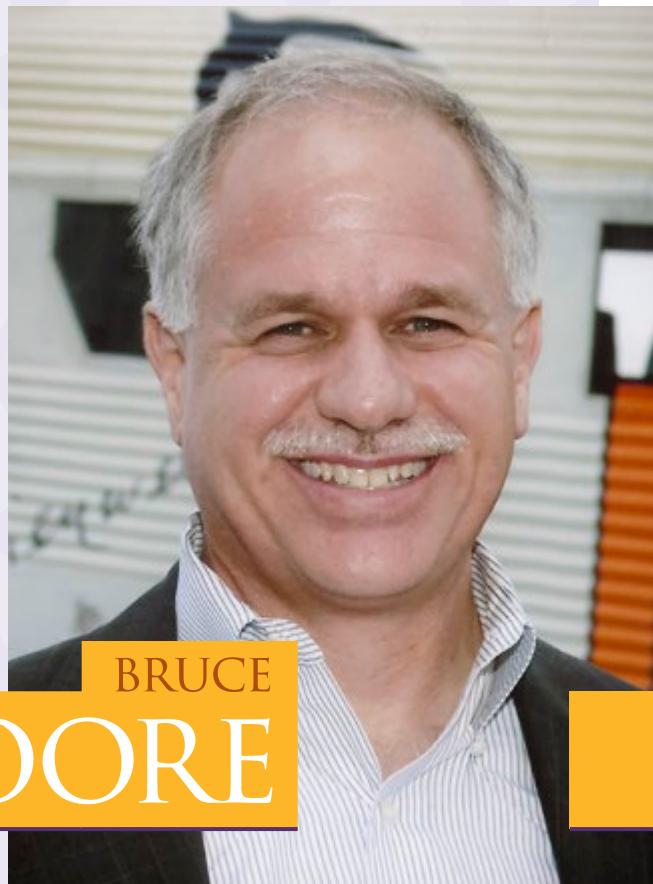
A: The convergence of communications and information processing is changing the nature of supply chain operations. Next-generation telematics is revolutionizing fleet management. With three million-plus long-haul drivers in the United States alone, many still report driving hours using paper, pens, and fax machines.

Newer applications automatically track drive times and distances, create log files, and forward those to dispatch.

Predictive analytics leverages data on driving patterns, weather, traffic, and even employee lifestyles to help reduce transport-related accidents. Original equipment manufacturers increasingly use telematics to capture engine-related prognostic data, which can predict and prevent roadside breakdowns.

These technologies are now also being applied across the supply chain and logistics spectrum, from managing freight costs to jobs brokering and dynamic insurance pricing. While most fleets operate on razor-thin margins, the total cost of telematics systems—including hardware, software, and mobile network data—is coming down.

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Client Principal, Transportation Industry
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BRUCE
MOORE

Maximizing the Benefits of Your TMS

Q: What are the best ways to get the full benefit of a transportation management system (TMS)?

A: First, work with your solution provider to configure the system to meet your unique requirements and workflow, and to automate managing your transportation network. A system you can implement quickly and that meets your requirements enables you to realize near-term value from a TMS.

Use the TMS to manage your entire transportation business—domestic and international, inbound and outbound, and across business units, divisions, and companies. Optimizing and executing enterprise-wide drives the maximum cost benefits from the solution.

Also, take advantage of vendor and customer collaboration, control tower visibility, and decision support to manage from order to delivery, and to ensure end-to-end shipment visibility.

Then, learn to use the product's full capabilities to maximize return on investment.

Chief Commercial Officer
MercuryGate International Inc.

DANIEL
VERTACHNIK



Q: What are the keys to a successful TMS implementation?

A: Selecting the right solution for your company's current and future state requirements is vital. To find the TMS best suited to your needs, thoroughly evaluate the solution, as well as the philosophy of the vendor. Working with a company that is focused on helping customers succeed will make a major difference in the project.

Having the right internal team focused on the project is also critical. Be sure business users, analysts, and IT team members work together on the project. Assign a project manager to guide the project through production go-live. This person must know the company, the critical business factors that led to the decision to acquire a solution, the current state of the business process and the desired future process state, and the requirements of each individual involved.

Work with the vendor to design the solution you expect and agreed to, and complete all the training the vendor offers. If you do not train your team, you leave money on the table.

Finally, ensure your TMS implementation's success by finding an executive sponsor to drive internal change management and best practices throughout the company.

Q: What are the most effective tools shippers can use to cut their transportation costs?

A: An effective TMS will pay dividends by reducing transportation costs. Optimizing transportation provides the availability to select the best carrier and equipment for each shipment or load. In addition, optimization will simultaneously manage inbound and outbound shipments to maximize equipment utilization, plan for backhauls when available, and provide you with the best executable plan.

TMS solutions also allow you to audit invoices to ensure carriers are billing according to contract rates. And an automated TMS improves efficiencies across the transportation supply chain, reducing costs and improving service.

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Accessible Capital, Trustworthy Partners Key to Managing Freight Costs

Q: What is the key to managing freight spend in today's environment?

A: In addition to the slow growth economy, the transportation industry has been hit with significant economic and industry challenges, including increasing regulations, driver shortages, fluctuating fuel costs, and a tight credit environment. Carrier costs are going up—costs that will likely get passed to the shipper. To keep their business moving forward, shippers and carriers need visibility, improved working capital, and partners they can trust.

For shippers, the goal is getting one system to process and pay all their freight transactions, and provide full visibility at all points. That journey starts with the basics: 100-percent auditing of transactions, ensuring 100-percent accuracy. If shippers are processing paper transactions manually, they're not checking each invoice, so they're leaving money on the table.

Visibility means that both shippers and carriers know the status of a payment anywhere along the process, so

they don't need to pick up the phone and track down information. When shippers and carriers have data they need, and the business intelligence tools to analyze it, they can make smarter decisions.

Q: How do both shippers and carriers improve working capital? Doesn't the nature of their relationship put them at odds?

A: It doesn't have to. It is true that shippers want to extend their days payable outstanding, while carriers want to get paid as quickly as possible. But that potential friction point—longer payment cycles—can be removed from the working relationship by using an automated freight payment solution with trade finance capabilities.

This allows shippers to extend their payment terms while accelerating payment to the carrier. For example, a shipper can take 30, 60, or even 90 days to pay, but the carrier can get paid as soon as the shipper approves the invoice. As a result, both parties have improved working capital.

Q: Turning over payment responsibilities to a third party requires trust. How can shippers ensure they're working with a fiscally responsible partner?

A: Shippers should apply the same care to their financial supply chain as they do to their physical supply chain. Most shippers closely monitor the safety of their physical supply chain, ensuring that their carriers are safe and financially stable.

Shippers need to pay that level of attention to their financial supply chain—especially third parties they trust to manage freight transactions. An effective financial supply chain ensures timely payments to carriers.

Ultimately, the only institution that can guarantee funds will be delivered exactly when promised, to whom promised, is a bank. Banks go beyond the basic Sarbanes-Oxley Act, and Statement on Standards for Attestation Engagements 16 Type 2 certification to meet the financial industry's rigorous regulation, audit, and compliance requirements.

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RICK
ERICKSON

Global Director of Freight Payment Solutions
U.S. Bank

The Fundamentals of Successful Value Chain Partnerships

Q: How can value chain partners cooperate to create and share efficiencies?

A: With an unprecedented global reach, access to new markets, increased regulation, and huge advances in technology, today's supply chain environment is more complex than ever. Coupled with increasing customer demands for speed, flexibility, cost efficiency, quality, and customization, it is very difficult for any single player to do it all by themselves and consistently meet customer expectations efficiently.

Thus is born the need for business partners to work together across the value chain with the intent to maximize the benefit to their customers—and, as a result, also to their own bottom line. Smart partners will do that by understanding their needs and combining, in varying degrees, their core competencies, total assets, technology, and relationships toward the mutual goals.

In all but the simplest of situations, this is not an easy endeavor, so it must be undertaken with great care. The first step is for each value chain partner to understand its own strengths and limitations. An honest assessment may not guarantee success, but a dishonest one—whether deliberate or not—will most certainly



GEORGE

President
Fortigo

KONTORAVDIS, PHD

cause problems down the road and jeopardize the partnership's success.

At this point, the partners must also establish a well-defined framework of incentives and rewards. It is important for each side to feel motivated to do their best for the collective success of the partnership. It is equally important that all sides are satisfied that the eventual benefits will be shared justly and equitably.

Next, the specific elements of the partnership and the associated operational processes must be set forth. It could be a simple networking arrangement in which the parties exchange information about a new market's conditions, such as demand signals, local regulations, or processes in a new logistics hub. It could involve active coordination between the partners, such as using real-time track-and-trace to provide visibility for the exact timing of handoffs in the supply chain. Or

the partnership could involve ongoing cooperation, including sharing resources to move freight or monitor freight flow.

Finally, at the pinnacle of this hierarchy is what we might call *collaborative logistics*, in which the partners have joint goals, share joint responsibilities, and incur joint risks. While the most complicated form of partnership, this model can also be the most rewarding, offering the highest potential to all partners involved.

Underlying all these arrangements—and fundamental to the partnership's success—is mutual trust and open communication. These elements develop over time, but when present, the sky is the limit for success in the value chain.

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Big Data Tools Enable Predictive and Prescriptive Analytics

Q: What is different in transportation technology today compared to five years ago?

A: Two words: big data. It has become significantly less expensive in the past five years to store and analyze large amounts of data. Due to these decreased costs, companies can now afford to use data to gain additional insight into their transportation patterns.

Q: How can technology be used to mitigate rising transportation costs?

A: Big data tools must be used to reduce the overall perceived risk that carriers have with a company's freight. This can be accomplished in three ways:

1. Providing each carrier with a larger dataset of freight moves.
2. Modeling the dataset to obtain the resultant carrier mix.
3. Utilizing a Transportation Management System (TMS) to make the carrier selection.

The larger dataset will allow each carrier to have visibility to the exact freight lanes, as well as the frequency or seasonality of the volume in each lane. Modeling the dataset with the carrier's proposed rates and business operational rules allows shippers to take into account their service requirements. Today's consumers and trading partners are more sophisticated, which adds complexity to the carrier awards. A more granular lane strategy between shippers and carriers

a large amount of data. The second definition of big data is that the dataset is too difficult to process using traditional data processing applications. When it comes to supply chain operations, many large companies are still dependent on using a spreadsheet to manage a very complex global part of the business.



SHANNON

President
RateLinx

VAILLANCOURT

helps mitigate risks and costs for both parties. Then, by using a TMS to make the carrier selection, shippers are able to load the same business rules to achieve the predicted outcome from the modeling.

Q: Having enough supply chain talent is a problem today. How can technology help with this issue?

A: By leveraging the big data tools that are becoming more prevalent, companies can quickly spot trends that would otherwise have gone unnoticed. Many people are under the impression that big data only refers to

With big data tools, shippers can move past the business intelligence side of measuring and diagnosing, and move into the predictive and prescriptive side. A big data tool will allow transportation teams to have fewer experienced supply chain staff members, because the data will be more actionable. As big data continues to evolve, the prescriptive side will become more prevalent and powerful as the data being captured will allow the system to self-correct with little to no user intervention.

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Get Real: What ROI to Expect from Your TMS Implementation

Q: Transportation management system (TMS) solution providers routinely claim their automation tools will deliver cost savings as high as 25 to 30 percent of annual transportation spend. Is this accurate?

A: Sales representatives have a tendency to oversell things in their pursuit of new clients. This is problematic for the industry because it discredits TMS solutions as a whole when users expecting 25-percent savings yield significantly less. Of course, it is theoretically possible for an organization to capture this level of savings, but only if it had no established processes, controls, or program of any kind before implementing a TMS.

In reality, most companies already have some form of transportation management processes in effect. Companies should expect a more realistic savings range of between two percent and 11 percent, according to a recent ARC Research study. This is accurate, with perhaps a bit more potential on the upside—up to 15 percent.

Q: How can transportation organizations estimate what they stand to gain by implementing a TMS solution given the relative strength or weakness of their existing program?

A: Companies interested in automating and optimizing their transportation management processes should examine their current capabilities across eight critical transportation functions. These include optimization-related processes such as optimal routing and load building, as well as execution processes such as mode selection, carrier management, procurement, collaboration, business intelligence, and others.

Resources are available to help would-be TMS users assess their existing capabilities in each of these areas, and determine what level of savings they could expect to capture

by applying TMS to standardize and automate these functions. Using figures provided by credible third-party experts, industry analysts, and others, they can arrive at a realistic set of expectations based not on sales rep promises, but on empirical evidence.

Q: What is the average return on investment for the typical TMS user?

A: Frame this question in terms of how long it takes for a TMS to pay for itself. TMS solutions generally produce enough savings—from both freight and labor costs—to cover implementation expenses and monthly program fees for the term of the contract within the first three to six months—and often even sooner.

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President
UltraShipTMS

NICHOLAS
CARRETTA

Avoiding Pitfalls to TMS Implementation

Q: What can go wrong when launching a transportation management system (TMS)?

A: Implementing a TMS is a proven way to reduce cost and gain control of your organization's transportation expenses. Yet many companies implement systems only to fall short of the return on investment (ROI) they expected.

Sometimes the problem stems from failure to understand internal stakeholder requirements. Implementations often take longer than necessary because an internal stakeholder identifies new requirements near the time the TMS goes live—sometimes even after. This causes delays due to re-work, or worse yet, reduces the system's effectiveness, which kills the project's ROI. It helps to enlist a trusted partner experienced in TMS implementations, who knows where to look for holes or gaps in understanding, and has a structured framework and battle-tested process.

Another obstacle to successful TMS implementation is failing to invest in training and building expertise. Many organizations send everyone through initial training—sometimes several weeks before the TMS goes live—then expect their employees to remember all the functions and capabilities they learned in a classroom setting, outside the context of their jobs.

Working with an external partner that has the benefit of an experienced user group can help ease the system's learning curve.

A third common hurdle in TMS implementation is a lack of IT resources. There's a lot of work to be done in configuring the TMS, as well as integrating the solution with internal ERP and other supply chain execution systems such as a warehouse management system. Internal IT personnel are often in short supply, and they may lack TMS experience and training. It's risky to have just one individual within an IT department who is the TMS guru, but often that is all IT budgets can afford.

Q: What external connections are necessary to provide visibility and other TMS benefits?

A: A primary advantage of a TMS is visibility across your entire operation. That also involves significant IT resources, however, to establish the electronic connectivity with various carriers and/or service providers. Using a TMS provider with a pre-established network of connected carriers can help mitigate this issue, and companies can realize the benefits of supply chain visibility much more quickly.

Q: It is sometimes difficult to secure the human capital required. Are there other options?

A: The benefits gained from a TMS are often a function of the amount of investment put into its implementation. The cost of the system is important, but taking the time to fully understand current processes will ensure the evolved processes effectively deliver on the promise of the technology.

Just as important is developing and maintaining system expertise, within both the IT and user communities. What good is it to spend millions on a high-tech fighter jet if the pilots and maintenance personnel are short-staffed and aren't fully trained to support it? Don't get stuck with your TMS getting grounded—spend the time and effort making your TMS implementation successful. If you can't develop the expertise internally, it's often best to find a partner who already has the capabilities, and can show you the way to a solid ROI.

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STEVE
WILSON

Vice President, Logistics Engineering
3PLogic LLC

Untangling the Complications of Free Trade Agreements

Q: Why should companies consider trade agreements when looking to find the best sourcing option?

A: Companies need to factor into their sourcing decisions the opportunities provided by free trade agreements if they are to truly reduce lead times and take advantage of cost savings available throughout their supply chain. By incorporating trade agreements into their sourcing strategy, companies are able to analyze the savings opportunities that exist when sourcing from countries both local and afar, and determine where preferential duty rates may impact the traditional landed cost of their purchased goods by delivering better tariff outcomes.

Companies that can effectively integrate trade agreements in this way will gain a competitive edge in the marketplace; however, given the dynamic nature of trade and with new agreements signed every other day, for most this is easier said than done.

Director of Asia Pacific Operations
Integration Point



JAMES
MEARES

Q: Why are companies in Asia Pacific foregoing the opportunities created by free trade?

A: The proliferation of free trade agreements over the past decade has contributed to an increased concentration of trade within the Asia-Pacific region, but has also resulted in a myriad of overlapping agreements that lack both consistency of application and requirements. This overlap—or “noodle bowl effect” as it is sometimes referred to in Asia Pacific—has generated a whole new complexity that makes it difficult for companies to take advantage of free trade agreements.

As each agreement comes into force, there is an exponential increase in the time required to source all the relevant information. This administrative burden—coupled with the knowledge required to interpret the rules of origin—often proves beyond the capacity of an organization to manage. For this reason, many companies simply choose not to work with trade agreements. This decision is having a ripple effect throughout the supply chain.

Q: How can companies manage regulatory information and supply chain risks along with incorporating trade agreements into the mix?

A: Successful companies need to react quickly in determining the benefits and implications surrounding different sourcing, manufacturing, and distribution options. Organizations are increasingly focused on “big data” because they realize having the ability to synthesize volumes of data can help them understand patterns.

The best way to leverage both this internal and external knowledge is to use a single platform to see where internal patterns meet external opportunities. Being able to determine the impact of supply chain modifications automatically allows organizations to react more efficiently, therefore developing more agile supply chains.

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Keys to Developing Strong Supply Chain Partnerships

Q: How can value chain partners collaborate to enhance performance and efficiencies?

A: Collaboration among supply chain partners can improve supply chain performance, create new capabilities, and increase efficiencies. Meeting to review performance objectives helps build stronger partnerships based on definable measurements and greater transparency, and encourages more effective supply chain practices.

Part of this process is reviewing current models to determine if there are more efficient ways of operating.

booking turn-times, arrival notices, and invoicing. Timely communication about these processes through transparent measurements and review provides a clear picture of what the carrier is delivering. It is an opportunity for the carrier to improve and simplify transactional processes for greater data accuracy, efficiency, and response. Shippers benefit from increased productivity, supply chain performance, and a stronger value chain partnership.

Q: What's the benefit of real-time carrier-shipper communication?

A: Global shipping is burdened by complexity and risk; especially as today's global supply chains become longer and more intricate. Factors impacting the flow of containerized cargo include weather, natural disasters, port delays, and sudden increases in demand. These events can threaten the continuity of business by knocking supply chains off their planned course.

To address this issue, carriers must deliver consistent, timely supply chain information to ensure shippers have the information they need to keep their customers and internal staff informed. This real-time communication enables businesses to proactively manage supply chain disruptions as they occur, rather than reacting after a disruption happens. This helps ensure the continuity of their business so they can successfully deliver on the promises they make to their customers.



TOM
SPROAT

Senior Vice President, Customer Service
Maersk Line

For example, consider the fundamental, costly challenge of equipment imbalance in the United States. This imbalance results in considerable time and resources. When the equipment needs of exporters can be matched with importer empties, a more efficient, sustainable result is possible. Match-back opportunities can be accomplished through improved communication and collaboration.

Achieving success as value chain partners depends on clear, accurate day-to-day communication. One area of container shipping that can have a big impact on the carrier-shipper partnership is the accuracy and timeliness of the core fundamentals, such as

Q: How can companies foster a mutually beneficial carrier-shipper business relationship?

A: While carriers struggle to control costs and optimize their networks, shippers call for greater reliability and responsiveness. By working together to establish constructive, transparent relationships, the two parties can create a winning partnership that benefits each of them. Our Customer Charter enables open dialogue around fundamental performance metrics. This allows each party to achieve its goals, and the partners can develop relevant supply chain solutions that add new value and efficiency.

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Efficient and Compliant Hazmat Shipping: Today You Can Have Both

Q: What are the common hazmat violations, and what are the consequences for shippers and carriers?

A: In the United States, both the Department of Transportation (DOT) and the Federal Aviation Administration (FAA) regulate hazardous material (or dangerous goods) transportation. Penalties can range from a few thousand dollars to more than one million dollars, and repeat violations tend to cause penalties to escalate dramatically. The most common reasons shippers incur penalties when shipping hazardous materials include:

- Failure to declare hazmat items when shipping
- Failure to properly train employees
- Mislabeled packaging
- Mistakes on hazmat shipping papers
- Failure to use UN specification packaging

Q: How has technology evolved to manage hazmat compliance risks?

A: For many companies, hazardous material shipping is still a very manual process. To be compliant, the shipper has to understand not only the intrinsic properties of a particular chemical, for example, and how to classify it, but also the quantity limitations, packing

instructions, special provisions, carrier variations, and state variations, if shipping internationally. This often involves consulting five or more different sections of regulations to determine all the requirements that apply.

Many technologies available today can ease this burden, including:

- Electronic versions of the regulations that allow easy navigation within and between regulations.
- Automated validation software that checks shipping paper content against the regulations to flag compliance issues before a shipment is completed.
- Classification wizards that allow for easy classification of hazmat products by guiding users through a series of basic questions.
- Smart labels that use bar codes linked to software to confirm that the labels on the package match those that are required, based on shipping documents.

Q: Can I maintain the highest level of compliance without sacrificing shipping efficiencies?

A: Yes. If you follow certain guidelines, you can ensure that strong compliance standards go hand-in-hand with efficient shipping operations:

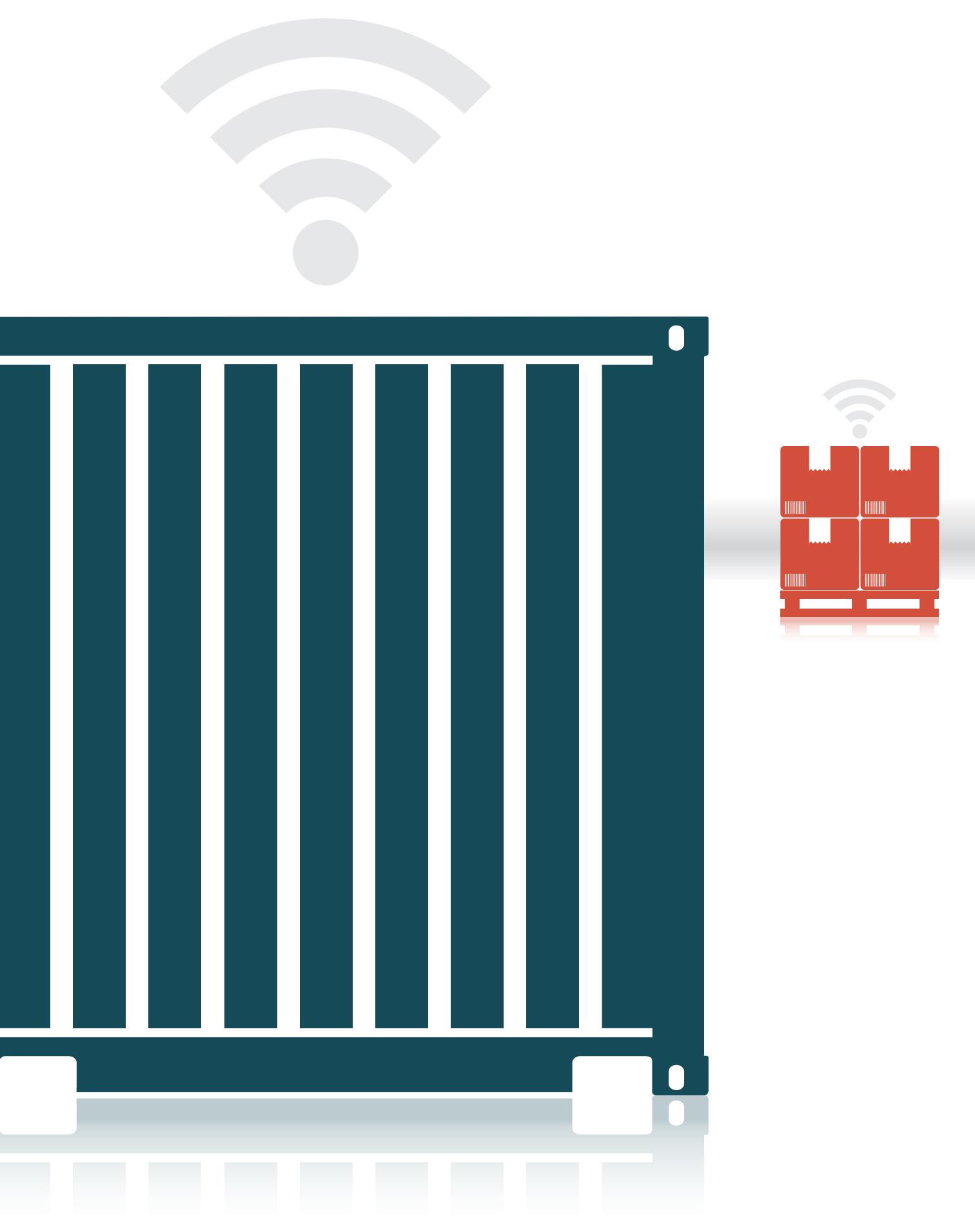
- **Hazmat data strategy.** By clearly defining the process and responsibility for classifying and storing dangerous goods data, you can speed up shipment processing by always having the right information when a shipment needs to go out.
- **Integration.** If you are using specialized software for processing hazmat shipments, make sure it can easily integrate into other systems such as your enterprise resource planning solution or manifest system.
- **Carrier-recognized.** Make sure any hazmat software solution is recognized by your primary carriers. For example, FedEx and UPS require use of pre-approved software for hazmat shipping.
- **Tech support.** Given the complexity of the regulations, it is critical that any technology solutions you are using to process hazmat shipments have robust tech support so issues can be resolved quickly without delaying shipments.

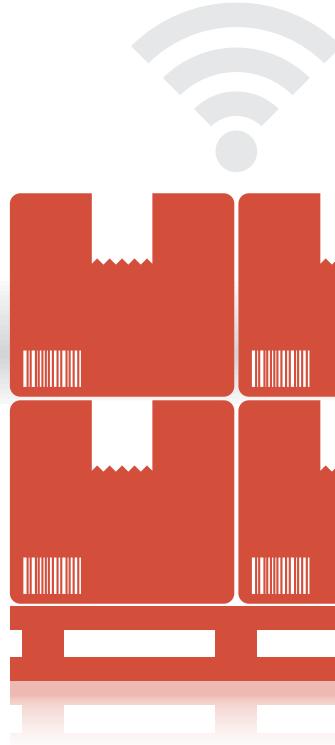
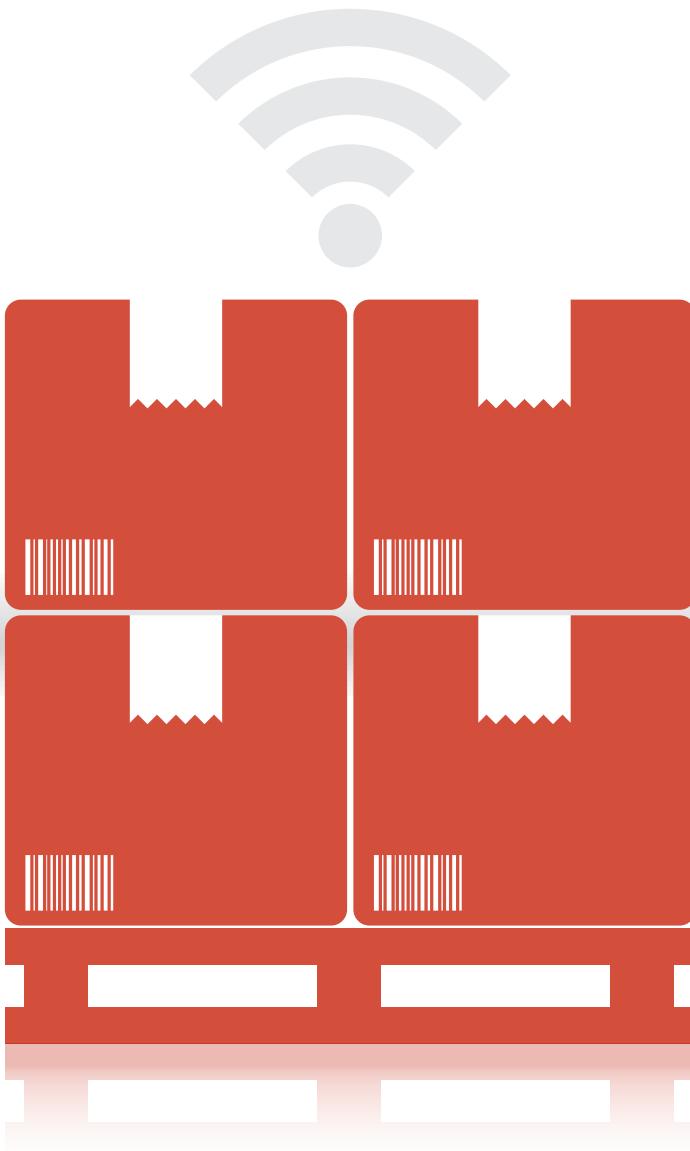
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SHIPMENT MONITORING TECHNOLOGY: PICKING UP THE SIGNALS

From basic to complex, tracking devices give shippers the power to locate and secure cargo at any point in the supply chain. **By Suzanne Heyn**

April 2014 • Inbound Logistics 77

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hipment monitoring technology is advancing at a dizzying pace, resulting in an array of futuristic tracking devices that do everything from store solar power for five years to communicate with each other without human intervention. These advances allow manufacturers and shippers to track shipments, manage inventory, and prevent theft in previously impossible ways.

While traditional tracking devices such as radio frequency identification (RFID) and bar codes remain relevant, innovations—and dropping prices—in cellular and satellite technology make it easier to secure near-real-time coverage for almost the entire globe. Companies selecting shipment tracking technologies must balance budget constraints with a realistic view of the coverage needed.

Ultimately, knowing how to respond to the data collected matters most. Companies can turn information into action that can boost the bottom line and ensure a return on investment.

At New York City-based pharmaceutical company Pfizer, the twin goals of cargo security and inventory management guide

decisions about what types of technology to use. The company employs a mix of real-time tracking devices and those offering point-to-point information, depending on the asset and route traveled.

"We don't always use real-time data," says Bradley Elrod, director of global conveyance security for Pfizer. "Sometimes a product's risk level doesn't warrant the investment."

Weighing Value and Risk

The equation for selecting technology includes many variables. Shipments of materials that cargo thieves covet—such as painkillers with a high street value—might be equipped with the most sophisticated technology, such as satellite tracking

devices, while drugs with a lower risk of theft or product damage are tracked less intensely. Likewise, Pfizer keeps a closer eye on shipments moving through high-risk regions such as Mexico and South Africa than calmer areas.

In situations calling for the highest levels of security, the options have never been more sophisticated. Emerging capabilities in satellite and cellular technology have resulted in increased coverage, reduced costs, and expanded product offerings.

Satellite tracking systems now generate close to real-time, location-based data across up to 98 percent of the globe traversed commercially, says Craig Montgomery, senior vice president, marketing and product management for Orbcomm, a Rochelle Park, N.J.-based provider of machine-to-machine (M2M) equipment. M2M allows separate pieces of equipment to communicate through wireless or wired networks, frequently without human intervention.

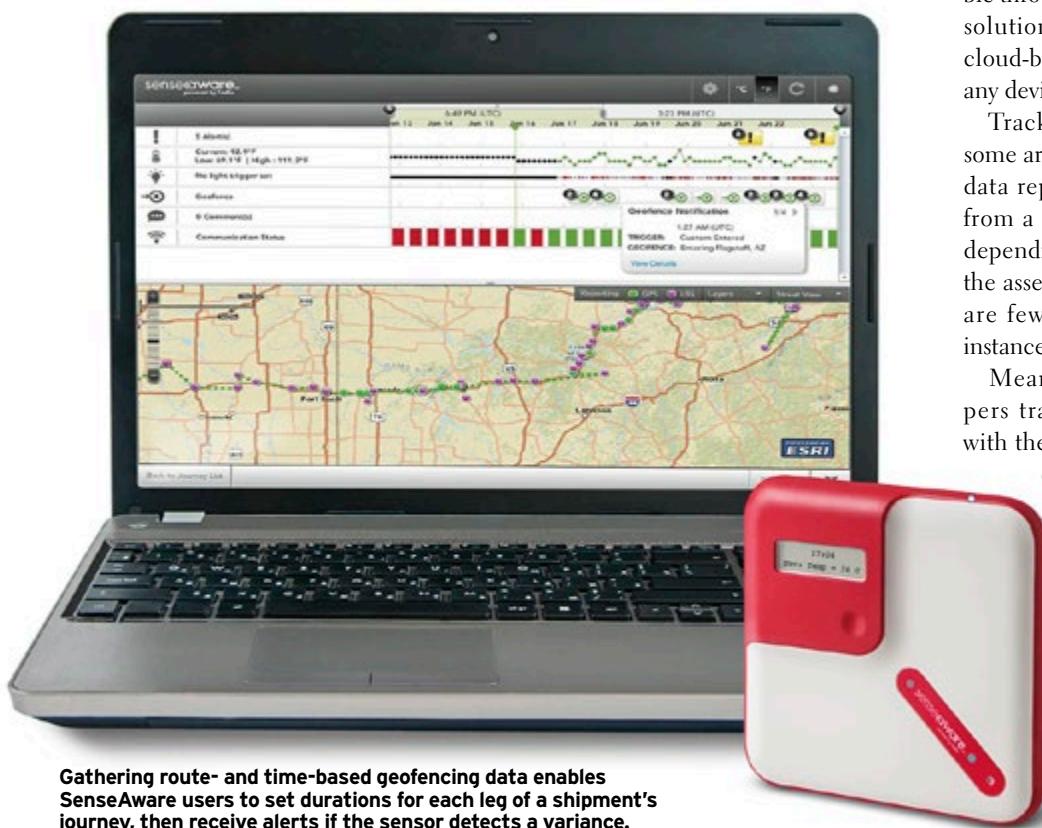
Typically, these devices allow what is called bi-directional communication. In one direction, satellites track remote assets, reporting information to a database accessible through a Software-as-a-Service (SaaS) solution. These systems are frequently cloud-based, so they can be tapped from any device with an Internet connection.

Tracking is near-real-time, although some areas experience lags, or latency, in data reporting. Latency lasts anywhere from a few seconds to several minutes, depending on how many satellites cover the asset's location. In areas where there are fewer satellites—at the poles, for instance—data reporting is slower.

Meanwhile, M2M also allows shippers tracking cargo to communicate with the devices, changing reporting frequencies and investigating alerts generated by attached sensors.

These devices can automatically switch from cellular to satellite using sophisticated software that monitors the available networks, and chooses the best system based on coverage and cost.

Cellular, like satellite, offers real-time data. It is cheaper than satellite, but covers less of the world. While its low



Gathering route- and time-based geofencing data enables SenseAware users to set durations for each leg of a shipment's journey, then receive alerts if the sensor detects a variance.

cost can make it a good solution for tracking cargo traveling through the increasing swaths of the world covered by cellular, satellite remains the go-to option in remote parts of the world, or for assets that move in and out of cellular coverage.

Each technology offers distinct benefits, but companies have historically needed two separate devices to use both. That requirement is changing. Technological advances have reduced the footprint of communications equipment, making it possible to fit cellular and satellite components into one device, which keeps equipment costs down.

Costs have also dropped on the communication side, making the dual-mode device a more viable option.

Meanwhile, bi-reporting capabilities mean companies can switch how frequently the device generates reports. Location information for shipments traveling on a U.S. highway might report once each day. On a ship, reporting might slow to once each week—but if cargo enters a theft hotspot, updates could arrive every 15 minutes.

Theft-Prevention Measures

In addition to location tracking, M2M offers measures to tighten cargo security. Locking devices not only track cargo, but also sound an alarm if someone cuts the bolt. The devices run on ZigBee, a wireless communication system that uses radio waves to link M2M technology.

One security option wireless technology offers is creating a “slave/master” mentality. “Place several devices into pallets, and they will communicate with each other,” Montgomery explains. “The pallet devices also communicate with both the master tracking device outside the pallet, and the cellular-enabled bolt mechanism.”

Companies track the data—which appears on a map application such as Google Maps—in a SaaS program offered by their technology provider, or through their own software system. “They are able to see the shipment’s location,” Montgomery says. “Shippers can access different perspectives, such as a satellite view of the land and ground schematics, or view a road-based traditional map.”

Companies can run queries to gather information about device location, asset idles, and cargo loading status.

Battery technology has improved, too, with solar-powered global positioning system (GPS) M2M tracking devices now available. One of Orbcomm’s devices measures just one inch high, and is thin enough to fit in the ridge of a cargo container. The device—which offers near-real-time shipment visibility and the ability to change reporting frequencies—features a battery that runs up to five years in total darkness.

Conditions Awareness

Sensors that detect light and temperature, in addition to communicating real-time location data on cellular networks, mark another frontier. The ability to detect light is an important security feature, with the sensors reporting if a package has been opened prior to delivery. If a breach occurs, shippers quickly receive an email notification, allowing them to act promptly.

“Satellite tracking systems now generate close to real-time, location-based data across up to 98 percent of the globe traversed commercially.”

—**Craig Montgomery**, Senior VP, Marketing & Product Management, Orbcomm

“When trouble hits the supply chain, shippers need to react immediately—not in a few hours,” says Chris Swearingen, marketing manager for SenseAware, a FedEx subsidiary that operates a sensor-based logistics program. “This speed is especially important for international shipments, because it is easier to lose visibility.”

The sensors enhance security by working with two types of geofences: route-based and time-based. This capability gives companies the option to set durations for each leg of the journey.

“If a shipment does not meet the specific time measurement for that part of the trip, it could indicate theft or another problem with transportation,” Swearingen says. In both cases, shippers receive near-real-time alerts via email if a shipment breaks the geofencing parameters.

Sensor-based technology is relatively new. SenseAware launched in 2009, and is now available in 20 countries, including the United States, Canada, Scandinavia, much of Europe, and parts

of Asia. Companies purchase a subscription that includes equipment, connectivity, and access to the software system through which users can track shipments.

The program builds on the Internet of Things (IoT) concept commonly referenced among supply chain technology experts. In practice, IoT refers to the rising number of physical objects traceable through the Internet. IoT posits that one day, all objects will be traceable through the Web, and able to communicate with each other.

Mobile on the Move

Mobile phones comprise part of the IoT philosophy, with new possibilities emerging—particularly with apps, says Doug Litten, supply chain IT program director for Leidos, a Reston, Va.-based technology consulting firm.

Leidos is working with mobile apps that

allow employees to input cargo-related data. The app then pushes data into a central database, viewable by other authorized parties. Litten predicts the use of mobile devices in logistics will increase during the next few years, although related security and encryption still need improvement.

Even with sophisticated technology available to provide visibility, older technologies such as RFID—first developed in the 1940s—is still relevant today.

“RFID is wonderful technology,” says Tom O’Boyle, director of RFID for Barcoding Inc., a Baltimore, Md.-based provider of RFID, bar-code, and wireless technologies. “It allows us to identify an item without having a direct line of sight.”

When a cargo container or pallet tagged with RFID moves through a “read zone”—a portal equipped with a special reader—the reader captures the tag’s information using radio frequencies. Away from reader locations, another technology, such as satellite or cellular, must provide coverage.

While passive RFID has no internal source of power—essentially falling asleep when not activated by the reader—a battery powers active RFID. The active version's radio frequencies communicate at longer distances than the passive version, and, in some cases, it can initiate communication with readers or other tags. Passive RFID costs less and remains more widely used than active RFID—particularly for high-volume, low-risk cargo.

Because passive RFID only works when in close range to a reader, it is often categorized as a solution best suited for warehouse management. The frequencies for either type aren't widely standardized save for select industries, which has also limited its use.

"A business can't necessarily use an RFID tag that has been encoded for Company A in Company B's system, unless it has access to the database that identifies what the tag means," O'Boyle says.

Some businesses avoid RFID, considering the technology redundant if used in

tags cost 50 cents or more a few years ago, prices today are as low as 15 cents. RFID reader price tags have also dropped about 30 percent over the past few years. Lower prices may spur more users to adopt RFID, which will lower prices even further.

RFID technology continues to evolve, offering new uses. Some companies, for example, are beginning to use RFID in

Litten says. "Bar codes are inexpensive, and they do the job."

Each type of tracking technology offers a specific use. While a cargo container might be outfitted with GPS, RFID more effectively tracks units or pallets. "RFID is more cost-effective than active GPS-type tags, because they cost a few cents instead of hundreds of dollars," O'Boyle says.

No More Than is Needed

Depending on a company's needs, real-time data provided by GPS may not even be necessary.

Companies frequently think they need more visibility than they actually do. While hourly updates might seem like a good idea, point-to-point may suffice. "When businesses review customer needs, they often determine a daily location is adequate," Litten says.

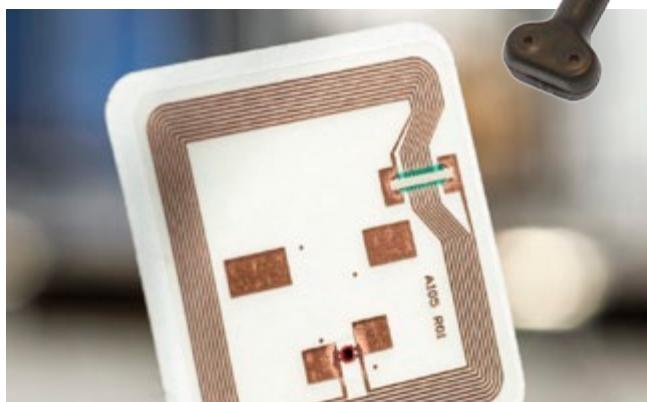
Visibility requirements may vary depending upon why a company needs to know where its assets are. Needing up-to-date information from a financial reporting perspective or because the location of inventory drives procurement decisions, for example, might compel a company to invest in a comprehensive—and expensive—solution such as satellite.

Shippers should pay for the visibility they need today, keeping in mind that more detail is always available. For many companies, daily updates received through email, or by accessing a software system, represent a vast improvement on calling carriers, searching for cargo, and relying on data that might not even be accurate.

With so much data potentially available, companies must focus on making the best use of the information.

"It's not just a question of knowing the shipment location, but also considering how that status impacts the business," says Kim Le, director of CargoSmart North America, a Hong Kong-based SaaS shipping and logistics company.

CargoSmart tracks information from its network of more than 30 ocean carriers and more than 22,000 groups of customers—called groups because each involves the customer and its supply chain partners. The company analyzes data such as carrier schedules uploaded by parties in its network; weather reports; historical information; and even news events, such



Combining devices such as Orbcomm's RFID tags (left) and cellular-enabled electronic bolt seal (above) provides shippers in-transit visibility to cargo. These monitoring devices also help guard cargo against theft.

conjunction with more sophisticated solutions, such as GPS.

One such company is A. Duie Pyle, a West Chester, Pa.-based less-than-truckload carrier that offers tracking standard with all loads, but forgoes RFID. Instead, the carrier uses bar codes coupled with GPS systems that track trucks in five-minute intervals.

The mix provides all the data the carrier needs, and RFID would be an unnecessary expense, says Mike Crowley, the carrier's chief information officer.

Despite its drawbacks, dropping RFID prices lead O'Boyle to predict a 30-percent surge in the companies using it over the next five years. While passive RFID

container seals. "Not only will we know that the seal has been broken, but a date and time stamp recording reveals when it was broken," O'Boyle says. Users can also program the technology to limit who has the authority to access containers.

No matter how far other technologies advance, RFID will remain relevant, because its low cost and accessibility make it a good option for many circumstances.

Likewise, bar codes, perhaps one of the simplest tracking mechanisms, are expected to retain their place among more sophisticated technologies. "Most supply chains are not fully RFID-capable, so bar codes are especially important for capturing data, particularly at the unit level,"

as whether workers at a particular port are striking, which could delay shipments.

"Everybody in the market has data after the fact," Le says. Truly meaningful data identifies events while they're happening, and allows companies to change routes or find other solutions to mitigate delays.

"Shippers can't change their supply chain unless they have enough lead time to make a difference," Le says.

For example, in the case of a company whose vessels were rerouted from Long Beach, Calif., to Mexico, learning of the change early was critical. "We saw that shift, and alerted the shipper," Le says. "The company was immediately able to arrange trucks to meet the ship in Mexico and avert delays."

Increasing data availability is also changing how companies manage shipments. Information supplies the power to manage by exception—building rules, enforced by technology.

"Businesses can choose to be alerted if a certain asset or device hasn't reported in a specified amount of time, or reports from a location where it should not be,"

says Lee Lanucha, senior director of platform product management at Numerex, an Atlanta-based M2M provider.

Using data, companies establish trends and prohibit actions deviating from the norm. This enhances security, and reduces staff time spent tracking assets.

"In the past, reports might come in every 15 minutes stating that all conditions were stable," says Orbcomm's Montgomery. "But that eats up a lot of time and resources for dispatchers, who only need to know if the shipment goes off the intended path."

Technology not only provides fast, precise coordinates for latitude and longitude, but it also provides rapid communication with law enforcement authorities in case of theft. "They can catch the thieves, and get the materials back," Montgomery says.

Start Small

The array of available shipment tracking possibilities might seem daunting. When examining options, it helps to establish specific goals. "Some companies implement big, cumbersome systems that are too complex to manage," says O'Boyle. He

recommends businesses start small, experimenting with a portion of their supply chain and expanding from there.

Another decision involves whether to purchase equipment outright, or work with a solutions provider. Each method offers benefits. Companies that purchase technology can place it in cargo without even notifying the carrier, which can boost security.

Alternatively, when working with a technology provider, companies needn't worry about investing in upgrades. "The technology changes fast — what you use today could be outdated in two years," Elrod says. Companies that make large capital expenditures for equipment are less likely to invest again a few years later.

Despite all the advances, no matter how sophisticated the solution, no perfect tracking technology exists. Companies should continue to expect some holes in their tracking. "It would be nice if full visibility was possible 24/7," says Lanucha. "But all technology has some limitations."

Despite those limitations, every step toward better supply chain visibility is a step in the right direction. ■



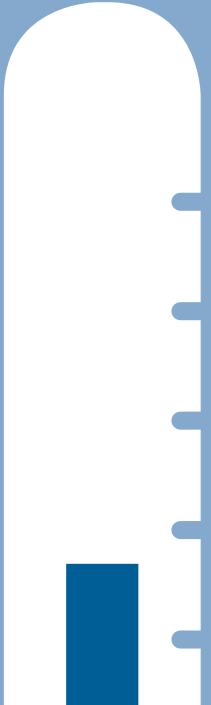
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COLD STORAGE OPTIMIZATION BY DEGREES

As the food industry gets a taste of rising prices, fluctuating energy costs, and new regulations, shippers develop a growing appetite for 3PLs and refrigerated public warehouses to help drive greater efficiency inside the four walls.

By Joseph O'Reilly

When things go sour in the food supply chain, there's no recourse. That's the nature of the business. Quality and safety are paramount. Chain of custody is sacrosanct. When one link fails, the consequences are considerable.

What makes cold storage logistics unique also makes it challenging—the energy required to maintain temperature-controlled units in transport or in refrigerated and frozen storage facilities; the sensitivity to exceptions; the lack of automation; differing standards among value chain partners; and stockkeeping unit (SKU) proliferation.

More telling, U.S. food prices are on the rise, and will likely remain high due to gains in beef, poultry, and eggs, according to recent U.S. Department of Agriculture figures. Overall food costs are expected to increase up to 3.5 percent in 2014 due to drought, and changing global and domestic dynamics.

One example of these changing dynamics: In 2013, the U.S. cattle herd was at its lowest level in 60 years. Corn ethanol subsidies indirectly reduced supply, and increased feed costs for ranchers. Beyond that, growing demand for beef in expanding middle



To meet consumers' increasing demand for fresh and ethnic foods, producers and distributors are stocking more types of product, which drives complexity in the cold chain. Many food companies are turning to third-party logistics providers to help them navigate this complexity, as well as better manage costs and efficiency.

classes around the world makes exports a more profitable opportunity.

Supply and demand patterns are changing, and food supply chains are feeling the pinch. "Food producers either have to raise prices or become more efficient," says David Stuver, vice president of engineering at Atlanta-based third-party logistics (3PL) provider Americold Logistics—the world's largest cold storage company.

Innovation is the key to addressing the price/efficiency dichotomy, Stuver says, and it boils down to four areas: energy; delivery miles to stores; labor optimization; and working capital as it relates to better use of inventory.

Even still, the cold chain is hypersensitive to certain questions and conditions beyond normal supply chain parameters: What if a temperature sensor is triggered? What if visibility is compromised at an intermodal exchange? What if packaging is tampered with? What if a product needs to be recalled?

The concern over recalls was a point of emphasis when President Obama passed the Food Safety Modernization Act (FSMA) in 2011, updating guidelines that had been left untouched for 70 years. Since then, the U.S. Food and Drug

Administration (FDA) has been seeking comments from industry stakeholders in a process that will eventually establish new rules for the industry (*see sidebar, page 85*).

Amid uncertainties about how these changes will impact current protocols, growers, producers, distributors, public warehouses, and 3PLs agree that the costs of compliance will only grow. As the cold chain prepares for this regulatory restructuring, participants are challenged to dial up the best measures for controlling both temperature and spend.

CONTAINING COSTS

Cost containment and reduction are the biggest drivers for supply chain practitioners. But in the cold storage and distribution space, that reality is amplified by degrees.

Rising prices are a concern for food shippers—especially smaller mom-and-pop producers and distributors. Profit margins are slim, and seasonality is fickle. A spike in costs can have a ripple impact throughout the supply chain. As a result, many food producers and distributors depend on 3PLs and public refrigerated warehouses to help drive out costs. In turn, service providers are doing their part.

"We've invested heavily in green initiatives and energy reduction programs, but in the long term, energy only has one way to go: up," says Doug Harrison, president and CEO of Vancouver, B.C.-based VersaCold. The 3PL operates 33 facilities across Canada, with five business units covering transportation, 4PL, 3PL, warehousing, and distribution services.

Energy costs are also a concern for Hillsboro, Ore.-based Henningsen Cold Storage, which operates 10 facilities across the United States, but has a heavy market presence in the Pacific Northwest. Both VersaCold and Henningsen have invested in equipping their facilities with green features, including LED lighting, variable speed motors for boiler rooms, and evaporators and compressors, as well as R-value insulated panel materials to seal walls and ceilings.

Ensuring cold storage facilities are properly maintained to protect the integrity of refrigerated and frozen products comes at a cost. Insulating the end customer—whether it's the consumer, retailer, or distributor—from price fluctuations is challenging.

More shippers are focused on pricing than on solutions-oriented partnerships,

notes Tony Lucarelli, executive vice president at Henningsen. It's a cyclical phenomenon, but one that is again trending toward transactional, given current economic circumstances.

"Shippers are trying to take cost out of the supply chain," adds Stuver. "They are addressing packaging changes, and maximizing cube. Retail ordering behaviors are changing rapidly. We're seeing higher case-pick volumes. That's pushing the work upstream in the supply chain."

The food supply chain is heavily influenced by changing consumer tastes. New attitudes toward different foods, and growing appreciation for America's ethnic diversity, have an impact. The e-commerce phenomenon has similarly

spoiled consumer expectations. Shoppers are accustomed to getting what they want. Food supply chain players are stocking more types of product, which adds complexity.

AUTOMATION SLOW MOTION

"More SKUs are entering our facility from a broad range of shippers," says Harrison. "The challenge of SKU proliferation—whether refrigerated or dry—is that the more you have, the less picking efficiency there is. That drives complexity. Packaging requirements are changing in terms of box size, which impacts the picking configurations within a building."

Lucarelli notes a distinction between different types of cold storage shipments.

"Refrigerated product, which has a shorter shelf life, lends itself to smaller orders at greater frequencies," he says. "Many manufacturers' customers need to receive dairy products two or three times per week, as opposed to a load of frozen product coming in once weekly."

Consequently, shippers and service providers are challenged with optimizing labor-intensive warehouse management processes. Automation is constrained in cold storage for a number of reasons.

"As long as we're handling products for multiple clients in a facility—which is our business—it's difficult to automate," says Lucarelli. "Some companies are automating pallet movements. But when it comes to selecting orders and picking

FSMA Update: The Time to Act

The Food Safety Modernization Act (FSMA) will impact any party involved in moving, handling, and storing food products, whether it's a local grower, big-box retailer, or third-party intermediary. Since President Obama signed the legislation into law in 2011, the U.S. Food and Drug Administration (FDA) has been seeking comments from industry. The

Late in 2013, the agency announced it would revise language for two important provisions affecting the rules on produce safety and preventive controls for human food. It will also revise language for the companion rule regarding good manufacturing practice and preventive controls for food for animals.

These provisions raised concerns among industry stakeholders, notably in the third-party warehousing space. In November 2013, the International Warehouse and Logistics Association (IWLA) documented two examples of language that confuse the roles and responsibilities of shippers and warehouses:

Clarifying the meaning of "solely engaged": A typical 3PL warehouse maintains up to 400,000 square feet or more of space designed for multiple customers with a range of different products. The IWLA believes that "solely engaged in the storage of packaged food" is intended to refer only to those warehouse activities that trigger registration under the Food Safety Modernization Act, and does not refer to any nonfood activities outside the FSMA's scope.

Responsibility for determining time and temperature controls: The current rule states that it is "rare" for warehouse operators not to have information on whether temperature controls are required, and what specific temperature controls are necessary. In fact, it is rare for the 3PL to have sufficient information to determine this. The FDA does not serve the goals of food safety by placing this responsibility on a party that is not in a position to make a substantive determination about a product's temperature control needs.

Sources: U.S. Food and Drug Administration; International Warehouse and Logistics Association



As the U.S. Food and Drug Administration seeks to define the terms of the Food Safety Modernization Act, food supply chain partners brace for increased scrutiny.

agency recently extended the deadline to June 30, 2014, for feedback on the proposed rule regarding mitigation strategies to protect food against intentional adulteration, and the accompanying draft qualitative risk assessment. The FDA has similarly pushed back the commentary period for designating high-risk foods for tracing until May 22, 2014.

less-than-pallet quantities, then physically loading a truck outbound to a grocery store DC—that's not automated. A human factor will always be involved."

ACCOMMODATING COMPLEXITY

Most public refrigerated warehouses and multi-tenant DCs require flexibility. Customers, products, and services change. Automation works well when the focus is dedicated—a private facility, for example, with one manufacturer and a high volume of the same type of product.

"As a provider, we're curious about automation," says Harrison. "But a refrigerated or frozen storage facility presents challenges. Changing SKUs and packag-

sluggish, shippers are demanding more value-added capabilities—whether it's technology or more sophisticated logistics services—from their supply chain partners. Cost containment has always been a priority. But Harrison sees more shippers evaluating how they can collaborate to increase profitability and reduce inventory.

"We're performing more packaging and labeling for shippers," he says. "They want to continue to outsource and gain cost efficiencies. Keeping product in bulk until the last possible moment allows them to reduce inventory levels, and package to a specific brand name, quantity level, or SKU requirement."

Henningsen also provides these ser-

Regardless, when the FSMA rules are eventually finalized, a learning curve will drive value chain partners to make efforts to understand and achieve necessary compliance requirements. Many 3PLs and public warehouses are already anticipating these changes. VersaCold, for example, is using more real-time monitoring and sensing equipment to ensure temperature compliance throughout its network.

"We implemented a number of WMS upgrades to provide us e-capability for track-and-trace and recall management from the pallet to the license plate to the SKU level," explains Harrison. In the event of a recall, these capabilities will expedite response times.

Much of what the FSMA proposes comes down to lot traceability. "That's a technology challenge that the supply chain has not managed well," notes Stuver.

STANDARD PRACTICE

The industry is also focusing on standardization. Henningsen has been trying to stay ahead of the curve by making sure its 10 facilities are compliant with food safety regulations. For example, it has voluntarily invited independent third-party auditing agencies to come in unannounced and perform a full gamut of assessments. It's also pursuing a few food safety audit standards under the Global Food Safety Initiative—a program that was created in 2000 to bring together industry stakeholders to address critical issues.

"Taking these steps adds expense and complexity to our facilities, but it's a natural progression," says Lucarelli. "That's where the industry is heading, and we have to be prepared to comply with and manage these programs."

In the face of rising food prices, fluctuating energy costs, and regulatory measures that will further squeeze food chain participants, supply chain innovation is the only resort. Technology investment, business process change, and standardization are the keys to better energy efficiency, labor optimization, and cost reduction.

It's matter of seeing the food supply chain for what it is—a commingling of different players with varying levels of sophistication and resources—and recognizing, as the old adage goes, "It's only as strong as its weakest link." ■



Rising energy costs are a concern to cold chain logistics providers. To help manage those costs, Henningsen Cold Storage has invested in a number of green initiatives, including installing solar panels on its Portland, Ore., distribution center.

ing dynamics add degrees of complexity to automation."

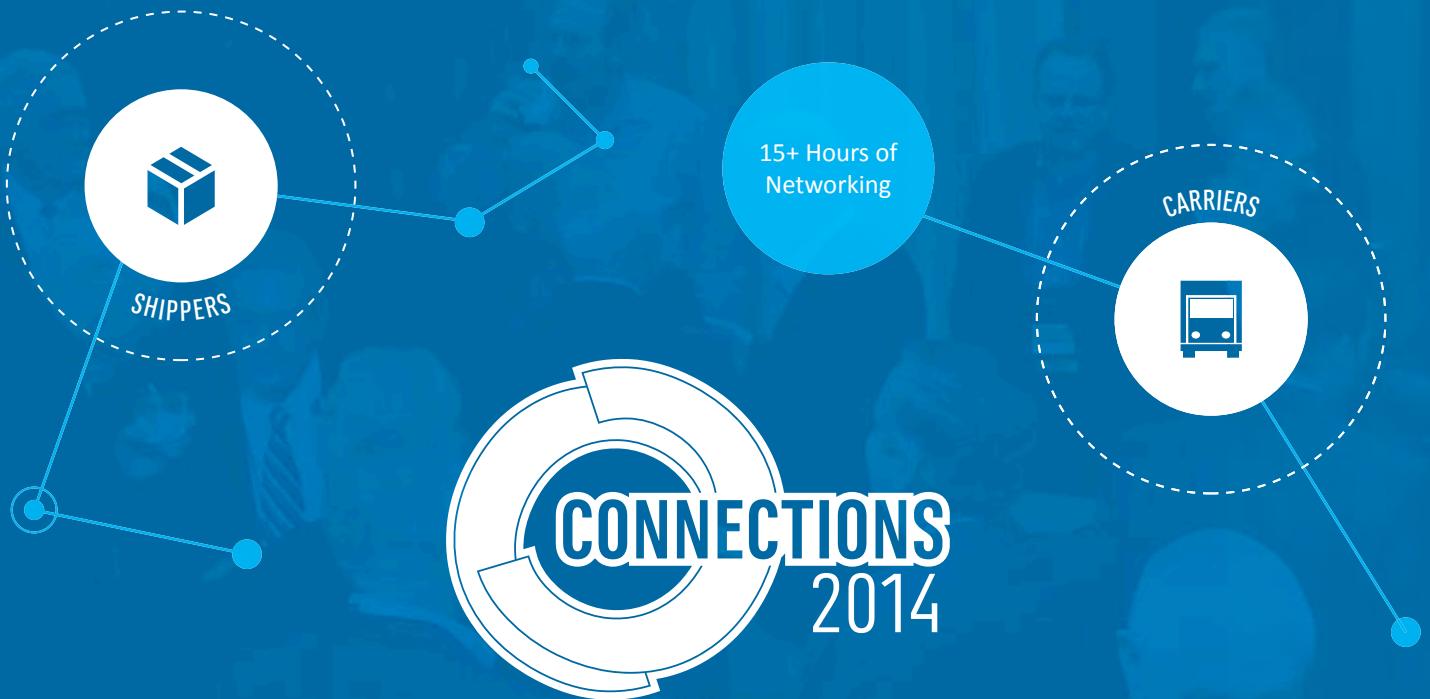
Perhaps the biggest obstacle to automation is cost. Some of the best examples of cold storage automation come from Europe, where materials handling manufacturers and integrators are light years ahead of U.S. industry because labor costs and constraints define that market, explains Stuver. European distribution systems were forced to adapt earlier. Now U.S. companies are headed in the same direction. But the cost to import these types of systems is prohibitive, and domestic options are limited.

Still, automation is the wave of the future. "We are 100-percent focused on leveraging it," says Stuver.

While automation traction remains

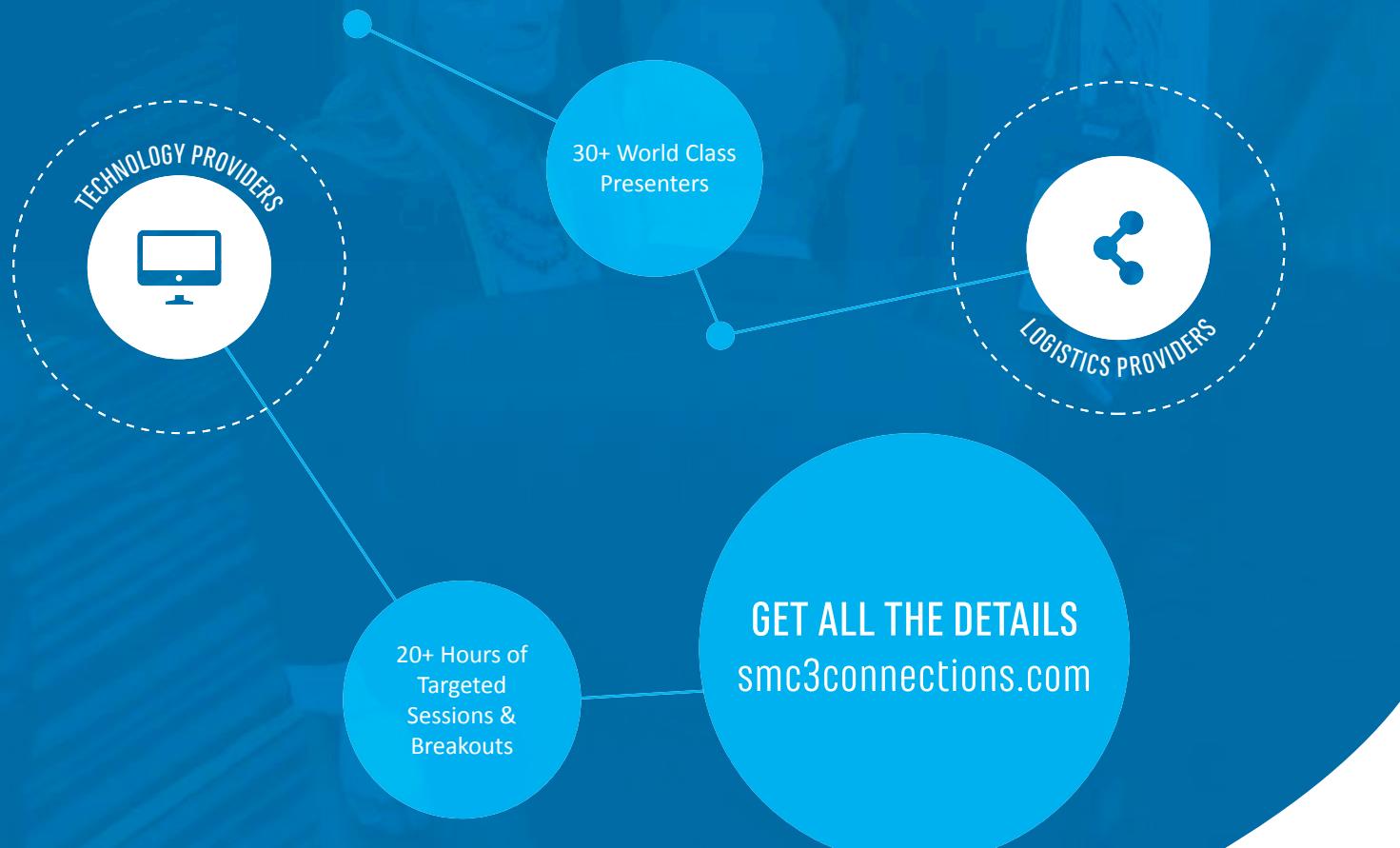
vices, especially for shippers that don't have the resources on site, or have decided to uncouple that function from their production process. "Shippers store their inventory with us, so it's a logical place to have that re-packaging capability," adds Lucarelli.

The changing nature of cold storage logistics, and expansion of value-added capabilities, only raises the stakes for looming food safety regulations. While the FSMA is still seeking comments for several provisions in its proposed rulemakings, industry associations such as the International Warehouse and Logistics Association have issued concerns about how government defines third-party-logistics providers—especially as more 3PLs take on additional responsibilities beyond traditional storage.



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PROTECTING HIGH-VALUE CARGO: A SENSE OF SECURITY

When moving one-of-a-kind artwork, luxury items, and high-priced electronics, call in the cargo cops. That's a 10-4.

BY LISA TERRY

April 2014 • Inbound Logistics **89**

The driver arrived on time, the paperwork seems to be in order, and the truck has all the right markings. Soon the cargo is on its way—to the black market, where the criminals who drove off with it stand to make a tidy profit.

False driver credential scams are the latest scourge hampering movement of high-value goods such as fine art, jewelry, electronics, pharmaceuticals, alcohol, high-end apparel and food, and specialized auto parts. "When capacity is tight, shippers scramble to move their cargo," says Bill Boehning, director of corporate security at Springfield, Mo.-based carrier Prime Inc. "Shippers and freight forwarders may be forced to deal with carriers they're less familiar with, making it easier for thieves to slide in."

Sophisticated thieves can obtain government credentials, or use the name of a certified carrier that has recently ceased operations. They cultivate inside sources or observe patterns in high-value goods supply chains, then arrive at pickup facilities with enough information to appear legitimate, making off with whole shipments.

Combatting this technique is just one of many challenges shippers and logistics providers face when ensuring the safe movement of valuable cargo. They must take extra steps to achieve a careful balance between risk and cost. Security is a continuously moving target as opportunists seek new ways to circumvent prevention measures.

HEIGHTENED RISK

High-value goods have always required extra security, but recently several factors have boosted the risk. As the world's appetite for luxury goods grows, sourcing and marketing locations become more diverse. Longer supply chains add touch points and, therefore, vulnerability. And crime organizations are increasingly focused on goods in transit.

Cargo theft in Europe increased 24 percent in 2012, and rose in Asia as well, according to the 2013 *Global Cargo Theft Assessment*, a study conducted by Austin, Texas-based global logistics security services company FreightWatch International. In North, Central, and South America, theft levels remained consistent.

The greatest risk of cargo theft currently exists in Brazil, Mexico, and South Africa, often via hijacking. But every market presents its own risks, as well as varying cultural norms and business practices that security managers must understand. Localized disruptions such as severe weather, political unrest, and natural disasters also increase risk by idling high-value cargo.

Even everyday business decisions must be considered from a security point of view when the cargo is of high value. For example, data storage company Seagate Technology shifted its supply chain to meet customer needs by producing its high-value hard disk drives in locations in Asia, then stocking them at facilities close to customers, where the company can customize goods for quick delivery. The strategy—increasingly common in the high-tech industry—allows Seagate to shift much of its air cargo to ocean. But that means moving high-value goods over the road in Asia to reach seaports.

Local areas also have their own crime patterns, which can be

difficult to monitor. "Each country reports different types of incidents," says Taya Tuggle, logistics and compliance manager at San Francisco-based freight forwarder Air and Ground World Transport. "But some companies do not want to report a theft for insurance reasons." This means local authorities may not get all the information about a region's cargo theft problem.

Sophisticated criminals continually adapt their tactics. For example, economic recession in Italy caused organized crime groups to branch into new areas, including cargo theft, says Dan Purtell, senior vice president, supply chain solutions, in the supply chain security unit of U.K.-based business services provider BSI Group. A crime organization sometimes will sell a load to a third party even before stealing it.

One strategy thieves currently favor is GPS jamming. They drive alongside a truck and use devices that block the vehicle's GPS signal, then hijack the truck and quickly reload the cargo onto a second vehicle. Motor carriers can counteract this technique through RF beacons, jamming detection, and other tactics.

GETTING A STEP AHEAD

A variety of regulations, technologies, and best practices are helping high-value goods shippers deliver cargo where it needs to go.

The foremost facilitator is speed. Using expedited services and direct routes minimizes touch points and dwell time—the two most vulnerable areas.

Technological advances have also made a significant impact on



Data storage product manufacturer Seagate applies the Transported Asset Protection Association's security standards to prevent theft of its high-value data storage products.

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security. "New technology provides security at lower cost, boosts efficiency, and facilitates container tracking," says Ron Greene, vice president, strategic global operations for FreightWatch.

Route planning and risk analysis tools, for example, help ensure shipments are assigned the right level of security.

"Instead of appointing an escort in all locations for shipments worth \$1 million, shippers can determine their security needs based on risk," says BSI's Purtell. "Hijacking is less of a risk in some countries than others. Shippers can plan for the problems they are likely to encounter."

Predictive modeling—reviewing loss rates by shipment and product—allows BSI to forecast expected losses for protected versus unprotected cargo, so customers can allocate security resources accordingly. For example, one BSI customer was able to reduce escort costs in Poland in fourth quarter 2013 because the risk level had dropped.

Heightened supply chain visibility helps logistics managers ensure high-value goods arrive where they should be, when they

should be there. The ability to easily communicate with trading partners and Customs officials online makes it easier to spot deviations from expected patterns.

Air cargo guideline changes that followed the Sept. 11, 2001 attacks were a turning point in high-value goods security. The Customs-Trade Partnership Against Terrorism (C-TPAT) and similar regulations in other countries continue to enhance cargo protection.

Credit the significant progress in boosting security processes and protocols to shippers and logistics executives who are collaborating on the issue. One example is the Pharmaceutical Cargo Security Coalition, an organization of pharma industry professionals, law enforcement and government entities, cargo insurers, carriers, and risk management advocates dedicated to preventing pharmaceutical product theft. In fact, the pharma and high-tech industries have been so successful in preventing theft that criminals are now shifting their attention to apparel, health and beauty aids, and food shipments.

THE ART OF SECURE TRANSPORT

A container of high-value goods may be worth millions of dollars. But for fine arts shippers, the cargo is often literally priceless. Rock-solid security, proper handling, and confirmed space bookings help ensure fine arts shipments safely reach their intended destinations, says Leroy Pettyjohn, vice president of the fine arts division at Memphis-based third-party logistics (3PL) provider Mallory Alexander International Logistics.

Take the example of a museum in the United States lending a work to a venue in Europe. First, the 3PL completes all export paperwork and books the accompanying courier's airline ticket and hotel reservation. Qualified art handlers pack the artwork in approved, museum-quality crates, which are loaded on a climate-controlled, dual-driver vehicle for transport to the airport. If the work is particularly large or heavy, transport also requires booking a crane or other special materials handling equipment for lifting, unloading, or placement, as well as oversize load permits to move it to the venue.

When the piece arrives at the airport, workers unload it, and TSA agents inspect it. The crate is then palletized or containerized under the 3PL agent's and courier's supervision, and placed in a safe part of the airline's warehouse. The courier may remain with the shipment, or return at an appointed preflight time to oversee workers loading the crate onto the plane.

The reverse occurs at the other end, with customs processing executed while the aircraft is en route. In Europe, a team of art handlers may manage the entire process: de-palletizing, loading, delivering, and unloading the work at the destination venue.

Every fine art move is a masterpiece of precise timing and coordinated efforts.

Art handlers from Mallory Alexander International Logistics unpack and install a sculpture at the Vanderbilt University Fine Arts Gallery.



Photo courtesy Vanderbilt University Fine Arts Gallery

Another influential theft prevention group is the Transported Asset Protection Association (TAPA). The global organization offers sets of minimum security standards for various supply chain functions, and members can earn certification by proving compliance through audits. TAPA's standards reflect the way cargo theft has evolved. The organization originally focused on storage facilities, then addressed trucking security, then air cargo, revising each set of standards periodically.

"If a provider is certified through TAPA, member companies can trust that provider and save money by not having to audit security processes," says Anthony Leimas, senior manager, supply chain security, for Seagate, and a member of the TAPA Americas board. Seagate applies TAPA standards in several ways, including ensuring that warehouses outside its manufacturing locations are sufficiently secure.

Monitoring crime patterns through theft prevention and recovery services such as FreightWatch, CargoNet, and LoJack allows many high-value shippers to better allocate security resources according to risk. Prime Inc., for example, uses GPS to monitor the location of high-value loads in transit, and relies on theft prevention services to alert drivers to crime hotspots so they can avoid stopping in those areas.

Progress in combating theft of high-value goods means these supply chains can operate wherever the market takes them, regardless of the risk level involved.

HIGH-VALUE BEST PRACTICES

A layered approach is the best way to secure high-value goods. The right combination of planning, processes, contract language, packaging, and monitoring helps ensure goods reach their intended destinations. Measures to boost security may include expedited service, dedicated trucks, team drivers, covert and overt GPS, split shipments, couriers, auditing partners, and careful timing, such as avoiding shipping during weekends and holidays.

Designing a secure high-value goods supply chain starts with mapping the supply chain to identify risk areas. Next comes assessing processes, assets, and facilities throughout the entire network, including logistics providers and suppliers. Then security managers can recommend tools that will best mitigate the risks. Monitoring and measuring security procedures is important to ensure successful results.

One key process is making sure high-value goods are properly prepared for transit. The traditional explanation that ill-gotten goods "fell off the truck" is more far-fetched than ever. Seagate, for example, uses corner boards, strapping, banding, and shrink-wrapping to protect its products in transit.

When Cedar Rapids, Iowa-based carrier CRST Expedited handles high-value shipments, it applies additional tracking, alerts logistics managers when conditions deviate from protocol, uses geo-location technology, outlines specialized procedures for its two-driver teams, and applies cargo seals to ensure goods stay secure. Some shippers also embed GPS devices in their cargo.

"Each driver receives strict security instructions," says Cameron Holzer, president of CRST Expedited. Driver training includes



IT storage hardware solutions provider EMC's delivery model relies on predictability to keep cargo safe.

running through different scenarios, such as steps to take to ensure security when stopping for fuel.

BUILDING RELATIONSHIPS

"Knowing your business partners is one major component of ensuring your commodities ship securely," says Leimas, who visits its partner sites to ensure compliance with Seagate's requirements. He advises educating personnel at origin points to ensure containers have no false walls, cargo is loaded according to guidelines, and trailers are locked and sealed.

For Hopkinton, Mass.-based EMC—a provider of IT storage hardware solutions—security is all about predictability in its delivery model. "Flying as booked is a key metric for our customers, because they know the order is in transit," says Jerry Sheehan, director of international logistics for EMC.

In addition to monitoring shipments, EMC relies on quarterly business reviews using scorecards, along with a solid service level agreement, to ensure its logistics partners—including Houston-based third-party logistics provider Crane Worldwide—are meeting security expectations.

The combination of stringent practices and strong partnerships helps EMC avoid losses. Crane Worldwide ensures that success by regularly visiting partner facilities and assessing processes to confirm compliance with customer expectations. This approach enables EMC to safely move into new markets, such as its recent foray into Mozambique.

"To help shippers maintain security levels, 3PLs need to spend the time and energy visiting new countries to understand the language, infrastructure, and common practices," says Gerard Ryan, regional vice president, EMEA, for Crane.

As criminals continue to create new cargo security threats, shippers and logistics providers working together can ensure the safe movement of valuable cargo.



HEADING NORTH

NAVIGATING ALASKA'S SUPPLY CHAIN

The road to success in the Last Frontier is paved with logistics demands and challenges.

At 586,412 square miles, Alaska is the largest U.S. state in land area—more than twice the size of Texas. Its road system, however, covers a relatively small area of the state, linking the central population centers and the Alaska Highway, the principal route out of the state through Canada.

Many cities, towns, and villages in Alaska do not have road or highway access at all—the only modes of access involve travel by air, river, or sea.

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Among the roads that do exist, only 31 percent are paved, according to the *20th Annual Report on the Performance of State Highway Systems*, a study by the Reason Foundation, a public policy research organization. And with rugged terrain and extreme weather in much of the state, moving cargo to, from, and within Alaska can be challenging.

But Alaska is also a land blessed with an abundance of natural resources, including crude oil, natural gas, and seafood, which translates to high demand for logistics services. Savvy shippers and logistics providers know success in Alaska is a matter of balancing the demands with the challenges.

"Alaska's extremely varied topography and harsh climate present challenges for shippers and logistics companies," says Joe Samudovsky, director of cargo sales at Alaska Air Cargo, which has been operating in Alaska for more than 80 years. "Its geographic features—along with strong

winds, extreme temperatures, precipitation, and periods of dense fog—can create obstacles for any transportation mode. Dealing with these obstacles is the key to success for any transportation operations in the state."

Know Your Options

Alaska's unique environment means the state's shippers and logistics providers must be prepared to handle shipments differently than in the lower 48.

"The top physical challenge in Alaska is the extreme weather," says Steven Selvig, vice president of sales and marketing at Tualatin, Ore.-based trucking company Reddaway. "The average temperature in Alaska year-round is slightly above freezing. That creates conditions the rest of the United States simply isn't accustomed to."

Logistics providers must therefore offer multiple transportation modes—from steamship to barge, highway, and air—to reach all destinations.

"It's important to understand all the transportation alternatives," says Alex McKallor, chief operating officer and executive vice president for Alaska-based Lynden Incorporated, a family of transportation and logistics companies. "Alaska's seasonal ice can mean some areas are accessible by water in the summer, but not in the winter, for example. Shippers have to be aware of those factors, and be able to adapt as needed."

A majority of Alaska requires the use of multiple modes, which means shippers must prepare cargo to move via any combination of marine, surface, or air transportation, which can be a challenging and complex proposition. Lynden operates its own vessels, trucks, airplane fleet, and even hovercraft in some areas, offering shippers a single carrier contract that simplifies complex shipping problems.

"Shippers outside the state may not fully grasp the magnitude of Alaska's logistics



Alaska's geography profoundly affects transportation within the state. For example, mountain ranges surrounding Juneau International Airport can create severe turbulence, prompting the Federal Aviation Administration to suspend certain flight paths to the airport. In response, Alaska Airlines helped develop a wind turbulence alert system that facilitates safe plane landings.

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challenges," says McKallor. "Our single carrier contract can help ease some of the anxiety. We also tie all our companies together through our Web services, so shippers can always see where their freight is, even when it's moving by multiple modes."

Reddaway, which serves Alaska in partnership with Pacific Alaska Freightways, has also taken steps to simplify shipping, offering a single point of contact to customers to improve visibility throughout the state. The company uses electronic data interchange to update shippers on cargo at each significant point along a route.

"Some companies purchase domestic 48-state service with one carrier, and the shipment terminates at the Port of Tacoma. It then transfers to an Alaska consolidator, and starts a second shipment," says Selvig. "That Alaska consolidator may not provide shipment visibility. But the streamlined solution of Reddaway and Pacific Alaska Freightways means not only continuous movement of freight from its point of origin in the lower 48 to its delivery point in Alaska, but also full visibility throughout the entire experience."

Cargo Big, Small, or Cumbbersome

Another logistics challenge unique to Alaska involves moving large pieces of equipment and spare parts to remote areas of the state to serve the oil, gas, and mining industries. Supporting these industries requires specialized equipment to accommodate high, wide, and heavy loads.

"Some of the oversized pieces and parts needed to keep mines and oil rigs running in Alaska cannot be belly loaded in passenger aircraft," says Alaska Air Cargo's Samudovsky. "For oversize or heavyweight shipments, we can deploy our B737-400 Freighter or B737-400 Combi aircraft to get the job done."

Meanwhile, Lynden uses a rail barge service to help overcome some of the challenges unique to Alaska, such as moving railcar loads of bulk chemicals needed in the oil fields of the North Slope or in remote mining facilities.

"One mine we service is above the Arctic Circle," says McKallor. "We move 50,000 tons of supplies each year during a 100-day, ice-free window to support the mine."

One of Alaska's best-known exports is seafood. Ensuring that fresh or frozen seafood makes it from Alaska to the rest of the world in prime condition requires keeping temperatures stable while moving between destinations where the climate may vary dramatically.

"Ensuring safety and quality in the seafood supply chain is critical," says Samudovsky. "That is why Alaska Air Cargo partnered with the Alaska Seafood Marketing Institute and one of our seafood

customers to develop a cold chain training program that all cargo employees are required to participate in. The program helps increase awareness for the safe and efficient handling of perishable seafood."

Lynden ships both fresh and frozen seafood, and also delivers many of the materials needed to support Alaska's fishing industry.

"We serve many of the seafood processing plants located along Alaska's vast coastline, bringing in fishing supplies and packaging materials," says McKallor.

Tourism and outdoor recreation also make up significant parts of the Alaskan economy, necessitating the shipment of

2013 REPORT CARD FOR ALASKA'S INFRASTRUCTURE

A closer look at Alaska's transportation infrastructure reveals how these connections and resources affect logistics operations in the state.

AVIATION

- There are 408 public-use airports in Alaska.

BRIDGES

- 128 of the 1,173 bridges in Alaska (10.9%) are considered structurally deficient.
- 147 of the 1,173 bridges in Alaska (12.5%) are considered functionally obsolete.
- Alaska received \$12.9 million from the Federal Highway Bridge Fund in FY2011.

INLAND WATERWAYS

- Alaska has 5,500 miles of inland waterways, ranking it first in the nation.

PORNS

- Alaska's ports handled 46.2 million short tons of cargo in 2009, ranking it 18th in the nation.

RAIL

- Alaska has one freight railroad covering 506 miles across the state, ranking it 45th by mileage.

ROADS

- Driving on roads in need of repair costs Alaska motorists \$181 million annually in extra vehicle repairs and operating costs—\$359 per motorist.
- 49% of Alaska's roads are in poor or mediocre condition.
- Alaska maintains 15,718 public road miles.
- Alaska's highway vehicle-miles traveled in 2009 was approximately 6,719 per capita, ranking it 50th in the nation.
- Alaska's gas tax of eight cents per gallon has not increased in 42 years.

Source: American Society of Civil Engineers



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a wide range of related products. Some logistics providers work with customers to arrange solutions that help better meet Alaska's unique logistics needs.

For example, Reddaway serves a sporting goods business that operates four stores in Alaska. Because each store had a high volume of regular shipments, Reddaway worked with the retailer to offer exclusive-use containers for each store.

The company's products now move from its distribution center in Utah to the Port of Tacoma, Wash., where – because Reddaway and Pacific Alaska Freightways

are asset-based and own their docks – the freight can be held in order to build straight loads.

"We build loads on the dock in Tacoma, then move them directly to the retailer," says Selvig. "It brings shippers tremendous value because they don't have to worry about additional handling – everything moves together purely for that shipper."

Transporting health-related products or drugs is another significant challenge in Alaska, especially when patients are located in far-flung villages.

"When it comes to healthcare logistics,

Alaska's limited highway system and extreme weather present the same difficulties experienced in third-world countries," says Samudovsky. "Transporting pharmaceuticals, blood supplies, and lifesaving vaccines to remote villages in Alaska is important to the communities we serve.

"With Alaska Airlines' growing network, we can transport a shipment of pharmaceuticals from Phoenix, where the outside temperature might be 120 degrees on the tarmac, to rural Alaska, where it could be minus 60 degrees," he continues. "Planning for these extremes, and making sure the shipment is expedited to a temperature-controlled environment, is critical."

Air is King

The challenging conditions in Alaska mean air transportation is more vital than in other parts of the United States. Products such as construction equipment, sheetrock, lumber, and cement that typically move via surface transportation in the lower 48 must often move by air in Alaska.

For example, the state capital, Juneau, is not accessible by road. Making matters worse, Juneau is difficult to fly into, and often plagued with fog and wind challenges. Alaska Air Cargo relies on the Juneau Airport Wind System (JAWS), an air turbulence system that alerts pilots about severe wind conditions at and around Juneau International Airport.

A heavily used approach takes aircraft through the 15-mile-long Gastineau Channel, which is flanked on both sides by mountain ranges that create moderate to severe turbulence. After several close calls, the Federal Aviation Administration (FAA) suspended certain flight paths, and some carriers stopped serving Juneau due to multiple cancelled flights.

Alaska Airlines—a subsidiary of Alaska Air Group, which serves Alaska, the continental United States, Hawaii, Canada, and Mexico—worked with the National Center for Atmospheric Research and the FAA for 18 years to develop JAWS. It was formally commissioned in July 2012, but data from



Freight moving through Alaska often ships by multiple modes. Motor carriers such as Reddaway frequently partner with air and barge service providers to allow shippers continuous movement and ensure shipment visibility.

JAWS has already enabled Alaska Airlines to operate at the airport for more than one decade with a flawless safety record.

The JAWS equipment provides wind shear and turbulence data airlines can analyze to provide a go or no-go recommendation to pilots arriving and departing Juneau.

"Alaska Air Cargo also has one of the industry's youngest and most efficient aircraft fleets," says Samudovsky. "We are well-equipped to deal with the best that Mother Nature can throw at us to get the job done for our customers."

Extreme Solutions

Whether it's getting fresh tomatoes to Bethel or a critical machine part to the North Slope, moving cargo into, out of, or around Alaska will always involve challenges.



Multimodal logistics providers such as Lynden traverse Alaska's 5,500 miles of inland waterways to deliver shipments to remote areas.

"It's a logistical exercise to supply Alaska's residents in remote areas with everyday necessities," says McKallor. "For example, from the time a head of lettuce leaves California and moves to Alaska, it's traveled much farther than it would have had it

crossed the entire United States."

While logistics may never be easy in Alaska, logistics providers that take extra precautions, focus on safety, and plan ahead for seasonal changes may find Alaska a land full of opportunity. ■

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//Services//

RWI Transportation launched a no-cost educational program geared toward helping independent owner-operators succeed. RWI University contains nine core business courses to teach owner operators how to effectively manage their operations. Courses include getting started as a business owner, managing fuel use and expenses, and budgeting.

UPS opened a 33,000-square-foot package and sorting facility in Laredo, Texas. The facility accommodates up to 66 delivery trucks and trailers at one time, and cuts transit times between southern Texas and Mexico.

Third-party logistics provider **Regal Logistics** purchased a 210,000-square-foot distribution center in Los Angeles. The 46-door facility near the Los Angeles and

Long Beach ports offers distribution, pick-and-pack, import and export, consolidation, crossdocking, and transloading services.

Finnair Cargo enhanced its freighter capacity to Vietnam by adding a third weekly flight to its Hanoi service. Flights now depart Helsinki for Hanoi on Wednesday, Thursday, and Saturday, and return on Thursday, Friday, and Sunday.

St. George Warehouse, a third-party warehousing provider, opened a new 160,000-square-foot distribution center at Crossroads Business Park, near the Port of Savannah. The building features 28 truck bays, and is primarily used for crossdocking operations, and large capacity storage for medium and large retailers.

Global transportation and logistics provider **Walker SCM** expanded into the European market by adding a new facility in the Netherlands. The location at Amsterdam Schiphol Airport offers airfreight, ocean freight, warehousing, distribution, and customs clearance services.

//Transportation//

IAG Cargo launched a new route between London Heathrow and Austin, Texas. The five weekly flights will increase to daily flights in May 2014, and are operated by a Boeing 787 Dreamliner that has been optimized to include a compartment for temperature-sensitive goods.

AirBridgeCargo Airlines' summer schedule commenced March 31, 2014. New routes include a twice-weekly flight from Dallas/Ft. Worth to Amsterdam, and direct flights from Frankfurt to Chicago.

Ocean freight consolidator **CaroTrans** began operating a weekly less-than-containerload route between Le Havre,



The Port of Charleston began operating a heavy-lift barge-mounted crane. Dubbed the Ocean Ranger, the crane has a 162-foot-long lifting boom, and is used primarily for heavy project cargo movement lifts to and from vessels carrying large items that do not fit into containers. The rig can also lift goods on and off barges, railcars, trucks, and container vessels.

France, and Houston, Texas. The direct route cuts shipping time by five to 11 days for cargo moving from France to the U.S. Gulf region.

Emirates SkyCargo began operating a weekly nonstop Boeing 777 freighter flight between Atlanta, Ga., and Dubai, United Arab Emirates. The new service

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Florida's **Port Everglades** improved over-the-road container movement productivity by rebuilding McIntosh Road, the main roadway in the port's Southport containerized cargo area. The road's new design is expected to improve traffic flow, consequently reducing emissions caused by idling trucks.

//Books//

Lean supply chain expert and *Inbound Logistics* columnist **Paul A. Myerson's** new book, titled *Lean Retail and Wholesale: Use Lean to Survive (and Thrive!) in the New Global Economy with Its Higher Operating Expenses, Increased Competition, and Diminished*



Wasp Barcode Technologies released a new series of bar-code scanners for fast-paced scanning operations. The WLS9600 is designed for 1D scanning in retail, office, and light industrial environments, while the WLS8600 withstands the harshest environments, including warehouses, distribution centers, manufacturing facilities, yards, and outdoor retail locations. The WDI4600 reads all standard bar codes, as well as bar codes displayed on mobile devices, and automatically detects desired scanning modes.

Consumer Loyalty, teaches readers how to utilize a comprehensive Lean methodology throughout wholesale and retail businesses to reduce costs and improve productivity, quality,

customer service, and profitability. Myerson examines Lean opportunities from the viewpoint of retail strategy, merchandise management, and store and distribution operations, and outlines a holistic, systematic approach for identifying and eliminating non-value-added activities.

//Products//

Automated materials handling solutions provider **Intelligrated's** motor-driven roller transfer conveyor facilitates a 90-degree change in direction for cases, polybags, and totes in e-commerce and omni-channel fulfillment operations. The conveyor is suitable for close operator interaction, and offers quiet operation and run-on-demand features that use 50 percent less energy than traditional conveyors.

The **Vidmar** STAK System creates as much as a 70-percent smaller storage footprint than standard horizontal beam racking systems, and can fully operate in as few as 250 square feet. Items stack to 18 feet, and a single user can move products weighing up to 2,000 or 4,000 pounds, depending on the model. A version is also available specifically for moving 55-gallon drums of hazardous materials.

//Technology//

Software provider **MapMechanics** integrated **VeriLocation's** telematics and tracking system into its *Truckstops* vehicle routing and scheduling system. Users of VeriLocation's transportation management system can now track vehicles to gain instant feedback about delays or changes in route, and compare intended fleet schedules with



Materials handling equipment provider **Hyster Company's** new H360-36/48HD lift truck provides 36,000 pounds of lifting capacity at a 48-inch load center. The forklift is suited for heavy-duty applications, including pipe handling, general and crated cargo, breakbulk, lumber, steel, and concrete.



Truckload carrier **Nussbaum Transportation** moved its headquarters and primary maintenance operations to a new two-building location in Hudson, Ill. The facility features truck parking, maintenance bays, a crossdock, scales, and quick access to Interstate 39.

actual events that occur while the route is operated.

Supply chain software provider **Accellos** launched version 4.0 of its *AccellosOne Enterprise 3PL* warehouse management system. The latest version provides users with enhanced research capabilities, cloud-based tutorials, advanced event reporting, increased access to supply chain intelligence, and customizable quality inspections.

Switching locomotive manufacturer **Railserve** introduced a remote monitoring system for its LEAF Gen-Set Locomotive. The company implemented Alternative Motive Power

Systems' *Observe/Analyze/Respond* technology to provide real-time performance data for improving safety and operational efficiency.

The Panama Canal released a mobile app for iOS, Android, Windows, and Blackberry. The app allows users to access live webcams, tide charts for the Pacific and Atlantic oceans, weather radar, and photographs and videos of the canal and its construction progress.

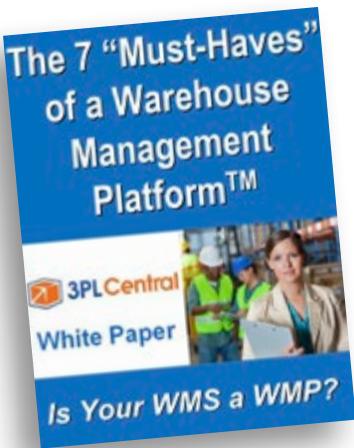
LogFire, an inventory management and fulfillment software provider, released *LogFire Dynamic Fulfillment* as part of version 6.0 of its

cloud-based Software-as-a-Service suite. The solution helps users manage end-to-end inventory being sourced from multiple locations, and provides multi-channel demand information to allow decision-making in real time.

Transportation and logistics service provider **Averitt Express** launched a new, 100-percent mobile-enabled website. The site was completely rebuilt with a responsive Web design approach, which improves speed, navigation, and tracking tools. The company also added tutorials, video, and interactive media to the site, and made improvements to *Ship Plus*, its online shipping interface.

WhitePaperDigest

Industry experts amass supply chain management best practices and skill sets, and invest in new research and evaluation tools. Now you can benefit. *Inbound Logistics* has selected this collection of whitepapers that will give you a jump on important supply chain issues. For more information on any of these whitepapers, visit the websites listed below.



3PL Central

TITLE: *The 7 "Must-Haves" of a Warehouse Management Platform (Is Your WMS a WMP?)*

DOWNLOAD: bit.ly/1mKpYED

SUMMARY: Looking to create a strategic network of partners, providers, and technologies for your warehouse? Then download 3PL Central's latest free whitepaper, *The 7 Must-Haves of a Warehouse Management Platform (Is Your WMS a WMP?)* today.

AT&T

TITLE: *How Retailers Can Grow Sales and Customer Relationships With Mobile Apps*

DOWNLOAD: bit.ly/1iZH3Xu

SUMMARY: Retailers and other businesses are launching an increasing number of mobile applications, which are vital to their brands' sales and reputation. The processes that go into mobile app deployment, however, can prove to be daunting. Download this free whitepaper to learn key findings from an AT&T survey of global retailers highlighting how mobile apps are boosting sales and productivity.

C.H. Robinson

TITLE: *Supply Chain Logistics as a Driver of Business Strategy & Profitability*

DOWNLOAD: bit.ly/1ksp4IA

SUMMARY: How can you keep up with fast-changing customer demands? Download this new whitepaper to find out how some organizations are seizing upon the customers' need for speed to make their supply chains more flexible, drive business goals faster, and create a better experience for the end consumer.



Kane is Able

TITLE: *Supply Chain Trends Impacting the Consumer Products Industry*

DOWNLOAD: bit.ly/1IAu2ab

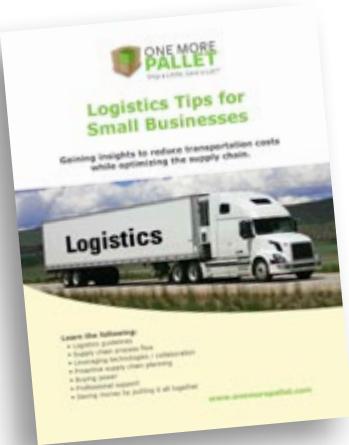
SUMMARY: Consumer product companies that are planning logistics budgets and initiatives would be wise to consider major trends that will shape how their supply chains operate in the future. Companies that fail to understand and plan for coming trends may find themselves one day scrambling to play catch-up with competitors. This paper looks at five forces that will undoubtedly impact your logistics operations in the future. It's wise to understand these forces, and consider the actions you can take now to stay one step ahead.

Saddle Creek Logistics Services

TITLE: *Optimizing Distribution Networks for a Competitive Advantage*

DOWNLOAD: bit.ly/SC-DC-Net

SUMMARY: Today, more and more companies are finding value in optimizing their distribution network. By taking a strategic approach to network configuration, they are improving service levels, better managing inventory, and reducing transportation costs. Less demanding in terms of infrastructure, systems, cost, and time than full-scale supply chain optimization, this targeted approach delivers remarkable results. Download this new report for a closer look at how distribution network configuration can impact supply chain effectiveness.



One More Pallet

TITLE: *Logistics Tips for Small Businesses*

DOWNLOAD: bit.ly/PiNotX

SUMMARY: Between brokers and board-bidding, discounts and delivery, managing shipping and logistics for a small business can be mind-boggling. The key to keeping it all straight is to understand how the shipping industry works. In this whitepaper, you'll learn everything you need to know about freight shipping, including how it works, industry trends, how it is priced and discounted, how it is ordered, and who the providers are.

enVista

TITLE: *Freight Term Optimization: Reduce Costs and Increase Margins By Managing the Right Freight*

DOWNLOAD: bit.ly/1hGOFjp

SUMMARY: We all know that moving freight the right way reduces transportation costs, but often overlooked is the value of moving the right freight – freight term optimization. In this whitepaper from enVista, you'll discover the financial benefits of freight term optimization, get tips for negotiating with your customers and suppliers, and learn how to capture the savings of your optimized freight.

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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

CAN EVERYONE
ON YOUR TEAM
SOLVE THIS?

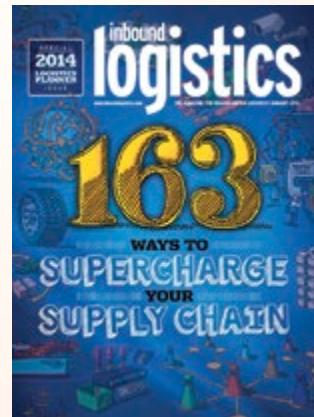
$$ICC = \frac{C + T + I + W + X + (S - R1) + (O - R2)}{\text{Annual } \$ \text{ Material Cost}}$$

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ICC=inventory carrying costs C=capital T=taxes I=insurance W=warehouse costs X=shrinkage S=scrap O=obsolescence costs R=recovery

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3PLs



3LINX • www.3linx.com

3LINX is an e-commerce order fulfillment and third-party logistics (3PL) provider for the 21st century omni-channel client. Ship to consumers? Check. Retailers? Check. Dropship? Check. Down to earth people with OCD tendencies? Check and check. In a world of green screen WMSs, 3LINX offers a platform that you integrate to once, use free APIs, and access our network of U.S. and international warehouses. Free centralized web portal providing real-time inventory and order visibility from your iPad, iPhone, or laptop. If you're looking for a partner who's passionate about your success and acts as a trusted friend, 3LINX is it.

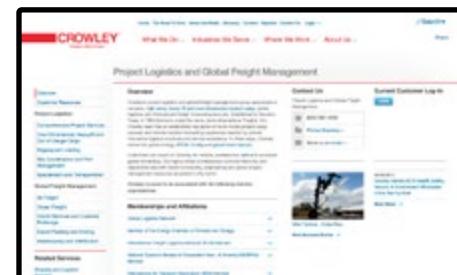
Cardinal Health Integrated Logistics Services • yourhealthcare3pl.com

With our unique understanding of the entire healthcare landscape, we bring you breadth and scale to drive costs out of the supply chain, so you achieve a greater impact on your bottom line. Our expertise in healthcare logistics provides: A nationwide network of distribution centers, transportation logistics, and regulatory experience; supply chain management and efficiency to improve your bottom line; and shipping solutions that deliver quality with reduced risk and complexity.



CHTL Logistics • www.chtllogistics.com

CHTL Logistics is a non-asset-based truckload and intermodal solutions provider that helps shippers move dry van, temperature-controlled, drayage, flatbed and oversized loads across North America. With a name dating back to the 1920s, CHTL Logistics is dedicated to serving customers with the highest level of integrity, professionalism and flexibility. Put your trust in nearly a century of excellence by contacting CHTL Logistics for a quote today.



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Custom Shipping Solutions • www.customshippingsolutions.com

Custom Shipping Solutions (CSS) provides fast, affordable and reliable LTL transactional services to North American shippers. Established in 1999, CSS is a uniquely simple way to ship using best-in-class technology, a broad selection of respected carrier partners, shipment delivery notifications, optional cargo claims processing and monthly shipping activity reports. Get a custom quote and start shipping with CSS today.

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Hanover Logistics is an asset-based logistics services company providing customers superior supply chain management solutions in a variety of third-party logistics (3PL) disciplines, including warehousing, distribution, fulfillment, and transportation services. Hanover Logistics is equipped to expertly handle various types of logistics services including: freight brokerage, food/grocery storage and distribution, intermodal/cross-dock services, warehousing solutions for a variety of products (AIB certified, food grade), and general transportation management including truckload, LTL, and container hauling services.



Landstar Systems, Inc. • www.landstar.com

Landstar provides transportation management solutions including global and domestic transportation logistics services. Landstar, long known for its safety-first culture, continues to emphasize safety, security and compliance. Our services include truckload and LTL, rail intermodal, air and ocean cargo, expedited air and truck, heavy-haul/specialized, cross-border, project cargo, customs brokerage, transportation management systems, integrated solutions, outsourced logistics and warehousing.



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

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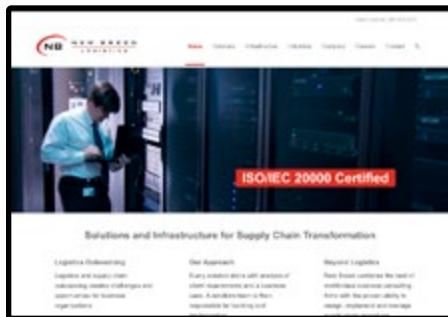
Mallory Alexander International Logistics www.mallorygroup.com

Mallory Alexander International Logistics is a leading third-party logistics (3PL) provider. As a specialist in global logistics and supply chain services, Mallory Alexander acts as a single source for all logistics and supply chain needs. Specifically, Mallory Alexander provides public and contract warehousing, freight forwarding (international, domestic, air, and ocean), customs brokerage, import/export services, intermodal trucking and transportation, logistics services, and consulting.

Metro Park Warehouses • www.mpwus.com

Metro Park Warehouses is a full-service 3PL offering 2 million square feet in Kansas City of modern food-grade warehousing space, including medical temperature-controlled space, ATF and national pharmaceutical licensed distribution, AIB Superior ratings, and 5 rail facilities, all open to reciprocal switching.

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New Breed helps organizations transform their supply chains and bring new levels of visibility and control to complex logistics operations. We combine methodical analysis of your material flows with the intelligent application of systems to reduce and automate process steps – across your supply chain or in the distribution center. Some of the world's most respected companies rely on New Breed to streamline logistics operations in support of manufacturing, omni-channel distribution, returns, refurbishment and repair, and service parts logistics.

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NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.



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Founded in 2003, ROAR (Rail, Ocean, Air, Road) has rapidly become a leading transportation services provider, serving customers worldwide. A subsidiary of Rich Products Corp., ROAR views transportation from the perspective of the shipper, delivering value through world-class customer service, cutting-edge technologies, and competitive pricing. Call on ROAR for your truckload, LTL, domestic intermodal, import/export ocean, and global air cargo needs. Call 888-292-7627, e-mail: info@roarlogistics.com, or visit: www.roarlogistics.com.



Seaonus • www.seaonus.com

Seaonus is an asset-based logistics company with organizations that operate in multiple points of the logistics network including stevedoring, dry and temperature-controlled warehousing, and freight services. Headquartered in Jacksonville, Fla., and with operations in Mobile and New Orleans, we're constantly expanding our outstanding service to provide total solutions across the country, at port and beyond. Whatever it takes to deliver shipments from point to point is where our focus and resources will remain because we are most interested in taking our customers—and their cargo—to the next level.

Trans-Trade, Inc. • www.transtrade.com

Trans-Trade, Inc. is a fully integrated provider of flexible, cost-efficient supply chain solutions and unparalleled customer service. Our dedicated professionals' deep industry knowledge, innovative technology, and extensive menu of services create a brand of excellence we bring to every customer relationship—a Partnership of Strength for the Future. Services include: supply chain management and design, international freight forwarding, customs brokerage, domestic transportation management, inventory management, and distribution. To learn more, please contact Trans-Trade at 1-800-880-8173.



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Worley Companies • www.worleycompanies.com

Worley Companies is a 3PL whose food grade facilities and service offerings are guided by our ISO 9001-2008 and organic certifications. Our clients are world-class CPG and food manufacturers. We offer temperature-controlled and ambient storage options to meet your ingredient or finished product needs. Our order fulfillment (B2B and B2C) and value-add services are managed by our WAREPAK/400 WMS. Our secured facilities are ISO 9001-2008 and organic certified, as well as C-TPAT compliant.

AIR CARGO

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ASSOCIATIONS



American Society of Transportation & Logistics (ASTL) www.astl.org

The American Society of Transportation and Logistics (ASTL) provides a career pathway of lifelong learning for professionals in the transportation logistics industry. Earn your industry credential as a GLA, PLS, CTL or DLP and an opportunity to connect with colleagues around the world. ASTL provides state-of-the-art knowledge for developing practical answers to today's transportation and logistics challenges.

BROKERAGE SERVICES

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BULK: LIQUID-DRY



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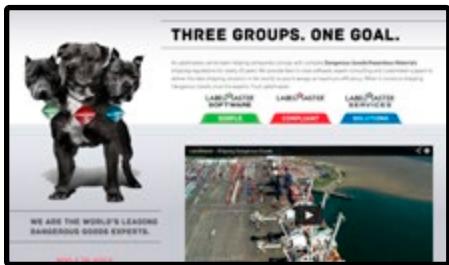
CANADA LOGISTICS

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CHEMICAL LOGISTICS



Labelmaster • www.dangerousgoodssolutions.com

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COLD STORAGE



CrowleyFresh • www.crowleyfresh.com

CrowleyFresh, one of South Florida's leading cold storage and perishables logistics operations, is also one of the cleanest and safest according to Primus Labs, which graded the operation at a perfect 100 percent during a 2014 food safety audit. CrowleyFresh, featuring 400,000 cubic feet of multiple humidity and temperature-controlled coolers, is open 24/7 to store and handle perishables arriving in Miami from Central and South America, the Caribbean, Europe, Asia and the Far East for import and export. The state-of-the-art facility is ideal for perishable storage or may be used as an in-transit consolidation/deconsolidation point.

CONSULTANTS

Franzetta & Associates, Inc. • www.franzetta.com

Franzetta & Associates has assembled some of the most respected supply chain experts in the world. We are not just consultants; we are proven successful industry leaders who created yesterday's standards and are driving today's innovations. Our focus is assisting firms to unleash the power of their supply chains. We can show you how to take control of your supply chain to reduce costs, improve customer satisfaction, and increase revenues. Our fees are lower than any of our competitors, yet we are far more reliable, non-intrusive, and efficient. Call 814-466-9010.

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We can help you make it happen.

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Our consulting team includes a diverse professional with decades of business and industrial experience. As new tools and technologies emerge in the marketplace, we keep up with them and work with you – on-site, tact at hand when you need them – to move your supply chain operate more effectively for you and for your customers.

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Consulting Fast turnaround, with concise, value-focused, practical recommendations
Technology One model system to compare with global resources



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THREE GROUPS. ONE GOAL.

An organization's success depends on its ability to manage and control its assets and resources. Dangerous Goods Protection Systems (DGPS) offers a unique solution to this challenge by providing a single platform to manage all aspects of dangerous goods shipping. Our integrated software and consulting services ensure that your organization is always compliant, safe and efficient when shipping dangerous goods.

LABELMASTER SOFTWARE **SERVICES** **CONSULTING** **MANUFACTURING**

WE ARE THE WORLD'S LEADING DANGEROUS GOODS EXPERTS.





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Logistics Trends, Inc. • www.logisticstrends.com

Logistics Trends provides consulting and information services to shippers, 3PLs, transportation companies, private equity firms, and investment management firms. With over 30 years of transportation and logistics experience, Logistics Trends has the depth and knowledge to assist and provide cost-effective value-added solutions to our clients.

LTD Management • www.ltdmgmt.com

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Logistics network design and lead logistics services to help transform your supply chain. No amount of operational efficiency can make up for faulty strategy or a cumbersome process. That's why New Breed invests in logistics technology tools and intellectual resources to determine the best way to run your operation with fewer people, reduced inventory levels, in less time, and with lower cost. And unlike conventional consulting, we implement the operations and technology - and hold ourselves accountable for the results.





Open Sky Group • www.openskygroup.com

Open Sky Group is dedicated to being the best consulting partner on the planet for implementing supply chain software solutions. We specialize in services for JDA Warehouse Management (former RedPrairie WMS). Contact us today to reach new heights of supply chain efficiency with your WMS.

CUSTOMS BROKERAGE

A.N. Deringer • www.anderinger.com

Customer care, service excellence, and a firm commitment to customs compliance illustrate the differences that have led to Deringer's success as a leading logistics provider for more than 95 years. Deringer's turnkey logistics services include customs brokerage, international freight forwarding, warehousing and distribution, cargo insurance, and consulting. With more than 30 offices and a strong network of international agents, Deringer helps companies optimize efficiencies in their supply chain.



Customized Brokers-A Crowley Company • www.customizedbrokers.net

Customized Brokers, a Crowley company, has been a pioneer in the Customs clearance of imported fruits, vegetables, and other perishables since 1989. The company's strong knowledge of compliance and excellent relationships with U.S. Customs, FDA and USDA allow for 24/7 expedited client service at most major airports and seaports. The C-TPAT certified company also provides many value-added services for customers, including fumigation and transportation coordination. Plus, customers can avail themselves of other Crowley services, including cold storage in Miami, and transportation and logistics services throughout the Caribbean Basin for a truly end-to-end cold chain solution.

CUSTOMS COMPLIANCE/DUTY DRAWBACK

Integration Point • www.integrationpoint.com

Integration Point delivers global visibility and localized knowledge for 160+ countries on a single platform. Providing solutions for import/export management, supply chain security, broker management, denied party screening, product classification, FTA qualification, drawback, global trade zone programs, and trade management, Integration Point offers a comprehensive solution. www.IntegrationPoint.com



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DEDICATED CONTRACT CARRIAGE



AAA Cooper Transportation • www.aaacooper.com

AAA Cooper Transportation has been delivering safe, efficient transportation for more than 50 years. With strategically located service centers, we are prepared to give individual attention to your shipping needs. AAA Cooper Transportation is dedicated to the long-term sustainability of the environment, and continues to implement processes that will make the world a better place to live for generations to come.

NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.



Ryder Supply Chain Solutions • www.ryder.com

Ryder Supply Chain Solutions is an end-to-end supply chain partner with nearly 80 years of experience helping customers in North America, the UK, and Asia transform their supply chains by delivering the best in operational execution. Ryder provides a full range of services, from optimizing day-to-day logistics operations to synchronizing the supply of parts and finished goods with customer demand. At Ryder, we understand that when it comes to logistics, Execution is Everything.

DISTANCE LEARNING

Institute of Logistical Management (ILM) • www.ilm.edu

ILM is announcing a new online Master of Business Administration (MBA) program, designed with a focus on affordable, accessible, quality business education. Total tuition is \$3,000; no other fees. ILM is lowering tuition to \$400 per course for undergraduate courses leading to Certified Logistics Practitioner (CLP) Certification. The CLP is four core and two electives to prepare students for transportation/logistics jobs and promotions. For information on MBA: info@ilm.edu or undergrad info@logisticseducation.edu



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IN THIS SECTION:

Economic Development - Education

ECONOMIC DEVELOPMENT



Tennessee Valley Authority Economic Development • www.TVAed.com

Tennessee Valley Authority's (TVA) GIS-based Web site helps businesses and site selection consultants identify the best properties available in the 80,000-square-mile TVA region. Search for available properties and buildings, find demographic data, and download maps at TVAsites.com. Your source for economic development information and services in the seven-state TVA region is TVAed.com.

EDUCATION

American Society of Transportation & Logistics (ASTL) • www.astl.org

The American Society of Transportation and Logistics (ASTL) provides a career pathway of lifelong learning for professionals in the transportation logistics industry. Earn your industry credential as a GLA, PLS, CTL or DLP and an opportunity to connect with colleagues around the world.

ASTL provides state-of-the-art knowledge for developing practical answers to today's transportation and logistics challenges.



Baruch College Division of Continuing and Professional Studies baruch.cuny.edu/caps

Trade globally...learn locally! Baruch College's Weissman Center for International Business and Division of Continuing and Professional Studies (CAPS) runs 45+ practical courses and 7 rigorous certificate programs to develop and advance your international trade career. We offer Customs Broker License Test Preparation, Import and Export Operations, Logistics, Supply Chain Management, International Entrepreneurship, NASBITE-endorsed Certified Global Business Professional test preparation, and more. Earn NCBFAA-approved CEUs in selected courses and seminars. Taught by industry experts on our NYC campus, NJ port area, onsite, and online.



Cal State Fullerton, Extended Education extension.fullerton.edu/professionaldevelopment

A Supply Chain Management certificate is an opportunity to learn how to effectively and efficiently manage the activities of the supply chain and prepare yourself for an in-demand career. While you're learning to improve profits, you're learning new skills to improve your career goals. The certificate consists of six required courses totaling 120 hours of lecture, discussion, projects, and interactive exercises. Students not pursuing a certificate are welcome to take selected courses individually.

IN THIS SECTION:

Education

George Mason University School of Public Policy • gmu.edu

Earn your Master of Arts in Transportation Policy, Operations, and Logistics from the George Mason University School of Public Policy. This degree takes a multidisciplinary approach to prepare graduates to work effectively in today's logically integrated intermodal transportation systems. Students study issues such as smart growth, congestion, supply chain management, and intelligent transportation systems. This program offers broad training in finance, law, security, the environment, and policy-making that is required to advance in nearly every transportation organization.



Golden Gate University • www.ggu.edu

Golden Gate University has prepared leaders in the field of supply chain management for nearly a century, producing hundreds of alumni who work in all types of industries around the world. Our curriculum incorporates the latest practices in Global Supply Chain Management (GSCM) to equip managers with skills needed for a complex, technical, risky and high-pressure global environment. Learn from instructors with senior-level GSCM experience in major international corporations on campus in downtown San Francisco, or entirely online.



Governors State University • www.govst.edu/mbasupply

This online MBA in Supply Chain Management is listed in the *Wall Street Journal* as the "Hottest New MBA." World-class, full-time faculty provide graduates with a strong business foundation and knowledge of cutting-edge theories and practices essential to addressing supply chain management issues facing organizations. This 100-percent online, accelerated 17-month program is fully accredited and designed as an interactive cohort format for working professionals. Learn more: www.govst.edu/mbasupply.



Syracuse University, Whitman School of Management www.whitman.syr.edu

The Whitman School of Management at Syracuse University, a nationally recognized leader in logistics and supply chain education and research since 1920, offers the oldest such program in the country. Whitman supply chain graduates gain professional experience as students and enjoy a strong alumni network. For practitioners, we offer a talented intern/employee pool, and events to renew and update your skills. We also offer BS, MBA, MS, PhD, and executive programs in supply chain, as well as electives in Whitman's highly-regarded distance-learning MBA option.

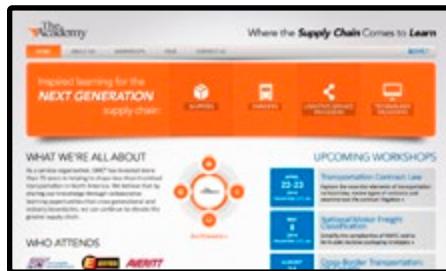


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Education



The Academy, SMC³ • www.smc3academy.com

The Academy was developed by SMC³ for you - the shippers, carriers and logistics providers that North America depends on for a reliable, efficient and affordable supply chain. You can depend on The Academy for learning opportunities that enhance your area of expertise. As a service organization, SMC³ has invested more than 75 years in shaping less-than-truckload transportation. We believe that by sharing our knowledge, we can continue to elevate the greater supply chain.

Transportation Intermediaries Association (TIA) • www.tianet.org

The Transportation Intermediaries Association (TIA) is the professional organization of the third-party logistics industry. TIA is the only organization exclusively representing transportation intermediaries of all disciplines doing business in domestic and international commerce. TIA is the voice of transportation intermediaries to shippers, carriers, government officials, and international organizations.



University of Alaska Anchorage • logistics.alaska.edu

The Department of Logistics at the University of Alaska Anchorage offers a Master of Science in Global Supply Chain Management (30 credits, 20 months, emphasis on strategy, leadership, knowledge management, and international business practices). Also offered are: a BBA in Global Logistics and Supply Chain Management (4 years); an Associate of Applied Science in Logistics and Supply Chain Operations (2 years); and a Certificate in Logistics and Supply Chain Operations (1 year).



Wright State University • www.wright-masters-lscm.org

The Master of Science in Logistics and Supply Chain Management provides a rich blend of real-life experience, case material, and rigorous curriculum taught by outstanding faculty and industry experts. This unique one-year program combines four in-person residencies, along with nine online courses and a capstone project allowing you to add financial value to your organization. It won't be an easy 12 months – but the payoff will be worth it! More details can be found at www.wright-masters-lscm.org.

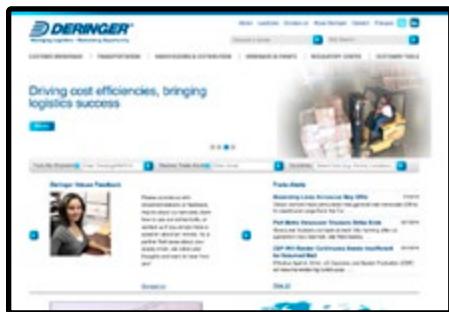
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Freight Forwarding

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FREIGHT FORWARDING

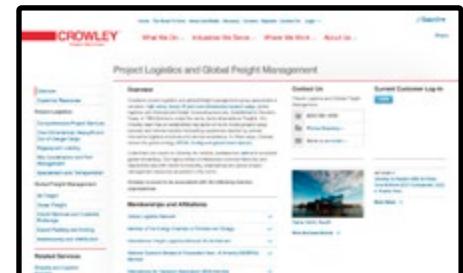


A.N. Deringer • www.anderinger.com

Customer care, service excellence, and a firm commitment to customs compliance illustrate the differences that have led to Deringer's success as a leading logistics provider for more than 95 years. Deringer's turnkey logistics services include customs brokerage, international freight forwarding, warehousing and distribution, cargo insurance, and consulting. With more than 30 offices and a strong network of international agents, Deringer helps companies optimize efficiencies in their supply chain.

Crowley Project Logistics & Global Freight Management www.crowley.com

Crowley's project logistics and global freight management group specializes in complex, high-value, heavy-lift and over-dimensional project cargo, global logistics, and international freight forwarding services. Established in Houston, Texas, in 1984 (formerly named Jarvis International Freight), this Crowley team has an established reputation of multi-modal project cargo success and remote location forwarding experience for a broad customer base, including those in the global energy, EPCM, mining, and government sectors. Through the company's relentless commitment to safety, integrity and high performance, People Who Know Crowley count on Crowley for reliable, professional, safe, and compliant global forwarding.



Lynden • www.lynden.com

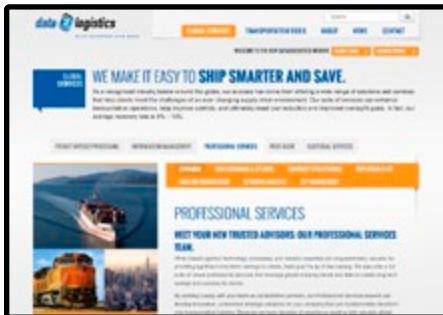
Over land, on the water, in the air—or in any combination—Lynden has been helping customers solve transportation problems for almost a century. Operating in such challenging areas as Alaska, Western Canada and Russia, as well as other areas around the globe, Lynden has built a reputation of superior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

Network FOB (N+FOB) • www.networkfob.com

Stop wasting your time shipping with unreliable brokers. At N+FOB, our knowledgeable and resourceful agents take ownership of your logistics needs and are committed to successful partnerships. With our innovative technology, streamlined business processes, and lowest transaction costs in the industry, N+FOB agents use their resources where they should be – helping the shippers and carriers they serve to achieve their unique business goals.



FREIGHT PAYMENT/AUDIT SERVICES



Data2Logistics • www.data2logistics.com

Data2Logistics provides the business intelligence you need to reduce transportation expense by 7 percent to 15 percent, and improve control for your freight and parcel shipments. For more than four decades, clients have relied on Data2Logistics to provide accurate pre-audit, post-audit, freight cost allocation, and robust global information. These services are provided as part of our worldwide freight bill payment capabilities. We process bills for all modes of transportation, including less-than-truckload, truckload, air, ocean, and parcel. We are a recognized source for actionable information, not just access to data. Data2Logistics has the experienced staff and global presence to service your locations in North America and around the world.

Trans Audit • www.transaudit.com

Trans Audit is the world's largest and most successful global freight and parcel post audit specialist. We have performed worldwide transportation audits on a contingent basis for hundreds of Fortune and Global 1000 corporations. Trans Audit's freight and parcel post audit services have delivered hundreds of millions of dollars to our clients' bottom line by recovering overbillings and overpayments, correcting erroneous billing, and reducing future expenses.

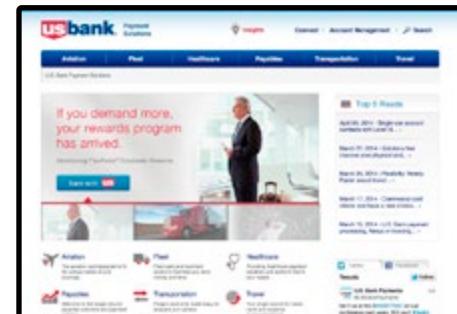


TransportGistics • www.transportgistics.com

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.

U.S. Bank • www.usbpayment.com

U.S. Bank Freight Payment improves control and reduces costs for shippers and carriers with a global transportation payment network that automates invoice auditing, processing and payment; integrates trade finance; and provides powerful business intelligence. Visit usbpayment.com today to learn how we can strengthen your physical and financial supply chain.



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Fulfillment

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FULFILLMENT

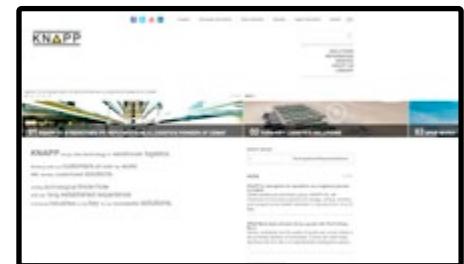


3LINX • www.3linx.com

3LINX is an e-commerce order fulfillment and third-party logistics (3PL) provider for the 21st century omni-channel client. Ship to consumers? Check. Retailers? Check. Dropship? Check. Down to earth people with OCD tendencies? Check and check. In a world of green screen WMSs, 3LINX offers a platform that you integrate to once, use free APIs, and access our network of U.S. and international warehouses. Free centralized web portal providing real-time inventory and order visibility from your iPad, iPhone, or laptop. If you're looking for a partner who's passionate about your success and acts as a trusted friend, 3LINX is it.

KNAPP Logistics Automation, Inc. • www.knapp.com

KNAPP Logistics Automation, Inc. is a leading global provider of automated warehouse solutions and warehouse logistics software. Our superior product technology, extensive global experience, and exceptional design capabilities enable our customers to dramatically improve their warehouse and distribution center operations. For manual picking solutions or fully-automatic all-in-one solutions, let KNAPP help you profit from the technologies of tomorrow, today!

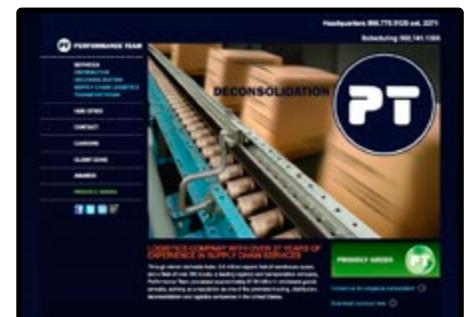


New Breed • www.newbreed.com

New Breed provides fulfillment services across all major markets including retail/e-commerce, aerospace and defense, technology, industrial/manufacturing, and medical equipment. We focus on supply chain transformation for omni-channel distribution, materials management and factory support, aftermarket support, and critical logistics. We also provide returned goods management including inspections, repairs, and restocking.

Performance Team • www.ptgt.net

Performance Team is the only thing that should come between your products and your customers. For nearly 25 years, Performance Team has been offering its expertise to the retail and manufacturing industries with a broad range of supply chain services including: trucking, distribution, logistics, and fulfillment. Through 11 domestic hubs, over 5.1 million square feet of warehouse space, and a fleet of more than 400 trucks, Performance Team's skilled team of employees processes approximately \$100 billion in wholesale goods. See why Performance Team continuously earns a reputation as the premiere trucking, consolidation, and distribution company in the United States; log on to www.ptgt.net.



GLOBAL LOGISTICS



NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.

SBA Global Logistics Services • www.sbaglobal.com

With terminals across the United States, partner offices in every country and major city worldwide, and an affiliate customs broker and ocean division (SBA Consolidators, Inc.), SBA is ready to fulfill all of your shipping and logistics needs. Our award-winning web site, sbaglobal.com, is easy to navigate and filled with useful information to help make your shipping experience as smooth as possible.



GLOBAL TRADE

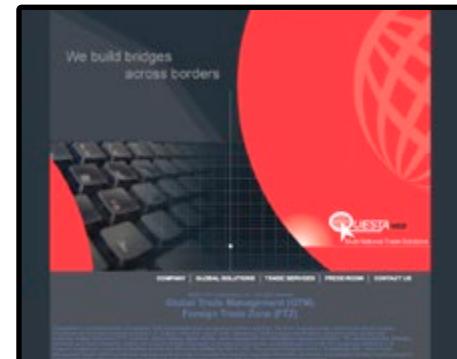


Agility • www.agilitylogistics.com

Let Agility manage the details of your international transportation. Choose from an array of highly configurable air and sea freight options, and road freight services that span Europe, the Middle East, North Africa, and Central Asia with more than 1,000 scheduled, weekly departures. Agility offers global expertise in commodity classifications, and local government rules and regulations, to ensure rapid clearance of your products through Customs.

QuestaWeb • www.questaweb.com

QuestaWeb is a premier provider of integrated, Web-based global trade management software. QuestaWeb's applications unify import, export, logistics, compliance, and financial processes under one roof. The applications include U.S. Customs, self-entry, foreign trade zone, landed costs, HTS, PO management, export licensing, drawback, reconciliation, denied party screening, product catalog, tracking, and international document repository. The centralized global database maintains up-to-date trade content and currencies. QuestaWeb can also be efficiently integrated to your ERP system if designated.





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Intermodal - Logistics IT

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INTERMODAL



NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.

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Aljex Software, Inc. • www.aljex.com

Aljex has an innovative Web-based software for carriers, freight brokers, and intermodal specialists. If you see a demo of our software, you will want it. Why? You will see how Aljex can easily double the number of shipments you can handle. It's so easy to learn that we include unlimited training and support. With Aljex, there is no long, painful switchover. In 48 hours, we can have you trained, linked into the load boards, have your logo on your forms, your users set up, your carriers and customers imported, and ready to work.

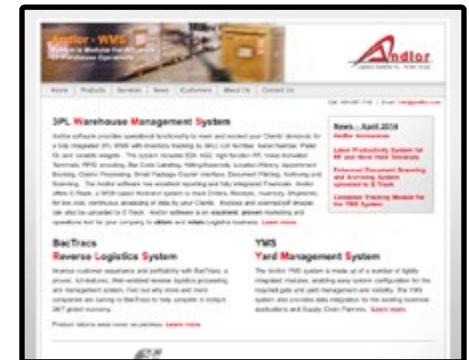


Amber Road • www.amberroad.com

Amber Road is the world's leading provider of on-demand Global Trade Management (GTM) solutions. By helping organizations plan, execute, and track global shipments, Amber Road enables goods to flow unimpeded across international borders in the most efficient, compliant, and profitable way. Our solutions automate import and export processes; provide order and shipment-level visibility; calculate duties, taxes, and fees; administer preferential trade programs; ensure regulatory compliance; and simplify the transportation of goods across international borders.

Andlор • www.andlor.com

Andlор staff have partnered with the 3PL logistics industry for more than 30 years. The software is a fully integrated 3PL WMS. The Web system provides access for the total supply chain. Users create Orders and Appointments; access Inventories/VMI, Receipts, Shipments, Invoices, Claims, EDI data, Labor Productivity, Client Messaging, and Scheduled/On Demand reports. Andlор also offers BacTracs for Reverse Logistics, and a Yard Management System. Excellent functionality and support are the Andlор trademarks.



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Cardinal Hosted Logistics • www.cardinalhostedlogistics.com

Cardinal Hosted Logistics™, a division of Cardinal Logistics Management Corporation, provides integrated technology solutions customized for each client. Created with real operations in mind, our user-friendly and flexible suite of solutions allows customers to select the applications most important to their businesses. Cardinal Hosted Logistics' offerings include: fleet, warehouse and order management solutions; integrated voice technologies; routing and scheduling; and handhelds with status updates, signature capture, scanning capabilities, and more. Visit us at www.cardinalhostedlogistics.com

CargoSmart • www.cargosmart.com

CargoSmart is a Software-as-a-Service (SaaS) global shipping and logistics solutions provider that enables shippers, consignees, and logistics service providers to lower transportation management costs, streamline operations, and reduce the risk of late shipments. Award-winning applications include visibility, documentation, carrier contract management, compliance, and private label solutions. Visit CargoSmart's website to download product information sheets and request a demo.



Catapult International • www.gocatapult.com

Catapult combines air, ocean, and ground contracts into one simple web-based system so operations and sales departments find the best carrier from Point A to Point B, keeping rates accurate and up-to-date with our dedicated contract management team.

CDM Software Solutions, Inc. • www.cdmsoft.com

CDM Software Solutions provides fast, efficient, user-friendly software products, services, and support for the international trade community – specifically freight forwarding, NVOCC, warehouses, importers and exporters. We are a U.S. Customs Certified Vendor and IBM Business Partner that provides software solutions for air freight (import, export and domestic), air freight consolidation, ocean freight (import and export), ocean freight consolidation, truck/inland freight, rail freight, warehousing, logistics and electronic data interchange.



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CT Logistics • www.ctlogistics.com

CT has over 91 years of global expertise and is the preeminent innovator and leader of freight payment services. Small to Fortune 100 firms partner with CT to design and deliver unique solutions. CT's FreitRater® software, the industry's first choice for freight analysis and TMS solutions, prices freight in all modes and its data model supports over 500 fields for your internal metrics. CT maximizes ROI and provides flexibility while giving complete supply chain visibility using Business Intelligent reporting for benchmarking and trending with Cognos dashboards and reports. CT has SOCII and ISO 9001:2008 certifications. Call 216-267-2000, ext.2190 to learn more.

CTSI-Global • www.ctsi-global.com

For more than 50 years, CTSI-Global has been a valuable resource to companies by providing the technology and industry expertise to help them manage all aspects of their supply chain—physical, informational, and financial—through freight audit and payment, transportation management systems (TMS), information management tools, and global consulting. The end results are improved shipping efficiencies, greater control, and significant ongoing savings. CTSI-Global is your link to supply chain solutions.



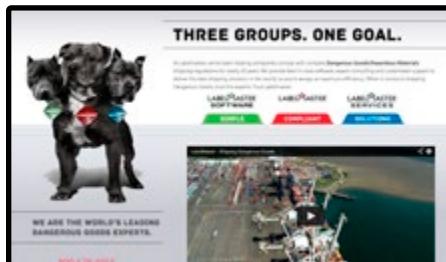
Echo Global Logistics • www.echo.com

Echo Global Logistics, a results-oriented transportation management firm, provides superior cost-savings technology and services for small enterprises to the Fortune 100. Echo's transportation management solution delivers cost savings through proprietary access to unparalleled transportation market data, custom-built world-class technology, a massive nationwide network of carriers, and the negotiating power resulting from massive spend on behalf of clients. Echo's focus is on offering concrete, tangible savings to all clients, and ensuring increased service levels that derive from the Six Sigma process integrity on which Echo's transactional engine has been built.

Fortigo • www.fortigo.com

Fortigo's team of experts specializes in logistics optimization and enterprise web-based software. For companies seeking to reduce costs, improve customer satisfaction, and increase profitability, Fortigo automates, optimizes, and audits logistics decisions. Fortigo plugs into established supply chain applications and provides rapid return on investment by optimizing and deploying closed-loop logistics processes, minimizing ship-to-order times and streamlining collaboration with logistics providers.





Labelmaster • www.dangerousgoodssolutions.com

When you ship dangerous goods with Labelmaster, you get the best of three worlds: Best-in-class software, consulting services, and an assortment of products to keep you compliant, safe and efficient when shipping dangerous goods. Whether you ship a few packages a day or manage a global supply chain, choose the team of globally recognized experts who deliver the best hazmat shipping solutions in the world. Trust Labelmaster.

LeanLogistics • www.leanlogistics.com

LeanLogistics meets the needs of major shippers of goods with its far-reaching, true Software-as-a-Service (SaaS) technology—On-Demand TMS®. Customers reduce their transportation cost and increase efficiency with a typical payback of less than one year. Dozens of companies have selected On-Demand TMS® to address challenges such as obtaining carrier coverage, managing ever-changing networks, controlling inbound freight, creating continuous-move opportunities, and settling freight bills quickly and accurately.



New Breed • www.newbreed.com

New Breed provides application hosting and information services that power supply chain networks. Our Internet-based solutions enable our clients to integrate operating facilities, Web sites, customers, suppliers, carriers, and existing systems to streamline and optimize their network. Collaborating with the best technology providers in the world, we offer application-hosting services utilizing a configurable, pre-integrated technology infrastructure that supports supply chain networks from end to end.

nVision Global Technology Solutions, Inc. • www.nvisionglobal.com

nVision Global Technology Solutions, Inc. 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 over 25 languages, and processes and pays freight invoices from over 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.

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Paradox Software Consulting • www.paradoxsci.com

Paradox Software Consulting offers software tools and consulting services for planning and executing logistics and supply chain management functions to companies of any size. Carriers, shippers, 3PLs, brokers, and logistics consultants receive the benefit of an improved bottom line and a significant return on their investment. For over 15 years, our products have continued to keep up with the industry's demands in the areas of vehicle routing and scheduling, continuous move planning, fleet sizing, lane matching, and resource scheduling, as well as network design and fulfillment planning for the supply chain. Call 855-472-7236, visit www.paradoxsci.com or email info@paradoxsci.com for more information.

Railinc Corp. • www.railinc.com

Railinc Corp. is a leading provider of rail data, IT and information services to the North American freight rail industry. Our Umler® and RailSight™ systems support critical rail processes from car movement to track and trace, and provide intelligence that helps railroads, rail equipment owners, their customers and business partners increase productivity and keep assets moving. Railinc is the largest single source for real-time, accurate, interline rail data and rail shipment status information



RateLinx • www.ratelinx.com

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 Web site or contact us at sales@ratelinx.com.

Suntek Systems • www.iLogisys.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.





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.

Transwide • www.transwide.com

Transwide TMS is a modular, on-demand (SaaS) collaboration platform that enables partners in a logistics network to increase transportation performance through optimized planning, execution, visibility, and cost management. With 500+ customers (100,000+ users), 20,000+ in 80 countries across four continents, the Transwide solution suite enables shippers to source, plan, execute, settle, and analyze their transportation with maximum cost efficiency.



MATERIALS HANDLING



Akro-Mils • www.akro-mils.com

Akro-Mils is a leading manufacturer of plastic and metal storage, organization, transport and material handling products designed to improve inventory control and productivity in any setting – including industrial, medical, commercial, and consumer. As the industry leader, Akro-Mils strives to continually provide customers with innovative, quality products; unsurpassed customer service; and the fastest, most reliable shipping in the industry.

KNAPP Logistics Automation, Inc. • www.knapp.com

KNAPP Logistics Automation, Inc. is a leading global provider of automated warehouse solutions and warehouse logistics software. Our superior product technology, extensive global experience, and exceptional design capabilities enable our customers to dramatically improve their warehouse and distribution center operations. For manual picking solutions or fully-automatic all-in-one solutions, let KNAPP help you profit from the technologies of tomorrow, today!



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Moisture & Temperature Control - Ocean

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MOISTURE & TEMPERATURE CONTROL



Multisorb Technologies • www.multisorb.com

TranSorb® container desiccants are designed for use in freight containers and warehouse storage to protect products against moisture damage. TranSorb container desiccants safeguard cargo against rust and corrosion, mold and mildew, and from spoilage. TranSorb container desiccants absorb a large quantity of moisture and safely retain it once it is absorbed into the pack. They are available in single packs, strip format, in nets, with adhesive backing, and now with hooks for convenient hanging.

MULTI-MODAL

Labelmaster • www.dangerousgoodssolutions.com

When you ship dangerous goods with Labelmaster, you get the best of three worlds: Best-in-class software, consulting services, and an assortment of products to keep you compliant, safe and efficient when shipping dangerous goods. Whether you ship a few packages a day or manage a global supply chain, choose the team of globally recognized experts who deliver the best hazmat shipping solutions in the world. Trust Labelmaster.



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.

OCEAN

Crowley Liner Services • www.crowley.com

Specializing in logistics, and full (FCL) and less-than-container load (LCL) ocean cargo transportation between the U.S., Caribbean and Central America, Crowley has been the go-to company for shippers in the Caribbean Basin for the past 60 years. Crowley provides frequent, dependable and comprehensive shipping services; a myriad of equipment sizes and types; freight forwarding and Customs brokerage, along with airfreight, trucking, warehousing and distribution in the U.S. and offshore. Crowley builds long-lasting customer relationships through a relentless commitment to safety, integrity and high performance. That's why People Who Know Crowley, choose Crowley to ensure the reliability of their supply chains.



WEB-CITE CITY

www.inboundlogistics.com/web_cite

IN THIS SECTION:

Ocean - Ports



Lynden • www.lynden.com

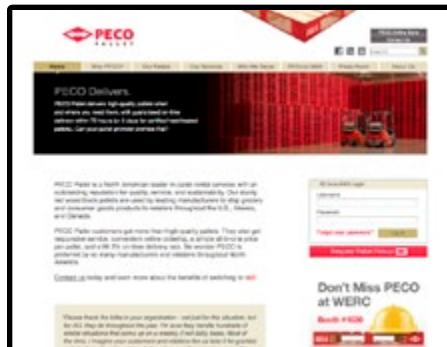
Over land, on the water, in the air—or in any combination—Lynden has been helping customers solve transportation problems for almost a century. Operating in such challenging areas as Alaska, Western Canada and Russia, as well as other areas around the globe, Lynden has built a reputation of superior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

NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.



PALLETS



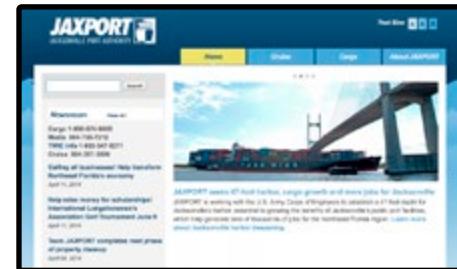
PECO Pallet • www.pecopallet.com

PECO Pallet is a 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 their products to grocery, warehouse, and discount retailers. PECO Pallet is headquartered in New York and maintains over 580 service centers and manufacturing plants throughout the U.S., Mexico, and Canada. For more information about PECO Pallet, visit www.pecopallet.com.

PORTS

JAXPORT • www.jaxport.com

JAXPORT is 1,500-acre, full-service, international trade seaport located in the southeastern United States, offering service from 40 ocean carriers, including 17 of the world's top 20 global carriers. The port owns and manages three cargo terminals in Jacksonville, Fla., including Blount Island Marine Terminal, Dames Point Marine Terminal, and Talleyrand Marine Terminal. JAXPORT and its maritime partners handle containerized cargo, Ro/Ro cargo (automobiles, recreational boats and construction equipment), dry and liquid bulks, breakbulk commodities, oversized and specialty cargoes.



IN THIS SECTION:

Ports - Project Logistics



Port of Palm Beach • www.portofpalmbeach.com

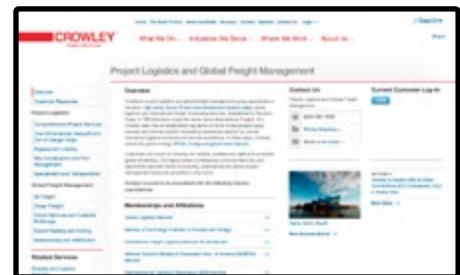
The Port of Palm Beach is a 162-acre full-service, diversified landlord port. The only port in South Florida with on-dock rail, we are an important distribution center for commodities being shipped to the Caribbean Basin and globally. Operations include containerized, dry-bulk, liquid-bulk, break-bulk, roll-on/roll-off, and heavy-lift/project cargoes. Be sure to visit our newly redesigned Web site at PortofPalmBeach.com.

PROJECT LOGISTICS

Crowley Project Logistics & Global Freight Management www.crowley.com

Crowley's project logistics and global freight management group specializes in complex, high-value, heavy-lift and over-dimensional project cargo, global logistics, and international freight forwarding services. Established in Houston, Texas, in

1984 (formerly named Jarvis International Freight), this Crowley team has an established reputation of multi-modal project cargo success and remote location forwarding experience for a broad customer base, including those in the global energy, EPCM, mining, and government sectors. Through the company's relentless commitment to safety, integrity and high performance, People Who Know Crowley count on Crowley for reliable, professional, safe, and compliant global forwarding.



Geodis Wilson USA • www.geodiswilson.com

With 5,500 people and a global network, Geodis Wilson is one of the world's largest freight management companies, serving customers with integrated supply chain solutions that deliver cargo by sea and air. The company's expertise, value-added services, and e-services enable you to streamline the flow of goods. We also make your supply chain more transparent and easier to manage. A self-reliant network of offices, and air and ocean hubs in more than 50 countries, ensures that your cargo flows efficiently and consistently across the world.



Lynden • www.lynden.com

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RAIL



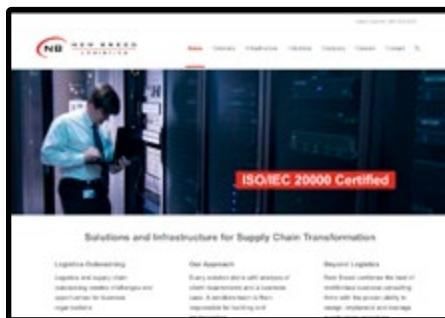
Railinc Corp. • www.railinc.com

Railinc Corp. is a leading provider of rail data, IT and information services to the North American freight rail industry. Our Umler® and RailSight™ systems support critical rail processes from car movement to track and trace, and provide intelligence that helps railroads, rail equipment owners, their customers and business partners increase productivity and keep assets moving. Railinc is the largest single source for real-time, accurate, interline rail data and rail shipment status information.

RAPID RESPONSE LOGISTICS

Lynden • www.lynden.com

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



New Breed • www.newbreed.com

New Breed's service parts management solution enables rapid delivery of critical parts. We have been managing large, complex service parts management solutions since 1980. We have the existing parts depot network, processes, and systems to quickly implement cost-saving solutions. New Breed provides service parts management in the medical equipment, electronics, and aerospace industries.

REAL ESTATE

Mericle Commercial Real Estate Services • www.mericle.com

Mericle Commercial Real Estate Services is the largest private developer of industrial space along Pennsylvania's I-81 Corridor. Mericle owns and manages more than 10 million square feet in northeast Pennsylvania, and has more than two million square feet of tax-free logistics space available with 30-foot-plus ceilings, energy-efficient lighting, ESFR fire protection, abundant on-site trailer storage, and immediate interstate access. See www.mericle.com.



IN THIS SECTION:

Recruiting - Reverse Logistics

www.inboundlogistics.com/web_cite



NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.

RECRUITING

Shey-Harding Associates • www.shey-harding.com

Founded in 1990, Shey-Harding Associates is an executive search firm specializing in transportation, supply chain, logistics, and distribution positions. Our extensive industry experience and client-focused approach helps to ensure fast, efficient results. We provide personalized service tailored to meet your needs. Contact Shey-Harding today at 562-799-8854 or info@shey-harding.com.



RETAIL LOGISTICS



Crowley Logistics • www.crowley.com

Specializing in logistics, and full (FCL) and less-than-container load (LCL) ocean cargo transportation between the U.S., Caribbean and Central America, Crowley has been the go-to company for shippers in the Caribbean Basin for the past 60 years. Crowley provides frequent, dependable and comprehensive shipping services; a myriad of equipment sizes and types; freight forwarding and Customs brokerage, along with airfreight, trucking, warehousing and distribution in the U.S. and offshore. Crowley builds long-lasting customer relationships through a relentless commitment to safety, integrity and high performance. That's why People Who Know Crowley, choose Crowley to ensure the reliability of their supply chains.

REVERSE LOGISTICS

KNAPP Logistics Automation, Inc. • www.knapp.com

KNAPP Logistics Automation, Inc. is a leading global provider of automated warehouse solutions and warehouse logistics software. Our superior product technology, extensive global experience, and exceptional design capabilities enable our customers to dramatically improve their warehouse and distribution center operations. For manual picking solutions or fully-automatic all-in-one solutions, let KNAPP help you profit from the technologies of tomorrow, today!



April 2014 • Inbound Logistics 137

WEB-CITE CITY

www.inboundlogistics.com/web_cite

IN THIS SECTION:

Reverse Logistics - Shipping Software



Labelmaster • www.dangerousgoodssolutions.com

When you ship dangerous goods with Labelmaster, you get the best of three worlds: Best-in-class software, consulting services, and an assortment of products to keep you compliant, safe and efficient when shipping dangerous goods. Whether you ship a few packages a day or manage a global supply chain, choose the team of globally recognized experts who deliver the best hazmat shipping solutions in the world. Trust Labelmaster.

New Breed • www.newbreed.com

Reverse logistics is a complex, often overlooked, function that can eat into company profits in a hurry. New Breed drives reverse logistics efficiency through proven process disciplines and information systems that automate the disposition of returned goods. New Breed excels at reverse logistics processes that involve inspection, repair, and remanufacturing. Expertise includes B2B and consumer returns. Clients of New Breed reverse logistics and repair and refurbishment services include Boeing, Verizon Wireless, Siemens Medical Solutions, Avaya, and Sony Electronics.

The screenshot shows a section titled "Reverse Logistics" from the New Breed website. It includes a table with columns for "Service Type", "Description", and "Offer". The table lists various services such as Reverse Management and Processing, Repair and Reuse, and Disposition. Each service has a brief description and a "View Details" link.

ROUTING & SCHEDULING



MapMechanics • www.truckstopsrouting.com

Cost-cutting truck routing and scheduling optimization software that makes complex planning simple. TruckStops routes obey the constraints of your operation while enabling you to offer tighter time windows with greater confidence, make cost savings typically ranging from 10-30 percent, and reduce planning time by 40-50 percent. End-to-end solutions integrating with live traffic information, TMS, ePOD and tracking systems for strategic and operational use. Includes "plan vs. actual" analysis. To make savings and improve customer service call 727-483-5562.

SHIPPING SOFTWARE

eShipGlobal • www.eship.com

eShipGlobal is an on-demand Transportation Management Solutions (TMS) provider, offering complete and customizable TMS solutions to manage clients' transportation functions – from sourcing, shipment execution, and visibility to freight audit and payment settlement. Our customers can reduce their freight spend with our solution tailored to their business needs. eShipGlobal's Web-based shipping solution delivers these benefits on desktops, warehouses, and mailrooms of leading companies around the world. The solution focuses on freight management, inbound shipments, and export control custom documentation that provides a solution and service offering like no other in the industry.

The screenshot shows the eShipGlobal website homepage. It features a large video player with a man speaking, followed by the text "Logistics Simplified." and "eShip Global's fully integrated system designed to simplify all freight and carrier operations, whether there are two or ten hundred users." Below this is a "FEATURES" section with icons for Web-based, mobile, and mobile reporting.

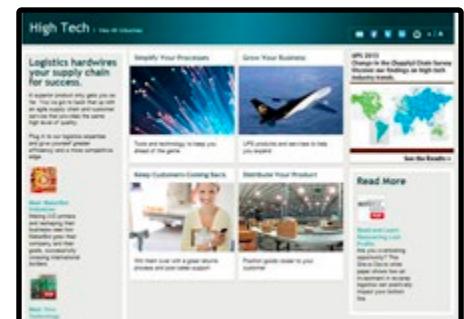
IN THIS SECTION:
Shipping Software - Supply Chain Mgmt/Optimization
www.inboundlogistics.com/web_cite

Labelmaster • www.dangerousgoodssolutions.com

When you ship dangerous goods with Labelmaster, you get the best of three worlds: Best-in-class software, consulting services, and an assortment of products to keep you compliant, safe and efficient when shipping dangerous goods. Whether you ship a few packages a day or manage a global supply chain, choose the team of globally recognized experts who deliver the best hazmat shipping solutions in the world. Trust Labelmaster.

SUPPLY CHAIN EXECUTION
UPS • www.ups.com/hightech

Logistics solutions from UPS can hard-wire your supply chain for success. A superior product only gets you so far. You also need an agile supply chain and customer service that provides the same high level of quality. Plug in to UPS logistics expertise and give yourself greater efficiency and a more competitive edge.


SUPPLY CHAIN MGMT/OPTIMIZATION

C3 Solutions • www.c3solutions.com

C3 Solutions provides advanced software applications that transform static logistics operations into dynamic flow-through centers. C3 Reservations, its web-based dock scheduling system, streamlines the scheduling process by improving dock productivity, expanding visibility on scheduled appointments, and measuring vendor compliance. Yard Smart, C3's award-winning yard management system (YMS), empowers yard managers by providing visibility on yard assets, optimizing the flow of trailers from gate to gate, and automating yard driver task assignment.

INSIGHT, Inc. • www.insightoutsmart.com

INSIGHT, Inc. provides optimization-based supply chain analytics and consulting services to meet today's dynamic business challenges. INSIGHT solves the complex supply chain strategic, tactical, and financial planning management issues of the world's foremost companies, such as ExxonMobil, Nestle, and BASF. Our software and services help firms minimize costs, maximize profits, free up capital, streamline operations, and increase customer service levels.



WEB-CITE CITY

www.inboundlogistics.com/web_cite

IN THIS SECTION:

Supply Chain Mgmt/Optimization - Temp-Controlled



New Breed • www.newbreed.com

Efficient and effective Supply Chain Management and Optimization requires investment in technology and intellectual resources that can envision and deliver Supply Chain Transformation. Visit NewBreed.com to learn how we have transformed the supply chains of leading customer-focused organization such as Avaya, Boeing, Disney, Logitech, Siemens Medical Solutions, Sony Electronics, and Verizon Wireless.



NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.



Paradox Software Consulting • www.paradoxsci.com

Paradox Software Consulting offers software tools and consulting services for planning and executing logistics and supply chain management functions to companies of any size. Carriers, shippers, 3PLs, brokers, and logistics consultants receive the benefit of an improved bottom line and a significant return on their investment. For over 15 years, our products have continued to keep up with the industry's demands in the areas of vehicle routing and scheduling, continuous move planning, fleet sizing, lane matching and resource scheduling as well as network design and fulfillment planning for the supply chain. Call 855-472-7236, visit www.paradoxsci.com or email info@paradoxsci.com for more information.



Frozen Food Express • www.ffeinc.com

Frozen Food Express strives to be the leader in solutions development and execution in the temperature-controlled LTL market. We will leverage our core competencies in refrigerated transportation that have been developed over 65 years across our enterprise to provide our customers with the highest levels of service which represent great value. Every member of the FFE team will work in a collaborative manner to exceed the expectations of our customers. We will always strive to deliver a great customer experience and perform with honesty, integrity, and a sense of urgency to deliver on what we promise. Visit our Web site at www.ffeinc.com.



IN THIS SECTION:

Temp-Controlled Shipping - TMS



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.

TMS

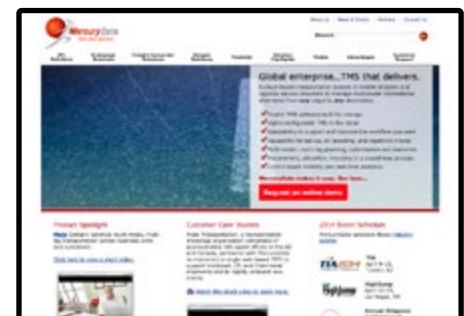
Ajex Software, Inc. • www.ajex.com

Ajex has an innovative Web-based software for carriers, freight brokers, and intermodal specialists. If you see a demo of our software, you will want it. Why? You will see how Ajex can easily double the number of shipments you can handle. It's so easy to learn that we include unlimited training and support. With Ajex, there is no long, painful switch-over. In 48 hours, we can have you trained, linked into the load boards, have your logo on your forms, your users set up, your carriers and customers imported, and ready to work.



McLeod Software • www.mcleodsoftware.com

McLeod Software is the leader when it comes to transportation management solutions, including our comprehensive Freight Management Solutions (FMS) for shippers. We deliver powerful bidding/procurement, carrier realignment, order consolidation/load optimization, load execution, and spot market capabilities all in one solution. McLeod's FMS reduces freight costs and freight spend, and strengthens the carrier relationship. McLeod Software is dedicated to providing the best software offerings available to the transportation industry.



MercuryGate • www.mercurygate.com

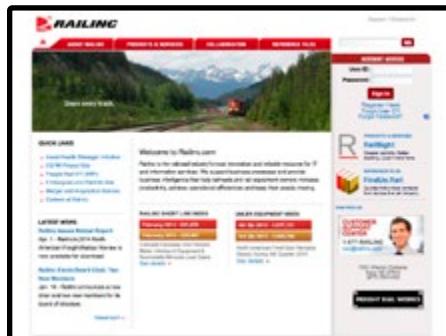
MercuryGate delivers a multi-modal TMS solution that allows shippers, freight brokers, and third-party logistics providers to plan, execute, track, and settle freight movements. Customers use a single SaaS or self-hosted application to realize savings through consolidated loads, optimized carrier selection,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

WEB-CITE CITY

www.inboundlogistics.com/web_cite

IN THIS SECTION:

TMS



Railinc Corp. • www.railinc.com

Railinc Corp. is a leading provider of rail data, IT and information services to the North American freight rail industry. Our Umler® and RailSight™ systems support critical rail processes from car movement to track and trace, and provide intelligence that helps railroads, rail equipment owners, their customers and business partners increase productivity and keep assets moving. Railinc is the largest single source for real-time, accurate, interline rail data and rail shipment status information.

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.



Transwide • www.transwide.com

Transwide TMS is a modular, on-demand (SaaS) collaboration platform that enables partners in a logistics network to increase transportation performance through optimized planning, execution, visibility, and cost management. With 500+ customers (100,000+ users), 20,000+ in 80 countries across four continents, the Transwide solution suite enables shippers to source, plan, execute, settle, and analyze their transportation with maximum cost efficiency.



UltraShipTMS • www.ultrashiptms.com

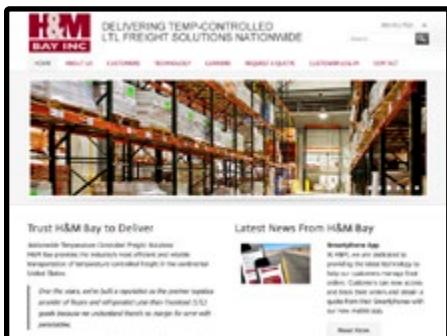
UltraShipTMS offers award winning software-as-a-service solutions to leading shippers in food production, packaging, retail and other industries. UltraShipTMS and LoadFusion Transportation Optimizer (the Stevie Awards' 2013 Transportation Product of the Year) provide a single-source solution for optimization, transportation and settlement for in- and out-bound 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.

IN THIS SECTION:

Transportation - Transportation Mgmt/Freight Mgmt

www.inboundlogistics.com/web_cite

TRANSPORTATION

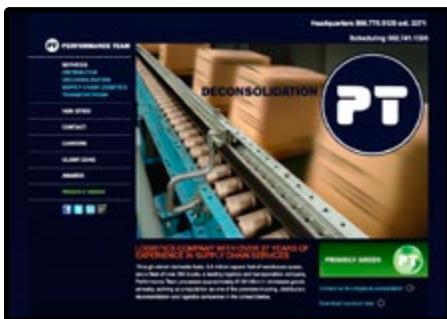


H&M Bay, Inc. • www.hmbayinc.com

H&M Bay is a premier LTL freight logistics provider of frozen and refrigerated commodity shipments, with seven strategically located LTL consolidation facilities in California, Florida, Indiana, Massachusetts, Maryland, North Carolina, and Washington. H&M Bay's focus on customer satisfaction continues through a host of Web-based services, and a computerized dispatch and tracking system that enables customers to access order and delivery status reports. To grow your business with H&M Bay, visit our Web site today.

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.



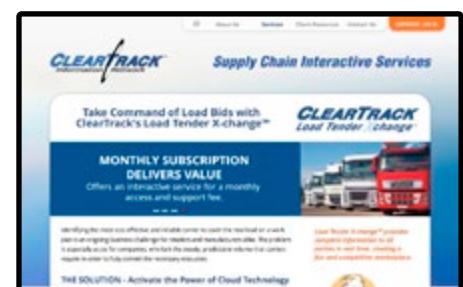
Performance Team • www.ptgt.net

Performance Team is the only thing that should come between your products and your customers. For nearly 25 years, Performance Team has been offering its expertise to the retail and manufacturing industries with a broad range of supply chain services including: trucking, distribution, logistics, and fulfillment. Through 11 domestic hubs, over 5.1 million square feet of warehouse space, and a fleet of more than 400 trucks, Performance Team's skilled team of employees processes approximately \$100 billion in wholesale goods. See why Performance Team continuously earns a reputation as the premiere trucking, consolidation, and distribution company in the United States; log on to www.ptgt.net.

TRANSPORTATION MGMT/FREIGHT MGMT

ClearTrack • www.cleartrack.com

ClearTrack is dedicated to supplying supply chain execution solutions to help retailers improve operational performance and reduce costs. Our latest product offering, Load Tender X-change™, automates the request for pricing, load bidding and the tender process for truckload and less-than-truckload shipments by activating the power of cloud technology to seamlessly connect with your preferred carrier community.



WEB-CITE CITY

www.inboundlogistics.com/web_cite

IN THIS SECTION:

Transportation Mgmt/Freight Mgmt



eShipGlobal • www.eship.com

eShipGlobal is an on-demand Transportation Management Solutions (TMS) provider, offering complete and customizable TMS solutions to manage clients' transportation functions – from sourcing, shipment execution, and visibility to freight audit and payment settlement. Our customers can reduce their freight spend with our solution tailored to their business needs. eShipGlobal's Web-based shipping solution delivers these benefits on desktops, warehouses, and mailrooms of leading companies around the world. The solution focuses on freight management, inbound shipments, and export control custom documentation that provides a solution and service offering like no other in the industry.

Geodis Wilson USA • www.geodiswilson.com

With 5,500 people and a global network, Geodis Wilson is one of the world's largest freight management companies, serving customers with integrated supply chain solutions that deliver cargo by sea and air. The company's expertise, value-added services, and e-services enable you to streamline the flow of goods.

We also make your supply chain more transparent and easier to manage. A self-reliant network of offices, and air and ocean hubs in more than 50 countries, ensures that your cargo flows efficiently and consistently across the world.



Landstar Systems, Inc. • www.landstar.com

Landstar provides transportation management solutions including global and domestic transportation logistics services. Landstar, long known for its safety-first culture, continues to emphasize safety, security and compliance. Our services include truckload and LTL, rail intermodal, air and ocean cargo, expedited air and truck, heavy-haul/specialized, cross-border, project cargo, customs brokerage, transportation management systems, integrated solutions, outsourced logistics and warehousing.

New Breed • www.newbreed.com

To meet today's challenges in transportation management, New Breed has invested in world-class technologies and intellectual resources to offer unsurpassed performance levels. Our job is more than optimizing your transportation service levels, our job is helping you outpace your competitors.



IN THIS SECTION:

Transportation Mgmt/Freight Mgmt - Trucking

www.inboundlogistics.com/web_cite



NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.

TransSolutions Inc. • www.transolutionsinc.com

TransSolutions Inc. is a leading supplier of freight claim management, logistics, claim recovery, loss and damage software, freight claim overcharge, loss prevention database, and Web-based applications. Our clients include

Global 5000 companies in the specialty chemicals, pharmaceuticals, consumer packaged goods, and food and beverage industries. Since 1997,

TransSolutions Inc. has helped companies decrease freight claim-generation cycle time and increase claim documentation organization, while reducing data input errors, accelerating carrier claim payment, increasing efficiency, improving quality, and directly influencing the freight claims management process.



TRUCKING



AAA Cooper Transportation • www.aaacooper.com

AAA Cooper Transportation has been delivering safe, efficient transportation for more than 50 years. With strategically located service centers, we are prepared to give individual attention to your shipping needs. AAA Cooper Transportation is dedicated to the long-term sustainability of the environment, and continues to implement processes that will make the world a better place to live for generations to come.

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.



TRUCKING: FLATBED



Lynden • www.lynden.com

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TRUCKING: HEAVY SPECIALIZED

Lynden • www.lynden.com

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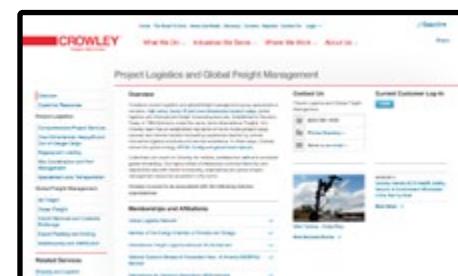


TRUCKING: LTL



Colonial Cartage Corporation • www.colonialcartage.com

Since 1969, Colonial Cartage Corporation (CCC), ABW's in-house carrier, has provided regular temperature-controlled LTL and TL service to all points in the Southeast. CCC currently manages over 11,000 truckloads annually to support plant production facilities. We recently expanded our service areas to include LTL service to the Southwest, Midwest, and Great Plains as far West as the Rockies, with truckload service on additional lanes to IL, TX, PA, and other regions. As an industry leader on safety, we focus on exceptional service to satisfy the most stringent risk management and customer service requirements.



Crowley Logistics • www.crowley.com

Specializing in logistics, and full (FCL) and less-than-container load (LCL) ocean cargo transportation between the U.S., Caribbean and Central America, Crowley has been the go-to company for shippers in the Caribbean Basin for the past 60 years. Crowley provides frequent, dependable and comprehensive shipping services; a myriad of equipment sizes and types; freight forwarding and Customs brokerage, along with airfreight, trucking, warehousing and distribution in the U.S. and offshore. Crowley builds long-lasting customer relationships through a relentless commitment to safety, integrity and high performance. That's why People Who Know Crowley, choose Crowley to ensure the reliability of their supply chains.

IN THIS SECTION:

Trucking: LTL



Landstar Systems, Inc. • www.landstar.com

Landstar provides transportation management solutions including global and domestic transportation logistics services. Landstar, long known for its safety-first culture, continues to emphasize safety, security and compliance. Our services include truckload and LTL, rail intermodal, air and ocean cargo, expedited air and truck, heavy-haul/specialized, cross-border, project cargo, customs brokerage, transportation management systems, integrated solutions, outsourced logistics and warehousing.

Lynden • www.lynden.com

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Old Dominion Freight Line (ODFL) • www.ODFL.com

Headquartered in Thomasville, NC, Old Dominion Freight Line (ODFL) is a \$2.13 billion, less-than-truckload motor carrier providing regional, inter-regional, and national LTL truck service and value-added logistics services such as assembly and distribution, domestic drayage, direct service to Canada and other services. ODFL customers can also now take advantage of the redesigned odfl4me - an online account for ODFL customers that allows the user to receive personalized experience for faster rate quotes based upon their specific pricing.



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.

TRUCKING: TL

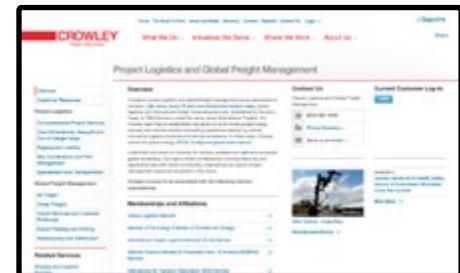


AAA Cooper Transportation • www.aaacooper.com

AAA Cooper Transportation has been delivering safe, efficient transportation for more than 50 years. With strategically located service centers, we are prepared to give individual attention to your shipping needs. AAA Cooper Transportation is dedicated to the long-term sustainability of the environment, and continues to implement processes that will make the world a better place to live for generations to come.

Crowley Logistics • www.crowley.com

Specializing in logistics, and full (FCL) and less-than-container load (LCL) ocean cargo transportation between the U.S., Caribbean and Central America, Crowley has been the go-to company for shippers in the Caribbean Basin for the past 60 years. Crowley provides frequent, dependable and comprehensive shipping services; a myriad of equipment sizes and types; freight forwarding and Customs brokerage, along with airfreight, trucking, warehousing and distribution in the U.S. and offshore. Crowley builds long-lasting customer relationships through a relentless commitment to safety, integrity and high performance. That's why People Who Know Crowley, choose Crowley to ensure the reliability of their supply chains.



Landstar Systems, Inc. • www.landstar.com

Landstar provides transportation management solutions including global and domestic transportation logistics services. Landstar, long known for its safety-first culture, continues to emphasize safety, security and compliance. Our services include truckload and LTL, rail intermodal, air and ocean cargo, expedited air and truck, heavy-haul/specialized, cross-border, project cargo, customs brokerage, transportation management systems, integrated solutions, outsourced logistics and warehousing.

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.





NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.

Werner Enterprises Inc. • www.werner.com

Werner Enterprises Inc. is a premier transportation and logistics company, with coverage throughout the United States, Canada, Mexico, and China. Werner maintains its global headquarters in Omaha, Neb., offering 24/7 service 365 days a year. Werner is among the five largest truckload carriers in the United States, with a portfolio of services that includes long-haul, regional and local van capacity, temperature-controlled, flatbed, dedicated, and expedited. Werner's value-added services portfolio includes import and export freight management, PO and vendor management, truck brokerage, intermodal, load/mode and network optimization, and global visibility. Internationally Werner provides freight forwarding and customs brokerage services, and is a licensed NVOCC.



VENDOR COMPLIANCE



Compliance Networks • www.compliancenetworks.com

Compliance Networks' retail-centric solutions optimize supply chain flow by automating key processes including: vendor compliance and collaboration, scorecards and certification, chargeback management, purchase order fill rate and accuracy measurement, and supply chain alerts. This enables greater supply chain efficiencies. Compliance Networks provides better business intelligence so retailers can make informed decisions and collaborate with suppliers to increase vendor compliance and directly improve the bottom line. Compliance Networks offers a no-risk approach to recovering lost profits in as little as 120 days.

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.



WAREHOUSING

Atlanta Bonded Warehouse • www.atlantabonded.com

Atlanta Bonded Warehouse (ABW) Corporation has provided public and contract food-grade, temperature-controlled distribution services for more than 60 years. Its award-winning facilities, superb metro Atlanta location, exceptional service, and excellent safety record combine to satisfy customers' most stringent risk management and customer service requirements. With its in-house carrier service and extensive network of interline partners, ABW is the only provider you need for your asset-based logistics needs in the Southeast.

Crowley Logistics • www.crowley.com

Specializing in logistics, and full (FCL) and less-than-container load (LCL) ocean cargo transportation between the U.S., Caribbean and Central America, Crowley has been the go-to company for shippers in the Caribbean Basin for the past 60 years. Crowley provides frequent, dependable and comprehensive shipping services; a myriad of equipment sizes and types; freight forwarding and Customs brokerage, along with airfreight, trucking, warehousing and distribution in the U.S. and offshore. Crowley builds long-lasting customer relationships through a relentless commitment to safety, integrity and high performance. That's why People Who Know Crowley, choose Crowley to ensure the reliability of their supply chains.

The screenshot shows the Crowley website. At the top, there's a red horizontal bar with the word 'CROWLEY' in white. Below it, the main navigation menu includes 'What We Do', 'Industries We Serve', 'Where We Work', and 'About Us'. To the right of the menu is a search bar and a 'Log In' button. The main content area has a white background. It features a large blue header 'Project Logistics and Global Freight Management.' Below this, there are several sections: 'Services' (with sub-links like 'Container Services', 'Project Logistics', 'Automotive', 'Chemical', 'Electronics', 'Food', 'Industrial', 'Pharmaceuticals', 'Plastics', 'Rubber', 'Textiles'), 'Business Solutions' (with sub-links like 'New Customers', 'Port Services', 'Specialty Services', 'Transportation and Warehousing', 'Global Project Management'), 'About Us' (with sub-links like 'Our History', 'Our People', 'Our Locations', 'Safety Initiatives', 'Corporate Responsibility', 'Investor Relations'), 'Media Center' (with sub-links like 'Press Releases', 'Events', 'Blog', 'Case Studies', 'White Papers', 'Videos'), 'Contact Us' (with sub-links like 'Request a Quote', 'Find a Representative', 'Find a Location', 'Contact Us'), and 'Current Customer Log In' (with a 'Log In' button). On the right side, there's a sidebar with 'Additional Resources' (including 'Safety Initiatives', 'Corporate Responsibility', 'Investor Relations', 'Media Center', 'Contact Us') and a 'Customer Support' section with links for 'Project Logistics', 'Automotive', 'Chemical', 'Electronics', 'Food', 'Industrial', 'Pharmaceuticals', 'Plastics', 'Rubber', 'Textiles', and 'Warehousing'. There's also a 'Feedback' link.

D+D Distribution Services • www.dd-dist.com

Full-service public warehousing and distribution services provider D&D Distribution Services is centrally located in York, Pa., near the mid-Atlantic region's major metropolitan areas and seaports. We serve customers around the globe, developing customized logistics and customer service solutions. Handling raw materials at the front end of the supply chain, and finished goods at the back, D&D Distribution Services develops flexible programs to accomplish customers' goals.

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

www.inboundlogistics.com/web_cite

The screenshot shows the homepage of Metro Park Warehouses. It features a top navigation bar with links like 'About Us', 'Contact Us', 'Home', 'Our Services', 'Our Facilities', and 'Our Technology'. A large banner image on the left says 'Bringing You Closer to Your Customers!' with a photo of a warehouse. Below the banner are three sections: 'Distribution Experts' (with a photo of a truck), 'Diverse Capabilities' (with a photo of a warehouse interior), and 'Leader in Pharma' (with a photo of pharmaceutical products). Each section has a 'Learn More' button.

Metro Park Warehouses • www.mpus.com

Metro Park Warehouses is a full-service 3PL offering 2 million square feet in Kansas City of modern food-grade warehousing space, including medical temperature-controlled space, ATF and national pharmaceutical licensed distribution, AIB Superior ratings, and 5 rail facilities, all open to reciprocal switching. Our in-house value-added services include end-to-end call center, shipping, invoicing, credit card payment; retail display building; heat-tunnel packaging and shrink-wrapping; and a dedicated local and regional trucking fleet. We have been in business for more than 40 years, specializing in award-winning service for food and household products, medical supplies, pharmaceuticals, alcoholic beverages, appliances, roll paper, and packaging. Contact Metro Park to gain the competitive edge for your Midwest logistics and distribution requirements.

MTE Logistix Group of Companies • www.mtelogistix.com

MTE Logistix provides a wide range of 3PL services in Western Canada focused on warehousing, storage, order fulfillment, product distribution, inventory management, co-packing, and transportation. With 1.5 million square feet in 6 warehouse facilities in Calgary AB and Edmonton AB, our service reach covers all of Western Canada. Capacities include food grade, refrigerated, and indoor and outdoor dry storage.

The screenshot shows the homepage of MTE Logistix. It features a top navigation bar with links for 'Home', 'About Us', 'Warehousing Services', 'Value Added Services', 'Property Services', 'Inbound', 'Outbound', 'Careers', and 'Search'. Below the navigation is a banner with a photo of a warehouse. The main content area has several sections: 'Flexible Client Solutions' (with a photo of a warehouse), 'Strategically Positioned' (with a photo of a warehouse), 'Dental Excellence in Western Canada' (with a photo of a dental office), and 'Logistics & Inventory Optimization' (with a photo of a warehouse).

The screenshot shows the homepage of New Breed. It features a top navigation bar with links for 'Home', 'Contact', 'Inbound', 'Release', 'Discovery', 'Create', and 'Sell'. Below the navigation is a banner with a photo of a person working at a computer. The main content area has sections: 'ISO/IEC 20000 Certified' (with a photo of a server room), 'Solutions and Infrastructure for Supply Chain Transformation' (with a photo of a person working at a computer), 'Logistics Outsourcing' (with a photo of a person working at a computer), 'Our Approach' (with a photo of a person working at a computer), and 'Repaired Logistics' (with a photo of a person working at a computer).

New Breed • www.newbreed.com

New Breed offers a complete distribution solution that integrates warehousing and transportation management, as well as value-added services such as sub-assembly and repackaging. Distribution Center Management - nationwide network of facilities to accommodate retail or direct-to-consumer distribution. Dedicated and multi-client facilities. Real-time Web access to inventory and order status. Full-featured WMS. Value-Added Services - kitting, sub-assembly, labeling, POP display assembly, price ticketing, repackaging, and other custom services. Transportation Management - network design and optimization, carrier selection, price negotiation and management, load tendering, shipment status and tracking, and freight audit and payment.

NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.

The screenshot shows the homepage of NFI Industries. It features a top navigation bar with links for 'HOME', 'ABOUT NFI', 'NFI NEWS', 'JOBS', and 'NFI CAREERS'. Below the navigation is a banner with a photo of the Earth. The main content area has sections: 'ABOUT NFI' (with a photo of a globe), 'NFI NEWS' (with a photo of a globe), 'JOBS' (with a photo of a globe), and 'NFI CAREERS' (with a photo of a globe).

WMS

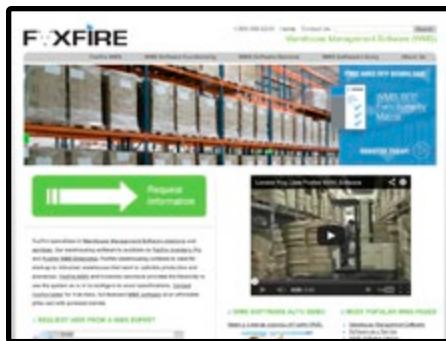


Aljex Software, Inc. • www.aljex.com

Aljex has an innovative Web-based software for carriers, freight brokers, and intermodal specialists. If you see a demo of our software, you will want it. Why? You will see how Aljex can easily double the number of shipments you can handle. It's so easy to learn that we include unlimited training and support. With Aljex, there is no long, painful switchover. In 48 hours, we can have you trained, linked into the load boards, have your logo on your forms, your users set up, your carriers and customers imported, and ready to work.

Andlор • www.andlor.com

Andlор staff have partnered with the 3PL logistics industry for more than 30 years. The software is a fully integrated 3PL WMS. The Web system provides access for the total supply chain. Users create Orders and Appointments; access Inventories/VMI, Receipts, Shipments, Invoices, Claims, EDI data, Labor Productivity, Client Messaging, and Scheduled /On Demand reports. Andlор also offers BacTracs for Reverse Logistics and a Yard Management System. Excellent functionality and support are the Andlор trademarks.



Foxfire Software • www.foxfiresoftware.com

For over 20 years, Foxfire has specialized in Warehouse Management Software (WMS) serving distribution facilities across North and South America. Its WMS software is ideal for those wanting to optimize inventory levels, increase warehouse labor productivity, improve customer satisfaction, and reduce cycle times. With Foxfire warehousing software, customers can make their operations more efficient, more productive, and more profitable. For more information about a Warehouse Management System, contact Foxfire at 864-868-5243 or visit www.foxfiresoftware.com.

Interlink Technologies • www.thinkinterlink.com

Interlink Technologies is consistently ranked in the Top 100 Technology Solutions. Boost productivity and profits, work with real-time, accurate information and get control of inventory! Interlink Technologies brings the latest technologies and solutions into warehouses with web-based Warehouse Link® WMS software. Warehouse Link supports multi-building/company/locations, multi-receiving/putaway/picking methods, tracking raw materials to finished product, expiration dates, lot/batch/serial numbers, environmental controls, kitting, wave picking, dynamic slotting, staging, cross dock, shuttle transfer and "lite" manufacturing.



IN THIS SECTION:

WMS - Yard Management

www.inboundlogistics.com/web_cite



Robocom Systems International Inc. • www.robocom.com

Robocom is a Supply Chain Execution software company offering solutions that include Warehouse Management, Transportation Management, Voice Technology, Labor Management and 3PL Billing. An Enterprise Transportation System and Enterprise Resource Planning System round out the Supply Chain Execution offering. Robocom's solutions address the needs of business leaders responsible for the day-to-day results in warehousing, distribution, transportation, and trucking operations.

YARD MANAGEMENT

C3 Solutions • www.c3solutions.com

C3 Solutions provides advanced software applications that transform static logistics operations into dynamic flow-through centers. C3 Reservations, its web-based dock scheduling system, streamlines the scheduling process by improving dock productivity, expanding visibility on scheduled appointments, and measuring vendor compliance. Yard Smart, C3's award-winning yard management system (YMS), empowers yard managers by providing visibility on yard assets, optimizing the flow of trailers from gate to gate, and automating yard driver task assignment.



Cypress Inland (Yardview) • www.yardview.com

YardView is a Web-based yard management system that is easy to learn and simple to use for operations personnel. Managing yard inventories, movements, appointments, drivers, carriers, time-related events, and other yard activities can be difficult. YardView works for any size operation. YardView is experienced with helping operations become more effective. YardView gets everyone on the same page. The benefits of a software program to help manage these processes are proven and can be realized by your operation. Contact our experts to discuss how we can translate what you are doing now into a more efficient system. Call 303-781-3430.

Sentier Systems Inc. • www.yardcommander.com

Whether you need a standalone application or a full ERP solution, Sentier Systems delivers! Over the years, our team has developed custom solutions that improve quality, streamline operations, reduce errors, automate tasks, and increase performance for our clients. Some of our solutions include, but are not limited to: Yard Management, Resource Planning, Data Exchange (EDI), Warehouse Management, Quality Control, Scheduling, Shipping & Receiving, Barcode Printing & Scanning and Document Management. We deliver great software. It's our mission and we're committed to it.



CALENDAR

YOUR LOGISTICS
DATEBOOK

MAY
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CONFERENCES

MAY 20–22, 2014 Phoenix, Ariz.
Gartner

Gartner Supply Chain Executive Conference 2014

www.gartner.com/events/supplychain

AUDIENCE: Procurement, supply chain, and logistics professionals
FOCUS: Strategy and leadership, supply chain innovation, supply chain planning, supply management and manufacturing

JUNE 8–12, 2014 San Diego, Calif.
GS1

GS1 Connect 2014

www.gs1us.org

AUDIENCE: Supply chain, logistics, packaging, and technology professionals in the grocery, foodservice, retail, and healthcare industries
FOCUS: Essential elements for omni-channel success, supply chain standards for expanding business into Canada, pharmaceutical industry's collaborative journey to traceability, package measurement in foodservice

JUNE 16–17, 2014 Milwaukee, Wis.
Worldwide Business Research

PROCURECON For Manufacturing

procureconmfg.wbresearch.com

AUDIENCE: Procurement professionals
FOCUS: The role of procurement in 2014 and beyond, mitigating supply disruption through risk management, a holistic approach to responsible sourcing

Deutsche Messe AG

CeMat 2014

www.cemat.de | Hannover, Germany | MAY 19–23

AUDIENCE: Manufacturing, retail, supply chain, materials handling, warehousing, and distribution professionals
FOCUS: Hazardous materials transport, green logistics for the global economy, career fair, materials handling exposition

JULY 16, 2014 New York, N.Y.

Institute for Supply Management

ISM Risk Management Summit

www.ism.ws

AUDIENCE: Supply chain and procurement professionals

FOCUS: Identifying and overseeing critical risks, gaining visibility into the supply chain, effective communication, strategy implementation

SEPT 21–24 Nashville, Tenn.

TMW Systems

TransForum 2014

www.tmwsystems.com/transforum

AUDIENCE: TMW fleet and transportation management software users

FOCUS: Software, systems, and business education; exhibition of TMW Systems technology and service partners

SEPT 21–24, 2014 San Antonio, Texas

Council of Supply Chain Management Professionals

CSCMP Annual Global Conference

www.cscmp.org

AUDIENCE: Supply chain, logistics, and transportation professionals

FOCUS: Supply chain talent and career development, supply chain research and innovations, manufacturing performance from a supply chain perspective, how to energize and strengthen the supply chain

SEPT 21–23, 2014 Long Beach, Calif.

Intermodal Association of North America

Intermodal Expo 2014

www.intermodalEXPO.com

AUDIENCE: Supply chain, logistics, and transportation professionals

FOCUS: Intermodal economic environment, intermodal sales and new business opportunities, intermodal operations, small business support, intermodal exposition

SEPT 29–OCT 1, 2014 Dallas, Texas

The Customized Logistics and Delivery Association

Parcel Forum '14

www.parcelforum.com

AUDIENCE: Stakeholders in the parcel industry

FOCUS: Parcel industry case studies and educational tracks, regional carrier exhibition, warehousing/materials handling exhibition

SEMINARS & WORKSHOPS

JUNE 6 & 20, 2014 Bethlehem, Pa.

Lehigh University

APICS Certified Supply Chain Professional Certification Training

bit.ly/APICS-Lehigh

AUDIENCE: Supply chain management professionals

FOCUS: Preparation for the APICS Certified Supply Chain Professional exam

JUNE 17, 2014 Baltimore, Md.

Supply Chain Council

M4SC (Management for Supply Chain) Process Training

www.supply-chain.org

AUDIENCE: Supply chain management professionals

FOCUS: Repeatable processes for managing supply chains, understanding process management and capabilities

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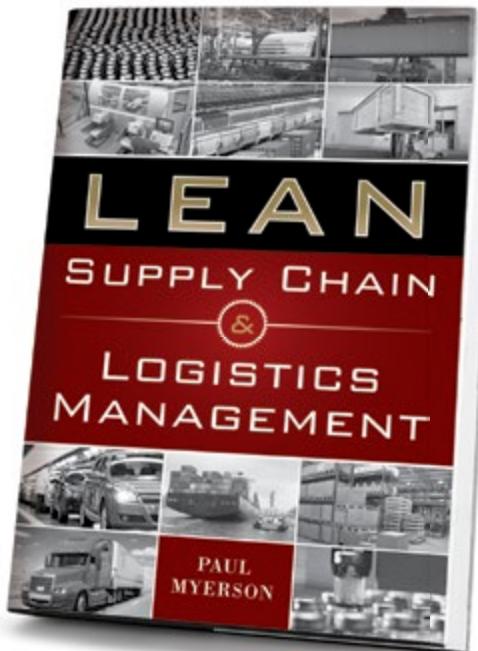
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Air/Ground Expedited

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ups.com/hightechsurvey	800-PICK-UPS

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Parcel Forum	pg. 41

Freight Payment Services

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nVision Global

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www.silvercreektrading.com	360-778-4162

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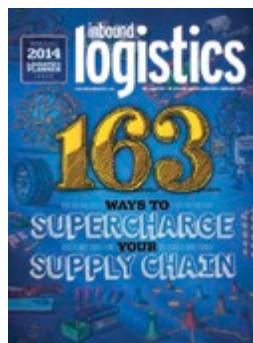
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* The July 2008 issue was a Jesse H. Neal Award Finalist for Best Single Issue
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- K Materials Handling Systems, Equipment, Forklifts
- L Packaging/Labeling Systems
- N Intl. Shipping Services, Freight Forwarding
- P Fleet Operations, Dedicated Contract Carriers
- R Site, Port, or Facility Selection
- X Other: _____
- Z None of the above

3 Number of people at your location. (YOURSELF PLUS OTHERS)

- M 1000+
- E 1-99
- J 100-249
- K 250-499
- L 500-999

4 Business category.

(CHECK THE BEST ONE)

- 1 Manufacturer/Producer (any product)
- 2 Retailer, Wholesaler, Distributor
- 6 Services: (Medical/Health, Financial, Insurance, Legal, Gov't., Consulting, etc.)
- 3 Agriculture, Construction, Engineering, Mining
- 4 Utilities (Water, Power, Electric, Gas), Telecommunications
- 5 Transportation, Logistics & Supply Chain Services (Carrier, Broker, Freight Forwarder, Transportation Intermediary, 3PL, Warehouse/DC)
- 9 Other: _____

5 Your job classification.

(CHECK THE BEST ONE)

- N Corporate Management
- Q Logistics, Transportation, Traffic Mgmt.
- P Supply Chain Management, Purchasing, Procurement
- R Warehousing, Distribution, Inventory, Materials Management
- S Operations, Production, Quality Mgmt.
- T Customer Service, Marketing, Sales Mgmt.
- Z Other: _____

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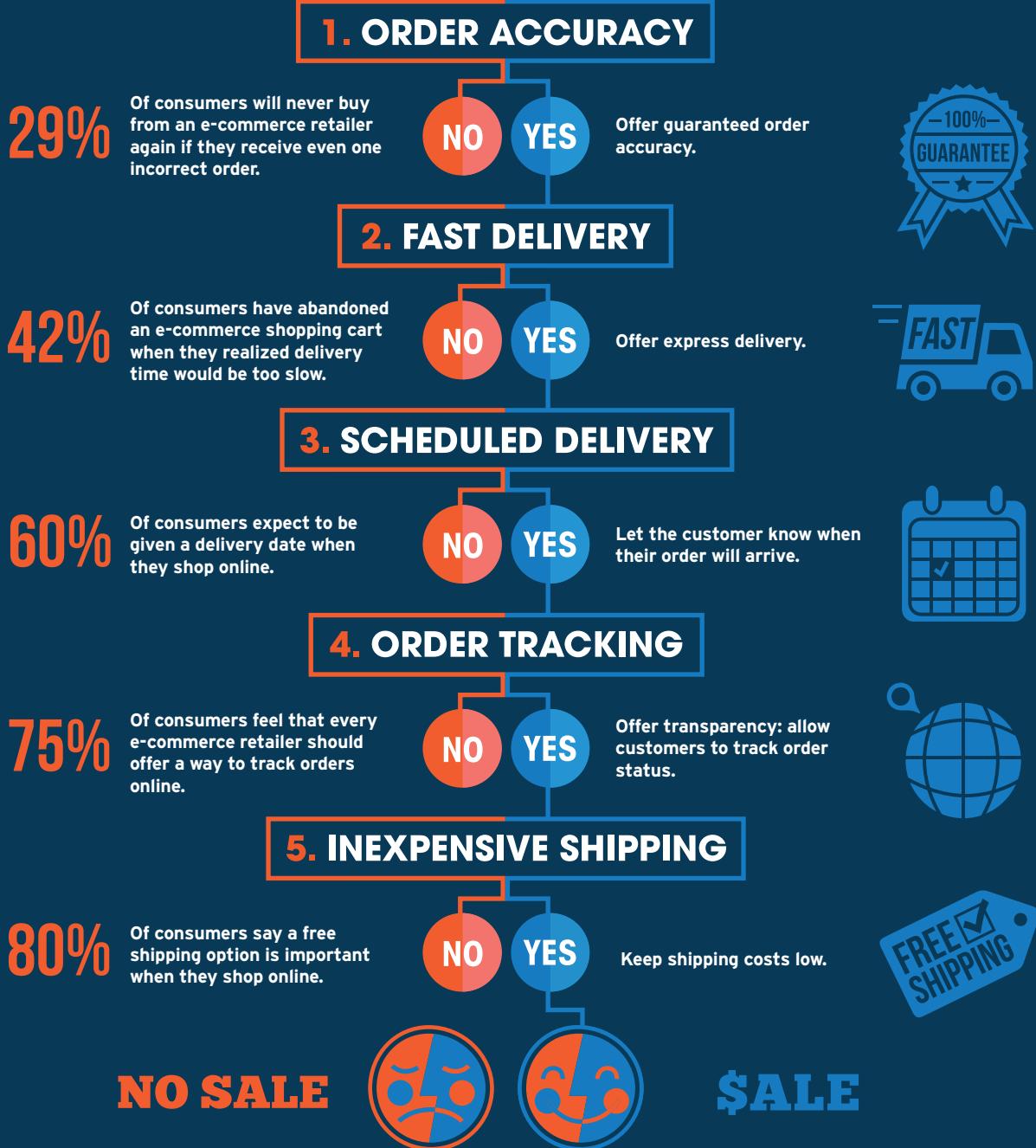
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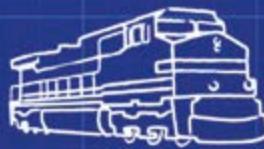
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