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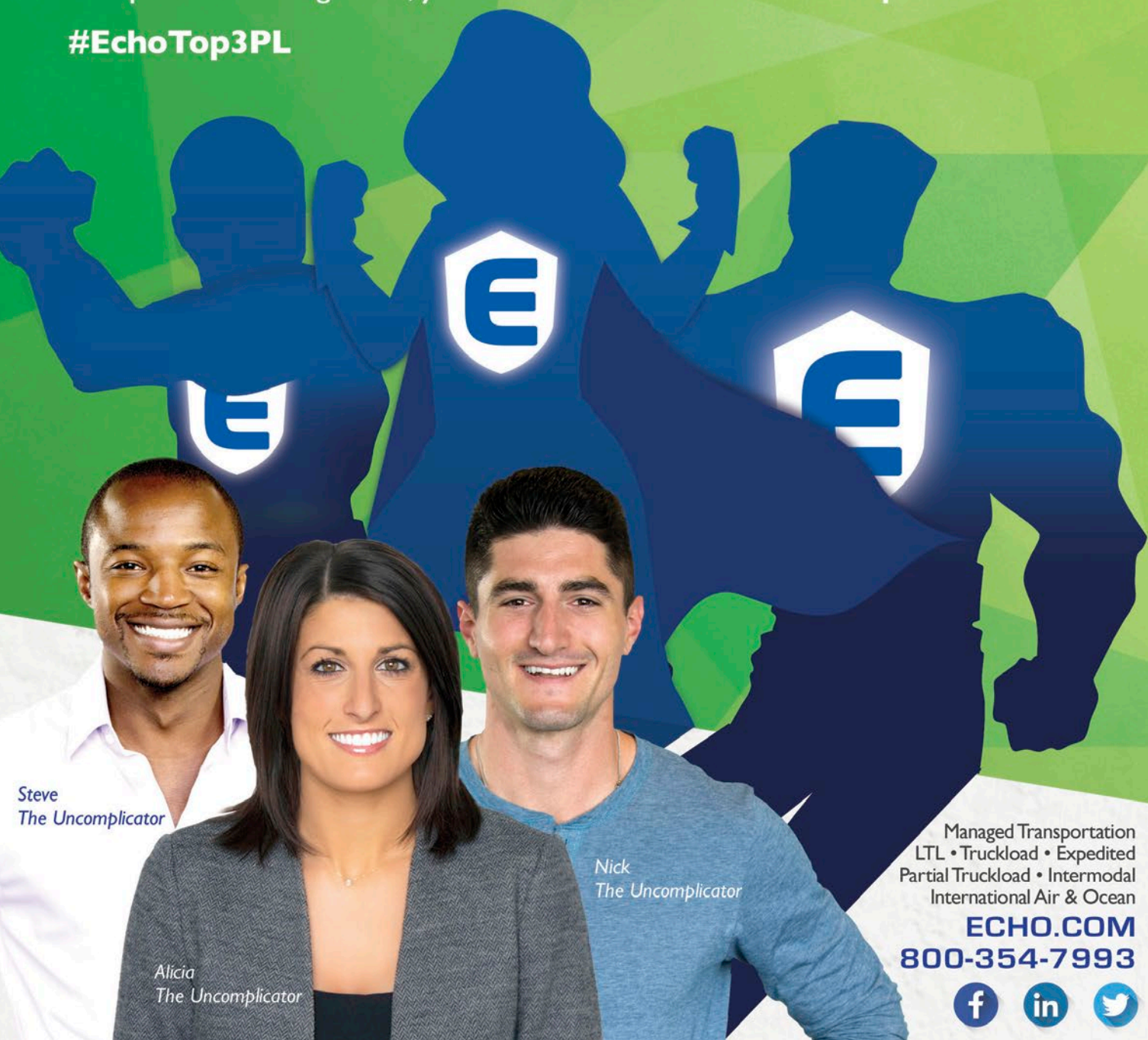
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ONLINE EXCLUSIVES



Reshape and Refresh Your Product Portfolio For a Streamlined Supply Chain

bit.ly/ReshapeAndRefresh

Neal Walters (pictured), Matthew Getz, and Mike Piccarreta, A.T. Kearney

Product proliferation can create supply chain inefficiencies. Here's a comprehensive approach to refreshing your product offerings that can reduce complexity and increase the bottom line.



Amid Hanjin Backlog, Shippers Can Turn To Port Strike Strategies

bit.ly/PortStrikeStrategies

Mark Montague, Senior Industry Analyst, DAT Solutions

Shippers will feel the ripple effects of Hanjin's bankruptcy for months to come. But we've been through disruptions before. Let's apply what we've learned to improve strategies for dealing with this current backlog.



Empower Users to Create and Update Labels For Supply Chain Efficiency

bit.ly/UpdateLabels

Lori Thorp, Product Manager, Software

Ensuring labeling accuracy and consistency is critical to supporting efficiency up and down the supply chain. Use this approach to ensure your labels boost and bolster supply chain activities.

3PL RESOURCES

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CHECKING IN

Felecia Stratton

by Felecia Stratton | **Editor**



Starting a Logistics Love Affair

What is it about our profession that attracts smart, dedicated, hardworking young people who love logistics? I spent some time recently reviewing applications for the annual *Inbound Logistics/APICs* scholarship, granted to an undergraduate pursuing a supply chain career. Applicants submit an essay describing why they want to enter the field, and what they hope to contribute.

Anyone sweating over millennials' ability to fill the logistics talent gap can rest a little easier. Any one of the applicants could have won the scholarship. These students are intelligent, thoughtful, literate, and enthusiastic about our field.

Ultimately, I chose Devan Dunneback as the winner. Devan, who will graduate from Michigan State in December, began his own love affair with supply chain when he was 11 years old and toured a General Motors plant with his dad. His goal is to land a job that "makes a real difference in our world."

Shortly after reading these essays, I attended an industry conference where I noticed many more young faces – and many more women – than I've seen in the past. Just like in the essays, the young professionals I met are energetic and enthusiastic about establishing supply chain careers. I heard repeatedly how it was important to them that they make a difference in their jobs, and how working in supply chain provides that reward every day.

Many students I met also recounted how they were redirected from less promising career paths to logistics. One undergraduate had been studying pre-law, but worried about her job prospects. She did some research, then switched her major to supply chain. A second young student pursuing a degree in social services was bored by the coursework. After meeting with a professor who relayed the great opportunities in logistics and supply chain, she went straight to the registrar's office, and changed her major to supply chain.

This past summer, a supply chain student did an internship at the *Inbound Logistics* offices. She was bright, motivated, and demonstrated great teamwork and collaboration skills. Her future employer will be lucky to have her.

I starting thinking: What can experienced professionals do to attract more smart, motivated people to logistics? My first suggestion is to encourage your company to begin a supply chain intern program or expand the one you currently have.

Second, do a data dump. One subscriber I spoke with recently was winding up a storied career at a Fortune 50 company. But before he retires, he plans to work with interns and young supply chain graduates to transfer his great experience and technical knowledge.

There are many more ways to kindle a logistics love affair for the next generation, and you don't have to wait until your hair turns gray to do it. It's rewarding to mentor young supply chain professionals on their way up, especially those who are receptive, appreciative of your help, and motivated to make a difference. ■

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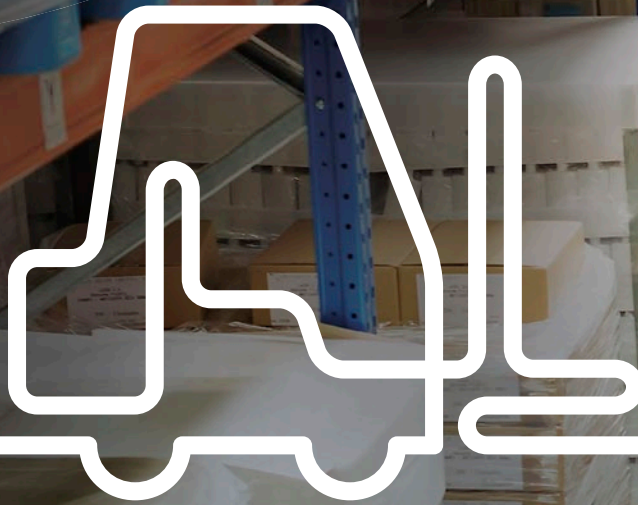
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DIALOG

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HASH IT OUT

@ILMagazine

Five young logistics CEOs reveal their perspectives on management style and their thoughts on what it takes to succeed. bit.ly/tipsfromyoungCEOs

Bruce Bartholomew @BartLogistics
Great take on leadership here.

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Girl Scout Cookie sales go digital and milk e-commerce innovation. bit.ly/GSUSAcasestudy

Edwin Lopez @EdwinLopezT37
Best thing I've heard today!

EXCHANGE

**Meal Delivery Services:
You've Got to be Kitting Me!**

The popularity of meal and meal kit delivery services makes for some very complicated supply chain management. bit.ly/mealdeliverySCM

Paige Bohrer

I have always wondered how this works internally. Seems like there is a lot of room for error with these kits.

LIKE & COMMENT

Most Thumbs-up on Facebook

Logistics Hotspots: Nine That Shine bit.ly/9thatshine

SOUNDBITE

“Not only is the U.S. Department of Labor (DOL) overreaching its authority by implementing the rule, but the rule itself has increased the salary threshold to be excessively burdensome. Warehousing and logistics creates new jobs every day. As it stands, the overtime rule will hinder this creation and decrease upward mobility in this sector.”



— **STEVE DEHAAN**, president and CEO of the International Warehouse Logistics Association, which joined a lawsuit alongside a coalition of trade associations and the U.S. Chamber of Commerce to oppose the DOL's overtime rule, scheduled to take effect on Dec. 1, 2016.

READER EMAIL

**Supply Chain Leaders Give Guidance
On Improving Business Processes**
bit.ly/ILThoughtLeaders

I am a long-time reader, supporter, and occasional contributor to your magazine. However, I am coming to question how and why submissions are accepted. This month's section of the magazine titled "Thought Leaders" is a prime example.

Rather than finding future thinking analysis, what was presented were two veiled advertisements.

I hope you take this in the spirit in

which it is given. As a long-time fan of *Inbound Logistics*, I only make these comments to be helpful.

Ronald Leibman
Partner

Riker Danzig Scherer Hyland & Perretti

Editor's Note: We have many great contributors and yes, some are sponsored. We mark those pages for the reader's benefit in print and on inboundlogistics.com. However, Ron makes a good point that the "sponsored" label might be overlooked, so we are making it more visible. Thank you for your feedback and continued readership.

HOT TOPICS | // articles getting the most impressions on LinkedIn: 2016 Trucking Perspectives: bit.ly/2016truckingperspectives • Young Leaders Share Secrets to Success: bit.ly/tipsfromyoungCEOs • 18 Sure-Fire Ways to Save on LTL Shipments: bit.ly/18LTLtips • Florida: Your Partner in Progress: bit.ly/floridaspotlight • Peter Schuele: Injecting Life Into Supply Chains: bit.ly/PeterSchueleprofile

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Good Question...

READERS WEIGH IN

What disruptive innovation will have the greatest impact on the supply chain?

Supply chain advancement is a methodology that extracts hidden profit by connecting the supply chain to other core processes of a business: strategy, product life-cycle management, and sales and marketing. Companies that advance their supply chains to this next level of decision-making will be better positioned to adapt to changing customer needs.

Robert Martichenko

CEO, LeanCor Supply Chain Group

As the IoT tidal wave rolls over us, it will extend supply chain management systems to the home. Household appliances, heating and cooling systems, and vehicles will shower us with data—used to track locations, just-in-time replenishment, and dispatch repairmen and replacements.

Mike Dieter

Chief Technology Officer, Transplace

Robotics and driverless vehicles in distribution centers and delivery will be the most disruptive innovation. The investment is significant now; however, it quickly will become more affordable and commonplace.

Adam Petrillo

Managing Director, Savills Studley

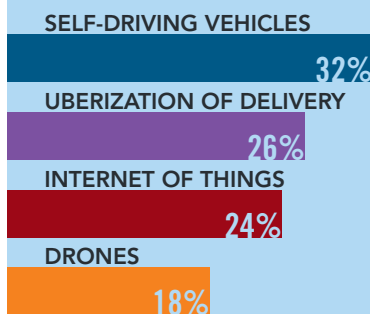
It's a bird, it's a plane—no it's a supply chain drone! I can think of many applications in supply chains for drones—inventory tracking, yard/fleet management, and yes, even delivery.

Kerwin Everson

Vice President, Supply Chain Solutions
RMG Networks

Twitter Face-off

When given four buzz-worthy innovations to choose from, 11 Twitter followers picked self-driving vehicles as the tech with the most supply chain bang.



Software-as-a-Service because it is accelerating the pace of innovation. As supply chains migrate from disconnected systems to integrated cloud-based technologies that are continuously upgraded and swapped out, they remove the barriers to change.

Bill Michalski

Chief Solutions Officer
ArrowStream

Undoubtedly, 3D printing will have the greatest impact. Put simply, it eradicates the need for anything to ever be stored or moved!

Tania Seary

Founding Chairman, Procurious

Within the physical logistics area, wearable technology will be one to watch. Virtual and augmented reality over voice picking or finger scanners will cease to be sci-fi and become integral to real-time product movement, inventory management, and warehouse efficiency. In the wider supply chain sphere, blockchain will transform financial transactions and replace letters of credit, custom duties, and other cross-border transactions.

Nick Foy

Director of Operations, ModusLink

Technology that is causing shorter lead times and deadlines. Most clients used to have a forecast that involved some safety stock or extra days. Now our multi-billion-dollar clients know exactly how much inventory they need, and on which day—all of this is enabled by cutting-edge software systems and real-time shipment tracking.

Ravin Gandhi

Co-founder, GMM Nonstick Coatings

HAVE A GREAT ANSWER TO A GOOD QUESTION?

Be sure to participate next month.

We want to know:

When choosing a carrier/supplier, what's more important: cost or customer service?

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10TIPS

STEP-BY-STEP SOLUTIONS



Preventing Supply Chain Fraud

The consequences of supply chain fraud can be severe, yet many companies significantly under-scrutinize their processes. Smart companies have practices in place to help pinpoint and prevent fraud. Wade McDaniel, vice president of supply chain solutions, Avnet Inc., offers the following insight and recommendations to help your company address supply chain fraud.

1 Admit you may have a problem. Fraud is a sensitive topic. Most executives don't want to believe employees or colleagues may be acting unethically. But employees are the top source of supply chain fraud risk, followed by vendors and other third parties, according to Deloitte Advisory's 2016 Fraud Risk Assessment poll.

2 Don't jump to conclusions. If your analytics process reveals duplicate invoices, there could be a number of explanations. People do make honest errors, so ask questions before making accusations.

3 Be aware of internal fraud. Many professionals get so focused on operational efficiencies that they overlook profit leakage from internal fraud and the financial, brand, and reputational risk related to their supplier associations.

4 Know your partners. Increasing reliance on supply chain partners can leave enterprises vulnerable. Take time to thoroughly vet new suppliers, including detailed background checks, visual relationship mapping, and business intelligence reviews to identify potential conflicts of interest, indicators of financial distress, or other misrepresentations.

5 Conduct regular evaluations. The front-end approval process should not be the end of your supplier assessment. The players within the supply chain change frequently as employees come and go, and suppliers get bought and sold. These events can change the risk calculus of a relationship, so regular reevaluations are crucial.

6 Perform risk assessment. Organizations need to look at supply chain fraud as an element of their broader supply chain risk strategy. Most companies are doing at least some form of enterprise and supply chain risk assessment. Extending that process to include the fraud piece is a natural, and necessary, next step.

7 Put data to use. Companies taking a more proactive approach to mitigating supply chain fraud employ analytics as part of their ongoing invoicing process.

Use data already resident in your enterprise resource planning systems to run fraud tests and other analytics that can identify anomalous or erroneous billing.

8 Tap into unstructured data sources. Leading companies combine data mining and forensic accounting to move beyond analysis of common transactional accounts payable. By using unstructured data sources—such as invoices, emails, and contracts—organizations can identify fraud indicators.

9 Have sourcing visibility. Fraud isn't always overtly financial. High-tech supply chains, for example, cannot underestimate the ongoing threat of counterfeit components. Visibility into the deepest tiers of your supply chain is essential to assuring the provenance of the products you are sourcing.

10 Stay alert. Three contributing factors are present in every circumstance of occupational fraud, according to noted criminologist Donald Cressey's fraud triangle model. They are: motive/pressure (perceived financial need), opportunity (weak internal controls/lack of oversight), and rationalization (self-justification for committing fraud). ■



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LEADERSHIP

*Conversations With
The Captains of Industry*

By Merrill Douglas



Marc Althen
President,
Penske Logistics

Leading by Example And Empowerment

WHEN A CORPORATE MERGER SENT Marc Althen to Penske Truck Leasing in 1988, his first assignment there put him in charge of environmental services—an apt role for a chemical engineer who started his career at Chevron. “Then Penske asked me to assume additional responsibilities over the years,” Althen says. “I took on facilities, real estate, indirect purchasing, vehicle purchasing, and used vehicle sales.”

In 2010, Brian Hard, president and CEO of Penske Truck Leasing, asked Althen to take the top spot at the company’s subsidiary, Penske Logistics. “It was a stretch assignment,” Althen says. He has been relishing the role ever since.

From its headquarters in Reading, Pa., Penske Logistics operates more than 2,850 power units, employs more than 4,500 drivers, and manages more than \$3 billion worth of freight for its customers each year. Althen spent some time with us recently, reflecting on the challenges and pleasures of his leadership position.

IL: When you took over as president of Penske Logistics in 2010, what projects did you put at the top of your agenda?

Initially, I assessed my management team and the organizational structure. I wanted to make sure we had the right people in the right jobs and, if we didn’t, make the appropriate changes. I also focused on fine-tuning our product and service offerings and enhancing our market presence. A lot of people knew the Penske brand, but I was surprised to find not many knew we’re in logistics. We worked with our marketing and communications teams to enhance our marketing efforts and get our name out there.

IL: Since then, what have been your most important initiatives?

Creating a strong, capable, cohesive team and upgrading our technology platform. In a nutshell, it has been about building a strong foundation to support future growth for the organization, and continue to provide outstanding customer service and supply chain solutions.

IL: How would you describe your leadership style?

I lead by example. I surround myself with people who are smarter and more capable than I am: I don’t have hubris. I’m a big believer in empowering people. I always say we pay people to do a job, and as long as we hire the most capable people, they should

be able to handle their responsibilities. I also ask a lot of questions when I'm with my team, to ensure that we're covering all our bases and they really understand what could result from their decisions.

IL: Give us an example of something you learned from an important mentor.

I've worked with our CEO, Brian Hard, for nearly three decades. He has instilled in his management team the importance of taking good care of our customers. For one thing, he taught me that when you deal with customers, you're only as good as your word. If you say you're going to do something, you need to stand by that commitment. In some cases you might lose money up front, but you're building a strong partnership that will bear fruit in the long run.

IL: What's one of the toughest decisions you've had to make as president of Penske Logistics?

The toughest decisions for a company president are when you have to lay people off, or when you have to terminate an individual. If you lose a customer, or a customer moves to another location, layoffs are inevitable. That's not within your control. At the end of the day, I believe the associate will be better off in the long run, and the company will have a stronger foundation. But I have many sleepless nights, both during and after.

IL: Can you tell the story of a major challenge you've faced at Penske, and how you resolved it?

One time, a customer asked us to identify and fit out a large warehouse, install a new, customized warehouse management system (WMS), hire a new staff of more than 250 people, and get the whole operation running in just 90 days. As you can imagine, we experienced many unforeseen challenges with the WMS because it was customized. And when you hire 250 warehouse associates off the street, you're bound to have turnover. But our team stayed the course. We stood by our commitment. It cost us a lot of money to get things off the ground, but we launched a successful operation, and it brought our team together.

IL: When you reviewed that experience afterwards, what were some of the important lessons you derived?

No matter how prepared you are, something will go wrong. It's Murphy's Law. You can take precautions, such as putting the WMS through its paces in a test environment. But once you go live, issues with data feeds from vendors and customers always arise. You need to respond quickly and resolve those issues. Technology

can bring you to your knees, especially in a 24/7 operation. The orders keep coming in; you have product flowing inbound and outbound. You've got to fix it on the fly.

IL: What makes you excited about going to work every morning?

These days I'm most excited about our new technology platform, ClearChain. It's a suite of software packages combined with proprietary applications and analytics tools that we've developed over more than 25 years. This solution will enable us to manage all our vehicles, trailers, drivers, and freight on one robust platform. It will give our customers real-time visibility into their activities across the supply chain.

One of its features is a mobile application that allows customers to monitor all the vehicles carrying their goods, in real time, on a map. They can drill down and get details down to the street, the driver's name, and the truck's progress on a multi-stop route.

IL: You're quite involved in the community where you live and work. To what causes are you most devoted?

We have a very active program with the United Way in Berks County. I've contributed to that organization for many years, and my wife and I participate in several of its committees, including the Tocqueville Society, a leadership giving and recognition program. Another big passion is the Reading Symphony Orchestra. I used to serve on the board of directors, and my wife holds that position now. Our daughter recently earned her masters from the Juilliard School of Music and is pursuing a career in flute performance, so our devotion to the arts is very much a family thing.

Perspective Shift

Early in his career, Marc Althen had the opportunity to spend several months with an executive coach. "We talked about leadership and the traits that make a good leader," he says. "We did 360-degree evaluations and a lot of intra-perspective—asking, 'How do you view yourself?' 'How do you think people view you?' and, in a sense, 'What do you want to be when you grow up?'" They also discussed books and articles on topics such as emotional intelligence and leadership. "It's an enlightening experience," he adds.

The process helped to make Althen a better manager, he says. It also made him a better listener. "That helps me work more effectively with my team and see things in a different light than I would on my own," he says.



Alan Sargent is supply chain and logistics director with Just Born Quality Confections, the Bethlehem, Pa.-based company behind PEEPS®, MIKE AND IKE®, and HOT TAMALES® candy brands. He has held this position since August 2005.

RESPONSIBILITIES

All logistics and transportation functions.

EXPERIENCE

Plant logistics and distribution manager, customer service facility manager, and logistics operations planner, all with General Mills; professional sales representative with Baker Norton Pharmaceuticals; captain, quartermaster, and logistics officer with the United States Army.

EDUCATION

MBA, University of Minnesota, 1998; BA in financial administration, Michigan State University, 1986.

Alan Sargent: A Sweet Confection Connection

I WENT TO MICHIGAN STATE AS A NON-SCHOLARSHIP, volunteer ROTC cadet with enough money for one year of school, and then earned a three-year Army ROTC scholarship. That was how I paid for college.

My first choice for my Army commission was quartermaster. I wanted to do something interesting that had applications in the real world.

I spent three years in Germany, and then came back and completed the Officer Advanced Course. I was the logistics officer for a Special Forces battalion, which took me to Korea, Panama, and all over the United States.

When looking for my first job out of the Army, the recruiter said, “You’re an operations and supply chain guy. Leverage that.” But I wanted to try something different.

So, I took a pharmaceutical sales job, where I was told ‘no’ 20 or 30 times before I’d get a 60-second audience with a doctor. Three years of that proved the recruiter

was right. My skill sets were better applied to logistics and supply chain.

I moved to Minneapolis, and was hired by General Mills. I took over for someone on maternity leave and then stayed 10 years, working in planning, production planning, and logistics operations planning. One of my biggest achievements was automating an operation that involved hand-labeling and pre-printing cereal boxes. The amount of manual labor was crazy. I worked with engineering and packaging to build a labeling machine, which lowered the cost by almost 50 percent.

I also engaged in many professional debates about run lengths and days of inventory. Many manufacturing or

The Big Questions

How do you like to unwind away from work?

My wife, our four children, and I like to spend time at Chincoteague Island, Va., on the beach and riding bikes.

What was the last book you read that left an impact?

This summer, I re-read *Good to Great* by Jim Collins to remind myself and my

children that successful organizations and people can become comfortable with good, versus striving for great.

If you could travel anywhere, where would you go?

I would go to the Grand Canyon and raft the Colorado River. I’d also travel to Alaska and wander around Denali National Park for a few weeks.

plant managers think the longer the run, the better, because there are fewer changeovers. That means less downtime and a better cost per case.

But you have to consider inventory carrying costs. Shorter runs let you service the business with less inventory, because you're cycling the flavors more often. You often have to have a cross-functional discussion with operations, logistics, and finance to see if you can cost-justify more changeovers.

Today, at Just Born, which I refer to as a large small company, we rely on collaboration in lieu of size and scale. Our collaborative warehousing and

transportation program, the Confection Connection, involves several other confection manufacturers.

The Confection Connection helps smaller candy companies function at a cost and scale that's bigger than what we actually are. We can deliver less-than-truckload orders at truckload or close-to-truckload cost by partnering with our competitors.

We have been running this program for a long time, but we super-sized it in 2009 with the purchase of a 600,000-square-foot building. As the collaboration grows, we face additional challenges. We work with four or five manufacturers and the trucks make three or four stops. The program

requires enhanced processes and transportation management software and other tools.

As Just Born grows, one of our big challenges is moving from a single source of production and shipping to a single-source, multi-node distribution network. Eventually, we'll evolve into multi-node production with a multi-node distribution network. We're in the beginning stages, and looking at multiple shipping and storage sites.

This is primarily a regional deployment strategy for PEEPS. We produce Easter all year round; we're never done making PEEPS.

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July	98.2%	98.5%	94.2%	96.8%	96.8%	97.8%
August	98.4%	98.3%	95.2%	96.8%	97.1%	97.7%
Average	98.3%	98.5%	94.3%	96.7%	97.2%	97.9%
	2015	2016	2015	2016	2015	2016



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NOTED

THE SUPPLY CHAIN IN BRIEF

GOOD WORKS



◀ Transportation and supply chain solutions provider **Ryder System** was recognized by the **American Red Cross** for its support of the charity's Annual Disaster Giving Program. Ryder pledged \$1 million in cash, goods, or services over a two-year period to support the initiative.

Zipline Logistics, a multimodal transportation provider, collected 1,925 pounds of non-perishable items and donated \$3,252 to the **Mid-Ohio Foodbank**. Zipline matched the food

donations of its employees dollar-for-pound, at \$1,925, and raised the additional money through a silent auction.

DHL Express teamed up with **Adopt-a-Soldier Platoon**—an organization dedicated to improving troop morale and caring for wounded veterans after separation—to replace the American flag at Craig Joint Theater Hospital in Bagram, Afghanistan. The flag is suspended from the ceiling in the facility's emergency and trauma center to act as a source of inspiration.

Camp Kesem, a charity supporting children impacted by parents with cancer, received a donation from logistics provider **Redwood Logistics** totaling \$65,146. The donation consisted of employee contributions matched by Redwood, and goes to support the operation of more than 80 free summer camps in 38 states for children ages 6 to 16 who have been affected by a parent's cancer.

GREEN SEEDS

► Containership operator **Maersk Line** signed an agreement with logistics provider **Agility** to cut CO₂ emissions by 15 percent on container-transported Agility shipments by 2020.

The commitment comes as part of Maersk's Carbon Pact Challenge, which encourages shippers to drive down emissions and reduce environmental impact of shipments.



ma



▲ **Kalibox**, a manufacturer of temperature-controlled packaging for pharma and healthcare applications, was acquired by **CSafe Global**, a manufacturer of thermal packaging and equipment. The purchase expands CSafe's reach and manufacturing capacity into the European Union, offering additional support for its global customers.

Third-party logistics (3PL) firm **ABF Logistics** acquired fellow 3PL **Logistics & Distribution Services**. While ABF already has a national footprint, the purchase helps the company expand its portfolio beyond its traditional LTL offerings with truckload brokerage and dedicated capacity services.

Transportation company **CRST International** bought California-based truckload carrier **Gardner Trucking**. The purchase helps CRST enter the warehousing, drayage, and regional van transportation markets.

Linden Bulk Transportation, a tank truck carrier, was purchased by third-party logistics company **Odyssey Logistics & Technology**. Adding Linden's full-service intermodal ISO tank capabilities strengthens Odyssey's position in the chemical logistics market.

Oracle bought **LogFire**, a provider of cloud-based, Software-as-a-Service warehouse management systems. The acquisition expands the **Oracle Supply Chain Management Cloud** suite of supply chain solutions to include LogFire's warehouse management capabilities.

UP THE CHAIN



◀ **Vidya Jwala** began serving as the vice president of demand fulfillment for online retailer **Overstock.com**. In his new position, Jwala oversees the company's sourcing, merchandising, supply chain, and customer care businesses.

▶ **Liz O'Neill** was appointed **Levi Strauss & Co.'s**

new senior vice president and chief supply chain officer. O'Neill was promoted from her previous role as vice president, product development and sourcing, and is now responsible for the global development, sourcing, and delivery of products shipped to more than 100 countries.



SEALED DEALS

▶ Bicycle manufacturer **Trek Bikes** implemented a cloud-based trade automation solution from supply chain software developer **Amber Road**. The increased visibility provided by the platform helps Trek Bikes reduce reliance on expedited courier shipments, lower freight expenses, reduce manual efforts, and manage landed costs.



◀ Burger chain **Shake Shack** selected supply chain technology provider **ArrowStream** to optimize and manage its food supply chain. The provider's *OnDemand* solution helps Shake Shack better manage food spend, inventory, limited-time-offer tracking, and contract management with suppliers and distributors.

TMS provider **3Gtms** implemented a software solution for **Corsicana Bedding**, a mattress manufacturer. The TMS allows Corsicana to save on freight costs, improve shipment efficiency and communications, and increase shipment and financial visibility.

British supermarket chain **ASDA Stores** renewed a long-term contract with logistics provider **XPO Logistics** for reverse logistics services. XPO manages nine service centers for the retailer; and washes, maintains, and repairs millions of units of returnable transit equipment each year.



recognition



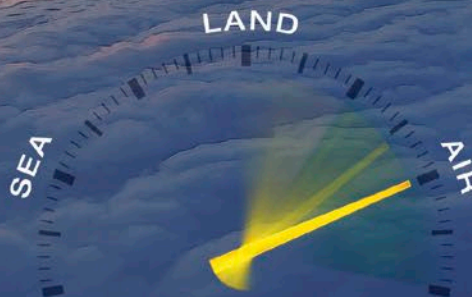
Supply chain solutions provider Vantix named third-party logistics provider **Yusen Logistics** its **2015 Intermodal Carrier of the Year (Tier 2)**. The award is presented to providers that meet and exceed service, performance, and capacity standards.

Industrial manufacturer Johnson Controls Automotive Experience recognized logistics provider **Dachser USA Air & Sea Logistics** as its **Carrier of the Year**. The award acknowledges the company's overall performance, with customer satisfaction and cost savings cited as being particularly notable.

Poultry producer Wayne Farms awarded three partners who went above and beyond to help the company deliver on customer expectations. **Large Carrier of the Year** went to **R.E. Garrison**, trucking company **Tidco Transportation** received **Small Carrier of the Year**, and logistics provider **Whitestone Transportation** earned a **Customer Service Award**.

Logistics and transportation company **DB Schenker** was awarded the **Excellence in Value Creation** award from technology company Cisco. The honor recognizes DB Schenker for generating value and exceeding expectations in offering innovative solutions that optimize the value of Cisco's products.

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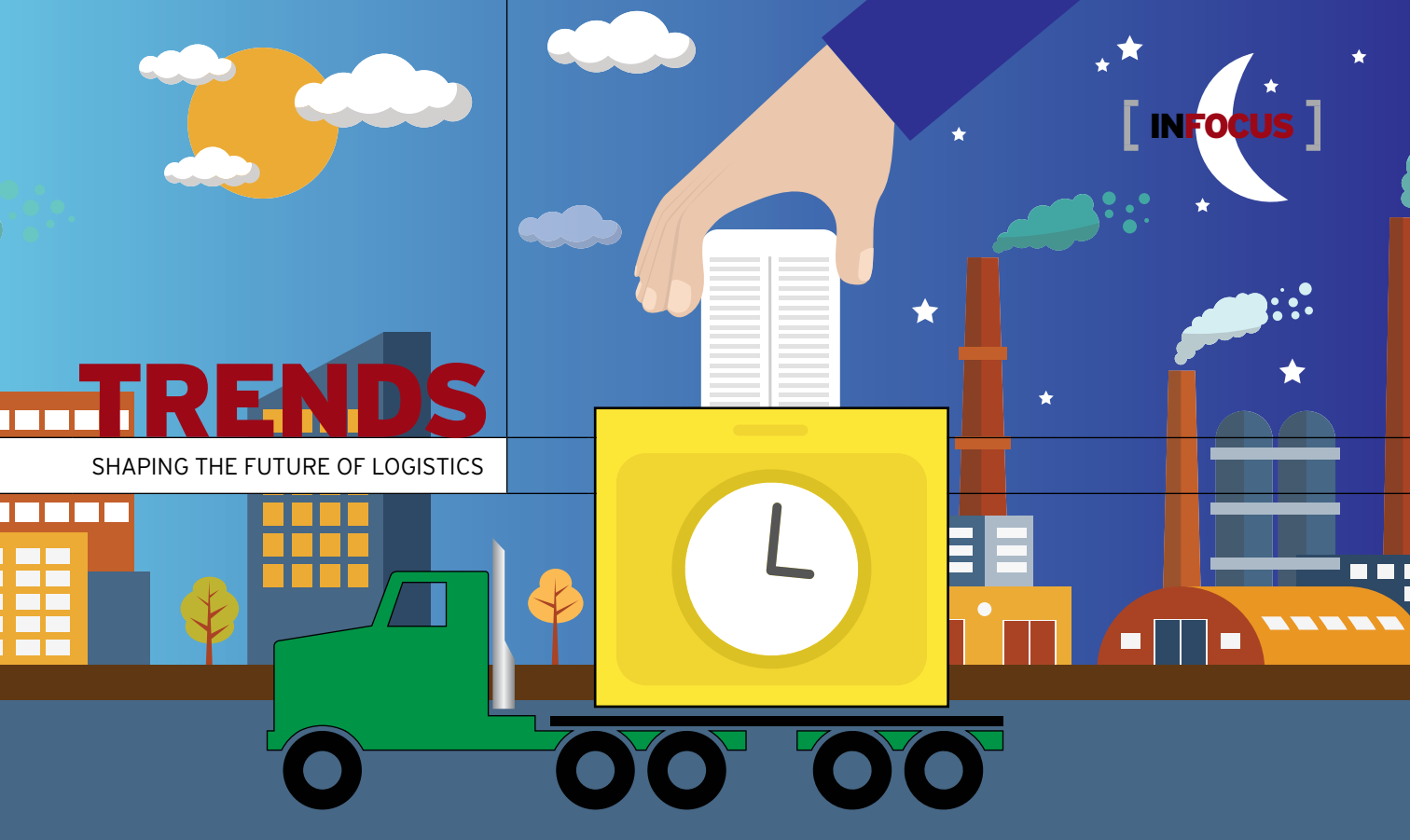
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Response to ELD Mandate: Yours, Mine, and Hours

The Federal Motor Carrier Safety Administration's (FMCSA) deadline for truckers to install Electronic Logging Devices (ELDs) is nearly one year away, on Dec. 18, 2017. Small fleets, however, seem to be taking this mandate less seriously than their larger counterparts, according to a survey of 400 carriers by third-party logistics provider Transplace.

by Jason McDowell

Eighty-one percent of large fleets have already achieved full ELD implementation, with the additional 19 percent working toward that goal. Conversely, only 33 percent of fleets with fewer than 250 trucks have reached full implementation, with another 29 percent in the process. The remaining 38 percent of small fleets report that they have no immediate plans to begin installing ELDs in their trucks.

"Implementation of ELDs has been significantly slower for carriers with smaller fleets," says Ben Cubitt, senior vice president, consulting and engineering at Transplace. "While some carriers are still researching the technology, others indicate that they are holding out in

the hope that the mandate will be overturned in court. One carrier responded to the survey by saying, 'I will sell out first.'

"While much can happen between now and when the mandate takes full effect, most carriers — large and small — anticipate a noticeable impact to utilization and capacity," he adds. "The challenge will be to find the right balance of good safety practices without causing a significant disruption to the transportation industry."

As with any new regulation — especially one requiring a technology implementation — expect an adjustment period, and a few hiccups along the way. Carriers and fleets

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that wait until the final hour to implement ELDs could face negative repercussions, including non-compliance fines and penalties.

Logistics Real Estate Fills Up Fast to Serve E-Commerce

While brick-and-mortar stores still play a prominent role for the American consumer, it's hard to find someone these days who doesn't do at least part of their shopping online. Part of the e-commerce experience is fast shipping, and the key to fast shipping is distribution facility location. As such, the rise of e-commerce has had a substantial impact on the logistics real estate sector.

But the impact we've already seen on logistics real estate is just the beginning, according to *The Global E-Commerce Revolution: What Does Its Impact on Logistics Real Estate Really Look Like?*, a new report from industrial real estate firm Prologis. "E-commerce currently comprises about 20 percent of new leasing, up from less than 5 percent just five years ago," says Chris Caton, head of research for Prologis.

"There are multiple catalysts for growth, including the emergence of Asia; cross-border e-commerce; changing demographics, such as the growing spending power of millennials and their preference for online; and opportunities with virtual reality and its ability to disrupt categories that once seemed impervious to competition from online," he adds.

Global e-commerce sales are expected to reach more than \$4 trillion by the end of the decade, according to the report. With such large numbers in play, retailers, distributors, and logistics providers are all scrambling to get prime distribution space near large cities (*see chart above*). "We expect to see an increased emphasis

E-COMMERCE BUILDING TYPES			BUILDING FEATURES	
	Type	Site Selection	Design Features	Principal Activity
Last Mile	Last Mile	Within major metro area, proximate to concentrations of consumers, higher-density submarkets	Dock and grade-level doors, open floor space, potential showrooming	High velocity SKUs only, mainly transload operations, 24 hr storage, some offer value-add services
Last 50 Miles	Metro Sortation	Proximate to major metro area, less dense submarkets	1 dock door per 5,000 SF	Storage, distribution, order fulfillment, reverse logistics
Last 600 Miles	Regional/National Sortation	Proximate to transportation hubs or routes, established regional distribution locations e.g., IE (US), Atlanta (US), Southern Netherlands (NL)	1 dock door per 10,000 SF	Breaking bulk, diverse SKU storage, distribution, pick and pack order fulfillment, reverse logistics, often automated

Source: JLL, Prologis Research

on locations within and adjacent to major population centers," Caton says. "Higher service levels, rising transportation costs, and increased retailer scale all are translating to greater demand for facilities located within and adjacent to these areas.

"We also expect to see an increased importance of third-party logistics companies with e-fulfillment capabilities," he adds. "3PLs have expertise in a complex field and help online retailers execute e-fulfillment."

There's still time to get into new facilities closer to major markets, but that space

is filling up fast, the report shows. "We're seeing an earlier recovery of the sector out of recession and a stronger expansion," Caton says. "Vacancies fell to 5.2 percent, their lowest level in a generation. Rents have jumped from their trough, up one third from the bottom of the market and up nine percent from last year," Caton says.

For those online retailers who don't want to be left behind while their competitors offer services such as one-day and same-day shipping, it's time to start shopping around for new locations before there are no locations left to be had.

Today the U.S., Tomorrow the World?

With summer now well behind us, retailers and their shipping partners are preparing for the peak season rush. But it's possible that many businesses might be missing out on a large source of revenue. With global e-commerce sales expected to reach more than \$1.9 trillion in 2016, retailers who fail to tap that market might find

themselves unnecessarily short-changed come January.

"Many retailers are hesitant to embrace international e-commerce because the process can appear daunting," says Will Gensburg, vice president and managing director for UPS i-parcel, a division of UPS that helps companies globalize their online

sales. “The key is to find strategic partners that are skilled in simplifying the complexities of cross-border trade.

“A credible global e-commerce solution can help make sure nothing is left to chance,” he says. “That includes handling currency conversion, international address collection, duty and tax calculations in the cart, international payment options, fraud protection, international customer service support, and international returns. By implementing a fully integrated solution, you can confidently remove your business’ barriers to growing through global e-commerce.”

At this late date, it may seem pointless to implement a solution aimed at globalizing holiday sales, but it’s important for retailers to remember that, globally speaking, December isn’t the only holiday season.

“One of the unique opportunities that global e-commerce offers is the ability to tap into the variety of holidays celebrated around the world,” Gensburg says. “Build a calendar of the major holidays in your targeted international markets. Localize your marketing with both the products you feature and your marketing messages and promotions.

“For example, Chinese New Year is one of China’s biggest events in terms of spending; about 754 billion yuan, or \$115 billion, was spent with retailers and catering firms during the holiday in 2015,” he says. “The next Chinese New Year is Jan. 28, 2017. Look into other holidays such as Diwali, Eid al-Fitr, Hanukkah, and Kwanzaa.”

Bringing products to the global market isn’t just beneficial during holidays. “It’s also important to remember that seasonality varies by region,” Gensburg says. “Track weather patterns and try different geographically targeted promotions to keep inventory turning.

“Instead of offering deep discounts on warm weather goods at the end of the U.S. summer season, try promoting them in warmer climates such as Australia and other countries in the southern hemisphere,” he suggests. ■



Retailers slow to develop global e-commerce strategies risk leaving significant money on the table. Tools such as UPS i-parcel help address some of the obstacles to global e-commerce.

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GLOBAL

THE WORLD AT A GLANCE

by Jason McDowell



Overcapacity Problems Sink Hanjin Shipping

Right in the middle of the peak ocean shipping season leading up to the U.S. holiday rush, South Korean ocean liner Hanjin Shipping filed for bankruptcy protection in one dozen countries in late August and early September 2016. Hanjin is the world's seventh-largest ocean carrier, and handles nearly 8 percent of the trans-Pacific trade volume for the U.S. market.

A number of factors led to Hanjin's

current predicament, including the 2009 global financial crisis, China's slowing economy, and five straight years operating at a loss that left the company with more than \$5 billion in debt.

Eighty ships carrying more than \$14 billion in various cargoes were left stranded at sea, potentially ruining Christmas for a large number of global retailers. In addition, the carrier stranded

more than 1,200 workers on ships at sea or in foreign ports.

Around the globe, Hanjin ships were refused entry to ports, and owners or governments forcibly seized a number of leased ships. At U.S. ports, undelivered containers occupy so many trailers that a chassis shortage threatens the industry.

Hanjin recognizes the damage it has caused, but claims it is not the only one

guilty of wrongdoing. “Hanjin is not the only bad guy here,” said an attorney for the shipping company at a U.S. Bankruptcy Court hearing in Newark, N.J. The company claims that cargo owners withheld as much as \$80 million in payments for shipments that were completed, while many of those owners claim that what they’ve been forced to spend to recover their cargo exceeds what they owe to Hanjin, thus cancelling the debt.

A number of cargo owners who couldn’t afford to wait for the situation to straighten itself out have been forced to cover the cost of rail and truck transport for their cargo, even if they had already paid Hanjin in advance for those same services.

Meanwhile, logistics providers such as Averitt Express sprung up with rescue services to save stranded cargo. “This has been a difficult situation for all who are impacted,” says Charlie McGee, Averitt’s vice president of international solutions. “We are working to help shippers retrieve their stranded cargo so that they can get their businesses back on the right track. This is a particularly volatile time of the year for businesses and the situation with Hanjin has been devastating for so many. It’s our industry’s responsibility to help alleviate the pressure that has been created.”

For those who can’t afford additional costs to retrieve their shipments, an end may still be in sight. Korean Air Lines, Hanjin’s largest shareholder, lent the carrier \$54 million to get cargo off ships and docks, and into the hands of owners. The state-owned Korea Development Bank lent the carrier an additional \$45 million.

“We’ve calculated the costs that will be needed to offload the cargo, and this can be covered roughly with the funds that have been pledged,” said Choi Sang-mok, vice finance minister for the South Korean government, in a press statement.

Hanjin expects all cargo to be offloaded by the end of October 2016. Even if it meets that deadline, the impact of so many late shipments on holiday season sales remains to be seen.

Sorry About That, Chief

Ocean carrier struggles, the U.S. West Coast port strike, the Tianjin explosions in China, and a series of earthquakes in Japan are just a few events to disrupt the supply chain in recent years.

Still, fewer than 24 percent of respondents to the *State of the Global Supply Chain* survey by technology provider GT Nexus say they have a chief supply chain officer on hand who would be equipped to deal with such an interruption. Thirty-two percent say they have a similar position, but not in the C-suite.

Yet, nearly half of manufacturers report a disruption that impacted business within the past 12 months, suggesting that adding expertise in the boardroom should be a priority for all companies. Bringing someone on board who knows how to build and oversee an end-to-end partner network might help companies face the following challenges in the years to come:

■ **Geopolitical risk.** Twenty-nine percent of respondents predict that currency fluctuations and geopolitical risk will be a prevalent supply chain risk in

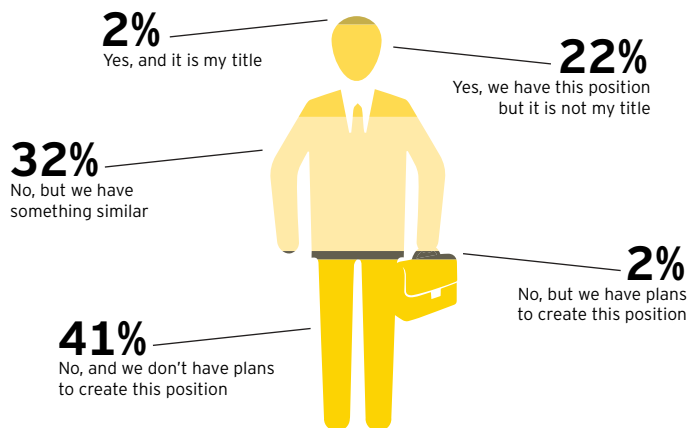
the near future. This includes issues such as the spread of ISIS, the effect of Brexit on the European Union, the economic slowdown in China, and relations between the United States and Russia.

■ **Labor strikes.** Fourteen percent of manufacturers fear additional labor strikes in the supply chain. If the West Coast port strikes in the United States taught us anything, it’s that unhappy laborers can have a substantial impact on global trade. In addition, a surge in labor strikes in the Guangdong region of China could have a great effect on production in coming years.

■ **Trans-Pacific Partnership (TPP).** Eight percent of those surveyed cite the TPP as an issue they expect to impact their business in the future. Besides reducing obstacles to the trade of goods, TPP also reduces barriers to less tangible services such as information technology and logistics. If the 12 proposed member nations ratify TPP, manufacturers will undoubtedly need to make investments to adjust the way they operate internationally.

Commonality of the Chief Supply Chain Officer Role

Supply chain management is critical to a company’s success, but less than 24% of survey respondents have a Chief Supply Chain Officer in place.



Source: *State of the Global Supply Chain*, GT Nexus



Maersk Makes A Split Decision

While the world’s seventh-largest ocean carrier sinks underwater, its largest shipping line is splitting in half. As low oil prices continue to negatively impact the company’s oil-dependent businesses, and low freight volumes similarly affect the transport side, Maersk has decided to reorganize its transportation and logistics operations away from its energy-related operations so that each can focus on its own differing and specific needs.

“Separating our transport and logistics businesses and our oil and oil-related businesses into two independent divisions will enable both to focus on their respective markets,” said Michael Pram Rasmussen, chairman of the company’s board, in a public statement. “This will increase the strategic flexibility by enhancing synergies between businesses in Transport & Logistics, while ensuring the agility to pursue individual strategic solutions for the oil and oil-related businesses.”

The new Transport & Logistics division will consist of Maersk Line, APM Terminals, Damco, Svitser, and Maersk Container Industry. While each of these sections will maintain their separate branding, management and operations will now take a more integrated approach.



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Accidents Happen: Is Your Transportation Partner Prepared?

When a personal injury or wrongful death lawsuit is brought against a commercial transportation company after a motor vehicle accident, creative lawyers are increasingly including negligence claims.

Such claims focus attention on how the transportation company hires, trains, supervises, and disciplines its drivers. Falling short in these practices can form the basis for a jury to hold the transportation company liable.

Above and Beyond Compliance

A company accused of failing to properly screen, train, supervise, and discipline its drivers is required to prove and justify its past actions. Strict adherence to the Federal Motor Carrier Safety Administration's recordkeeping requirements is the absolute minimum. When examined in light of a tragic accident, records must clearly show that the carrier made every reasonable effort to keep unsafe drivers off the road.

Under the controlling law in most states, a transportation company will be held liable for failing to observe reasonable care in overseeing its driver. It amounts to a claim that the company knew, or would have known if it had exercised ordinary care, that the driver was likely to cause an

accident. Negligence claims are based on the principle that companies have a responsibility to protect customers and the public from injury at the hands of their employees.

The impact of a claim for negligent practices becomes apparent immediately after the lawsuit is filed, when the company's policies are requested during the discovery process. The plaintiff's attorney will target the qualification files of all current and former drivers, and will request the safety director, dispatchers, driver trainers, and personnel managers to testify under oath.

The Best Defense

When choosing transportation partners, it's in your best interest to make sure they can position themselves to defend claims. Compliance with the regulations alone is not enough. The transportation companies you work with should enforce the following four tactics.

1. When hiring drivers, perform the required background checks. If standard checks reveal any issues, such as prior

accidents or multiple traffic citations, the partner should broaden its search by looking further back in time or by interviewing past employers to gather additional information.

2. Establish consistent hiring policies that can apply to all drivers.

The policies should identify specific and objective disqualifiers, and should never fluctuate with the supply of applicants. Partners should share policies with all employees and applicants. In addition to providing a basis for defense in a lawsuit, these policies also help hold recruiters and hiring managers accountable.

3. Require retraining. Require any drivers who receive a traffic citation, are involved in a preventable accident, or otherwise violate a company policy to undergo retraining that addresses the issue.

4. Address problems. If another employee reports concerns about the conduct of a driver, the transportation company must address that concern. If the company ignores the problem, and the driver later causes an accident, this can form the basis for an award of punitive damages.

It is never too late for your transportation partners to improve safety operations. The changes they make today will reduce liability tomorrow. ■

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[SMART MOVES]

BY THOMAS W. DERRY

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Supply Management Takes Center Stage

The supply management function is in the spotlight as a key driver of profitability. Approximately 82 percent of all chief procurement officers (CPOs) report directly to their CEOs, according to CAPS Research. CPOs have reach, influence, and responsibilities that go far beyond the cost containment practice of the past into virtually all areas of a company's operations.

John A. Hill, president of Air Reduction Company, was prescient in 1953 when he recognized the growing influence of supply management as a "profit-making activity" best handled as a separate and distinct function reporting to the chief executive or another top-level operating executive.

Since Hill first talked about a "purchasing revolution" more than 60 years ago at the National Association of Purchasing Agents' national conference, the CPO has become the linchpin of a company's competitive advantage as well as the guardian of its corporate reputation and social responsibility.

A Seat at the Table

Today's CPO is a key member of the executive team tasked with identifying and mitigating crises, including natural disasters, product failures, ethics breaches, or financial problems. And whenever that crisis hits, CPOs are at the table with the CEO, chief operating officer, chief financial officer, and the

heads of legal, public relations, and the affected business units.

As professionals who understand the entire process of manufacturing, shipping, and marketing products, and who recognize that suppliers can be closely aligned with the company's goals and objectives, CPOs help define a company's competitive advantage.

In 2015, 83 percent of all corporate spending went to hundreds of thousands of global suppliers and only 17 percent went toward corporate manufacturing plants, staff, and operations infrastructure, according to CAPS Research.

Consider the perspective of Alan Mulally, former president and CEO of Ford Motor Company and former CEO of Boeing Commercial Airplanes, who credits the procurement/supplier relationship with those companies' success. Speaking to several people prior to presenting at the ISM2016 conference, he said: "Boeing and Ford are two of the most successful corporations in the world and I would credit their

relationships with their suppliers as an absolute key to their long-term success. All of my years at both I've always had the head of procurement on the leadership team."


The CPO's role also has expanded to include managing the globalization of business and ensuring compliance with sustainability and social responsibility principles. Not only does the government discipline companies for not adhering to regulations that protect humankind and the environment, but consumers also punish companies that don't handle themselves responsibly through public outcry and boycotts.

Making a Difference

When companies have hundreds or even thousands of suppliers under contract, they face huge levels of complexity in protecting their ethics, image, and reputation. Among suppliers, poor working conditions, loose financial transactions, skirting environmental regulations, or substandard material or parts quality can all turn into scandals that affect the contracting organization.

The procurement profession has evolved significantly since its early days as a tactical buying function. Procurement is a profession that offers a real opportunity for a challenging career where one can truly make a difference in the world. ■

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[IT MATTERS]

BY ROBERT CLESI

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To Boost Shipment Productivity, Look to the Cloud

Deploying a cloud-based shipment execution system promotes a healthier ecosystem within the company, reduces costs, and pays big dividends via customer satisfaction.

When corporate enterprises grow and evolve, their internal departments can develop a silo mentality and become more protective of their information. Because of these informational turf wars, the organization becomes disjointed and less effective. To instill discipline, improve productivity, and create a unified vision shared by everyone in the organization, look to the cloud.

Streamlining Supply Chains

A cloud shipment execution system can give long-distance trading partners visibility into the location of their shipments while en route, and send alerts when milestones are met or if shipments are delayed.

A supply chain portal provides everything suppliers need for shipment processing, including the ability to enter advance shipping notices electronically, and print barcode labels. In addition, the system can proactively track and trace a package or shipment from origin to destination and alert the shipper if it is going to be late.

Intelligent shipment execution

systems can provide additional cost savings and efficiency benefits by automating label and manifest printing and, most importantly, by determining the optimal carrier for moving product from the manufacturer to the customer.

Eighty-two percent of companies that moved critical applications to the cloud reported lower costs, according to a Computer Sciences Corp. cloud usage whitepaper. IBM reports that cloud adopters showed twice the revenue growth and 2.5 times the profit growth of non-adopters.

It also is not unusual for a large organization with multiple office locations to send hundreds or thousands of shipments each day. A savings of just pennies per shipment results in a rapid return on investment. And a database of all capable, qualified carriers makes selecting a vendor for a one-off shipment easy and intuitive, regardless of the shipping criteria.

Additional rate shopping capabilities gained through access to a larger network of carriers help increase service offerings and reduce costs. The

complexities of shipping products globally include regulations, documentation reporting, and compliance issues that a shipment execution system can help simplify.

When companies deploy an intelligent cloud-based shipment execution system, they can reduce shipping costs by 5 to 25 percent in the first year.

Vendor relationships and customer satisfaction invariably improve as well. Industrial customers—much like retail customers—want to know as much as possible about the status of an ordered product: Where is it? When will it arrive? Who is the carrier?

Breaking Down Silos

Dealing with carriers holistically, instead of relying on multiple agreements, leverages the organization's buying power, frees individuals from duplicating each other's efforts, and makes that information available to anyone in the organization.

When you consider that it also helps foster a positive partnership mentality with the carriers, saves money for the organization, and results in greater customer satisfaction, it's not just a win-win end game scenario, it's a win-win-win for the shipper, the carrier, and the end customer. ■

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Three Returns Strategies for Improving Omni-channel Retail

Omni-channel retail involves much more than efficient order fulfillment. An easy returns policy is just as important — so much so that it can be the deciding factor for a purchase. That said, it's one thing to enact a favorable returns policy, and quite another to execute it efficiently.

Thanks to omni-channel expectations, shoppers want the ability to return their purchase through different channels — whether that means returning the product to a brick-and-mortar store or shipping it back to a central returns center. This creates an omni-channel returns environment, which complicates the reverse logistics stream by adding to the frequency, variability and cost of returns.

To cost-effectively leverage an omni-channel strategy, it is vital to proactively plan for returns and align your operations accordingly. Otherwise, the returns process can be detrimental to your customer's overall experience — and put a dent in your profitability. With that in mind, here are three returns strategies to consider for improving omni-channel retail operations.

1. Drive continuous improvement throughout your reverse logistics stream.

When processing returns, time is your enemy. The longer a returned good sits on a shelf, in a truck or in the backroom of a store, the less value you can recuperate. The cost implications become more severe when you consider the potential for duplicated labor and transportation along an omni-channel returns channel. For instance, even if you manage to return a product to stock and sell it for full price, that value may be negligible compared to the cost to get it back on the shelf.

A data-driven approach to returns is required to drive continuous improvement. This starts with standardizing processes and establishing baseline key performance indicators (KPIs) for those processes. With those in place, areas for improvement can be identified and projects implemented to reduce the time, labor and transportation required to recuperate value from a return. Developing a working culture focused on continuous improvement is also important, so projects that drive efficiency can be incentivized appropriately.

2. Foster collaboration between in-store operations and supply chain management.

There are times when organizational silos can hinder informed decision-making about returns. Break down those silos by fostering collaboration and communication between supply chain management and in-store operations. Educating store personnel about your returns strategy and its overarching disposition logic is key. By developing performance standards and training in-store employees, you can better prepare them to redeploy as much product as possible at the store level. In addition, in-store employees should understand what products are unsellable, recyclable or too low-cost to transport, and have the ability to dispose them on-site. That way, only products designated for re-stocking, refurbishment and return-to-vendor will be transported to a centralized returns center.

3. Work with vendors to reduce returns.

If there is one thing that both manufacturers and retailers can agree on, it is that returns are major cost centers. Employing evaluative processes, such as damage research activities and returns report cards, can be effective measures for minimizing returns. Information from those processes can then be shared throughout the retailer's supply chain to help remediate issues, whether it involves inconsistent material handling processes or defects in packaging. The communication process can then be taken a step further by informing the manufacturer's product development and marketing teams to improve the product and better manage customer expectations.

Coping With Omni-channel Complexity

Making your reverse logistics channel work for you can be a real challenge — particularly as omni-channel continues to complicate retail supply chains. To better handle omni-channel returns, implement standardized, data-driven processes across your supply chain to eliminate redundant processes, improve product disposition and maximize the recouped value of your returns.



LOGISTICS knowledgebase®

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Global Retail Expansion: The Convergence of Marketing, Customer Service, and Supply Chain Strategies

As the global market becomes ever more connected, more and more retailers are struggling to keep up with their international expansion. Brands who never anticipated going global are finding that they all of a sudden are, thanks to the progression of e-commerce and increasing customer expectations.

Wisely, this is where many are seeking assistance, and leveraging their cross-functional leadership's knowledge and expertise to align their strategies and goals in relation to global retail and e-commerce expansion—a process that should also be embraced by any logistics professionals that would like to see better forecasting and less stranded inventory.

Omni-channel Expansion Strategy

Setting up localized websites to target global buyers with online orders is certainly the first step, and an important one to get right. However, it isn't enough to rest on. You can certainly begin digitally, but as sales increase in a country it becomes vital that you have inventory positioned there, along with customer service and a retail footprint, allowing you to quickly scale sales at a reduced total landed cost and provide customers with the quick delivery times they expect.

Omni-channel Marketing With the Right Platform

With an omni-channel approach, the chance for success within any single market increases—however careful consideration should be given to which markets you choose to pursue. The same is true for digital marketing. Trying to launch into 50 new currencies and languages will be confusing and costly, with a high risk of mistakes. Take a tiered approach, identifying the key markets to expand into first and making sure your localization process is implemented properly. It's highly beneficial to work with a digital agency such as Red Hot Penny, who are familiar with localization not just in terms of currency and language, but right down to the difference in cultural expectations, both for marketing and e-commerce platform customization. Having the right experts in your corner could easily be the difference between success and failure, and getting it wrong can be a costly mistake.

Omni-channel Customer Support

Once you have begun to enter new markets, you must be ready to field calls, emails, visitors, and social inquiries—from the

locally preferred social networks—rapidly, effectively and with the nuances of a local. Supporting multiple languages can be effectively achieved with the help of the right outsourced partner, like Sutherland Global Services, that can be your omni-agent as you conquer the world. There's a high demand globally for U.S. and European retail brands, but consumers still want—and expect—localized customer support in their own language and at hours convenient to them.

Omni-channel Logistics and Transportation

For U.S. retailers, a tiered approach can lead to a steady and sustainable growth. Starting with countries with the same or similar languages like the United Kingdom and Australia will allow you to access global markets and test strategies with less of an upfront investment.

Once you're able to validate your approach, you can branch out into other countries and regions like Canada, New Zealand, Hong Kong, and Scandinavia. Other areas in the EU, China, and Japan are also lucrative, but incredibly different, and require an experienced hand to navigate. At the end of the day it's better to start with a solid foundation for successfully scaling your operation.

An intercontinental fulfillment option from the United States is a good place to start, working with a global air freight forwarder that is able to manage the entire omni-channel retailing process in-house, from down route access at origin through line haul and local injection services at destination. In short, regardless of the distance, urgency, or budget, there are options.

When you reach global scale it's beneficial to look at outsourced geographical locations to hold inventory for all sales channels close to key consumer markets, as the omni-channel logistics service moves away from sales-specific distribution centers. This benefits consumers with a far more seamless and consistent experience, providing an improved and standardized delivery experience even in global markets, and benefits retailers with improved fulfillment speed from one region to the next.

It should be noted that returns management is one of the key roadblocks to developing a global e-commerce offering, and an effective worldwide returns policy is a vital stepping stone towards true omni-channel retailing excellence. Ensure that you choose the right provider for a warehousing solution that is able to provide a one-stop returns service with a bigger global reach than anyone else in the business.

THOUGHT LEADERS

Tips for First-time TMS Buyers

Q: TMS solutions are traditionally complex to implement. Why is that?

A: A transportation management system (TMS) has one of the strongest ROIs of any supply chain management software: an average of about 7.5 percent in freight savings, according to recent research by ARC Advisory Group. But they're also notoriously thorny to implement because most on the market were first



J.P.

WIGGINS

Vice President
of Logistics
3Gtms

designed 15-20 years ago—and their design, at its core, still addresses those outdated needs and practices.

Obviously the transportation industry is in a completely different place now, but vendors have simply kept adding on to their legacy systems and ultimately increased the complexity of the technology and the implementation process for customers. This patchwork approach is also a big reason why so many TMS projects can take extraordinarily long to implement or even fail to meet their project goals.

Q: What should first-time buyers know about a modern TMS design?

A: It can be hard for first-time buyers to recognize what's different between a modern TMS and one designed in the 1990s, but a main difference is its ability to handle nearly any configuration or need your business has. A modern TMS will allow you to configure the system yourself, meaning that you can fine tune it to your business needs without going to the vendor's development team or bringing in an engineer to write code. This keeps costs much lower and enables better responsiveness to customer demands.

Watch out for TMS vendors who sell a low-cost solution, only to make you rely on them for changes and support later on. In fact, it's not uncommon for a TMS company to make 50 percent or more of its revenue post-sale from support, consulting, and other technical services. When deciding on a TMS vendor, be sure to ask about their business model.

Q: How do I vet a TMS vendor?

A: The first thing is to have a good understanding of what your goals are for your TMS, and then match potential vendors to those requirements. "TMS" is a broad term and most vendors will oversell their abilities, so be sure to clearly define mode and size, as well as execution and project expectations. After you narrow it down to your demo list, ask for recommendations.

In addition, ask the vendor for failed project lists and do some background research to find references that the vendor didn't offer; anyone can provide a few happy clients, so non-referenced clients can be a wealth of information. Very importantly, ask to see bios of your implementation team (don't settle for junior staff).

As a first-time TMS buyer, educate yourself on what a modern TMS can do—and come to the table with high expectations.

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Stop the Free-Flowing Expenses Of Demurrage and Detention

Q: What are the concealed costs of demurrage and detention?

A: High demurrage and detention costs are rampant as ports are becoming increasingly congested and disruptive events such as labor disputes are occurring more frequently. Worse still, these fees accrue on a daily basis, so there's little room for negotiating the final bill.

"Hidden" free time is another issue that plagues transportation managers. Free time is a line item in most contracts, but businesses rarely consider it when making routing decisions. Free time is often overlooked because there are other more notable "issues" grabbing attention, like carrier surcharges and GRIs.

As a result, free time is seldom top-of-mind when calculating ocean rates and booking shipments, yet it can add up to 11 percent to a shipment's daily cost, according to global NVOCCs.

Q: What are other challenges of demurrage and detention and why are they often missed?

A: Incurring demurrage and detention fees results in more than just increased transportation cost. They can also attribute to delayed deliveries, lack of product availability (or excess safety stock), and potential loss of sales — all of which impact cash flow, profitability, and brand reputation.

Demurrage and detention are often the result of poor supply chain visibility and lack of timely notifications from service providers when goods are available to be picked up and equipment returned. Poor data quality can lead to these costly fees with damaging ramifications.

Q: How can companies save costs, sales, and their overall business when it comes to demurrage and detention?

A: You can effectively mitigate demurrage and detention fees by taking an integrated approach to logistics, contract management, and supply chain visibility using a global trade management (GTM) system.

A robust GTM system allows companies to manage multiple carrier contracts to identify the optimal routing for shipments and proactively monitor the movement of goods at the shipment, order, SKU, and container level. This platform can help manage fees, gain better visibility, and reduce overall costs. An integrated system also offers access to historical shipment and transportation data, enabling companies to identify supply chain bottlenecks and mitigate recurrences.

According to Aberdeen Group, GTM solutions can reduce demurrage and detention fees by 25 to 50 percent on average. As an example, one new Amber Road GTM software customer expects to save over \$260,000 annually in demurrage fees over the next five years through better real-time visibility.

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Director,
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ALBANESE



INTERMODAL TRANSPORT:

The Little Engine That Could

Despite an uphill climb, intermodal trains chug merrily along as they carry wonderful products to good little consumers.

Chug, chug, chug. Puff, puff, puff. After two years of steady acceleration, intermodal transportation in North America hit a slowdown in 2016. Intermodal volume in the second quarter of 2016 fell by 6.1 percent compared with the same quarter in 2015, according to the Intermodal Association of North America (IANA).

Shippers actually used more intermodal containers for domestic moves in Q2 2016—3.4 percent more than in 2015. But a 28.6-percent decrease in domestic intermodal trailer volumes and a 9.3-percent drop in international shipments using ISO containers offset that growth enough to keep the total picture in negative numbers.

Strictly speaking, “intermodal” refers to any freight movement that involves transferring a shipping container from one mode of transportation to another—including, for example, a move from ship to truck or vice versa. But in common parlance, “intermodal” means a movement that uses rail for part of the trip.

By Merrill Douglas

The Price Is Right

Why did shippers start using intermodal less in 2016? The short answer is that over-the-road (OTR) truck capacity has grown more abundant, driving trucking rates down.

“You can get truck capacity at a good price, and shippers are taking advantage of that,” says Lawrence Gross, president of Gross Transport Consulting in Durango, Colo., and a senior consultant and partner with FTR Transportation Intelligence.

Many shippers once avoided intermodal because they deemed rail service too slow and unreliable for their needs. Rail carriers have made significant upgrades in recent years, though, turning intermodal into an economical alternative when the supply of trucks was tight and rates were high.

Illustrations by Lynnor Bontigao

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“The intermodal industry has advanced, creating new capacity for future growth, as well as better and more consistent service,” says Darren Field, senior vice president of intermodal at J.B. Hunt Transport in Lowell, Ark. He points to the major investments that railroads have made in linehaul and terminal capacity over the past five years. “In 2015 alone, key players invested as much as \$10.9 billion in equipment and infrastructure to improve railroad velocity,” he says.

“Service is currently at its highest level in three to four years,” says Brian Alexander, executive vice president of Unyson Logistics, a St. Louis-based third-party logistics (3PL) provider that is a division of intermodal marketing company Hub Group. Besides sticking to schedules more reliably, railroads also have reduced transit times, providing high-speed service in regions such as the Northeast and the Los Angeles-to-Chicago corridor, he adds.

Dollars and Sense

But now that demand for capacity is softer, and motor carriers have reduced their rates, intermodal is less often the obvious choice.

For sophisticated shippers, though, intermodal is one of several core options to be exercised case by case as market conditions dictate. “There’s nothing intrinsically good or bad about intermodal,” Gross says. “It makes sense in some situations; it doesn’t in others.”

Mainly, it makes sense when there are intermodal terminals close to both the origin and destination, and/or the rail portion of the trip is sufficiently long. “The farther you are from the terminal, the farther you have to go over the rail for it to make sense,” Gross says.

Domestic shippers seem to be following that logic as the average length of a domestic intermodal haul has been growing longer. But the average rail trip involving ISO containers moving to or from a seaport has been shrinking.

That’s because U.S. importers now use a wider variety of ports, rather than bringing most freight through Los Angeles and Long Beach. Several factors have prompted that trend: the 2015 labor disputes at the West Coast ports; the Panama Canal’s recent expansion; and migration of some manufacturing from China to countries such as Vietnam and India, where the optimal route to the United States often runs through the Suez Canal.

Large U.S. importers might divide incoming shipments among as many as five regions: the Northwest or Western Canada, Los Angeles-Long Beach, the

Northeast, the Southeast, and the Gulf Coast. “Importers then have the ability to ‘turn the dials’ and change the mix of volumes moving to each port in response to local conditions,” Gross says. “That’s a less intermodal-friendly stance than in the past, when every shipment came through Los Angeles and Long Beach and was railed beyond.”

As shippers switch among different modes, many continue to gain advantages from intermodal transportation.

“Small shippers are coming in and out of the intermodal space, largely based on price,” says Bryan Foe, vice president of intermodal at C.H. Robinson, Eden Prairie, Minn. Large shippers stick with intermodal more consistently, to lock in capacity as market conditions vary.

“They may renegotiate some prices with intermodal providers, but by and large they try to maintain their strategies and continue to manage risk across multiple modes.”

Those shippers want to take advantage of today’s lower rates, but they also realize that those bargains won’t last forever. For instance, observers point to new regulations requiring all commercial trucks to use electronic logging devices (ELDs) by December 2017. Because they will control drivers’ hours of service (HOS) more precisely, ELDs could put a fresh squeeze on trucking capacity, resetting the equation that shippers employ to choose between OTR and intermodal.

Thanks to such concerns, larger shippers are working collaboratively with their service providers, trying to secure better rates while maintaining long-term relationships with intermodal carriers.

Consider a shipper that has been using intermodal transportation to move 10 loads daily from Point A to Point B. “They might choose to move three of those loads by truck today to take advantage of truck pricing, but leave the other seven loads on the rail to be true to their contracts and make sure they’re spreading that risk, to provide for the future,” Foe explains.

In short, intermodal helps shippers manage uncertainty. “Intermodal provides a flexible capacity source, with customizable transportation plans to accommodate for fluctuations in volume demands from shippers, while minimizing the costs associated with spikes in demand,” Field says.

Retailers Get On Board

New shippers also continue to explore intermodal. Their numbers include retailers, who haven’t used this strategy much in the past. “Many of our retailers doing pilot testing are pleased with the results, with cost savings on longer hauls for deliveries into retail stores,” says Alexander. Those retailers use the rails to move product from distribution centers (DCs) to intermodal terminals, where trucks pick up the loads for last-mile delivery.

Lactalis American Group, a major cheese producer based in



To improve rail service, Union Pacific invested more than \$1.1 billion in intermodal facilities since 2000.



Buffalo, N.Y., has been using intermodal for about 10 years to ship some product between its facilities in Buffalo and Boise for inventory replenishment. “Cost was the initial reason we moved to intermodal,” says Terrance Martin, the company’s general manager, corporate logistics. “And it helped when capacity was tight.” The trip takes about one and a half days longer than it would over the road, but the cost advantage has been worth the small slowdown, he says.

For trips originating in Boise, Lactalis has its containers drayed to the Union Pacific (UP) intermodal terminal in Salt Lake City. “We run the freight on the UP to Chicago and then on CSX to Buffalo,” Martin says. The product travels in double-stacked refrigerated containers. “Then we dray it from the Buffalo rail yard to our facility,” he adds. The

Buffalo-to-Boise trip is similar, but in reverse.

Lactalis outsources the management of these moves to Salt Lake City-based trucking company C.R. England, which provides technology that lets the shipper track its loads and monitor their temperature.

The company also operates plants and DCs in Belmont and Merrill, Wis., but doesn’t use intermodal for shipments to or from those locations. That’s because there aren’t enough opportunities there to create round trips. “If we do one-way intermodal, we lose our cost advantage,” Martin says.

Lactalis uses intermodal for only about 15 percent of its moves between Buffalo and Boise. And now that trucking capacity has expanded and rates have come down, the business case for those moves isn’t as clear as it used to be. The company has

Kia Motors: I Think I Can Join an Inland Port

Once upon a time, Jonathan Lafevers and his father decided to build an intermodal terminal in Cordele, Ga. One attraction that location offered was a path to and from the Port of Savannah entirely on short line railroads.

“Short line operators are entrepreneurial and grassroots, and they don’t have the overhead of a Class I railroad,” says Lafevers, president and chief commercial officer at Cordele Intermodal Services (CIS), which owns and operates the inland port. A short line could take on as few as 10 containers weekly for CIS, making it possible for the new terminal to start small and then grow incrementally. “A Class I railroad would look for a minimum of 150 containers before even considering doing an intermodal pool,” he says.

Opened in 2011, the 40-acre CIS site currently offers service between its facility and the Port of Savannah using the Heart of Georgia railroad (which has common ownership with CIS) and Georgia Central. CIS also provides warehousing at the site. It uses its own fleet, plus trucks operated by partners, to provide drayage services in Cordele and Savannah.

Traditionally, CIS has mainly served companies that grow and export agricultural commodities such as peanuts and cotton. But in 2016, the facility acquired a new customer that is a significant importer in the area: Kia Motors Manufacturing Georgia (KMMG). The automotive manufacturer works with

CIS to bring container loads of parts by rail from Savannah to the inland port, store them there, and then truck them as needed to its assembly plant in West Point, Ga.—a trip of about 130 miles.

KMMG used to warehouse those parts in Savannah and then truck them about 270 miles to West Point. The new solution gives the company easier, faster access to its inventory.

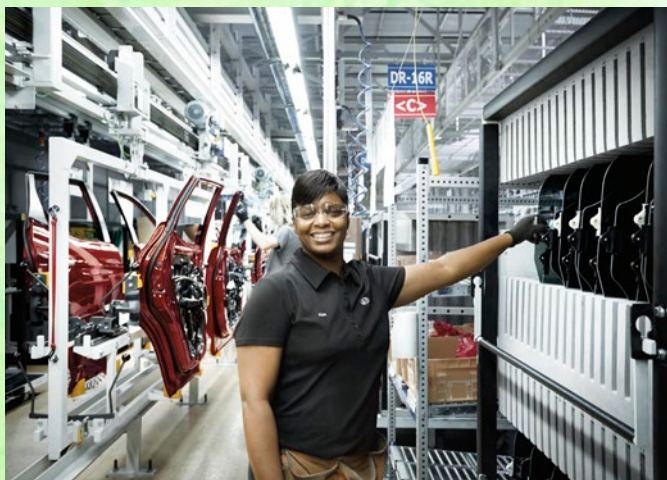
“We run three shifts, five days per week, and occasional Saturdays as well,” says Kevin Kinsey, senior manager of procurement at KMMG. If staff at West Point should find that they were missing crucial inventory during a shift, they could send to Cordele for replenishment at any time and know the product would arrive without delay.

The intermodal strategy also brings cost benefits. “Rail is a more efficient way of transporting many containers at one time,” Kinsey says. It allows the company to use the same chassis multiple times per day, instead of just once. And it provides similar efficiencies with regard to drivers, who have to watch their hours of service carefully under the latest federal regulations. “With Cordele being a few hours away, versus six hours away to Savannah, that allows

those drivers to get a full two turns a day to support our needs,” he says.

It took several years to develop the rail connection between CIS and Savannah to the point where it could handle inbound traffic. “Inbound cargo moves at a much higher velocity and has much tighter time constraints,” says Lafevers.

At the outset, the rail service ran only



Georgia’s first inland port in Cordele has entered into a partnership with Kia Motors Manufacturing Georgia. Imported auto parts arriving at the Port of Savannah will be transported by rail to the inland terminal, then moved to Kia’s West Point plant.

two days per week, with transit times of two to three days. “Now we run five days per week, and it’s an overnight transit,” he says.

“That was the key to landing the Kia deal: to behave like a truck but have the capacity of a rail.”



Cargo is loaded onto rail cars at the Georgia Ports Authority Chatham Intermodal Container Transfer Facility.

also seen some service issues on the rail, particularly in the fourth quarter of the year. “But for the most part, it’s still worth it for us to do it,” he adds.

Network Georgia

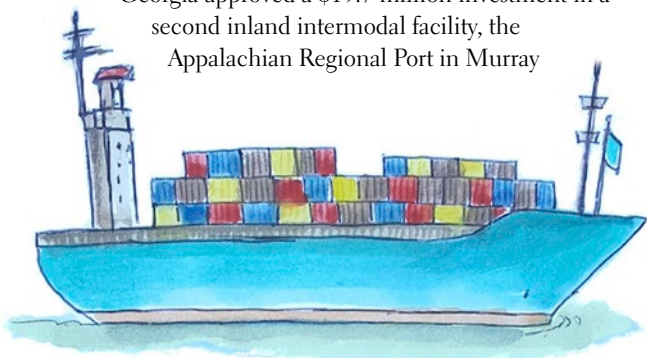
As shippers weigh the pros and cons of intermodal, railroads, terminal operators, and others continue to invest in facilities and technologies to make it an even more attractive option.

The Georgia Ports Authority (GPA), for example, has launched an initiative called Network Georgia that promotes development of new inland ports, and encourages shippers to collaborate to gain efficiencies.

One new intermodal terminal, the privately owned Cordele Inland Port in Cordele, Ga., started operations in 2011. Cordele Intermodal Services (CIS) owns and operates the port. “We partnered with CIS to market that facility internationally and create connectivities,” says John Trent, senior director of strategic operations and safety at GPA.

Several Georgia companies that export products through the Port of Savannah have been using the CIS inland port. In September 2016, Kia Motors Manufacturing Georgia became the first importer there (*see sidebar*).

In July 2016, GPA’s board of directors and the State of Georgia approved a \$19.7-million investment in a second inland intermodal facility, the Appalachian Regional Port in Murray



County. GPA will own and operate that terminal. GPA hopes to see three more inland ports open in Georgia.

Network Georgia’s second focus is to help shippers reduce empty container miles. In one case — this one not involving rail — it connected a large retailer with several clay exporters to optimize container moves for everyone concerned.

The retailer had been trucking as many as 40,000 ISO containers annually from the Port of Savannah to a DC on Interstate 16 and then returning the empties to the port. Clay exporters had been trucking empty containers into their fields and then sending them to Savannah. Now, the containers make a loop, loaded both ways, saving money for the retailers and exporters.

Ongoing Investment

UP continues to invest in its intermodal network. For example, in 2015 it started construction on the first phase of a terminal expansion project at Port Laredo, Texas. “This expansion will enhance the terminal’s ability to serve as a strategic focal point for freight moving across the border to Mexico,” says Mark Simon, assistant vice president, international intermodal at the Class I railroad, based in Omaha.

To keep international containers moving, UP puts a priority on loading containers directly on dock at ocean ports. “This is the most efficient method of moving a container and minimizes emissions by eliminating a truck move,” Simon says. “We currently handle more than 70 percent of port traffic on-dock.”

UP has been developing new strategies for other kinds of moves as well. One is an export solution called Dallas to Dock, for plastic pellets manufactured on the Gulf Coast. UP will use a carload service to transport that product to Dallas.

“Once in Dallas, the pellets will be packaged and loaded into intermodal containers and travel to ocean ports on our premium intermodal service,” Simon says. The service reduces the drayage

Intermodal or OTR? Make It Happen

“Intermodal transportation can be efficient, flexible, and cost effective,” says a whitepaper published by third-party logistics company C.H. Robinson. But it’s not the right mode for every shipment. How to decide where intermodal fits into a particular supply chain strategy? Consider these factors:

■ **Location:** Intermodal makes the most sense when origin and destination points are relatively close to intermodal ramps, eliminating the need for backtracking and line changes, which lengthen transit times and increase costs.

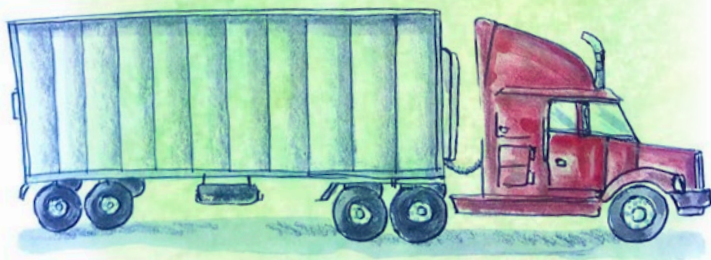
■ **Length of haul:** Longer intermodal hauls make better economic sense than shorter ones. “Typically, shipments traveling at least 600 miles are where yields start paying dividends for customers in the right lanes,” the paper says.

■ **Freight characteristics:** Except for hazardous freight that railroads prohibit, most products can travel via intermodal. But if you’re shipping fragile products, keep in mind that best practices for securing your load will differ from the methods you use for truck hauls.

■ **Seasonality:** If you require more capacity to accommodate seasonal surges in volume, intermodal carriers may provide the space you need.

Several myths about intermodal continue to circulate among shippers: transit times are slow, ramp locations are inflexible, deliveries are unreliable, shipments often get damaged, and shipping by intermodal is unnecessarily complex. But, says C.H. Robinson, thanks to the efforts of the railroads, and expertise available from intermodal marketing companies (IMCs), intermodal offers an effective and reliable alternative.

Integrating intermodal transportation into a broader logistics strategy requires expertise and careful planning, the paper cautions. But the payoff is well worth the effort.



required to get pellets to the intermodal terminal. It also takes advantage of greater container availability in Dallas and expedited intermodal service available between Dallas and the ports.

As a UP customer, Alexander at Unyson Logistics says he’s excited about upgrades the railroad is making to its terminals. “They’re making sure the product can flow in and out of their rail ramps with ease,” he says. “They don’t lose hours. It’s coming down to managing transit hours versus transit days.”

IANA recently introduced three electronic services that make the exchange of containers and chassis among carriers more efficient. The first, Street Interchange, provides an official, automated way for one motor carrier to transfer a container to another without first returning the container to the pickup location. This occurs, for example, when one carrier drops a loaded container at a customer’s DC, the customer unloads it, and another carrier picks it up for transport elsewhere.

Street Interchange benefits shippers because when a motor



Hub Group expects its intermodal volumes to increase between 2 and 4 percent in 2016 over 2015 levels.

carrier comes onto a shipper’s facility, the service validates that the carrier has the authorization and insurance necessary for picking up a container, says Dennis Monts, who leads IANA’s new product development efforts. By facilitating container transfers, Street Interchange ultimately can save shippers money. “If the Street Interchange system can always keep a motor carrier loaded or pulling equipment, then it’s more efficient,” he adds.

The second service, Chassis Gate Control, automatically validates that when a carrier picks up an intermodal chassis, that carrier has an agreement with the chassis owner allowing it to handle that particular piece of equipment.

The Bad Order Equipment Status service maintains a clearinghouse of information on chassis that have been damaged. It notifies everyone concerned about the status of that equipment, both when it’s damaged and when it’s ready to go back into circulation. “All these systems provide safe equipment, efficiency, and throughput to the terminals,” Monts says. “Ideally, this will save all parties a lot of money.”

With so many developments to improve speed and service, intermodal will remain an essential transportation strategy, helping shippers negotiate the ups and downs of a dynamic transportation marketplace.

We thought it could. ■



HAZMAT TRANSPORTATION



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HAVE A SAFE TRIP

When moving hazardous materials, shippers can't just send them packing. From preparing for compliance to keeping employees in the loop, here's how shippers plan for risk-free travels.

By Karen M. Kroll

Seemingly overnight, even a product that has been used in numerous devices for decades can be considered a hazardous material. Take lithium-ion batteries, for example. In February 2016, the International Civil Aviation Organization (ICAO) announced a new safety measure prohibiting, on an interim basis, all shipments of lithium-ion batteries as cargo on passenger aircraft. Lithium-ion batteries made the news again in September 2016, when the Federal Aviation Administration advised airline passengers not to turn on, charge, or even stow in their suitcases any Samsung Galaxy Note 7 devices. This followed reports of the phones' lithium-ion batteries igniting. ICAO develops international civil aviation standards and recommended practices.

The announcements show how quickly a product can be considered a hazardous material. Once it is, it's subject to additional regulations when being transported. "Shippers need to realize that many items, such as lithium batteries, are considered hazardous materials when offered for transportation," says Bob McClelland, dangerous goods manager with UPS Airlines in Louisville, Ky. "To offer such goods, shippers generally have to be trained and/or educated in the requirements to ship that item."

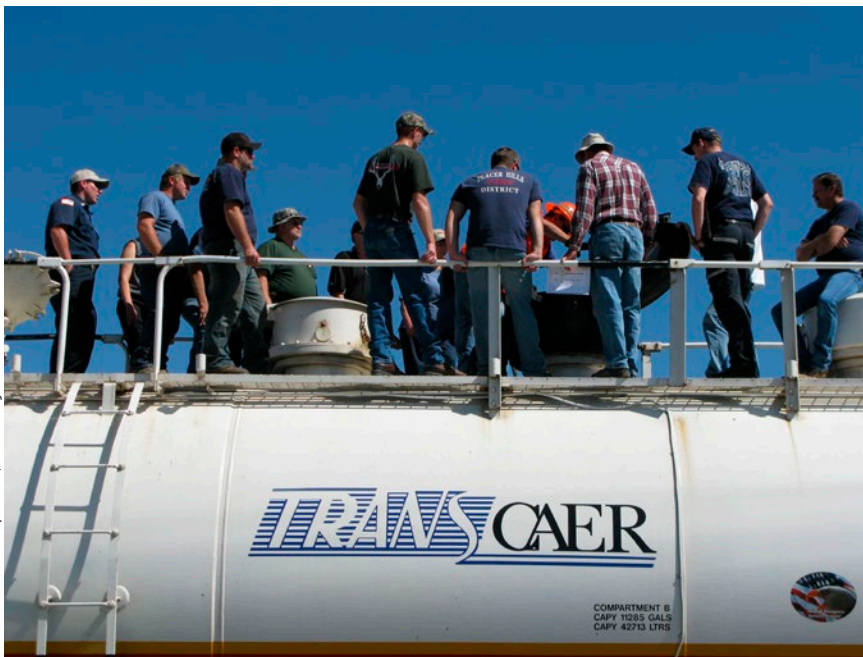
Please Handle With Care

Organizations that want to safely ship or transport hazardous materials need educated employees and effective processes and systems. Failing to act with care and follow applicable regulations can cause injuries and fatalities. It also can ruin a company's bottom line. Penalties for violating the rules can run into hundreds of thousands of dollars. The reputational risk, should a company's habit of skimping on safety measures be found to have contributed to an accident, can be ruinous.

"You can't simply hope for the best when you ship dangerous goods," says Matt Parrott, director of transportation with A.N. Deringer Inc., a provider of integrated supply chain solutions based in St. Albans, Vt.

About 2.6 billion tons of hazardous materials were shipped in 2012, according to *Hazardous Materials: 2012 Economic Census: Transportation*, a U.S. Department of Transportation report. About 60 percent moved by truck, 24 percent by pipeline, 11 percent by water, and 4 percent by rail.

Those numbers can vary when it comes to specific materials. The breakdown for chemicals is



TRANSCAER, a voluntary national outreach program, offers a training program for communities where anhydrous ammonia is manufactured, stored, shipped, transported, or used in high-volume quantities. The program prepares the communities to respond to a possible hazardous material transportation incident.

about 55 percent by highway, 20 percent by rail, and 20 percent by water, says Bryan Schlake, instructor of rail transportation engineering with Penn State, Altoona. Railroads tend to have a lower accident rate than trucks because drivers are more regulated, he notes. Because railroads don't go everywhere, however, many shipments end up on trucks at some point in their journeys.

Rules, Rules, and More Rules

In hazardous material transportation, the Pipeline and Hazardous Materials Safety Administration (PHMSA) plays a role similar to a project manager, says Steven Hunt, president of Oregon-based Shipmate Inc., a hazardous goods training and consulting firm. The PHMSA's mission is "to establish national policy, set and enforce standards, educate, and conduct research to prevent incidents." It also prepares the public and first responders to reduce consequences if an incident does occur. The Department of Transportation publishes and enforces the rules.

Most regulations governing the transportation of hazardous materials are contained in the Federal Code of Regulations (FCR), Title 49, Parts 100-185. The regulations run for pages, and hazmat shippers and

carriers need to understand them.

"Hazardous transportation is highly regulated, and there's a good reason for that," says Bob Rose, an editor at Neenah, Wis.-based safety manual publisher J.J. Keller. "If it wasn't, there'd be a lot of holes in the earth."

The Federal Motor Carrier Safety Administration outlines responsibilities that hazmat shippers must meet in order to comply with regulations. First is determining whether a substance meets the definition of a "hazardous material." Completing this step is both critical and difficult. "It is from the proper identification of the hazardous materials that the other requirements are based on," the FMCSA states. Shippers trying to determine if a substance is hazardous can turn to Title 49, section 172.101, of the FCR, which includes the Hazardous Materials Table.

Shippers also need to include specific information with each shipment. "In many cases, shippers write down a phone number and think they've complied, but they haven't," Hunt says. He developed a mnemonic (which forms the name of his company) to help shippers remember the information they need to provide when offering hazardous materials for transport:

- 1. Shipping name:** This typically is a chemical name, such as dichloroethylene or trichloroethane.
- 2. Hazard class:** This tells in which of the nine classes the material belongs. (See sidebar on page 51 for more information on the classes.)
- 3. Identification number:** This can be found on the Hazardous Materials Table.
- 4. Packing group:** I is great danger, II is medium danger, III is minor danger. Certain commodities, such as gases and lithium batteries, don't have assigned packing groups, Hunt says.
- 5. Mass/volume:** This should indicate the total quantity of hazardous materials covered in the description, with an appropriate unit of measurement.
- 6. Additional descriptive information:** This may include any special permits, a notice that the substance is poisonous or toxic, or other information.
- 7. Telephone number:** This number should be monitored 24/7 while the material is being transported, and should reach a knowledgeable individual who has access to emergency response information.
- 8. Emergency response information:** This must include the immediate hazard posed by the material, the risk of fire or explosion, and the immediate precautions to be taken in the event of an accident, spill, or leak, among other information.



Classroom and hands-on hazardous materials training is part of the TRANSCAER program.

In addition, the packages containing the materials need to include the proper shipping name and identification of the hazardous material contained within. The names need to be in English, durable, and not obscured by other labels. Some packages of hazardous materials require additional information.

Put a Placard On It

Bulk packaging, freight containers, unit load devices, transport vehicles, or rail cars containing any quantity of hazardous materials also must comply with placarding requirements. The placards, which must measure at least 250 millimeters (9.84 inches) on each side, let others quickly identify the type of hazardous material contained within, whether explosive or non-flammable gases. They must be placed on each side and end of the vehicle or container.

The placards are “amazingly important,” says Glenn Riggs, senior vice president, corporate logistics operations and strategy with Odyssey Logistics, a third-party logistics provider based in Danbury, Conn. “For the emergency response crews, the placards are life or death.” They let responders quickly identify the substance that spilled or ignited or otherwise started an accident, so they can determine how to act.

Both carriers and drivers of hazardous materials need appropriate certification. Drivers need a Hazardous Material Endorsement, which requires completing an application, being fingerprinted, and providing identifying

documents, such as a driver’s license and passport. The fingerprint enables the government to conduct a criminal background check, while the test covers information such as the proper segregation of commodities and the use of the emergency response system.

Carriers handling certain types of hazardous materials must obtain Federal Hazardous Materials Safety Permits. “These carriers must maintain a certain level of safety in their operations and certify they have programs in place as required by the Hazardous Materials Regulations and the HM Permit regulations,” the FMCSA states. Obtaining a permit requires, among other qualifications, a satisfactory safety rating, a satisfactory security program, and proof of insurance.

Embrace Change

When it comes to the rules governing the transportation of hazardous materials, “there’s always some degree of tweaking,” says Chris McLoughlin, risk manager at C.H. Robinson, a provider of multimodal transportation services and third-party logistics. For instance, in September 2016, the PHMSA proposed an amendment to the regulations to maintain consistency with international standards. This will include changes to proper shipping names, hazard classes, packing groups, and air transport quantity limitations, among others.

Similarly, more changes to battery regulations are coming, McClelland says, noting that the United States has yet to align with the ICAO rules, although it’s



PHOTO: J.J. Keller

Shippers are responsible for preparing the hazardous materials shipping papers for their carriers.

expected to do so for U.S.-to-U.S. shipping early in 2017. The ICAO will implement new lithium battery markings in 2017, as well as new requirements to mark packages containing batteries in equipment, such as laptops and cell phones, when more than two packages are in the shipment.

A regulation adopted in May 2015 enhanced tank car standards and operational controls for high-hazard flammable trains, or HHFTs. “The regulation was a big game changer in the rail industry,” Schlake says.

The rule was written to deal with the increasing number of trains carrying oil and gas produced from fracking, Riggs notes. Among other changes, the rule imposes speed restrictions, regulates the trains’ braking systems and routing, and changes tank car design standards to improve safety.

The Department of Transportation and the PHMSA currently are studying the levels and structure of insurance held by railroad carriers transporting hazardous materials, and comparing it to the full liability potential for damages resulting from an accident. “The issue in question: Is there a need for some form of supplemental insurance? Is the level of insurance out there adequate?” says Scott Jensen, director of issues communication with the American Chemistry Council. The study is scheduled for completion in April 2017.

Not all changes increase regulations. The Hazardous Waste Generator



PHOTO: J.J. Keller

The background color on flammable gas placards must be red, while the symbol, text, class number, and inner border must be white, according to 49 CFR 172.532 regulations.



PHOTO: J.J. Keller

Employees handling hazardous materials require training in general awareness and familiarization, function-specific tasks, and safety and security procedures. They also need a working knowledge of hazmat rules and regulations.

Improvement Rule, proposed in August 2015, will help retailers and others that may occasionally generate very small quantities of hazardous waste, says Tim Semones, chief operating officer with Plano, Texas-based Quest Resource Management Group, which specializes in designing and managing custom, comprehensive waste minimization solutions. At the moment, for instance, a container of charcoal lighter that spills in a grocery store is technically hazardous waste. The grocery store must follow the applicable regulations.

The proposed bill will allow these businesses to streamline the process. For instance, they can send damaged goods to a central point to be collected, segregated, and tracked, as long as the location is managed by the corporation. Currently, each location needs a program in place to manage the waste. “The cost savings to the retailer is huge,” Semones says.

Along with federal regulations, shippers and carriers need to be familiar with the many state regulations regarding hazardous material transportation. For instance, 26 states require transporters of hazardous wastes to obtain special permits or licenses, and 15 states require them to register with the state, according to the National Conference of State Legislatures.

Ready for the Trip

Managing the myriad, changing regulations governing the movement of hazardous materials starts with educated employees. “It is vital for carriers and shippers involved in the transportation of

hazardous materials to have personnel on staff who are knowledgeable about the federal hazmat regulations and make safety a top priority,” says Megan Bush, manager of safety policy with the American Trucking Associations.

This includes shippers who work with a logistics solution provider. “As a 3PL, we have a firm belief that our customers understand all the rules and regulations that go along with shipping hazardous materials,” Parrott says. After all, the shippers need to complete airway bills, certify the hazard class of the material, and provide information on the hazardous substance, among other responsibilities. In short, they need to know what they’re asking the carrier to transport.

Shippers also need to know their carriers, says Joe Beacom, vice president and chief safety and operations officer with Landstar, Jacksonville, Fla., which

provides integrated transportation solutions. Shippers should ask about a carrier’s safety record, which is available through the FMCSA’s Safety and Fitness Electronic Records (SAFER) system. The site also allows shippers to check the status of a carrier’s permit to transport hazardous materials.

It’s also smart to ask about the carrier’s experience working with the commodity being shipped, and to confirm it has experts available 24/7 if an emergency occurs. “The biggest step is having a dialogue about how to resolve issues,” Beacom says.

The carrier should have insurance and be financially stable. “Shippers don’t want a carrier that operates on razor-thin margins and might cut corners,” Riggs says.

Traceable, Visible, Accountable

Technology is another key to safe hazardous material transportation. Managing the movement of hazardous materials requires “traceability, visibility, and accountability,” says Richard Howells, global vice president of extended supply chain with software solutions provider SAP. Traceability helps shippers track down goods in case of a recall, visibility allows them to see where the materials are, and accountability lets them know who touched the product and who has the authority and skill to move it.

Modeling technology enables companies to create a digital representation of an entire supply chain, including the relevant regulations, says Toby Brzoznowski, executive vice president with Llamasoft, a supply chain solutions provider based in Ann Arbor, Mich. This allows the organization

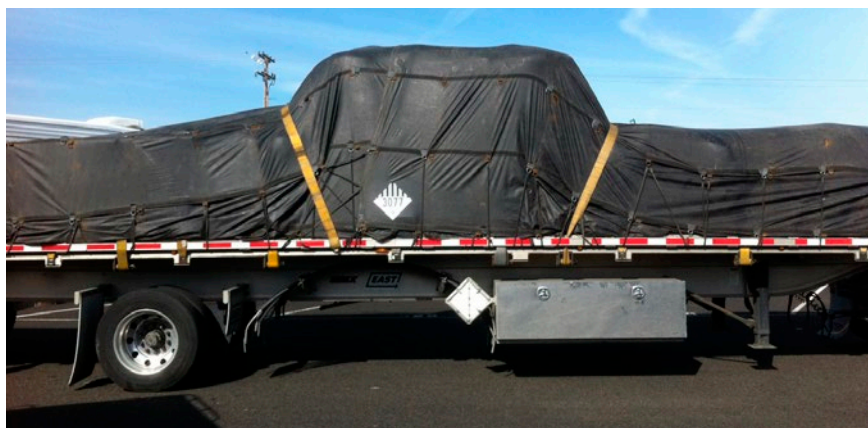


PHOTO: Landstar

Transportation regulations require the use of labels, placards, and markings that allow first responders to detect the presence of a hazardous material from a safe distance.

to identify an optimal logistics network that also complies with regulations.

The universe of robust transportation management systems at all price points continues to expand, Beacom says. That makes it easier for even smaller shippers to more effectively manage the regulatory and documentation requirements that accompany hazardous material transportation.

Technological advances extend to the containers and packaging used with hazardous materials. The American Transportation Research Institute continually works to improve safety devices, such as braking systems, forward visibility, and blind spot detection, McGloughlin says.

UPS has devised and implemented fire-resistant aircraft containers, fire containment covers for cargo pallets, and quick-donning full-face oxygen masks for crew positions on every aircraft. "These steps and others provide a multi-layered approach that drastically reduces the risk of a significant incident due to an issue with lithium batteries or other hazardous material on an aircraft," McClelland says.

Leading the Charge to Innovation

The innovations will continue. Some researchers are working on devices that measure the state of charge in lithium-ion batteries, for example. It's not easy; the batteries decay in an exponential, rather than linear rate, and if the state of charge is reduced too much, the battery becomes nothing more than a paperweight, Hunt says. Yet, this work should lead to products that can be transported with less risk.

Another area receiving attention is



PHOTO: Odyssey Logistics

Cargo tanks display the identification number of their contents on placards turned upright on a point in a diamond shape. The placards identify the hazard class of the cargo.

Positive Train Control (PTC), which allows a train to be remotely controlled if, for instance, the conductor becomes incapacitated. In 2008, Congress mandated PTC implementation on certain passenger railroad lines, as well as those that transport materials that are poisonous or toxic when inhaled.

The original PTC implementation deadline of Dec. 31, 2015 was extended to Dec. 31, 2018. The initial deadlines "didn't fully recognize the complexity of the technology," Jensen says, adding that the technology needs to work on all rail systems in operation. But it's clear that Congress wants to move forward. A Federal Railroad Administration status update in August 2016 underscored "the need for railroads to implement Positive Train Control as quickly and safely as possible."

Another technology that may play a greater role in hazardous material transportation is the Internet of Things (IoT),

Howells says. As this technology advances, and as the cost of sensors drops, it will be possible to monitor shipments to ensure, for instance, that those requiring controlled temperatures remain free of tampering.

While technology and training help companies ship hazardous materials more safely, logistics professionals also need to continually review their supply chains to identify ways to reduce inherent dangers. That could mean reducing product toxicity, or shortening the distances the hazardous materials have to move, Schlake suggests.

As logistics professionals look for ways to reduce these dangers, they also need to ensure the hazardous materials in their supply chains move safely, efficiently, and in compliance with regulations. That requires informed employees; processes and systems that provide visibility, facilitate compliance, and streamline recordkeeping; and packages and containers that keep their materials safe. ■

Hazardous Material Classifications

The U.S. Department of Transportation organizes hazardous materials into the following nine classes:

1. Explosives
2. Gases
3. Flammable liquids and combustible liquids
4. Flammable solids, spontaneously combustible and dangerous when wet
5. Oxidizers and organic peroxides
6. Poisons (toxic) and poison inhalation hazards
7. Radioactive materials
8. Corrosive materials
9. Miscellaneous

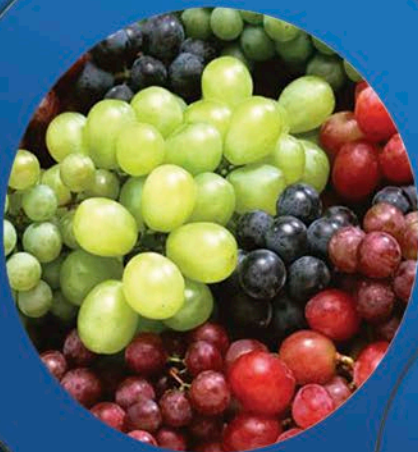
The spectrum of materials considered hazardous ranges from radioactive materials to items "consumers might have under their sink at home," says Chris McLoughlin, risk manager at C.H. Robinson, a provider of multimodal transportation services and third-party logistics.

Along with the material itself, volume comes into play when calculating just how hazardous a shipment is. Acetone, a primary component of nail polish remover, is a flammable liquid. A small bottle typically can be moved safely. "But 7,000 gallons of acetone in a tank becomes dangerous because of both vapors and flammability," says Glenn Riggs, senior vice president, corporate logistics operations and strategy with logistics solutions provider Odyssey Logistics.

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Hyundai Merchant Marine knows how important it is to preserving the condition of your sensitive refrigerated cargo from loaded container to final delivery. With 40 years of experience, modern reefer equipment, and over 50 sea routes to more than 100 ports of call, HMM is your premium partner for temperature controlled cargo.

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2016 SHIPPING LINES DIRECTORY



With overall shipping volumes running aground, and freight rates capsizing, shipping lines face a tumultuous crossing for the rest of 2016 and into 2017. While Hanjin Shipping Co.'s bankruptcy filing temporarily bolstered rates, the overall course continues to be persistent overcapacity and sinking prices. Upcoming currents promise more tumult – more acquisitions and bankruptcies. Indeed, an already battered global shipping industry is sailing toward massive restructuring.

With international trade projected to rise a paltry 1.8 percent in 2017 according to the World Trade Organization—the slowest growth rate since the 2009 economic crisis—containership operators have to batten down the hatches. *Inbound Logistics'* 2016 Shipping Lines Directory will help you glean new ocean offerings and navigate the choppy waters of the maritime market.

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2016 SHIPPING LINES DIRECTORY

Atlantic Container Line (ACL)

800-ACL-1235 | ACLcargo.com | nextgenerationconro.com

PARENT COMPANY: Grimaldi Group of Naples, Italy

Established in 1967, ACL is a specialized transatlantic carrier of containers, project and oversized cargo, heavy equipment, and vehicles with the world's largest combination roll-on/roll-off (RoRo) containerships (CONROs). Headquartered in Westfield, N.J., with offices throughout Europe and North America, ACL offers five transatlantic sailings each week and is also the Grimaldi North America agent for services between North America and West Africa and between North America and the Mediterranean.

WEB TOOLS: Booking and rate requests, express documentation.

FLEET SIZE: Five vessels operate in the core North Atlantic service; additional vessels are time-chartered to the Grimaldi Group.



APL

800-999-7733 | apl.com

PARENT COMPANY: CMA CGM S.A.

SISTER COMPANIES: ANL, Cheng Lie Navigation Company, MacAndrew, US Lines, OPDR, COMANAV

Now part of the CMA CGM Group, APL offers more than 90 weekly services and call ports in more than 50 countries, providing container transportation through an international shipping network. With a presence in the U.S. market, APL helps shippers connect to their markets and grow their business with competitive transit times and service.

WEB TOOLS: Electronic cargo booking and tracking; electronic bills of lading; online-enabled cargo pickup and delivery management for truckers; electronic VGM submission; container tare weight queries.

FLEET SIZE: 88 vessels.

CUSTOMER AWARDS: Superior Value Award 2016, Delphi; All-Star of the Year 2016, Target; Best Green Shipping Line 2016, HAROPA.

WHAT'S NEW: The shipping company launched APL Time-differentiated Services, which provide direct routes between Asia and the U.S. West Coast for time-sensitive cargo, calling Global Gateway South at the Port of Los Angeles.



Bahri

410-625-7000 | bahri.sa

PARENT COMPANY: The National Shipping Company of Saudi Arabia (Bahri)

Established in 1978, The National Shipping Company of Saudi Arabia (Bahri), Saudi Arabia's national carrier, offers ocean transportation services to meet shippers' changing needs. Specializing in project cargo, breakbulk, RoRo, automobiles, and containers, Bahri connects economies to foster world trade. Bahri owns and operates 36 Very Large Crude Carriers (VLCCs), 36 chemical carriers, six RoRo ships, and five dry-bulk vessels. The carrier will take delivery of an additional 10 VLCCs during 2017 and 2018.

FLEET SIZE: 83 vessels.

WHAT'S NEW: Bahri introduced BahriData, a big data platform designed to improve operating performance. A team of specialists at the company will embed sustainable analytics into its operations.

China Shipping

China Shipping and COSCO (China Ocean Shipping Company) combined their fleets and port operations in 2015 to create China COSCO Holdings, the world's fourth-biggest container operator in terms of capacity. They are expected to merge 11 shipbuilding yards into a single entity by early 2017. As part of the ongoing restructuring of China Shipping Container Lines in the United States, China Shipping (North America) Agency Co. ceased container operations on June 30, 2016. Shipper contracts signed with COSCO Container Lines and China Shipping Container Lines will be honored until March 31, 2017, when the newly merged corporation joins the Ocean Alliance.



CMA CGM

757-961-2100 | cma-cgm.com

LOGISTICS DIVISION: CMA CGM Logistics

CMA CGM, founded in 1978 by Jacques R. Saadé, provides regular service to 420 ports on more than 170 main shipping lines around the world. With a presence on all continents and in 160 countries through its network of more than 600 agencies, CMA CGM employs 29,000 people and transports 18 million TEUs annually. The group offers a complete range of activities, including transport by sea, river, and rail. It also operates facilities in port, as well as logistics on land, to guarantee door-to-door services.

WEB TOOLS: Interactive schedules; routing finder, including line services and voyage finder; quotation requests; tariffs; container tracking; bill of lading printing; and shipment details.

FLEET SIZE: 536 vessels. The CMA CGM Group fleet numbers 14 giant containerships with capacities topping 12,700 TEUs.

WHAT'S NEW: In 2016, CMA CGM launched the EMED Express service to serve the regional East Mediterranean market. The line directly links Greece, Egypt, Lebanon, Cyprus, and Turkey.

COSCO Container Lines Americas

866-830-2550 | cosco-usa.com

PARENT COMPANY: China Ocean Shipping Company (COSCO)

As of press time, the new name for COSCO Container Lines Americas had not been released. China Shipping and COSCO merged their fleets and port operations in 2015. COSCO maintains 85 representative offices in 49 countries around the world, and agencies in 1,000 cities in 160 countries. Cargo handling capabilities include 20-foot and 40-foot dry containers, refrigerated containers, at-racks, open tops, high cube, and other specialized equipment.

WEB TOOLS: Automated 24/7 cargo tracking service, complete listing of services and schedules.

FLEET SIZE: 117 vessels.

WHAT'S NEW: Scheduling additions and revisions, and equipment improvements have resulted in faster transit times. COSCO is expected to complete its merger with China Shipping Group by the end of 2016.

Crowley Liner Services

800-CROWLEY | crowley.com

PARENT COMPANY: Crowley Maritime Corporation

SUBSIDIARY COMPANY: Customized Brokers, Jensen Maritime, Ardent Global, SeaFreight, SeaPack

LOGISTICS DIVISION: Crowley Logistics

Crowley Maritime Corporation, founded in 1892, provides worldwide marine solutions, and energy and logistics services. As a leading ocean cargo carrier between the United States, Puerto Rico, the Caribbean, and Central America, Crowley offers frequent sailings and cargo carrying services including: containerized, refrigerated, and breakbulk shipping; liquefied natural gas (LNG) transport and delivery; and over-dimensional and vehicle/rolling stock transportation.

WEB TOOLS: Shipment tracking, sailing schedules, tariff rate retrieval, inland rate tables, booking requests, freight payment, and live customer service chat support.

FLEET SIZE: More than 200 vessels.

CUSTOMER AWARDS: Top Line Haul Performance, Ford Outstanding Customer Service, Payless ShoeSource International Partnership.

WHAT'S NEW: The company is investing \$21 million in improvements and upgrades to its Isla Grande port terminal following a \$48.5-million investment in 2015 for a new pier at the terminal. The company acquired SeaFreight Line, SeaFreight Agencies, and SeaPack, to provide expanded services throughout the Caribbean Basin.

Evergreen Line

201-761-3000 | evergreen-line.com

PARENT COMPANY: Evergreen Group

LOGISTICS DIVISION: Evergreen Shipping Agency (America)

Taiwan-based Evergreen was founded in 1968 by Group Chairman Dr. Yung-fa Chang, and commenced full container liner services in 1975. It has developed into a global carrier, operating a 560,000-TEU-capacity fleet and serving six continents.

WEB TOOLS: Integrated e-commerce services via its ShipmentLink portal; enhanced e-reports with functions such as event-driven notification, tracking reports, and shipment statistics.

FLEET SIZE: 150 vessels.

WHAT'S NEW: Evergreen Line is partnering with COSCO to operate a joint Adriatic-Israel (AIS) Service. The new line connects North Adriatic ports, Piraeus, and Israel. Two ships of approximately 1,000 TEUs service the weekly route.

2016 SHIPPING LINES DIRECTORY



Hamburg Süd

973-775-5300 | hamburgsud.com

PARENT COMPANY: The Oetker Group

With approximately 50 liner services, Hamburg Süd specializes in containerized temperature-sensitive cargo shipping. With its Brazilian subsidiary Aliança and under the brand CCNI, Hamburg Süd has a global presence linking North America, South America, Europe, the Mediterranean, Asia, India, Pakistan, and Australia/New Zealand. The company operates bulk carriers and product tankers under the names Rudolf A. Oetker (RAO), Furness Withy Chartering, and Aliança Bulk (Aliabulk).

WEB TOOLS: Tariffs; liner service schedules; point-to-point connection information; booking requests; bill of lading request; track and trace; container tare weight information; VGM submission.

FLEET SIZE: 189 vessels.

CUSTOMER AWARDS: Ocean Supplier of the Year, Global Supplier Awards 2015, Ceva Logistics; Gold Recognition Level, EcoVadis; Carrier of the Year 2015, DHL Global Forwarding.

Hanjin Shipping

Hanjin's bankruptcy filing in August 2016 stranded more than \$14 billion of cargo at sea and continues to impact global supply chains. The shipping line estimates all cargo will be offloaded by the end of October 2016.

Hapag-Lloyd

732-562-1800 | hapag-lloyd.com

PARENT COMPANY: CSAV, City of Hamburg, Kühne Maritime, TUI, Signal Iduna, HSH Nordbank, an investor pool led by M.M.Warburg & Co., and HanseMerkur

Hapag-Lloyd connects all major ports worldwide via more than 128 liner services, including U.S. flag services and cabotage connections within South America. The carrier operates 349 offices in 116 countries, and offers a container stock of more than 1.6 million TEUs of all types, including one of the largest reefer fleets in the industry.

WEB TOOLS: Mobile/smartphone app for iOS and Android; point-to-point schedule; tariffs; booking request; shipment overview listing; shipping instruction; sea waybill of lading download; detention and demurrage regulations; track and trace.

FLEET SIZE: 175 containerships. Total capacity: 955,000 TEUs.

CUSTOMER AWARDS: Ocean Performance Award, GT Nexus Shipper Council; Carrier of the Year Award 2015, Specialty Crop Trade Council; Top Performing Carrier, Agriculture Transportation Coalition; Newell Brands Carrier of the Year Award 2015.

WHAT'S NEW: Hapag-Lloyd took over Chile's Cia. Sud Americana de Vapores SA in 2014 and UASC in 2016.

Hyundai Merchant Marine (HMM)

877-749-8632 | hmm21.com

Hyundai Merchant Marine operates more than 130 vessels encompassing 50 routes to more than 100 ports of call.

HMM develops customized supply chain solutions for dry, refrigerated, and other specialized cargo. HMM has formed a global business network of vessels, terminals, railroads, trucks, and offices around the world.

WEB TOOLS: Freight booking, bill of lading services, cargo track and trace, EDI solutions, optimal routing guide, personalized customer reports, HMM Shiptrack mobile app.

FLEET SIZE: 138 vessels.

CUSTOMER AWARDS: 2015 Supply Chain Partner of the Year, Michaels Stores.

WHAT'S NEW: In 2016, HMM deployed five newly built 10,000-TEU NeoPanamax vessels on the Trans-Pacific-U.S. East Coast trade lanes. Beginning April 2017, HMM will join a VSA with Maersk Line and MSC to improve network coverage.

Intermarine

800-229-8701 | intermarineusa.com

PARENT COMPANY: Intermarine LLC

Intermarine provides ocean transport for project, breakbulk, and heavylift cargo. Founded in 1990, the company operates an international fleet with lifting capacities up to 1,400 metric tons. Intermarine provides ocean transportation and marine logistics services with regular sailings in the Americas, West Africa, Europe, Asia, and the Middle East, plus inducement voyages to Australia and other international ports. The company operates the largest U.S. flag heavylift fleet and controls Industrial Terminals (Houston).

WEB TOOLS: Rate quotes, weekly sailing schedules.

FLEET SIZE: 40 vessels.

WHAT'S NEW: In July 2016, Intermarine took delivery of the *m/v Industrial Skipper*. The 12,500-DWT Ecolift 500 vessel features two cranes with a combined lifting capacity of 500 metric tons.

“K” Line America

804-560-3600 | kline.com

PARENT COMPANY: Kawasaki Kisen Kaisha Ltd.

“K” Line offers worldwide containership services through its four hubs on three continents. “K” Line operates main East-West routes between Asia and North America, Asia and Europe, and Europe and North America. It also offers intra-Asian routes covering the Middle East and the Indian subcontinent, and the South-North route linking South America, Australia, and Africa with Asia and other regions.

WEB TOOLS: Global route planner.

FLEET SIZE: 662 vessels.

CUSTOMER AWARDS: 2015 Green Flag Vessel Speed Reduction Award, Port of Long Beach; 2015 Vessel Speed Reduction Award, Port of Los Angeles.

WHAT'S NEW: In August 2016, “K” Line launched Asia/India/Pakistan services with enhanced port coverage.



Maersk Line

800-321-8807 | maerskline.com

PARENT COMPANY: A.P. Møller–Mærsk A/S

SISTER COMPANY: Safmarine and SeaLand. Maersk Line is the holding company for MCC Transport (Intra-Asia), Seago Line (Intra-Europe), and Mercosul (Brazil).

Founded in 1904, Maersk Line is a global transportation partner that strengthens shippers' supply chains and enables global trade. Maersk Line connects the world with port-to-port pairs and global weekly sailings to provide comprehensive service options for global supply chains.

WEB TOOLS: My Maersk Line e-tools include: booking, shipping instructions; My Shipment; ETA notification; MyFinance with eInvoices, eDispute, eStatement, and ePayment; bill of lading; sailing schedules; and track and trace.

FLEET SIZE: 610 vessels.

CUSTOMER AWARDS: 2015 Target All-Star Award.

WHAT'S NEW: On Sept. 22, 2016, A.P. Møller–Mærsk A/S announced a restructuring of the company into two separate divisions: Transport & Logistics and Energy. Maersk Line,

along with APM Terminals, Damco, Maersk Container Industry, and Svitzer, will be part of the Transport & Logistics Division.

Matson Navigation Company

800-4MATSON | matson.com

PARENT COMPANY: Matson Inc.

LOGISTICS DIVISION: Matson Logistics

Matson's transportation offerings span the globe from Shanghai to Savannah, and encompass everything from providing services to the economies of Hawaii, Guam, Micronesia, the South Pacific, and Alaska to offering an expedited service from China to Southern California.

WEB TOOLS: Booking, freight and container tracking, billing, account balances, EDI.

FLEET SIZE: 21 vessels.

WHAT'S NEW: Matson's South Pacific Express (SPX) now links its West Coast–Hawaii service with its South Pacific network. SPX provides same-day-of-week South Pacific arrivals every 28 days for West Coast cargo transshipped at Honolulu.

MOL (America)

800-449-7575 | MOLpower.com | CountOnMOL.com

PARENT COMPANY: MOL Ltd. (Mitsui O.S.K. Lines)

CONSOLIDATION DIVISION: MOL Consolidation Services Ltd.

LOGISTICS DIVISION: MOL Logistics (U.S.A.) Inc.

MOL (America) Inc., MOL's wholly owned liner subsidiary in North America, employs approximately 400 transportation professionals in 12 sales offices throughout the United States.

WEB TOOLS: KPI reporting; booking requests and shipping instructions; bill of lading searching, viewing, and printing; global shipment tracking; reports; sailing schedules.

FLEET SIZE: 830 vessels.

WHAT'S NEW: MOL launched an Asia to Middle East service providing connections to/from ports in China, Taiwan, Singapore, Malaysia, and the Middle East.

MSC Mediterranean Shipping Co. (USA)

212-764-4800 | msc.com

Founded in 1970, MSC is a privately owned global organization operating a network of more than 480 offices in 150 countries. MSC has an established fleet of 465 container vessels with an intake capacity of approximately 2.6 million TEUs. Its global sailing schedules cover 200 routes, calling at 315 ports, allowing MSC to deliver cargo almost anywhere in the world.

FLEET SIZE: 465 container vessels.

WHAT'S NEW: In September 2016, MSC introduced a trans-pacific trade service called Maple. The new sailing calls at Busan, Shanghai, Yantian, and Prince Rupert.

2016 SHIPPING LINES DIRECTORY

NYK Line

201-330-3000 | nykline.com

PARENT COMPANY: Nippon Yusen Kabushiki Kaisha

LOGISTICS DIVISION: Yusen Logistics Co. Ltd. (YLK)

Founded in 1885, Nippon Yusen Kabushiki Kaisha (NYK Line) is a global logistics group offering ocean, land, and air transportation services that draw on fleets of specialized vessels, trucks, warehouses, and aircraft.

WEB TOOLS: Bill of lading processing, bookings, customized reports, rate inquiries, and shipment alerts and information.

FLEET SIZE: 846 major ocean vessels, including 126 containerships (includes semi-containerships).

WHAT'S NEW: NYK expanded its network linking Japan, Thailand, and Vietnam. The company will rename the previous service Phoenix 1, and add a new Phoenix 2 service to provide a more stable transportation network.



Rickmers-Linie

281-453-7500 | rickmers-linie.com

PARENT COMPANY: Rickmers Group, Hamburg

Rickmers-Linie provides worldwide liner services for the transportation of non-containerized project cargoes and heavy lifts. The Round-the-World Pearl String service with fortnightly departures connects Europe with Asia, Asia with the United States, and the United States with Europe and Asia, and is complemented by regular liner services from Europe to the Middle East-India, and the Westbound Round-the-World service connecting Asia, South America, and North America.

WEB TOOLS: Interactive schedule, schedule per vessel, surcharge bulletin, rate inquiry.

FLEET SIZE: 10 vessels (core fleet in 2016).

WHAT'S NEW: Rickmers-Linie took over the activities of tramp and chartering specialist Nordana Project & Chartering with offices in Copenhagen, Bangkok, Singapore, and Houston; it continues the business under the NPC Projects brand.



OOCL

888-388-OOCL | oocl.com

PARENT COMPANY: Orient Overseas (International) Ltd.

LOGISTICS DIVISION: OOCL Logistics Inc.

OOCL provides fully integrated logistics and containerized transportation services, with a network that encompasses Asia, Europe, North America, and Australasia.

WEB TOOLS: Advanced visibility and exception management.

FLEET SIZE: 100 vessels.

WHAT'S NEW: OOCL signed an agreement with CMA CGM, COSCO Container Lines, and Evergreen Line to form the Ocean Alliance. Together, the shipping lines can offer competitive products and service networks covering the Asia-Europe, Asia-Mediterranean, Asia-Red Sea, Asia-Middle East, trans-Pacific, Asia-North America East Coast, and trans-Atlantic trades.

Safmarine

866-866-4723 | safmarine.com

PARENT COMPANY: The Maersk Group

SISTER COMPANY: Maersk Line and SeaLand

In 2016, Safmarine celebrated 70 years of service. Founded in 1946 in South Africa, and with a presence in 85 countries, Safmarine provides ocean transportation for dry, refrigerated, and special project cargo. Safmarine's core trade focus is on cargo moving to and from Africa, the Middle East, and the Indian subcontinent. As part of the Maersk Group, Safmarine offers access to a network of equipment and services while providing personalized solutions.

WEB TOOLS: Sailing schedules; eRates; eBooking; eShipping instructions; eVGM; bills of lading (view/amend/print); cargo tracking; alerts and notifications; arrival notices; invoices; ePayment; import and export shipment overview.

CUSTOMER AWARDS: Best Shipping Line Award, Customer Care category, PIFFA Excellence Awards 2015.

WHAT'S NEW: Safmarine's head office returned to Cape Town, South Africa, from Copenhagen.

Seaboard Marine

305-863-4444 | seaboardmarine.com

PARENT COMPANY: Seaboard Corporation

Seaboard Marine is an ocean transportation and logistics company that provides direct, regular service between the United States and the Caribbean Basin, Central and South America. It serves nearly 40 ports in more than 25 countries.

WEB TOOLS: Booking request and confirmation; ocean shipping instructions; manifest data; bill of lading and ocean invoice; shipment status; vessel schedule.

FLEET SIZE: 30 vessels.

WHAT'S NEW: Seaboard Marine upgraded its service to Trinidad and Barbados from ports in Philadelphia, Newark, and Brooklyn. Its southbound service from the North Atlantic connects with its Caribbean service to provide transit to Point Lisas, Trinidad, and Bridgetown, Barbados.

TOTE Maritime

904-855-1260 | totemaritime.com

PARENT COMPANY: Saltchuk

TOTE companies route cargo from North America to Puerto Rico and Alaska. TOTE Maritime companies offer services to remote areas of the United States. Twice-weekly service to its dedicated trade routes ensures cost-effective cargo transport for U.S. shippers in the non-contiguous states.

FLEET SIZE: Three vessels.

CUSTOMER AWARDS: Lloyd's List Award for Ocean-Going Ship Operator of the Year (North America) 2015.

WHAT'S NEW: TOTE Maritime launched two LNG-powered containerships in the Puerto Rico trade.

Trailer Bridge

904-751-7100 | trailerbridge.com

LOGISTICS DIVISION: Trailer Bridge Logistics

As a U.S. flag (Jones Act) carrier, Trailer Bridge provides multiple weekly sailings between Jacksonville, Fla., and San Juan, Puerto Rico. Trailer Bridge also provides weekly sailings between Jacksonville, Fla., and Puerto Plata, Dominican Republic. The company serves Fortune 500 companies via Trailer Bridge Logistics. With its company-owned assets, owner operators, and partner carriers, Trailer Bridge provides truckload, intermodal, expedited, and warehousing services.

WEB TOOLS: Shipment tracking, customizable reports, bookings, rate requests, sailing schedule.

FLEET SIZE: Seven vessels.

WHAT'S NEW: Trailer Bridge launched a joint service offering with J.B. Hunt Transport, providing shippers with access to 80,000+ containers throughout the United States and an equipment sourcing solution in the Puerto Rico trade lane.

United Arab Shipping Company (UASC)

908-272-0050 | uasc.net

United Arab Shipping Company (UASC) is a global shipping company based in the Middle East, covering more than 240 ports. The dry cargo carrier offers services to the Arabian Gulf/Red Sea and Indian subcontinent.

WEB TOOLS: Shipment tracking, bill of lading, sailing schedules.

FLEET SIZE: 62 vessels.

WHAT'S NEW: In July 2016, UASC launched two Indian subcontinent-Europe services (IEC1 and IEC2).



Yang Ming (America) Corp.

201-420-5800 | yangming.com

PARENT COMPANY: Yang Ming Marine Transport Corporation

SUBSIDIARY COMPANY: Kuang Ming Shipping Corp./Yes Logistics Corp./Kao Ming Container Terminal Corp.

LOGISTICS DIVISION: Yes Logistics Corp./Jing Ming Transport Co., Ltd.

Yang Ming Marine Transport Corp. (Yang Ming) was established in 1972. Yang Ming provides global marine transportation services with an operating capacity of 593,000 TEUs.

WEB TOOLS: Schedule; point-to-point search; booking; bill of lading processing; account balance; vessel tracking; search by vessel, port, and service; track and trace; tariffs.

FLEET SIZE: 109 vessels.

WHAT'S NEW: Yang Ming upgraded its China-Vietnam/Thailand services in August 2016.

ZIM Integrated Shipping Services

757-228-1300 | zim.com

Established in 1945, ZIM's global shipping services cover all major international trade routes and are complemented by regional shipping lines, connected by 10 major hubs and 180 ports of call. In 2015, ZIM carried more than 2.3 million TEUs.

WEB TOOLS: Quote submissions, cargo tracing, vendor portals.

FLEET SIZE: 80 vessels.

WHAT'S NEW: ZIM upgraded its Mediterranean West Africa service (MAF) in July 2016. The new rotation offers wider ports coverage and transshipment arrangements.

An Intermodal Resurgence



After a rough winter threatens to derail intermodal, the industry gets back on track.



The historically severe winter of 2013-14 proved to be a major challenge for intermodal shipping in North America. Inclement weather disrupted intermodal networks, leading to comprehensive struggles with service that lasted well beyond the winter season. The taxing winter, which inspired nicknames such as Snowmageddon, caused “things to really implode” in the intermodal sector and “it took a good 18 months to recover,” says Phil Shook, director of intermodal services at C.H. Robinson, a third-party logistics provider with more than 110,000 customers around the world.

The unlucky weather pattern interrupted a robust period of growth for intermodal. In fact, Shook says, 2013 had represented a highwater mark for intermodal service before winter arrived. Among the reverberations of that single winter is the view that intermodal is neither reliable nor cost effective. But that perspective does not reflect the current market.

“I would tell shippers that if they stepped away from intermodal the past two years, they should jump back in now,” Shook says. “The water’s great.”

C.H. Robinson is seeing a commitment to intermodal that spans across industries. “We find it across almost all verticals,” Shook says. “Any freight that can run in a dry van fits well into intermodal right now.”

Intermodal is growing faster than any other mode of transportation, attracting purveyors of electronics, mail, food, paper products, clothes, appliances, textiles and auto parts, among others, according to the Intermodal Association of North America. Total intermodal loadings in North America have grown from approximately 10 million in 2000 to more than 16 million in 2015, indicates the association’s *Intermodal Market Trends and Statistics Report*.

Intermodal plays a critical role in today’s supply chain, notes Adam Bridges, senior vice president for marketing and strategic planning at Florida East Coast Railway (FECR), a 351-mile freight rail system. In addition to reducing road congestion and cutting greenhouse gas emissions — according to the Association of American Railroads, moving freight by rail instead of trucks reduces greenhouse gas emissions by 75 percent — “intermodal provides a highly capable transportation choice with added

capacity for the movement of domestic and international goods,” Bridges says.

Moving forward, intermodal rail service promises to represent an important component of the national transportation network as population and consumer demand grow and the trucking industry wrestles with driver shortages and new regulations, according to Wesley Ann Barton, director of intermodal marketing for CSX Corporation, which provides traditional rail service and the transport of intermodal containers and trailers to 23 states, Washington, D.C., and two Canadian provinces.

“Intermodal rail provides shippers an opportunity to diversify their transportation portfolio to mitigate against future capacity crunches,” Barton says. “Although over-the-road capacity is readily available today, regulations including Electronic Logging Devices (ELDs) and driver shortages due to an aging driver pool, high turnover and waning interest in long-haul trucking as a career are forecasted to impact capacity as soon as 2017.”

FECR is experiencing strong demand for intermodal across Florida and consequently “continuously enhances products and services to meet the schedule and performance requirements of customers,” Bridges says.

Similarly, CSX has made major investments in new and expanded terminals and new service offerings designed to improve its intermodal network, partly with the goal of cutting the average length of haul to help intermodal better compete with



Florida East Coast Railway transports a mix of both intermodal containers and trailers.

trucking and to support possible international cargo growth. Previously, according to CSX, intermodal competition has been limited to long-haul truckloads of 550 miles or more. Investments such as CSX’s aim to make shorter intermodal hauls more appealing to shippers. In total, CSX has invested more than \$700 million in its intermodal network.

An area of emphasis for CSX’s intermodal development is the National Gateway project, a partnership with federal and state organizations to double-stack important CSX freight rail corridors between Mid-Atlantic ports and consumption centers and the Midwest. The \$850-million project has already completed its first phase—a double-stack clearing between CSX’s intermodal hub in Northwest Ohio and its terminal in Chambersburg, Pa.

CSX and FECR’s support for intermodal appears to fit into a larger trend. One key reason to be bullish on the current and future state of intermodal in North

America is railroads are investing heavily in the field and “intermodal service is fantastic right now,” Shook says.

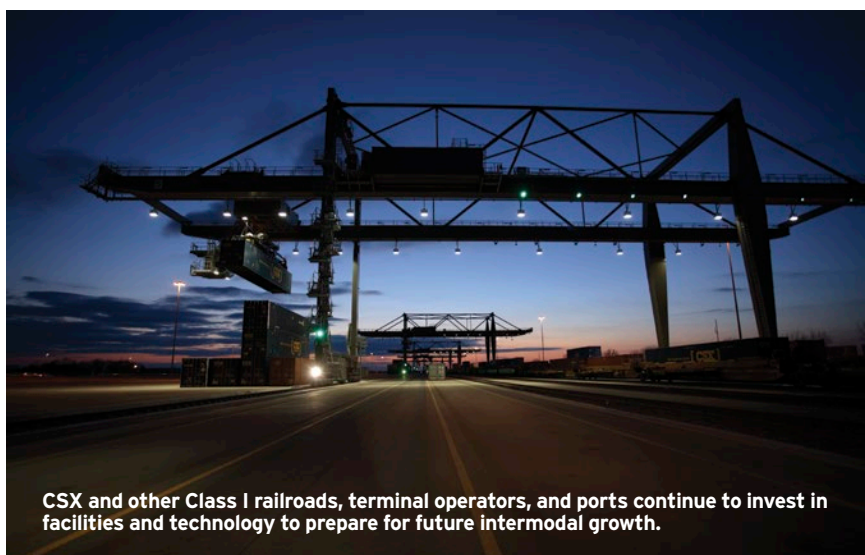
“Railroads have continued to plow unprecedented amounts of capital into their infrastructure and have heavily slanted toward intermodal improvements, which may not seem rational because the macro industry has not been strong this year,” Shook says. “But the railroads have taken this little downturn in business as an opportunity to invest forward in their networks and to prepare not only for today but for the mode’s long-term future growth.”

Intermodal-friendly Sites and Facilities

Choosing the right sites for new distribution centers and manufacturing facilities can be an integral part of developing a vigorous intermodal operation. Shippers work with railroads, ports, real estate developers, business development groups and others to identify the ideal location for distributing their goods efficiently. Depending on the shipper and market, this can mean sites near ports or far from coasts that utilize the rail and interstate highway systems.

In addition, the design and features of the facilities where intermodal shipping occurs—from railyards and ports to distribution centers and manufacturing plants—can play a critical role in its effectiveness. A number of logistics parks are opening up around railroad intermodal facilities to take advantage of economies of scale.

As an example, Shook points to the 6,500-acre CenterPoint Intermodal Center in Elwood and Joliet, Ill. Two Class I railroads, BNSF and Union Pacific, operate facilities at the park, which hosts rail, intermodal, trucking and transload functions.



CSX and other Class I railroads, terminal operators, and ports continue to invest in facilities and technology to prepare for future intermodal growth.

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Consequently, a number of distribution and logistics companies have set up shop at the complex, too.

“Anytime you can minimize the number of drayage miles in an intermodal shipment, the more competitive the intermodal offering will be,” Shook says.

Rails and ports are collaborating to make the process as seamless as possible.

For example, Bridges says, FECR offers door-to-door intermodal solutions for domestic and international equipment, assists with transloading international freight into domestic containers, and has worked with its port partners, PortMiami and Port Everglades, two of the busiest in the country, to establish on-dock and near-dock intermodal rail facilities and service,

“allowing containers to load or unload quickly onto or off of waiting trains for the fastest track to Southeast U.S. markets.”

CSX’s Northwest Ohio Intermodal Terminal anchors a hub-and-spoke model and acts like an airline hub, “bringing in shorter-haul ‘regional’ traffic to create the density needed for longer hauls, or taking long-haul freight and distributing it via the hub to smaller markets,” says Barton. The enterprising strategy means smaller markets that otherwise would not have received intermodal service can be served. CSX is now building a second hub, the Carolina Connector, a \$270-million infrastructure project in Rocky Mount, N.C.

Some special considerations accompany intermodal distribution centers. The Hollingsworth Companies is a Clinton, Tenn.-based provider of industrial facilities focused on the Southeast region (*see sidebar, left*). Hollingsworth hosts intermodal-friendly plants and distribution centers in Georgia, Mississippi, North Carolina, and Virginia, where the company’s sites have access to port facilities.

Distribution centers that manage intermodal shipping require a particular emphasis on safety and security for containers that pass through the facilities, says Tom Mann, vice president of industrial real estate with Hollingsworth. When intermodal cargo is unloaded at a distribution center, it could wait at the facility overnight or longer before being removed from the container and transported on the next leg of its trip. For that reason, locks, lights, cameras, and fences, among other security factors, take on added importance. So do the shippers’ use of security seals to impede breaching the containers.

Intermodal Gets Innovative

A number of technology-enabled innovations have improved the intermodal process.

One example is “automation at the rail ramps, which has expedited the driver’s time at the railyard,” Shook says. “All the railroads now have a mobile app so drivers can use a QR code to get in and out, which increases their time on the road doing revenue-generating activity.”

The satellite tracking capabilities of devices also do more than ever to help shippers keep track of their goods as

Hollingsworth’s Southern Hospitality



Founded by The Hollingsworth Companies in 1997, Southpoint Business Park in Prince George County, Va., won the National Association of Counties award for Best Semi-Rural Economic Development Public-Private Partnership in the Nation.

The Hollingsworth Companies, an industrial real estate developer based in Clinton, Tenn., specializes in working with mid-sized companies that favor light assembly, manufacturing plants, and distribution centers ranging in size between 75,000 square feet and 500,000 square feet. Hollingsworth’s clients typically are not looking to own their facilities; they prefer to lease them from Hollingsworth, says Tom Mann, vice president of industrial real estate at The Hollingsworth Companies.

Hollingsworth, therefore, usually provides Class A masonry and steel buildings in standard sizes and layouts for its clients. Sometimes, the company tailors existing buildings to a client’s specific requirements, preparing them in 60 days or less. Often, however, Hollingsworth constructs the facility from near-scratch on demand to meet its clients’ needs. The company is one of the most experienced and efficient warehouse builders in the southeast United States.

“The industry demands that we put up our buildings quickly,” Mann says. “If the facility is in one of our parks on a pre-graded lot, we can construct a 200,000-square-foot building in as few as 150 days.”

Hollingsworth operates largely in Alabama, Georgia, North Carolina, South Carolina, Tennessee, Virginia and Mississippi, focusing on semi-rural locations that offer low real estate, tax, and labor costs. The company maintains private parks in Alabama, North Carolina, Tennessee, and Virginia, with convenient interstate access. Hollingsworth also typically searches for communities with attractive economic incentives for its clients. The company readily partners with clients to develop training packages for the local workforce who will be employed in the new facilities.

they are en route. FECR offers *FECR Connect*, an online portal for customers to trace their shipments, and *EZ Buy*, an e-commerce system for customers with door-to-door transactional freight. Similarly, C.H. Robinson can monitor its clients' assets in intermodal loads at all times—which provides advantages on multiple levels.

"Customers who ship high-value or high-risk cargo like it from a security standpoint," Shook says. "Also, from an asset management standpoint, we don't have to depend on spreadsheets or other people telling us where our equipment should be. An automated system tells us exactly where it is."

An innovation on the horizon that could have a sizable impact is the possible emergence of the autonomous truck. In narrowly defined areas, such as a railyard, port or logistics park, autonomous vehicles could take hold and further improve the intermodal experience, Shook notes.

One challenge to intermodal shipping is maintaining a consistent, predictable schedule, says Shook. Dependability is critical to ensure goods are transported

efficiently, but it also is a necessity for shippers who are managing complex supply chains and budgets. An abundance of unexpected delays can cause costly chaos.

That's not currently an issue. "The biggest benefit for shippers right now is the high predictability of intermodal transit," Shook says. "Most shippers can budget for an extra day or two in their supply chain. They just need to know exactly what to plan for. With the railroads smoothing out their schedules, and being able to bring more predictability to transit times, customers are finding that's very valuable and something they can embrace."

In that vein, an important advantage to using intermodal rail is on-time delivery to consumption and distribution hubs. Through FECR, for instance, because of efficient interchange with Class I railroads Norfolk Southern and CSX in Jacksonville, "goods shipped to or from South Florida reach 70 percent of the U.S. population in less than four days," Bridges says.

An important lingering intermodal issue is driver productivity, Shook says, noting that drayage drivers typically work within

100 miles of their home base or ramp. Their workday is predicated on completing multiple shipments per day, but the prospect of waiting several hours to load or unload their vehicles wrecks the profitability of those days.

"We have to figure out as an industry how to enhance the driver's experience and profitability for driving to be a career that people want to consider," Shook says.

Making the Commitment

For companies considering either returning to intermodal or stepping into it for the first time, Shook recommends searching out an experienced third-party logistics company with expertise in the field and a consultative approach. Be wary of providers that seem to offer little more than low prices. He also advises that shippers make sure they understand how much elasticity exists in their supply chain.

"For the most part, intermodal service is good but you need to build in a little extra time if you currently ship over the road," Shook says. "In exchange for that, in most cases, you will save some money." ■



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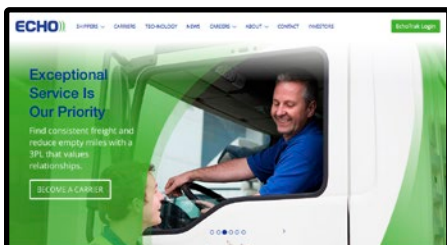
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BROKERAGE SERVICES

NFI Industries • www.nfiindustries.com

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



INTERMODAL

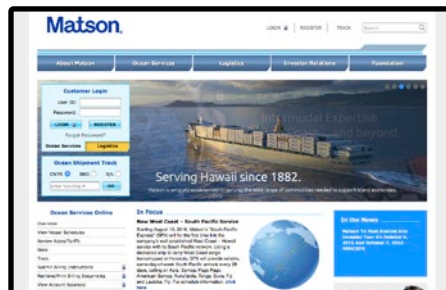


Hyundai Merchant Marine • www.hmm21.com

Hyundai Merchant Marine (HMM) is committed to its customers, and you'll find evidence of that on its Web site, where you can book cargo, and access sailing schedules, bill of lading information, and arrival notices. HMM differentiates itself from other carriers by offering an array of flexible and accommodating services with many different types of vessels. The carrier plans to increase its fleet, and focus on service diversification to establish a global network. Toward that goal, HMM emphasizes the carriage of special cargo, such as petroleum products, and continues to invest in new container terminals and inland logistics facilities.

Matson • www.matson.com

Matson is a leader in Pacific shipping and most noted for its long-standing service to Hawaii, Guam, and Micronesia. Matson's China-Long Beach Express offers premium, expedited service from Ningbo and Shanghai to Long Beach, including a guaranteed expedited service option to many U.S. destinations. Its subsidiary, Matson Integrated Logistics, is one of the nation's leading logistics providers, with expertise in all aspects of U.S. mainland transportation: truck, rail, and air.



IN THIS SECTION:

Intermodal - Ocean



RR Donnelley • www.rrdonnelley.com/logistics

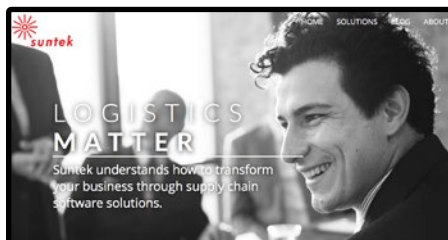
Experience the benefits that only come from working with a major, global shipper that is also a top-ranked 3PL. We offer multiple transportation modes, an established multi-carrier network, volume-leveraged rates and service levels, along with technology-enabled systems and processes. Visit our website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

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.



LOGISTICS IT



Suntek Systems Inc. • www.suntekscm.com

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

OCEAN

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.



WEB_CITE CITY

bit.ly/IL_WCC

IN THIS SECTION:

Ocean - Site Selection



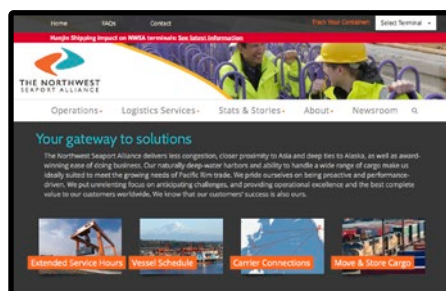
Seaboard Marine • www.seaboardmarine.com

Seaboard Marine is an ocean transportation company that, for more than 29 years, has provided direct, regular service between the United States and the Caribbean Basin, and Central and South America.

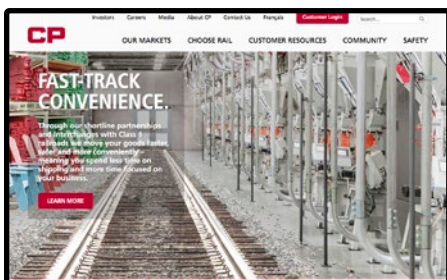
PORTS

The Northwest Seaport Alliance • www.nwseaportalliance.com

The Northwest Seaport Alliance brings together two of the nation's premier harbors to form a single, integrated gateway. Located in the Pacific Northwest, we offer shorter Asia transits and are the first and last ports of call for many transpacific services. Our combined terminals, carriers and ports of call provide flexibility to suit unique supply chain needs. And our commitment to provide cost-effective, innovative shipping solutions is unparalleled.



RAIL



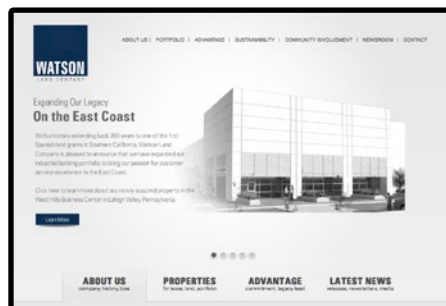
Canadian Pacific Railway • www.cpr.ca

Canadian Pacific is a transcontinental railway in North America with direct links to eight major ports, including Vancouver and Montreal, providing customers a competitive rail service with access to key markets in every corner of the globe. CP is growing with its customers, offering a suite of freight transportation services, logistics solutions and supply chain expertise. Visit cpr.ca to see the rail advantages of CP.

SITE SELECTION

Watson Land Company • www.watsonlandcompany.com

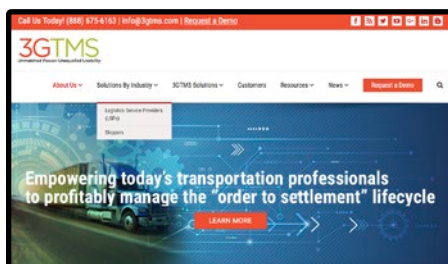
Watson Land Company is a developer, owner, and manager of industrial properties throughout southern California. With a legacy spanning more than two centuries, Watson's dedication to customers is based on delivering functional, high-quality buildings within masterplanned centers, coupled with unmatched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



IN THIS SECTION:

TMS - WMS

TMS

**3Gtms • www.3gtms.com**

3Gtms is a leading provider of transportation management system (TMS) software. Built as a single platform, 3G-TM delivers a comprehensive, end-to-end, transportation lifecycle management solution which addresses the most pressing logistics management issues for shippers and 3PLs. The company was founded with a focus on providing the most advanced functionality in an architecture that emphasizes usability, flexibility and expansion, providing a platform that will produce results today and well into the future.

TRUCKING

H & M International • www.hmit.net

A leader in the intermodal industry, H & M International provides a broad range of logistics services through a comprehensive network of U.S. intermodal operations. Services include rail terminal operations, intermodal trucking, warehousing and distribution, container freight stations, and Customs exam sites. For more information on the integral part H & M can play in your intermodal service supply chain, visit the website.

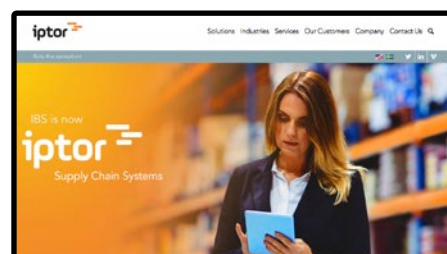
**Saia LTL Freight • www.saia.com**

For nearly 90 years, Saia LTL Freight has been providing customers with fast, reliable regional and interregional shipping. With 147 terminals located in 34 states, Saia LTL Freight offers a range of products and services that are backed up by a guarantee like no other in the industry. Our Customer Service Indicators, or CSIs, allow us to measure our performance each month against a set of six indices that our shippers said are the most important to them.

WMS

Iptor Supply Chain Systems • www.iptor.com

Iptor's Warehouse Management solution directs and optimizes stock put-away based on real-time information about the status of bin utilization. It includes best-of-breed WMS and MES functionalities based on the latest Microsoft technology. Scalable, functional, easy-to-use, and simple to implement, Iptor's WMS represents the lowest total cost of ownership and fastest ROI in the industry - guaranteed.



A new daily, non-stop **American Airlines Cargo** route from Los Angeles to Hong Kong connects the airline's cargo hubs in the two cities. The flight is operated on a Boeing 777-300, which has the capacity to carry more than 40 LD3 (159-cubic-foot) containers.



//Services//

Materials handling company **Crown Equipment** opened a facility near Los Angeles. The location offers a complete selection of the company's forklift line, warehouse design services, *InfoLink* fleet management system, a large parts department, and training programs for forklift operators, supervisors, and trainers.

Odyssey Logistics & Technology, a global logistics provider, broke ground on a new metal transload facility in Joliet, Ill. The new 121,680-square-foot location features 10 docks, 6 drive-through doors, 16 trailer positions, and reinforced slab floors. It also offers access to highway infrastructure and

BNSF's intermodal rail ramps. Moving the operation from Chicago to Joliet reduces traffic delays, improving efficiency for customer deliveries. Odyssey subsidiary **CMI Logistics** will operate the facility.

Warehousing, transportation, and logistics provider **ODW Logistics** expanded its Midwestern presence with a new contract distribution facility in Grove City, Ohio. The new 102,000-square-foot location includes machinery, racking, and automation technology, and is the company's ninth distribution center in central Ohio.

Crane Worldwide Logistics, a third-party logistics provider, opened a new warehouse at London Heathrow Airport. Services offered from the 34,000-square-foot terminal include pick-and-pack, labeling, and e-commerce support, as well as meeting custom cargo handling requirements.

Temperature-controlled warehouse specialist **Merchandise Warehouse** added a 90,000-square-foot extension to its facility in Indianapolis, which boosted operating space by 25 percent. Merchandise also upgraded the facility's technology to keep pace with customer demand.

//Transportation//

AirBridgeCargo Airlines (ABC) launched twice-weekly Boeing 747 freighter services from Moscow to Seattle-Tacoma International Airport. The new flight from Seattle continues on to Chicago before returning to Europe and Moscow, providing air shippers with direct connections to ABC's international route network.

Cargo airline **IAG Cargo** added two short-haul European freighter services to its portfolio. The first is a twice-weekly route between Madrid and Amsterdam, serviced by an A300 freighter. The second route is a once-weekly hop between Paris and London, also serviced by an A300.

//Technology//

NetraDyne, a technology company specializing in artificial intelligence, launched *Driver-i*, an Internet-of-Things-based platform that identifies, recognizes, and rewards positive driver performance. *Driver-i* provides fleet managers with immediate feedback so they can pass on rewards or address concerns in real time.

Cloud-based technology provider **MercuryGate International's** new addition to its transportation management system, *LoadPay*, enables shippers, brokers, and logistics providers to schedule automated carrier payments. *LoadPay* also offers carriers access to the *PayMeNow* solution, which pays them more rapidly.

Transportation management system provider **InMotion Global** now includes International Fuel Tax Agreement (IFTA) reporting with a subscription to

The new version of the ALGIZ 10X rugged tablet from mobile solutions provider **Handheld Group** features a 10.1-inch capacitive ultra-bright touchscreen that's built for outdoor use, operates in both glove and rain mode for use in any weather, and meets MIL-STD-810G military standards for protection against dust, water, vibrations, drops, and extreme temperatures. Other features include an Enterprise LTSB version of Windows 10, 4 gigabytes (GB) of DDR3 RAM, and an expandable 128-GB hard drive.



its *AscendTMS* platform. The service calculates all carrier miles traveled through each state for the reporting period, and calculates the applicable taxes using the latest published tax rates. This allows carriers and fleet managers who use the TMS to complete IFTA reporting in only a few minutes.

Software developer **LaneAxis** expanded its *Virtual Private Network* logistics suite to give shippers and 3PLs options to create and control their own in-house carrier and data networks. The software allows users to analyze real-time data down to the driver level, and provides total shipment visibility and complete information control.

//Products//

Koolit Advanced Phase Change Material Gel from temperature-sensitive distribution solutions provider **Cold Chain Technologies** provides thermal payload protection in a flexible gel pack to maintain the integrity of pharmaceutical products during transport. A solid material and break-resistant packaging address concerns about leakage, and the modularity of the packages enables wrapping around corners and adjusting for multiple package sizes and shapes.

Packaging solutions manufacturer **TemperPack** introduced a line of sustainable packaging material as an alternative to traditional bubble wrap. BottleWrap is made from 100-percent recycled polyethylene terephthalate bottles, and is comparable in price to bubble wrap.

The new Fill-Air FLOW system from packaging solutions provider **Sealed Air** makes protective air pillows for users with low-volume shipping needs. The machine mounts to a wall or tabletop and produces 11 high-fill or 20 low-fill inflated plastic bags per minute.



DHL's new service center at the Seattle-Tacoma International Airport serves Seattle and surrounding areas with pickup, delivery, and sorting operations of international shipments. The 26,000-square-foot facility processes more than 1,000 pieces per hour.

WhitePaperDigest

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

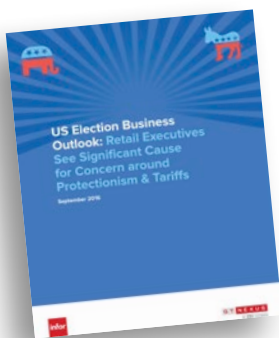


Ryder

TITLE: *Ryder and FRAM: Filtering Waste From the Supply Chain*

DOWNLOAD: <http://bit.ly/2cRgl24>

SUMMARY: As the number-one oil filter brand in America, FRAM knows having waste in your engine leads to poor performance. As a supply chain logistics leader, Ryder knows having waste in your supply chain can also lead to poor performance. By collaborating with Ryder, FRAM was able to filter out waste from its supply chain, leading to more efficient processes and cost savings. The results include a 100-percent productivity increase, 99.8-percent pick accuracy, and a seven-figure reduction in annual distribution costs.



GT Nexus

TITLE: *U.S. Election Business Outlook*

DOWNLOAD: <http://bit.ly/2cRfmVd>

SUMMARY: The 2016 U.S. presidential election brings concerns about tariffs and protectionism. Both sides of the political aisle have shifted away from free-trade sentiment and the impact is expected to be significant. A survey of 250 U.S. retail executives indicates the impact will be negative for retailers, their suppliers, and consumers. Download the full report to find out the concerns and likely actions retail executives will take in the event of new incoming trade policies.

Enterprise Florida

TITLE: *3PLs Empower Companies of All Sizes*

DOWNLOAD: <http://bit.ly/2cB0kRD>

SUMMARY: The market for third-party logistics providers continues to grow, driven by the myriad of services they offer that can help companies of all sizes manage increasingly complex and global supply chains. Here's a look at the benefits of outsourcing, including insight from several 3PL organizations with significant operations in Florida.



SEKO Logistics

TITLE: *Supply Chain Visibility: Software Tools for Those New to SaaS*

DOWNLOAD: <http://bit.ly/2cHeNtl>

SUMMARY: The emergence of supply chain software providers offering solutions that span the entire supply chain in the cloud is happening now. Download this whitepaper to learn how this shift to the cloud provides smaller hard goods manufacturers and distributors more efficient and collaborative supply chains that lower cost and increase profitability.

J.B. Hunt Transport Services

TITLE: *Why Shippers are Choosing Intermodal*

DOWNLOAD: www.jbhunt.com/company/newsroom/white_papers/

SUMMARY: This new whitepaper details how shippers can benefit from choosing intermodal to help manage their supply chains. It discusses rail infrastructure investments and looks at the improved, more consistent service that has resulted overall. In addition, the whitepaper explores the impact multiple factors such as electronic logging device mandates, driver staffing, fuel costs, and environmental footprint have on intermodal shipping decisions.

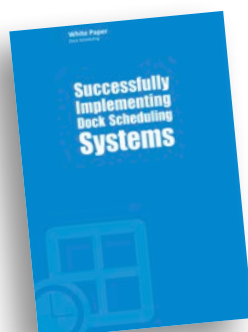


Port Logistics Group

TITLE: *Comparing Retail Logistics Providers*

DOWNLOAD: <http://bit.ly/2dqK6NO>

SUMMARY: Retail success depends on delivering your products at the right place and time, correctly configured, and ready for sale to customers. Whether you're a major U.S. retailer managing thousands of containers annually, or a new entrant in the U.S. market looking for a complete outsourced solution, you need to be sure that your 3PL has the specialized services, experience, and retail market knowledge to deliver the industry's best retail distribution solution. This whitepaper includes seven key questions to ask potential 3PL providers as you look for a "Retail Ready" partner.



Transporeon

TITLE: *Successfully Implementing Dock Scheduling Systems*

DOWNLOAD: <http://bit.ly/2dhsP7U>

SUMMARY: Delays and conflicts at loading and unloading docks arise daily. Carriers and forwarders complain about detention and idling, while shippers are confronted with fluctuating and unpredictable carrier traffic and congestion. Dock scheduling systems can help alleviate these issues, while improving overall logistics processes. Download this whitepaper today to learn seven tips for a successful dock scheduling system rollout.

Share your whitepaper with /L readers!

WhitePaper Digest is designed to bring readers up-to-date information on all aspects of supply chain management. We're building a database of SCM whitepapers, and you can help. E-mail us with whitepaper recommendations: editorial@inboundlogistics.com



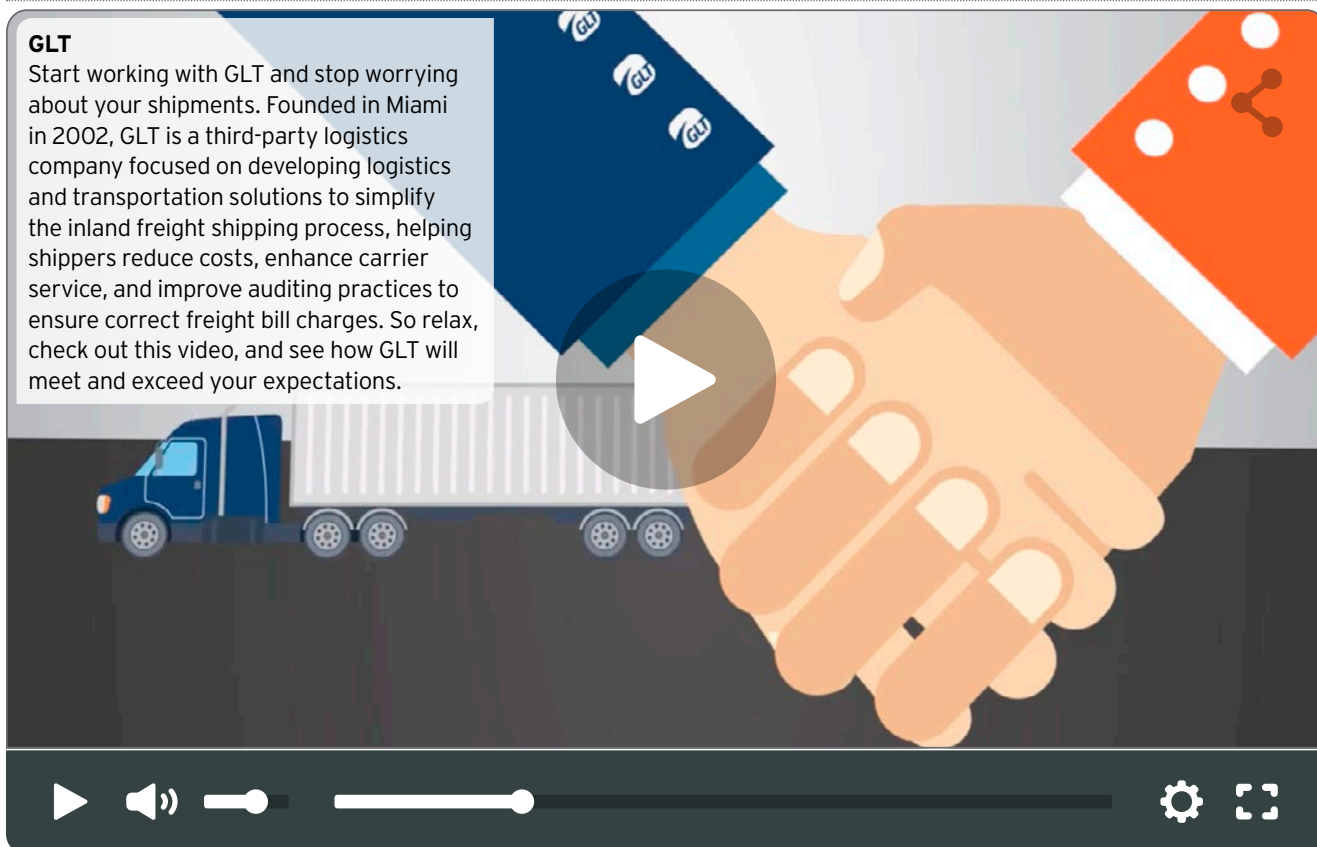
Inbound Logistics selects the best logistics and supply chain videos available anywhere and serves them up on www.YouTube.com/InboundLogistics

Don't Worry, Be Happy

bit.ly/StartWorkingWithGLT

GLT

Start working with GLT and stop worrying about your shipments. Founded in Miami in 2002, GLT is a third-party logistics company focused on developing logistics and transportation solutions to simplify the inland freight shipping process, helping shippers reduce costs, enhance carrier service, and improve auditing practices to ensure correct freight bill charges. So relax, check out this video, and see how GLT will meet and exceed your expectations.



People Power

bit.ly/HellmannWorldwideLogistics

Hellmann Worldwide Logistics

See how people make the difference at family-owned global third-party logistics provider Hellmann Worldwide Logistics. Although Hellmann is a global organization, its people understand that each project requires a unique solution. This individual approach, combined with an international framework, ensures that Hellmann's people deliver top-quality customized logistics solutions, every time.



Save Money, Guaranteed

bit.ly/SaveMoneyWithnVisionGlobal

nVision Global

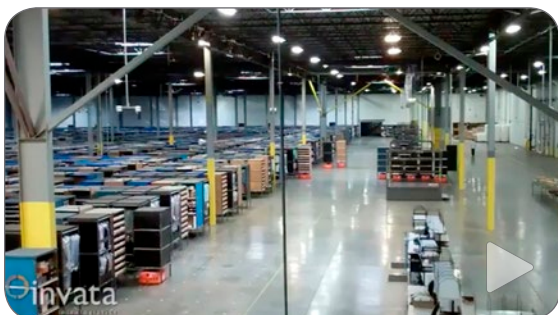
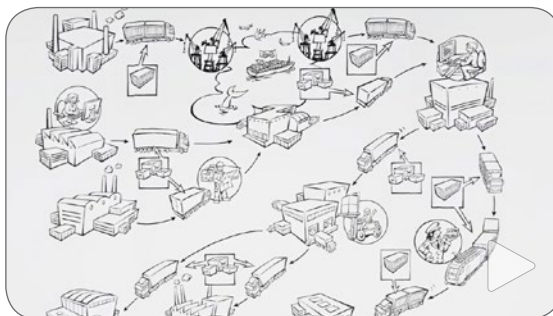
Not a single customer has failed to save money by using nVision's freight auditing and technology solutions, according to this informative video, which shows how customers increase supply chain visibility to boost the bottom line. The video also highlights the *iFocus* dashboard, a customizable application that allows users to easily view active reports and KPIs to improve decisionmaking.

Push-Button Management

bit.ly/AX4byAXIT

AXIT

Manage your supply chain at the push of a button with AX4, a web-based logistics platform from AXIT, which specializes in IT solutions to manage cross-company logistics processes. This video highlights how AX4 standardizes and automates logistics processes to guarantee stable and reliable supply, and integrates all parties involved to create conditions for smooth collaboration.



Fast Track to Fulfillment

bit.ly/InvataIntralogisticsDesignProject

Invata Intralogistics

Go behind the scenes of a fulfillment center design project Invata designed and built for a luxury retailer that includes a packing and shipping system that seamlessly integrates with a Kiva receiving, storage, and picking system. It's the retailer's first fully dedicated e-commerce fulfillment center to keep pace with market demands.

Popular Culture

bit.ly/KaneCode

Kane is Able

This video explores the customer service philosophy of Kane Is Able, embodied in what the company calls the KANE Code. Be kind, be careful, be yourself is the backbone of the KANE Code, which associates explain and discuss in the video. What you'll take away: KANE associates care about the business and the customer, do the job the right way, sweat the details, and take pride in their work.



Let Me Tell You

bit.ly/OldDominionFreightLine

Old Dominion Freight Line

Want to learn more about Old Dominion Freight Line? Then let me tell you....watch this video. You'll learn how OD currently operates 226 service centers, with complete coverage across the entire continental United States. OD also provides shippers with access, through agents or strategic alliances, to services in various international locations including Canada, Mexico, Europe, and China.

CONFERENCES

NOV 1-4, 2016 Dallas, Texas

Truckstop.com

Connected 2016

www.TruckstopConnected.com

AUDIENCE: Truckstop.com broker and carrier users

FOCUS: Supply chain insights from industry analysts and experts; rate benchmarking, data intelligence, carrier qualification, and product training

NOV 17-18, 2016 New York, N.Y.

Progressive Railroadng

RailTrends 2016

www.railtrends.com

AUDIENCE: Rail industry professionals

FOCUS: Updates and forecasts for the rail industry; digital transformation in surface transportation; CSX's intermodal strategy; recent and future logistics trends

DEC 12-13, 2016 Philadelphia, Pa.

Worldwide Business Research

LogiChem

www.logichemus.wbresearch.com

AUDIENCE: Chemical supply chain and logistics professionals

FOCUS: Achieving logistics optimization; exploring tools and strategies to reduce cost, mitigate risk, and keep capacity available; breaking down siloes for an optimized network

JAN 23-27, 2017 Orlando, Fla.

PEX Network

OPEX Week: Business Transformation
World Summit 2017

www.opexweek.com

AUDIENCE: Operational excellence and business transformation executives

FOCUS: Case studies in operational excellence, strategic business transformation, BPM, and continuous improvement; aligning strategy with operational excellence to drive enterprise-wide transformation

FEB 5-7, 2017 Sea Island, Ga.

Georgia Ports Authority

49th Annual Georgia
Foreign Trade Conference

www.gaforeigntrade.com

AUDIENCE: Logistics professionals engaged in container, RoRo, breakbulk, and agri-bulk cargo transport, as well as warehousing and site selection

FOCUS: Challenges facing shippers, carriers, ports, terminals, and the maritime community; changing legislation and new technologies impacting global trade

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NFI	pg. 18
www.nfiindustries.com	877-312-7207

Odyssey Logistics & Technology	pg. 13
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http://ohl.geodis.com	800-401-6400

RR Donnelley's DLS Worldwide	pg. 31
www.dls-ww.com	877-744-3818

SEKO Logistics	pg. 37
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Career Development/Education

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Decking The Hauls

The 2016 holidays are upon us and 'tis the season for e-commerce. Even with total retail sales not as jolly as e-commerce sales, holiday hiring mostly flat, and imports stagnant at major U.S. seaports, the holiday rush still brings packages in merry measure. *IL* wraps up 2015 and 2016 supply chain numbers.

30 million+

Number of packages the U.S. Postal Service delivered across the United States on its busiest day last year: December 21, 2015.

3.45

Average number of days to ship packages via ground delivery during the 2015 holiday season.

50,000+

Number of seasonal workers FedEx plans to hire for the peak holiday shopping season, down from 2015 when it hired 55,000.

6.5 percent

Increase in imports at the Port Authority of New York and New Jersey in August 2016, compared to August 2015. Attribute the rise to the holiday rush, as U.S. consumers stock up on European luxury goods, including wine and perfume from Italy and France.

\$655.8 billion

Projected U.S. retail sales in November and December 2016 (excluding autos, gas, and restaurants), a 3.6-percent increase from 2015.

7+ times

How much U.S. retail e-commerce sales growth outpaced sales growth in stores (13 percent versus 1.7 percent) during the 2015 holiday season.

180+

Number of Amazon warehouses in the United States, including more than 70 local delivery stations and Prime Now hubs within reach of nearly every major metropolitan area. This is more than double the number since Christmas 2013, when UPS was unable to bring many orders to customers in time, costing Amazon millions of dollars in refunds.

Sources: Bain & Company, 2015-2016 Post-Holiday Outlook and Agile Innovation report; National Retail Federation; eMarketer.com; Panjiva; MWPVL International; Piper Jaffray



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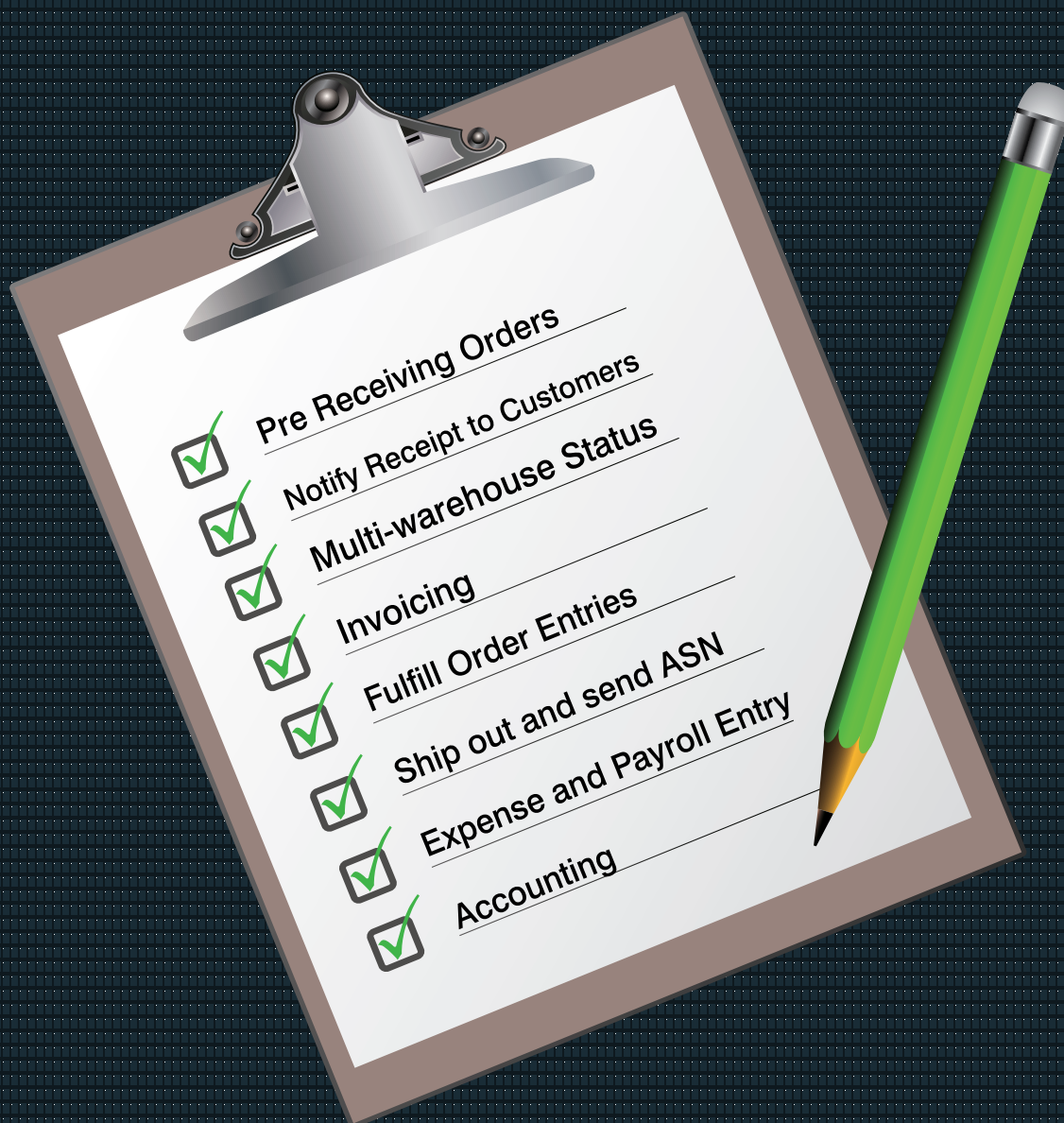
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