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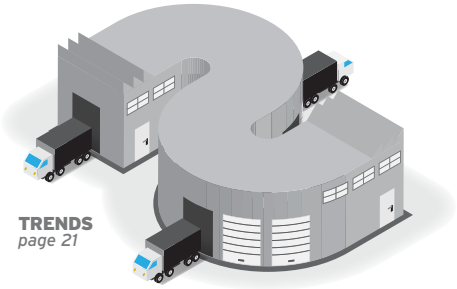

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INDEPTH

CHECKINGIN

Felecia Stratton

by Felecia Stratton | **Editor**

All Aboard a Modal Conversion

Intermodal is crossing over. In August 2013, U.S. domestic traffic averaged 257,795 units per week, the highest weekly average ever recorded, according to the Association of American Railroads. All indications suggest intermodal growth will continue to roll.

As over-the-road shippers embrace the efficiency, economy, and sustainability of shifting truck shipments to rail, a conversion is happening–beyond just mode selection. Supply chains are becoming more nimble and reactive to supply and demand changes. With greater visibility to, and control of, inbound movements and upstream processes, shippers can accommodate longer lead times and purposefully orchestrate transportation–whether it's consolidating less-than-truckload to truckload at a crossdock, or transloading ocean boxes to container on rail.

Intermodalism has been a gradual "revolution"–one *IL* has been tracking over the past decade. In 2003, we wrote about how BJs Wholesale Club started using Florida East Coast Railway's (FEC) intermodal service to deliver trailers on rail from its Jacksonville DC to Miami club stores. One decade later, FEC continues to dispel the myth that short-haul intermodal–and intermodal to retailer–are impossible.

Several years ago, Welch's made the move to intermodal when fuel costs rose. For the food manufacturer, it was a measured approach, in lanes where service was time- and cost-competitive to truck.

Today, as capacity and driver shortages loom, truck rates rise, and environmental awareness continues to grow, shippers have even more incentive to consider alternative modes–for the long term. As long as decision-making remains fixed on cost, intermodal use will only grow. Railroads, to their credit, are investing in services and infrastructure beyond ports, expanding connectivity and making rail a more viable and dependable option.

Embracing intermodal as a transportation strategy requires behavioral change, which doesn't come easy. Retailer demands and rail reliability, especially regarding time-definite service, are often incompatible. While movement on the demand side still lags, farther upstream in the supply chain, shippers are jumping at opportunities to convert truckloads to intermodal.

Merrill Douglas' article *Intermodal Efficiencies* (pg. 36) offers an instructive look at how two manufacturers have devised creative ways to incorporate rail transportation within their respective supply chains. And, on the tracks, Lisa Terry's *Where Safety and Innovation Converge* (pg. 45) explores how the rail industry is ramping up investments in technology, equipment, and infrastructure to strengthen and secure its stake as a safe and efficient mode. ■

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STAFF

PUBLISHER Keith G. Biondo
publisher@inboundlogistics.com

EDITOR Felecia J. Stratton
editor@inboundlogistics.com

MANAGING EDITOR Catherine Overman
coverman@inboundlogistics.com

SENIOR WRITER Joseph O'Reilly
joseph@inboundlogistics.com

CONTRIBUTING EDITORS
Justine Brown • Merrill Douglas • Suzanne Heyn • Lisa Terry • Deborah Ruriani

CREATIVE DIRECTOR Michael Murphy
mmurphy@inboundlogistics.com

SENIOR DESIGNER Mary Brennan
mbrennan@inboundlogistics.com

BUSINESS DEVELOPMENT MANAGER, DIGITAL MEDIA
Shawn Kelloway
production@inboundlogistics.com

PUBLICATION MANAGER Sonia Casiano
sonia@inboundlogistics.com

PUBLISHING ASSISTANT Jason McDowell
jmcdowell@inboundlogistics.com

CIRCULATION DIRECTOR Carolyn Smolin

SALES OFFICES

PUBLISHER: **Keith Biondo**
(212) 629-1560 • FAX: (212) 629-1565
publisher@inboundlogistics.com

WEST/MIDWEST/SOUTHWEST: **Harold L. Leddy**
(847) 446-8764 • FAX: (847) 305-5890
haroldleddy@inboundlogistics.com

Marshall Leddy
(612) 234-7436 • FAX: (847) 305-5890
marshall@inboundlogistics.com

MIDWEST/ECONOMIC DEVELOPMENT: **Jim Armstrong**
(314) 984-9007 • FAX: (314) 984-8878
jim@inboundlogistics.com

SOUTHEAST: **Gordon H. Harper**
(404) 229-9691 • FAX: (404) 355-2036
south@inboundlogistics.com

MOBILE, AL: **Peter Muller**
(251) 343-9308 • FAX: (251) 343-9308
petermuller@inboundlogistics.com

NORTHEAST: **Rachael Sprinz**
(212) 629-1560 • FAX: (212) 629-1565
rachael@inboundlogistics.com

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"*Inbound Logistics* is one of the magazines I read every month. It's my go-to magazine when I'm looking for logistics best practices."

—Joe Lynch via the Web

Inbound Logistics
4 SEPT 2013
Delivery Scheduling Relieves Loading Dock Bottlenecks—Inboundlogistics.com
Beer distributor Crescent Crown's new appointment scheduling system gives it control over when trucks arrive at its DC.

Jeffrey Sacks
As a carrier, we love *Appointments Plus*. It's easy, not a bunch of calls back and forth. Great system.

Inbound Logistics
12 SEPT 2013
Pallet Strategies: Stacking the Odds in Your Favor—bit.ly/18nZvH7

NTS Canada @NTS_CD
@ILMagazine—Thanks for calling attention to pallet choices; a crucial part of a good long-term shipping strategy.

Inbound Logistics
10 SEPT 2013
The Lean Supply Chain: Watch Your Waste Line—bit.ly/15MSCLG

Sherrie Miller @SupplyChainSher
Love the article's name!

Inbound Logistics
23 SEPT 2013
ADM is looking to relocate its HQ. Any ideas on where they should go? bit.ly/IL_ADM_HQ

Justin Phillips @nousdefiones_jp
@ILMagazine Chattanooga!

Inbound Logistics
23 SEPT 2013
Cross-Border Trade Secrets—bit.ly/19SLgKe

GoTorizon @GoTorizon
@ILMagazine This was a great article. As a 3PL with cross-border capabilities, it is something we strive at improving daily.

Inbound Logistics
24 SEPT 2013
10 Ways You Can Become a Transportation Industry Advocate—bit.ly/XhHTS3

Gerry @IQ2high4U
@ILMagazine One needs to contact their local senator and congressman, and continue to question them.

Inbound Logistics
22 SEPT 2013
Why Supply Chains Need Business Intelligence—bit.ly/1dF3cVE

Tamojit @TamoRules
@ILMagazine Completely agree. Also, supply chain and logistics companies should look beyond fixed static reports and tap the real power of BI.

Inbound Logistics
23 SEPT 2013
Planning for exceptions can help shippers prevent supply chain disruptions in the wake of a natural disaster. bit.ly/1afjx1n

National Traffic Services
Very comprehensive guide. Thanks for sharing.

HOT TOPICS | *IL* articles getting the most impressions on LinkedIn: Temperature-Controlled Logistics: Cool Under Pressure http://bit.ly/1exJ4oZ • 10 Supply Chain Game Changers http://bit.ly/1fEjcLz • 2013 3PL Perspectives: Drafting a Blueprint for Growth http://bit.ly/136gk6S • 3PLs and Supply Chain Remodeling http://bit.ly/11RBrXL • 10 Tips for Optimizing Warehouse Operations http://bit.ly/10uBqIN

10 TIPS

STEP-BY-STEP SOLUTIONS

by Deborah Catalano Ruriani

Leveraging Packaging-On-Demand Solutions

Packaging-on-demand solutions enable businesses to create cardboard boxes from bulk corrugated material in a variety of sizes—saving inventory space, and packaging and labor costs. Lance Wallin, executive director of global packaging systems for packaging solutions provider Sealed Air's Protective Packaging Division, offers these tips for using packaging-on-demand solutions efficiently.

1 **Select systems that can accommodate growth plans.** Consider planned product volume increases, and choose a system capable of handling those volumes or adapting easily once volume grows.

2 **Look for user-friendly packaging systems.** Seamless implementation requires that operators fully understand how to run the system effectively. Easy-to-understand user interfaces minimize operating errors, and solutions providers that assist in training operators during installation and startup can reduce the learning curve and help businesses realize faster operational efficiency gains.

3 **Determine your current total packaging costs.** Review all factors that contribute to your organization's existing packaging costs, then analyze this information to develop a baseline for measuring the return on investment a packaging-on-demand system can deliver for your business.

4 **Identify the best materials for protecting your products.** Packaging's most important function is protecting the goods being shipped or stored. Test products' susceptibility to vibration, shock, and surface damage to determine the best-performing material.

5 **Determine if centralized or decentralized packaging is best for your business.** Shippers moving more than 500 packages per day usually benefit more from centralized packaging—in which each worker is assigned a single packaging task—than lower-volume shippers. Decentralized packaging systems—in which one worker is responsible for a shipment's entire packaging process—offer greater personalization and customization, and are more efficient for companies shipping high-value or fragile products.

6 **Review your organization's sustainability objectives.** Select packaging that adequately protects products, thus preventing damage and the resulting increase in carbon footprint due to returns and re-shipments. Also consider packaging materials made from renewable or recyclable materials.

7 **Examine available physical space.** Ensure your facility's existing space will accommodate the packaging-on-demand system for the materials your products require.

8 **Decide if you can batch cushioning or void-fill.** Can you help manage peak production needs by producing cushioning or void-fill in advance? This will help maintain the production line's flow, and avoid packaging bottlenecks when product volume is at its highest.

9 **Consider operational efficiency challenges.** Is your existing packaging process causing operational bottlenecks? Can space currently devoted to storing or handling pre-fabricated packaging be repurposed to help solve efficiency challenges elsewhere within the operation?

10 **Partner with a packaging solutions provider that offers responsive service.** The unique operational characteristics of individual facilities or product lines may require fine-tuning packaging-on-demand systems to maximize efficiency, so choose a provider that offers excellent customer service. ■

Perfect Shipment® Intermodal Results 2012 vs 2013

	Fiscal Year: 2012			Fiscal Year: 2013		
	Origin Pickup	Railroad Linehaul	Destination Delivery	Origin Pickup	Railroad Linehaul	Destination Delivery
July	98.8	96.3	96.6	98.9	98.0	97.8
August	98.7	96.3	96.8	99.0	98.5	97.9
September	98.8	96.9	95.3	99.0	98.4	97.6
October	98.7	97.8	95.8	98.8	98.4	97.5
November	98.6	96.5	97.3	98.7	98.1	97.5
December	98.8	96.9	95.3	99.0	98.4	98.0
January	98.9	97.8	97.8	99.0	98.7	97.9
February	98.3	98.2	98.2	99.0	98.5	98.0
March	98.6	98.5	97.2	98.9	98.1	98.4
April	98.5	98.3	98.1	99.1	97.0	98.7
May	98.9	97.4	98.1	99.1	97.7	98.3
June	98.6	98.2	97.8	98.7	97.5	97.9
12-Month Average	**98.7**	**97.4**	**97.2**	**98.9**	**98.1**	**98.0**

To our valued customers:

Alliance Shippers Inc.'s Perfect Shipment Program® is our operating process for providing on-time pick-up, railroad linehaul, and on-time delivery for all of our customers' shipments to either themselves or their customers in the railroad intermodal mode. The data reflected on this page is a comparison of our on-time performance in the three aforementioned categories for our fiscal year 2012 versus our fiscal year 2013.

Two years ago, Alliance Shippers Inc. set a goal to reach a percentile of at least 98% of on-time performance in each of the three segments that go into a railroad intermodal truckload shipment. For our fiscal year 2013, we have attained that goal.

I want to thank the thousands of trucking companies who are integral in this process who pick-up and/or deliver our customers' business. I want to thank all the United States railroads for providing outstanding service in order for Alliance Shippers Inc. to reach our goals that allows us to fulfill our customers' service expectations.

In today's modern transportation world a company has to have the highest level of information technology, which Alliance Shippers Inc. has, a company "culture of service" and a roster of employees who are not only highly professional in their business responsibilities, but have practical experience in the railroad intermodal industry.

I congratulate all of the Alliance Shippers Inc. employees for their contributions in attaining this 98% achievement for fiscal year 2013.

There is an old saying that says "without a customer you have no business." All of us at Alliance Shippers Inc. want to thank our customers for allowing us to provide service to them and their companies.

Respectfully,

Ronald Lefcourt
President, Alliance Shippers Inc.

READER
PROFILE

as told to Merrill Douglas

Chris Carlson is vice president of Batteries Plus Bulbs, a retailer of batteries and light bulbs based in Hartland, Wis., with more than 570 corporate and franchise locations in the United States and Puerto Rico. He has held this position since 2011.

RESPONSIBILITIES

Transportation, warehousing, vendor management, demand planning, part of the China supply chain, customer support center, store support center.

EXPERIENCE

Industrial engineer, corporate logistics manager, Archway Marketing Services; independent consultant to Echo Global Logistics; director, global logistics and customs compliance, Wilsons Leather; senior director, supply chain and logistics, Christopher & Banks.

EDUCATION

B.S., mechanical engineering, Marquette University, 1994.

Chris Carlson: All Charged Up

I EARNED MY DEGREE IN MECHANICAL ENGINEERing, and Archway Marketing Services hired me in 1997 to help automate their warehouse operations. Once that project ended, however, my team's role kept expanding. We helped make the warehouse labor force more productive, and cut freight costs.

Soon logistics was part of my job description, and I've been working in this field ever since. Our logistics operation at Batteries Plus Bulbs serves both corporate-owned and franchise retail outlets.

Many of our end customers are consumers, but about 30 percent of our business involves selling to hospitals, prisons, schools, and other commercial customers. In summer 2013, we shipped many batteries to the National Forest Service for use by the firefighters battling wildfires in California and Colorado.

Batteries Plus Bulbs sells under its own name and licenses other brands. Of the product sold in stores, about 80 percent flows through our warehouse in Glendale, Wis. That includes the 60 percent of product we import from Asia – mainly China – plus about half the product we purchase from domestic suppliers. The rest of the product from domestic sources moves directly from the vendors to our stores.

Over the past few years, demand for cell phone batteries has grown by 40 to 50 percent. Some people buy replacement batteries as soon as they buy their phones. They drain the first battery in the morning, then pop in the second one to use for the rest of the day while recharging the first.

It's not easy to predict which new

The Big Questions

What movie could you watch one million times without getting tired of it?

The Blues Brothers.

If you could take back one sentence you've ever spoken, what would it be?

"No, we're not doing that." Even if the final answer is "No," you should always explain why.

If you received a surprise package today, what would you like to find inside?

A crystal ball to tell me what projects I need to work on next.

Do you have a talent outside work?

Sailing. I was voted Crew of the Year at a yacht club I belonged to when I lived in Minnesota, and I taught sailing in college.

phones will take off and drive demand for particular batteries. To stay fast and responsive, we often ship via air. That creates its own set of concerns, because the lithium ion batteries used in cell phones are subject to special airfreight regulations. We have to stay current on those rules as they evolve.

Another challenge is making sure vendors can keep up with our growth as more people come to depend on electronic devices. The average home contains 28 battery-powered devices and 61 light bulbs. In 2010, 26.4 million laptops were sold, according to technology and market research company Forrester Research, and 38.9 million are expected to sell in 2015.

Our supply chain operation will soon become even more complex, as Batteries Plus Bulbs launches a mobile device repair service. We'll need to understand which screens customers need, identify new vendors, and develop new packaging.

When I started at Batteries Plus Bulbs, we were making a transition from a third-party warehouse to our own facility. Our demand planning team had lost half its members, and China was shutting down one-third to one-half of its lead acid battery factories in favor of plants with greener operations.

In the face of all that, I'm proud that we've managed to build our team quickly, so we never have to say no when new projects come up. Our key to success has been putting the right team members in place, and making sure they have the necessary training and tools. It's a lot of work, but once you have the right team, you can tackle almost anything. ■

NOTED

THE SUPPLY CHAIN IN BRIEF

3PL **CEVA Logistics** renewed a contract with **Ford Motor Company** to provide inbound materials sequencing, small lot logistics, return container management, and just-in-time transportation at the automotive manufacturer's plant in Kansas City, Mo.

SEALED DEALS

Grupo Karim's, the parent company of several private-label apparel manufacturers, selected **NGC Software's** fashion product lifecycle management and supply chain management solution to improve productivity, reduce costs, and enable better customer service throughout development and production.

Florida-based plant producer and distributor **Everbloom Growers** implemented **MapMechanics'** *TruckStops* vehicle routing optimization system. Everbloom uses the software to schedule deliveries for the external trucking companies that deliver its products.

PeopleNet, a provider of fleet mobility solutions, partnered with **SafeKey** to help prevent cargo theft and monitor driver well-being. Vehicles using SafeKey will not start without a remote. An additional feature on the remote allows drivers in distress to notify a monitoring service from up to 100 feet away from the vehicle.

Mobile device protection plan provider **SquareTrade** contracted with technology distributor **Ingram Micro** to handle mobile device lifecycle services; back-end supply chain operations; and support for SquareTrade's Advance Exchange service, which replaces customers' damaged devices overnight.

MIQ Logistics now provides global supply chain services for **Impact Fluid Solutions**, including coordinating inbound freight at a distribution facility in Houston, Texas; managing warehouse operations; and handling global shipments.

GREEN SEEDS

Union Pacific designed and implemented Arrowedge, an aerodynamic technology that reduces emissions and fuel usage on double-stack trains. Positioned on top of the first freight container, the 48-foot Arrowedge's tapered body allows air to flow more easily around the train's top containers.

UP THE CHAIN

Family Dollar Stores named **Jeffrey W. Macak** executive vice president–supply chain. In his new role, Macak supports Family Dollar's initiative to build an end-to-end supply chain.

▶ **Troy Alstead** was promoted from CFO and chief administrative officer, to CFO and group president of global business service for **Starbucks**. Alstead is now responsible for the coffee company's global supply chain.

m&a

Global trade management (GTM) software provider **Amber Road** acquired Shanghai-based GTM provider **EasyCargo.** The move enables Amber Road to offer tools that help shippers navigate China's complex customs regulations.

BlueGrace Group purchased transportation company **United States Transportation Consultants.** The acquisition increases services and resources for BlueGrace and its shippers.

3PL provider **OIA Global** bought **Bellville International,** a UK-based freight forwarder and logistics services provider. The purchase expands OIA Global's network to include 22 offices in 14 countries.

Roadrunner Transportation Systems acquired **G.W. Palmer Logistics**, a Batesville, Ark.-based non-asset truckload service provider, increasing Roadrunner's temperature-controlled service offerings in the southern United States.

3PL **Wheels Group** purchased **BBL Worldwide**, which specializes in cross-border truck brokerage services. Wheels obtains additional trade lanes while giving BBL's customers access to new highway and rail solutions.

IN MEMORIAM

Joseph A. Sedlak

Joseph A. Sedlak passed away on Sept. 9, 2013, at the age of 90. He was the founder of Joseph A. Sedlak Management Consultants, and was well-known in the materials handling industry as a designer of specialized warehouses and high-speed unit sortation systems.

GOOD WORKS

Choptank Transport committed to the Transportation Intermediaries Association's veterans hiring initiative. Choptank has set a goal of hiring 100 veterans by the end of 2014.

Portage Food Pantry of Portage, Ind., received $20,000 in food from the employees and management of **C.R. England**. The refrigerated trucking carrier also provided a truck; and employees volunteered to pick up, deliver, and unload the food at the pantry.

Old Dominion Freight Line donated a tractor to Johnston Community College's Truck Driving School in Smithfield, N.C., in support of its driver training program. The program helps exiting military members and their spouses earn a commercial driver's license.

recognition

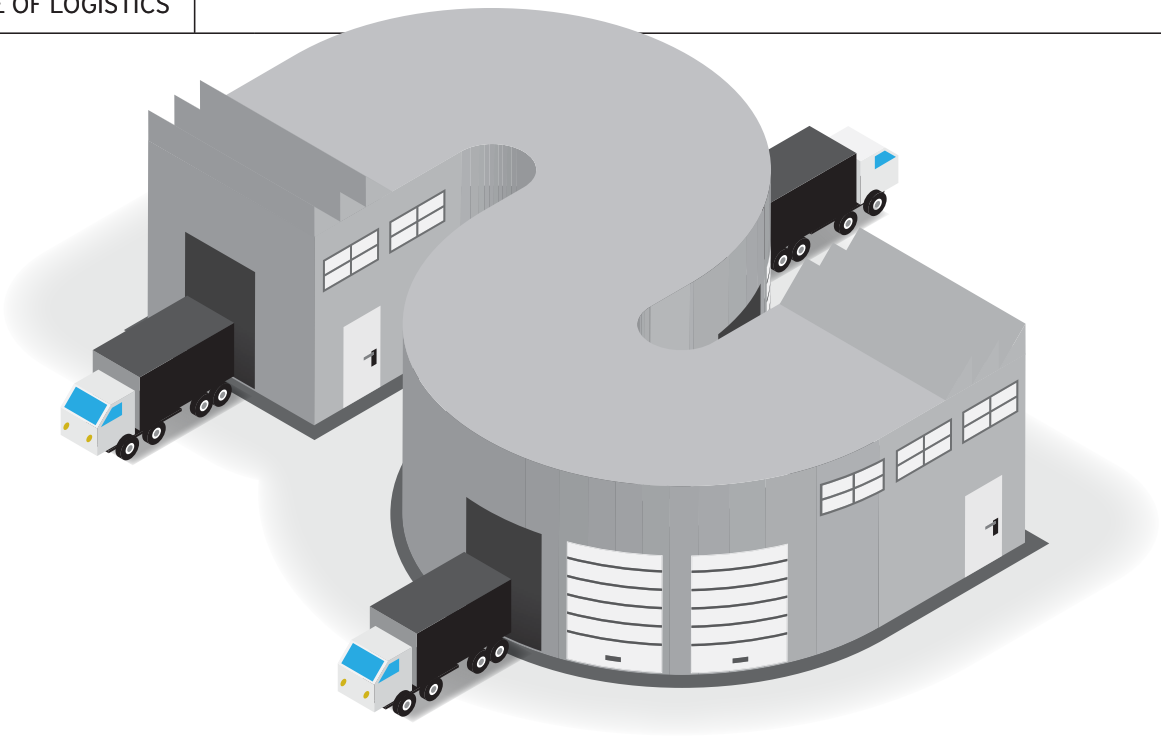
The Intermodal Association of North America (IANA) honored **Richard Coleman**, retired president of ContainerPort Group, with the **2013 IANA Silver Kingpin Award.** IANA grants the award to individuals who have made significant long-term contributions to the intermodal industry.

▲ **Laurie Barkman**, the chief operating officer of GENCO Marketplace, was named a **2013 Most Powerful & Influential Woman** by The National Diversity Council. Winners of this award exhibit a sustained record of accomplishment throughout their careers, clout within their organizations, leadership and commitment to community, and dedication to high ethical standards and professional excellence.

CVS Caremark received the **Diamond Award for Industry Excellence in Supply Chain Education** from Rhode Island's Bryant University. The award recognizes CVS' long-term dedication to promoting supply chain education programs, supporting students who seek supply chain management as a career, and offering continuing education to its employees.

TRENDS

SHAPING THE FUTURE OF LOGISTICS



Warehousing 2018: Rise of the Adaptive DC

by Joseph O'Reilly

As supply chains shift their moorings and settle into new realities—the permanence of e-commerce, sustainability, risk management, total landed cost sensitivity, and demand-driven strategies—distribution centers are evolving in kind. Stock characterizations of warehousing are falling to the wayside. DCs are becoming more complex and sophisticated; so are their labor forces. At the same time, companies are looking for more flexibility to hedge against change.

That's the consensus of Motorola Solutions' *2013 Warehouse Vision Report*, which polls warehouse IT and operational personnel in the manufacturing, retail, wholesale, and third-party logistics (3PL) industries. The Schaumburg, Ill., data communications and telecommunications equipment provider offers a five-year projection of trends that are shaping distribution trajectories inside and outside the four walls.

As the economy begins to grow again, warehouse operations are expanding as well. But a

litany of issues is changing the way shippers and service providers view DCs, according to Motorola. Among the challenges:

- More facilities and larger spaces demand high-speed mobile communications virtually everywhere on or off the floor.
- Across-the-board customer demand for personalization is driving SKU proliferation, which creates a need for better inventory visibility, accuracy, and efficiency.
- New regulations call for more accurate product tracking and tracing.
- The reshoring movement is bringing manufacturing and other business closer to the customer, placing a premium on effective cost and labor management.
- Fuel cost volatility.
- Shippers and service providers are tasked with creating more flexibility inside their facilities, among their employees, and across the network.

Warehousing's Five-Year Outlook

Respondents to Motorola's *2013 Warehouse Vision Report* predict these fundamental shifts in warehousing over the next five years:

Source: *2013 Warehouse Vision Report*, Motorola Solutions

Moving Closer to Demand

One of the more telling trends Motorola sees is shippers locating DCs closer to demand, says Jerry McNerney, senior director enterprise marketing, Motorola Solutions. He tells *Inbound Logistics* there will likely be more, smaller DCs purposed to perform customization and quick fulfillment to the customer in the next five years.

"Companies are now reviewing their network design every year, rather than every five years as in the past," McNerney says. "This has an immediate impact on the way businesses think about the permanence of their distribution network, facilities, and relationships with 3PLs."

Transportation is part of the conversation, as well. Understanding how site location and function impacts mode selection is important. "Transportation is by far the biggest cost in the equation, and the one businesses have the least control over because of fuel and labor," adds McNerney.

Changes in the distribution space are largely agnostic. Companies across verticals—manufacturers, retailers, and 3PLs—are feeling the same impulses. It's not just repurposing DCs from storage and retrieval to more complex supply chain processes; the warehouse is becoming a growth center.

Brick-and-mortar retailers face a predicament as they explore strategies to bring together their physical and virtual storefronts and supply chains. They need to balance flexibility with productivity.

"We're going to see DCs that are closer to doing it all," McNerney says. "For example, many retailers are considering their stores as just another warehouse. They are taking a holistic look at their entire inventory, no matter where it is. The question then becomes a matter of customer fulfillment."

Warehouse labor requirements are moving, as well. Function-specific roles are no longer practical as companies look to squeeze greater productivity out of more versatile workers who are as adaptive as the warehouse itself.

Technology and mobile applications empower this level of multi-tasking behavior. There's more information to capture, understand, and execute on—which raises the importance of warehouse managers who can see the big picture and carry a problem-solving toolbox. But a hierarchy in terms of decision-making control remains; companies are sensitive to inundating workers with too much information.

"Technology is intended to keep workers focused, not distract them," McNerney says.

9 Steps to Protect You From Freight Bill Audit/Payment Fraud

Trendset Information Systems' recent malfeasance and insolvency raises a red flag for shippers who outsource freight bill audit and payment processing to third-party intermediaries. Trendset owes more than $25 million to shippers who had advanced carrier payments, only to learn those funds were misappropriated.

Today's environment exacerbates the potential for fraud. When interest rates dropped, vendors that were "living off the float" lost revenue—creating the scenario that shrouds Trendset.

Communication, oversight, and due diligence can go a long way toward averting duplicity, notes Harold Freidman, senior vice president of global corporate development at Data2Logistics, a Fort Myers, Fla., freight processing, auditing, and payment services provider. Friedman offers the following additional tips to make sure your money is in secure hands:

1. Listen to carriers. If they are complaining about slow payment, it may be a clue that something is amiss months before anything surfaces.

2. Consider the vendor's record; talk to existing customers.

3. Make sure the vendor has a $50 million employee dishonesty bond. In the event of a shortage, that insurance will kick in.

4. Check to see if the vendor has good internal controls, and that it's performing an annual review process. For example, is its Statement on Standards for Attestation Engagements (SSAE) No. 16 up to date?

5. Don't commingle funds with operating cash. If payments are made by check, ensure that you use positive pay—an automated fraud detection tool offered by many banks. This way, when you issue payment to a carrier, a file is sent to the bank with the appropriate invoiced amount.

6. Make sure a reputable, experienced accounting firm reviews or assesses all financial statements.

7. Is the vendor TRUSTe Safe Harbor-certified in its commitment to privacy? Freight bill processing companies should be safety conscious to protect their own business—as well as that of their clients.

8. The vendor should be willing to make payment, or allow the customer to make payment to the carrier. Living off the float shouldn't be a hurdle to overcome.

9. Have the vendor commit to a service-level agreement. A lag in bill processing and payment could be a red flag. ■

U.S. Companies Get in the Zone

Amid all the cloudiness surrounding the U.S. economy and trade, one bright spot has emerged: companies are taking advantage of Foreign Trade Zones (FTZs). The value of exports from American FTZs increased by 147.9 percent between 2009 and 2012, to a record-high $69.9 billion in merchandise exported, according to figures released by the U.S. Foreign Trade Zones Board *(see chart)*.

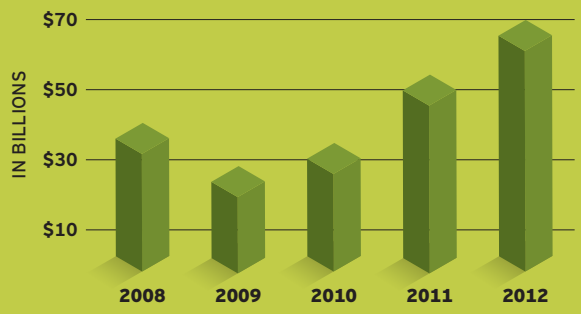
At $732.2 billion, the 2012 value of merchandise received into FTZs also reached a new high, surpassing for the first time the previous pre-recession 2008 record of $692.6 billion. The 2012 received merchandise included $303.8 billion in foreign-status inputs, an increase of 66.9 percent over the 2011 recession low of $182 billion.

Success is attributed in large part to the growing number of U.S. companies buying and selling in global markets. In 2012, 400 additional U.S. companies began using FTZs, increasing the total to 3,200 firms, according to the National Association of Foreign Trade Zones.

There were 174 active FTZs during 2012, with a total of 276 active manufacturing and production operations. The FTZ Board approved five new foreign trade zones in 2012, and reorganized 38 zones under the Alternative Site Framework.

FTZ Exports Reach a New High 2008-2012

Exports from facilities operating under FTZ procedures totaled a record-high of nearly $70 billion in 2012.



Source: Foreign Trade Zones Board

GLOBAL

THE WORLD AT A GLANCE

by Joseph O'Reilly

DHL Express believes that trade between the United States and Sub-Saharan Africa is set for continued growth.

Sub-Saharan Africa Targets U.S. for Growth

With constantly changing regulations, poor transportation infrastructure, and unstable governments, one might think cross-border trade with Sub-Saharan Africa is just too difficult to pursue.

DHL Express doesn't see it that way. The express courier company, which has been operating in Sub-Saharan Africa for 35 years, recently invited *Inbound Logistics* to meet with Charles Brewer, managing director for DHL Express Sub-Saharan Africa, while he was visiting the United States to promote commerce between the two regions.

Brewer confirms that logistics management in Africa is often complicated. "One morning, I checked my email and saw that the Nairobi Airport was on fire, and fighting had broken out in the Central African Republic," he says. "Just a typical morning in Africa."

But the gains outweigh the challenges, he says. DHL Express sees opportunity for continued trade growth between the United States and Africa, thanks to the recent Presidential Policy Directive to achieve sustainable development through increased investment and trade.

Economic activity is expected to expand by five percent in 2012-2013, similar to the expansion that occurred in 2010-2011, according to the IMF's *Regional Economic Outlook for Sub-Saharan Africa*. More developed economies such as Nigeria, South Africa, Kenya, Ghana, Angola, and Ethiopia are experiencing strong double-digit growth in import and export trade volume.

Smaller markets—including Somalia, Mayotte, Guinea-Bissau, and South Sudan—are reporting huge increases in American imports, while South Sudan,

Military Truckers on a Mission

The United States has recently passed laws directed at the trucking industry to increase safety on the nation's roads and highways. But halfway around the world, in Afghanistan, there is a whole different set of rules.

Members of the 32nd Transportation Company, 157th Combat Sustainment Support Battalion call themselves The Mavericks, and operate in support of Task Force Lifeliner. They bring a new perspective to the phrase "securing the supply chain." Their mission is to ensure supplies get to remote forward operating bases (FOBs) by traveling some of the most dangerous highways in the world. It's not your typical long-haul trucking gig.

Soldiers prepare to leave on a convoy escort team mission to resupply forward operating bases.

"We provide FOBs with the food and supplies they need to keep fighting," says Sgt. Carlos Ortega, a key leader for The Mavericks. "We also remove supplies they don't need so the enemy can't get their hands on them."

Truck drivers in Afghanistan travel in multi-truck convoys and prepare extensively prior to leaving the safety of a military base. The Mavericks primarily provide security for loads being transported by local Afghan counterparts. This gives them a dual role as logisticians and security guards for the commodities they are hauling.

The Mavericks never hit the road without extensive training and insight into what is going on in local areas, according to Ortega. Soldiers need to be conscious of more than the route and scheduled stops. The convoy must be aware of enemy action, washed-out roadways, or celebrations in Afghan cities along the way.

"We prepare for every contingency—from traffic and improvised explosive devices to small arms fire and rocket-propelled grenades," says Ortega.

The Mavericks also follow a methodical process before they drive their trucks onto the dangerous Afghanistan roads. Before leaving, they perform essential maintenance to keep vehicles moving on long missions, where an unscheduled stop could mean life or death.

"We go through a quality assurance process with maintenance personnel. They check our vehicles to ensure nothing is wrong with them, and fix them if there is," says Sgt. Michael Edmonds, The Mavericks' mission commander.

With the drawdown of troops in Afghanistan moving forward, The Mavericks can see light at the end of the tunnel.

"The finish line is in sight," Edmond says. "We're staying motivated and accomplishing these missions so we can all get home."

— SFC Mary Rose Mittlesteadt

Eritrea, Comoros, and Liberia are also finding significant demand for exports to the United States.

To do its part to help Africa grow, DHL Express offers international trade and operations training to small and medium-sized enterprises (SMEs) through its Certified International Specialist program. In addition, the expediter works with bank partners to help customers get funding for new projects and expansions.

These efforts, combined with the company's 40,000 customers and 4,000 employees in Sub-Saharan Africa, illustrate the impact DHL Express has had on African markets. "Africa's future depends on DHL and many other companies creating sustainable jobs and economies," says Brewer.

Since 2001, trade with Asia, as well as intra-African trade, has increased significantly. The next target for growth is the United States.

"Both governments are committed to trade growth, and these figures will continue to rise," says Brewer. "It is now the role of the private sector and the thousands of SMEs looking for opportunities to take advantage of this growth, and build success in this lucrative trade lane."

—Jason McDowell

China Seeks Investment

Following India's 2012 decision to ease foreign direct investment for single- and multi-brand retailers, the Chinese government hopes to suspend laws governing foreign investment in proposed free trade zones. The move suggests the country is looking to stimulate more domestic competition.

China's cabinet is seeking consensus to amend laws and regulations governing both foreign-owned companies and joint ventures between Chinese and foreign companies in free trade zones, including Shanghai.

China attracted $38.3 billion in foreign

direct investment in the first four months of 2013, up 1.2 percent from the same period in 2012.

At the same time, Shanghai is looking to test yuan convertibility and cross-border capital flows in the free trade zone pilot program. City officials hope to boost the currency's use in trade, and support wider financial reforms, especially as it faces stiffer competition from rival financial centers such as Hong Kong and Taiwan.

Mexico Gets Onboard Rail

As Mexico's economy continues to develop, the government is making a concerted effort to ensure the necessary infrastructure is in place to accommodate growth. New plans include the allocation of $100 billion toward rail, road, telecom, and port projects over the next five years, including Mexico's first high-speed rail links.

The modernization and construction of four airports, seven seaports, and about 3,350 miles of highway are among the projects in the works. Additionally, the government aims to strengthen fiber optic networks, expand broadband Internet access, and speed freight train service.

Where Are the Most Expensive Logistics Real Estate Markets?

The rapid growth of e-commerce and expanding third-party logistics activities are two factors driving competition for warehouse space, according to real estate services company CBRE Group's most recent quarterly report on the top 10 global industrial real estate markets.

Tokyo remains the most expensive market, followed by London and Singapore *(see chart)*. Rents in eight of the top 10 most expensive markets were stable during the second quarter of 2013. Values in Hong Kong grew 2.6 percent due to exceptionally tight supply of available space, while Tokyo's 2.2-percent growth is attributed to demand from e-retailers and third-party logistics providers. Singapore also faced a shortage of quality facilities amid strong demand.

Prime rents in most European markets – including London, Paris, Stockholm, Moscow, and Helsinki – held steady despite a challenging economic environment. Demand for highly specified, well-situated warehouses, however, remains robust. Occupiers looking to expand have limited options, prompting many to remain in their existing premises.

One trend of note: the Australian cities of Brisbane and Perth are two new entrants on the CBRE list. Mega tenants looking to consolidate multiple large warehouses into distribution super-sites are shaping the country's industrial real estate transformation.

Annual Logistics Real Estate Costs

MARKET	US$/SQ. FT.
Greater Tokyo	20.02
London	19.12
Singapore	17.13
Helsinki	16.58
Stockholm	14.22
Hong Kong	13.65
Moscow	13.01
Brisbane	10.92
Paris	10.89
Perth	10.33

SOURCE: CBRE Research, Q2 2013

Bridge Failure Deters Canadian Consumers

The I-5 Skagit River Bridge collapse in May 2013 became a symbol of U.S. transportation infrastructure woes. Now a ripple effect is being felt—cross-border retail business is taking a hit.

Canadian consumer activity at retail destinations along the heavily trafficked I-5 corridor that connects Vancouver, British Columbia, with Washington State has dropped noticeably, according to the Border Policy and Research Institute at Western Washington University. The long-term project was intended to investigate the economic impact of how changes in exchange rates and sales taxes influence cross-border shopping. Then the bridge failed.

Counting the number of Canadian license plates in the parking lots of major retail destinations both before and after the collapse, researchers discovered retailers south of the bridge were significantly affected.

For example, the Costco wholesale store in Marysville, Wash., about 30 miles south of the Skagit River Bridge, hosted 80 percent fewer Canadian-plated vehicles from March to June, according to the report. Also in Marysville, discount retailer Ross suffered a decrease of more than 70 percent in Canadian customers; Walmart experienced a 50-percent decline. Most retailers north of the Skagit River Bridge were not impacted.

"We would normally be hesitant about discussing a time-series study consisting of just two sampling events, but in this instance there are stark differences between the March and June data, supporting some general conclusions," researchers explain. [ ]

THE LEAN SUPPLY CHAIN

BY PAUL A. MYERSON
Managing Partner, LPA, LLC and author of *Lean Supply Chain & Logistics Management*.
paul@psiplanner.com | 732-441-3879

Putting a Lean Spin on Reverse Logistics

Reverse logistics—the processes involved with handling products returned by customers—is often overlooked during supply chain planning. As a result, it is frequently a source of waste, because companies lack Lean procedures for handling defective, damaged, mislabeled, or incorrectly shipped items when customers return them.

Recently, businesses have started paying more attention to their reverse logistics processes as a result of a greater focus on supply chain sustainability—a function affecting the environmental, risk, and waste costs of supply chain and logistics networks.

Reverse logistics exists in manufacturing, wholesale, and retail distribution and store operations, and must be managed as efficiently as possible, because returns can have a significant impact on the bottom line. In fact, returns—which affect four to five percent of consumer electronics sales, and up to half of sales in the publishing industry—reduce the average profitability of retailers and manufacturers by up to four percent.

Rethinking Reverse Logistics

Facilities that do not develop Lean procedures for returning, processing, repairing, and replacing products may create considerable waste. Efficiently managing the reverse logistics process, however, improves profitability and adds value for customers.

To reduce waste in distribution centers' reverse logistics procedures, pay close attention to movement and processing, which can be major sources of inefficiency and waste. Consider facility layout, item flow, and worker movement. Workers must be able to sort and break down returns with minimal travel, so make sure all necessary information, tools, replacement packaging, and other materials are nearby. Process and activity charts can be useful in this analysis.

Building a Lean Returns Process

The actual returns process can include your company's return policy (which can be generous or strict), Return Merchandise Authorization (RMA) procedure, operations outsourced to third-party logistics (3PL) providers, and technology tools. All these factors can have a tremendous impact on whether your returns process is efficient and Lean.

When developing your reverse logistics process, consider the following factors:

- **Prevention.** Use Lean tools such as Quality at the Source to minimize returns.
- **Financial incentives.** Avoid processes – such as charging returns back to the sales department – that cause RMA delays.
- **Core competencies.** If your company lacks reverse logistics expertise, consider outsourcing this function to a 3PL that can manage it efficiently.
- **Suppliers.** If you are a wholesaler or retailer, review the returns handling terms you have established with your vendors.
- **Cycle times.** Evaluate the entire returns process—starting with the customer, RMA procedures, and reverse logistics network—to identify potential sources of waste.
- **Technology.** Invest in the right tools to help you control and measure the reverse logistics process.

A well-planned reverse logistics operation can be a win-win proposition, because it fits well with today's increased focus on sustainability, reduces costs, improves your company's reputation, and satisfies customers. Ultimately, it can be used to establish a competitive advantage for your business. ■

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

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[VIEWPOINT]

BY JOEL ANDERSON
President and CEO, International Warehouse Logistics Association
janderson@iwla.com | 847-813-4699

How Will the Affordable Care Act Impact Shippers?

Companies large and small are assessing the impact the Patient Protection and Affordable Care Act (PPACA) will have on employee benefits. The mandates of the act start Jan. 1, 2014, and employers are examining a variety of responses.

Shippers must not only face the question of how this legislation relates to their own operations and employees, but how the act's impact on their supply chain partners will, in turn, affect them. Third-party logistics (3PL) public and contract service providers face an extra challenge because of the contingent nature of their workforce, and the seasonal characteristics of their businesses.

The 3PL sector includes many large employers with more than 50 employees working at least 30 hours per week. Under the PPACA, these employers must offer a healthcare package that is affordable, limits an employee's cost sharing, and provides essential benefits. While penalization has been put on hold for one year, the rest of the law has significant impact on contract logistics providers—and, ultimately, on shippers, who will be affected by 3PLs' increased financial responsibilities.

Because of the 3PL sector's large seasonal workforce, PPACA has a disproportionate operational and economic impact on this sector. A flexible workforce of seasonal, temporary, and part-time workers skews the numbers to mandate higher benefit costs for increased coverage because of the "look back" analysis.

Some expected that companies operating warehouse facilities could bundle headcount from all warehouse operations and apply one participation level. But the IRS ruled that each facility must be viewed as a single entity, which makes the application of benefits more complex, and may require different premiums from one location to another.

Assessing the Options

Many 3PLs offer affordable healthcare plans to all associates. Currently, it is the employee's choice whether to participate in the plan. Beginning in 2014, however, employees will be required to participate in a company healthcare plan, purchase a plan from a state-run exchange (if applicable), or pay a penalty.

The PPACA presents logistics companies with many questions, which will require significant analysis to answer. These questions include:

- Should companies offer healthcare coverage or possibly pay a penalty when this provision is implemented?
- Can companies insure temporary employees differently than full-time employees?
- Will employees covered elsewhere be excluded from companies' full-time headcount?
- Should the company limit all temporary work to fewer than 30 hours per week to avoid additional coverage requirements?

Most logistics companies must take these issues into account and reach out to their shipper clients to review current contracts that were based on a known benefit cost per employee. The increase in costs may range from .75 percent to as much as 10 percent by the time inflation is added to the equation, according to the American Staffing Association. That represents a significant increase for a logistics operation to absorb and still remain profitable.

Logistics companies must work with human resource departments, contract labor providers, and insurance administrators over the next months, and include their opinions in all operational discussions. ■

[3PL LINE]

BY PERRY BELCASTRO
Vice President of Fulfillment Services, Saddle Creek Logistics Services
perry.belcastro@sclogistics.com | 888-878-1177

Fine-Tuning Fulfillment for Happy Holidays

Black Friday, Cyber Monday, and the holiday season are fast approaching. For many companies, including retailers and online merchants, the holidays are the year's peak sales period. With so much on the line, it is critical to be prepared.

Today's consumers have no tolerance for inaccurate orders, delayed shipments, or unresponsive customer service. They expect the perfect order, every time.

This expectation can put significant pressure on order fulfillment operations. They are often under fire to handle a tremendous volume surge, while still delivering the right products in a timely manner at a reasonable cost.

Given these stakes, it is not surprising that fulfillment is a key area retailers focus on as they prepare for the holiday rush. The challenge is knowing where to start.

Successful fulfillment begins with strategic and tactical planning well in advance of the holiday season. It helps to establish sales projections early on, then evaluate all aspects of fulfillment operations to ensure that resources are in place to accommodate them. Key steps to success include:

- **Shore up systems.** Systems-based planning plays a critical role in holiday fulfillment. Consider the effectiveness of current IT systems, and confirm that software is capable of handling increased volume. Data-tracking metrics are also essential for identifying and addressing issues quickly. Where applicable, ensure that systems are effectively integrated with those of third-party providers.
- **Assemble necessary resources.** Take stock of facilities, equipment, and supplies. Confirm that there is sufficient space to handle increased volume, and that it is configured for optimal order processing. Verify that equipment can accommodate increased holiday volume, assess any holiday-specific packaging requirements, and order necessary supplies. Identifying and addressing critical needs early on can prevent major headaches at the height of the holiday season.
- **Perfect processes.** Take time to evaluate fulfillment processes and operations. Fine-tune receiving to ensure incoming products are compliant – correctly bar-coded and packaged, for example – so they can be put into stock quickly for efficient turnaround. Evaluate picking and packing processes to ensure optimal efficiencies.
- **Get all hands on deck.** Staffing can present one of the biggest challenges during the peak holiday season. Arrange for additional support well in advance, and provide sufficient training and cross-training so associates in all areas can hit the ground running. Arrange to have key staff—especially IT—on call throughout the season, and ask employees to minimize the use of vacation time.
- **Define delivery.** Research holiday delivery options. It's important to be aware of carrier cut-offs, service-level options, pick-up times, and holiday delivery guarantees. Understanding these details is essential to setting and meeting customer expectations.

Consider Outside Help

Many companies find third-party logistics providers valuable allies for seasonal fulfillment—for a complete product line or just a portion of their fulfillment needs. For example, they may choose to outsource fulfillment of items that require extensive handling or significant storage space to help free up internal resources.

An experienced fulfillment partner can offer scalable space, advanced technology, flexible staffing, established relationships with suppliers and carriers, and familiarity with best practices.

With strategic planning, careful attention to necessary resources, effective communication, and support from supply chain partners, the holidays can be the most wonderful time of the year. ■

INTERMODAL

How shippers save money without sacrificing service by

It's inexpensive, safe, super-reliable, and available when you need it. That's what proponents say about intermodal transportation, and it explains why intermodal carriers have been moving so much freight in recent years.

In August 2013, intermodal traffic in the United States averaged 257,795 units per week, the highest weekly average ever recorded, according to the Association of American Railroads (AAR).

"Domestic intermodal is growing much faster than almost any other area of the U.S. economy or industry," says Scott Webb, senior vice president at NFI Intermodal, a carrier based in Cherry Hill, N.J.

The term intermodal refers to moving a container or trailer by more than one mode of transportation—generally truck plus rail, ocean plus rail, ocean plus truck, or all three modes. Some recent freight industry trends—such as long-haul trucking capacity shortages,

EFFICIENCIES

letting railroads handle the long hauls. By Merrill Douglas

higher fuel costs, and a drive to reduce environmental impact—have sparked new interest in intermodal, especially pairing truck and rail as an alternative to over-the-road (OTR) trucking for domestic moves.

And recent trends in intermodal transportation, such as major initiatives to upgrade rail networks and service, have created some new opportunities for shippers:

■ **Lower cost.** A load that travels as part of a train pulled by locomotives requires far less diesel to move than when it is hitched to a truck cab. A train, for example, can move one ton of freight nearly 450 miles on one gallon of fuel, according to CSX Corporation. That sort of efficiency cuts the cost of an intermodal freight move and, as a bonus, reduces a shipper's carbon footprint.

■ **Consistent access to capacity.** An ongoing shortage of long-haul truck drivers, combined with new Hours-of-Service rules and tighter safety regulations, can make it harder to find a truck to pick up a load as needed.

"Intermodal offers shippers another option," says Tommy Barnes, president of Con-way Multimodal, the truckload brokerage company of Con-way Inc., based in Ann Arbor, Mich., and Portland, Ore. When carriers leave long-distance trips to the railroads – using trucks just for drayage at the start and end of each move – they have an easier time keeping drivers on the payroll.

"With intermodal, we can handle six times as many truckloads as we could over the road, using the same number of drivers," Webb says.

In addition, intermodal makes it easier to find extra capacity when you need it. "Trying to amass 250 empty trucks from over-the-road service is very difficult," says Dave Howland, vice president of land transport services at supply chain management provider APL Logistics in Phoenix.

But moving a train of empty containers, or adding 20 empties to each of several trains that are also running loaded cars, costs little and is easy to arrange, he adds.

■ **Reliable service.** That might come as a surprise to shippers who recall the times when they never knew if a trip on a given rail corridor would take five, seven, or 10 days. "That's no longer the case," says Howland. "Today, all the railroads measure on-time service to the minute."

As one example of the excellent service found on the rails these days, Barnes cites BNSF Railway's Los Angeles-to-Chicago corridor. "That offering competes heavily with truck, and provides service at the same—if not a better—level," he says.

Although regular intermodal service often takes one day longer than OTR in the same corridor, railroads can close that gap with expedited services. "Expedited rail is equal to, or faster than, over-the-road transit in every instance," Howland says.

■ **Increased security.** Intermodal containers stay secure because they spend so much time in motion. "Freight at rest is freight at risk," notes Jim Filter, senior vice president, intermodal commercial management, at truckload carrier Schneider National, Green Bay, Wis.

Double-stacking helps, too. "When you drop a container into the well car, the doors physically can't be opened," Filter notes. The top container in the stack rides 15 feet off the ground, making it tough to break into.

"Additional security at each ramp also prevents theft while the containers are being placed on or off the rail," he says. These layers of protection make intermodal the mode of choice for many Schneider customers shipping from Mexico.

INVESTMENT AND INNOVATION

The railroads have been working hard to make intermodal a better choice for shippers, spending large sums to improve infrastructure and extend their reach. "Over the past several years, the railroads have invested tens of billions of dollars in both maintenance and expansion capital," says Webb.

Norfolk Southern (NS), for example, has invested heavily in six transportation corridors. The biggest initiative is the Crescent Corridor, designed to compete with Interstates 81 and 75 in the eastern United States. NS has been upgrading rail lines and adding new terminals as part of that project.

"We have already built three new terminals, and one in Charlotte will be completed by the end of 2013," says Jeff Heller, the company's vice president, intermodal and automotive marketing.

Another initiative is the Heartland Corridor—between the Port of Hampton Roads, Va., and Chicago—where NS has increased the height of 29 tunnels and removed obstructions. "That construction gave us the ability to run double-stack trains through a shorter, faster route and add more capacity," Heller says.

Efforts like those by NS and other railroads are making intermodal a viable choice in more situations, especially in the East.

Upgrading equipment and tracks, adding terminals, and enhancing services allows railroads to meet shipper demand for low-cost, efficient, and safe intermodal transport.

"Many of the terminals that are improving service – expanding or opening – are located in the East," says Filter. Those improvements are prompting shippers to choose intermodal for shorter hauls than in the past—for example, from Chambersburg, Pa., or Syracuse, N.Y., to Chicago.

Several other factors have made intermodal more popular. One is the introduction of refrigerated 53-foot domestic containers, which NFI was the first to use in the United States.

Railroads have carried dry domestic containers since the early 1990s. "But

until NFI introduced the 53-foot refrigerated container, all temperature-controlled intermodal in the United States moved on trailer or flatcar," says Webb. That made the economies of double-stacking unavailable to refrigerated loads. Today, companies shipping temperature-sensitive loads can reap the same advantages as companies that ship in double-stacked dry domestic containers.

Some of those companies can skip refrigeration altogether by using another innovation: a new generation of insulating blankets that can protect some temperature-sensitive loads for days at a time in dry containers. Because it takes fuel to run a refrigeration unit, it's cheaper to ship in a dry container.

"The blankets also make more capacity available, because shippers are not limited to just refrigerated units anymore," Howland says.

THE TECHNOLOGY ADVANTAGE

Information technology also helps make intermodal more attractive. For instance, Schneider has installed trailer-tracking devices on its containers. "For shippers using Schneider to move an intermodal load, it's just as if they're shipping over the road," Filter says.

New technology at rail terminals helps to streamline several aspects of an intermodal move. For one, drayage trucks no longer wait at terminal gates while inspectors examine containers for mechanical fitness and check that security seals are intact. "Today, at most rail terminals, digital cameras perform the inspections," says Howland.

And thanks to digital billing systems, drivers no longer need to pull out paperwork and wait while someone checks printed information against a computer screen. "When the truck comes through, a digital camera identifies the unit number, matches it automatically with the advanced billing data that has been entered into the system, and, in some cases, immediately tells the driver where to go with that unit—without any human intervention at all," Howland explains.

One further innovation is using intermodal to replace more costly less-than-truckload (LTL) services. "Because service times have improved so much,

Jelly Belly Candy Company: Bringing in the Beans

Jelly Belly Candy Company makes about 12 billion jelly beans per year. Most of those treats, along with the company's other candy products, reach retailers via small parcel, less-than-truckload (LTL), or truckload carrier. For many intracompany moves, though, intermodal has become the mode of choice.

About 80 to 90 percent of Jelly Belly's production takes place in its main factory in Fairfield, Calif. But with a market concentrated east of the Mississippi, Jelly Belly's large distribution center in Pleasant Prairie, Wis., is the best spot from which to ship most customer orders. So the company ships many refrigerated loads between the two facilities. "We send about 400 full truckloads annually from California to Wisconsin," notes Zahid Rashid, Jelly Belly's director of distribution.

When Rashid took on his current position at Jelly Belly in 2012, about 30 percent of the loads in that lane moved via intermodal. Then the company re-examined its options. "When we analyzed the costs, then the pros and cons, it was an easy decision to switch to 100-percent intermodal," Rashid says.

The cons involved doubts about whether rail could match the speed of over-the-road service. As it turns out, the railroads have mostly come through. "More than 95 percent of the time, shipments arrive within the four-day transit time we were achieving with over-the-road," Rashid says.

The argument that tipped the decision in favor of intermodal focused on cost. "Rail is significantly less expensive than over-the-road," Rashid says. Making all shipments from Fairfield to Pleasant Prairie via intermodal saves the company more than $500,000 annually.

Jelly Belly also has considered using intermodal to replace full truckload deliveries to customers, with mixed success. The big variable is whether an intermodal service can deliver according to the precise needs of demanding customers, especially the big box retailers.

"All their distribution centers run very tight ships," Rashid explains. "If you have a 2 p.m. appointment, they expect you there at 2 p.m.; otherwise, there's a chargeback coming your way."

Jelly Belly's own facilities can give carriers a bit of leeway, but that's not an option with customer deliveries. "It's a factor we have to consider every time we want to consider using rail," Rashid notes. The company has achieved the best results in lanes where the railroads offer frequent service.

Any company that ships full truckloads should consider intermodal, Rashid recommends. If precise delivery windows are not a factor, then "intermodal is a slam dunk," he says.

Constellation Brands: In Good Spirits Over Intermodal

Over-the-road (OTR) transportation might be a little faster than intermodal, but only if you don't count the time you spend waiting for the truck driver to show up, says Rick Anderson, vice president of logistics at Constellation Brands, a major international producer and vendor of wine, beer, and spirits.

At least, that's the case for Constellation's largest distribution center, a 580,000-square-foot facility in Lodi, Calif. "There isn't a lot of capacity sitting in trucking company yards in northern California, waiting for shippers to call asking for a driver to pick up their load," says Anderson. But an asset-based intermodal carrier can almost always show up with a container, even on short notice.

Intermodal is the standard transportation mode for most of Constellation's wine and spirits shipments. The exceptions are shipments within California; from California to Nevada, Arizona and New Mexico; and about half the shipments from California to Denver—lanes where the available rail service simply doesn't fit the need.

Along with 53-foot domestic containers, Constellation takes advantage of 40-foot ocean containers that bring product from West Coast ports to the Midwest. Once they deliver the product, carriers need to get those empty boxes back to the ports. That poses a perfect opportunity for Constellation to move product to market from Kentucky, where it packages several brands of spirits.

"It usually is very economical to take those containers that are coming west anyway, put product in them, then move them back to southern California," Anderson says.

Constellation uses a similar strategy to move packaging materials from a supplier in Louisiana to California. "Ocean containers are readily available, and headed back to the West Coast anyway," Anderson says. "We might as well fill them with cargo."

Because Constellation mainly ships glass bottles, it might be surprising to learn that it relies so heavily on rail. In the days when most rail freight traveled in boxcars, damage was indeed a risk, Anderson says. When the railroad couples two boxcars, the products inside receive a certain amount of shock.

But that's not the case with intermodal containers. "Generally, the roughest part of intermodal transport is the distance that the product travels from the warehouse to the intermodal ramp"—that is, the highway portion of the trip, Anderson says. For containers on rail, vibration is more of a concern than shock.

"But our products are designed to be able to survive transportation, so we rarely have an issue," he adds.

shippers can now use intermodal for pool distribution," notes Barnes. That means combining multiple LTL shipments to make a full containerload, putting that container on the rail to a service center in a distant destination, then using trucks to deliver individual shipments to their final destinations.

APL uses this strategy as well, relying on software called *ShipMax* to build LTL shipments from different customers into optimized truckloads. In one case, the carrier used the software to match two customers that made a lot of LTL shipments as well as full truckloads that, in one case, hit the legal weight limit before the truck was full and, in the other, filled the truck before the load met the legal weight limit.

By combining their loads, the shippers make better use of capacity. "For every four loads the two of them were shipping, they're now shipping three loads, reducing their costs by 25 percent," Howland says. And because those combined loads move via intermodal rather than OTR, the shippers save an additional 25 percent.

BEST PRACTICES

For companies that want to gain the efficiencies of intermodal transportation, carriers and shippers offer plenty of advice:

Consider intermodal transport when choosing site locations. "When companies build a manufacturing plant or distribution center, they need to consider the distance to the closest intermodal facility," says Heller. "The farther it is from the plant or warehouse, the higher the cost of dray—and that negates any savings a shipper would net from moving freight by intermodal."

Periodically re-evaluate the advantages of intermodal and over-the-road for specific lanes. "An annual bid is not frequent enough," says Webb. "The pace of change is so fast—there are technological innovations and new services, and the railroads are introducing new routes at an unprecedented rate." Companies should look for opportunities to convert to intermodal every six to nine months, he recommends.

Place the burden of proof on OTR. Whether to convert from OTR to intermodal isn't always the question. Some companies start by assuming all freight will travel intermodal unless a specific lane

clearly works better with OTR. "Shippers move to an intermodal method because they reach the end goal much faster than adding incremental improvements year after year," Filter says.

Stay flexible. To take advantage of railroads' shipping schedules, shippers might need to adjust their departure and delivery times. For example, railroads tend to accept loads at their ramps until late in the evening.

"If a company has to ship at 8 a.m., the load will just sit at the terminal all day waiting to depart," Webb says. "Shippers can tighten transit times by 12 or 16 hours if they're willing to load and ship in the evening."

The drayage portion of a move might call for flexibility, as well. When Jelly Belly Candy Company started using intermodal to ship from a production facility in California to a distribution center in Pleasant Prairie, Wis., (*see sidebar, page 40*) drayage drivers had trouble meeting specific pickup and delivery appointments.

"So we expanded our windows for both pickups and dropoffs," says Zahid Rashid, the company's director of distribution. "Rather than having a set appointment, we give our drayage carriers a multi-hour window to hit."

Keep enough product in the pipeline. Because an intermodal move often takes about one day longer than a truck move, it's that much trickier to obtain product quickly if demand suddenly spikes. Companies that use intermodal must ensure they always have the right volume of product flowing through the supply chain. "Intermodal shippers need robust demand planning, and a strong inventory management process," says Barnes.

Use an asset-based carrier. "Look for a carrier that owns the boxes, and operates its own dray fleet," advises Filter at asset-based Schneider National. A company that doesn't own those assets, or employ its own drivers, can't easily guarantee a stable capacity supply, he says.

Make sure your carrier can deliver on its promises. "The reason we terminate relationships with carriers is their inability to supply capacity," says Rick Anderson, vice president of logistics at Constellation Brands, a major supplier of wine, beer, and spirits (*see sidebar, page 42*).

For a shipper such as Constellation, which moves steady volumes year-round, competition for containers grows particularly tough as other companies in California hit their peak seasons—harvest time for agricultural firms, or the year-end holidays for companies that import consumer goods. When the crunch hits, shippers must ensure their carriers won't divert containers to other customers.

Take a hybrid approach. "For a lane coming into a distribution center, a shipper might move two shipments by truckload and two by intermodal," says Barnes. Using that strategy, the shipper minimizes any risk of shortage that might arise if the intermodal trip requires an extra day, while still enjoying the advantages of intermodal transportation.

The railroad and trucking industries have been rivals for decades, but intermodal transportation has made them vital partners, too. Shippers can take advantage of those partnerships, using the best of both modes to gain maximum efficiencies. ■

RAILROAD OPERATIONS

Where Safety and Innovation Converge

New processes, technology, and policies help ensure rail cargo security and prevent accidents.

By Lisa Terry

SPECIALLY EQUIPPED FREIGHT CARS PASS OVER RAILROAD tracks as sensors gather multiple data points on their condition. Rail-side detectors scan passing rail cars to evaluate their integrity. Trackside ultrasonic technology identifies internal flaws in passing wheels.

These cutting-edge technologies—implemented by the Association of American Railroads' (AAR) Transportation Technology Center Inc. (TTCI) in Pueblo, Colo.—are part of a multi-billion-dollar investment rail companies are making to continuously enhance railroad operations safety.

The United States has been criticized in recent years for the state of its transportation infrastructure. But rail is being held up as a model for the significant improvements that can be attained with dedicated effort. This praise is largely due to ongoing investment in infrastructure and equipment by America's freight railroads—including more than $25 billion in 2012 by members of the AAR.

"Railroads are experiencing a competitive resurgence as an energy-efficient freight transportation option," according to the 2013 *Report Card for America's Infrastructure*, published every four years by the American Society of Civil Engineers. The report commends the railroads for increasing investment during the recent economic recession, when materials prices were lower and trains ran less frequently, and says rail has made the biggest improvement since the group's last report.

That's a far cry from the 1970s, when "the Northeast almost lost freight rail services," says Richard Young, Ph.D., professor of supply chain management and business administration at Penn State University. "Railroads deferred maintenance on a lot of track, until the Staggers Rail Act of 1980 eased regulation."

Improvements and ongoing investment since then helped the rail industry experience its safest year ever in 2012, according to the AAR. Since 2000, the train accident rate has fallen 44 percent, the rail employee injury rate has dropped 51 percent, and grade-crossing collisions are down 45 percent.

Facing the Challenges

Railroad companies own most of the United States' 138,565 miles of track, operating on a land mass roughly the size of Delaware—stretched out in long, skinny strings that cross through every type of geography: urban centers, suburban neighborhoods, open plains, mountains, lowlands, and everything in between.

Rail systems also have many components: rail beds, bridges, ties and tracks, locomotives, rail cars, and mechanical and computerized systems that control it all—and that doesn't include the yards and all the equipment they maintain. Rail operators must address both safety (preventing accidents, and keeping people and property free from harm) and security (protecting loads against damage and criminal activity).

Monitoring and protecting rail operations is a significant challenge. Trespassing on railroad property is common, and many roads cross rail tracks at grade—a situation many railroads are working to abate.

Another challenge for rail operators is that in some rail-reliant industries, shippers or other railroads own the cars. Intermodal containers may also be owned by third parties. While railroads are generally happy to let someone else own the assets, they do bear responsibility to inspect them to ensure compliance with safety standards, and to refuse or repack those that fail inspection.

Some industries have made considerable investment in rail car safety. "For example, the chemical industry has been diligent about investing in braking systems hardware," says Young.

To some degree, the rail industry has also become a victim of its own success in attracting new business.

"Many solutions are already in place to help shippers, but some new customers have never shipped on rail before," says Jim Horgan, director of damage prevention and claims for Norfolk, Va.-based Norfolk Southern, a Class I railroad operating in 22 states and the District of Columbia. "The rails are continually developing new products and conveyances, so we have to work closely with our marketing and sales teams to be in the forefront of new business opportunities in order to avoid future problems."

Pushing Tech Advancement

Railroads have an obvious interest in keeping people and cargo safe and secure. But so does the government. While the AAR credits reduced regulation with many of the industry's gains, the two entities are still sometimes at odds over specifics of how to attain those goals, such as timetables and appropriate standards.

Specialized rail cars use advanced electronic and optical instruments to assess track alignment, gauge, curvature, and other conditions, alerting railroads when a span of track requires maintenance.

For example, U.S. legislation passed in 2008 mandates that railroads implement positive train control (PTC) technology on main lines used to transport passengers and toxic-by-inhalation materials. PTC technology is designed to automatically stop or slow a train before certain types of accidents occur, including train-to-train collisions, derailments caused by excessive speed, unauthorized incursions by trains into maintenance areas, and switches left in the wrong position.

The law requires railways to implement PTC by 2015. But the industry warns that despite $3 billion in investment to date, technological hurdles stand in the way of attaining a reliable nationwide

interoperable PTC network. The rails are asking for more time – and an August 2012 Federal Railroad Administration report confirmed the accuracy of the industry's assessment.

But the rail industry has also pushed for higher safety standards than the government currently allows. In March 2011, the AAR's Tank Car Committee petitioned the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) to adopt higher standards for DOT-111 tank cars carrying packing group I and II commodities (such as crude oil and ethanol). The standards include enhanced tank head and shell puncture resistance systems and top fittings protection that exceed current requirements.

The PHMSA is seeking public comments on the proposed new rules, but the industry has moved ahead proactively: All new tank cars carrying packing group I and II crude oil and ethanol ordered after October 2011 are built to these higher standards.

Leveraging Innovation

To meet regulations or pursue their own continuous improvement objectives, many railroads are combining technology, processes, and shipper training – along with expertise from field-based damage prevention managers – to reduce cargo damage or loss.

Rail safety begins with the quality of the underlying rail infrastructure. Maintaining and investing in tracks and equipment is key to preventing accidents.

From 2008 to 2012, Class I railroads purchased 2,669 new state-of-the-art locomotives, and rebuilt another 845 locomotives to improve their capabilities, according to AAR. They also installed 77 million new crossties and 2.9 million tons of new rail, and placed 61 million cubic yards of ballast.

The railroads also devoted substantial resources to developing and implementing innovative new technologies, such as:

- **Wayside detectors.** These sensors identify defects – overheated bearings and damaged wheels, dragging hoses, deteriorating bearings, cracked wheels, and excessively high or wide loads – on passing rail cars.

Trackside acoustic detector systems evaluate the sound of internal wheel bearings to identify those nearing failure.

- **Acoustic detector systems.** These trackside systems use "acoustic signatures" to evaluate the sound of internal bearings to identify those nearing failure. They supplement or replace systems that measure the heat that bearings generate to identify those in the process of failing.
- **Track geometry cars.** These technology-rich cars use sophisticated electronic and optical instruments to inspect track alignment, gauge, curvature, and other track conditions. A new vehicle track interaction system is also used to locate difficult-to-find track geometry defects. This information helps railroads determine when track needs maintenance.
- **Ground-penetrating radar.** This technology helps identify below-ground problems – such as excessive water penetration and deteriorated ballast – that hinder track stability.

IT Investments

The rail industry has also made considerable advancements in information technology systems. For example, TTCI developed the Integrated Railway Remote Information Service (InteRRIS), an advanced Internet database. An early project using InteRRIS processes data from various equipment measurement systems to produce vehicle condition reports.

Another example is the Equipment Health Monitoring Initiative, a predictive and proactive maintenance system designed to detect potential safety problems and poorly performing equipment.

Like other industries, rail is increasingly scouring data to gain business insights. For railroads, that insight includes cargo safety and security.

Norfolk Southern, for example, uses data analysis tools to identify trends in customer freight claims and damage notifications for specific shippers or commodities that require attention. By drilling down into specific lanes, customers, and rail cars, NS can often determine a root cause, so it can resolve the issue.

Putting Protection in Place

It's up to individual railroads, however, to implement these technologies in a way that makes the most sense for their operations. Most Class I rail companies also maintain their own facilities to conceive, test, and implement technology innovation.

Jacksonville, Fla.-based CSX – a Class I railroad operating 21,000 route miles of track in 23 states, the District of Columbia, Ontario, and Quebec – has invested in eight Super Sites on its higher volume lines.

Super Sites feature groups of specialty detectors that monitor wheel and bearing health, and communicate with a central database. The database logic provides comparisons of bearing temperatures, and alerts train crews if those temperatures indicate potential problems.

Other CSX technology includes machine vision systems to look for equipment defects, laser/camera systems measuring critical wheel profile dimensions as rail cars pass, and technology to monitor terminal coupling speed. The carrier also uses remote monitoring technology to observe key infrastructure, including tunnels and bridges.

Norfolk Southern credits its safety improvements primarily to track maintenance, process control computer upgrades, and Wayside Imbalance Load Detectors, which identify potentially dangerous loads and help shippers correct their load patterns. The rail company is currently

enhancing the detectors to include longitudinal imbalances to improve the safety of moving large or heavy loads.

The railroad also works with dunnage and securement manufacturers to explore and test new ideas to safely secure lading. "More shippers are now using nonmetallic strapping—a safer alternative for many commodities," says Horgan.

Omaha, Neb.-based Class I railroad Union Pacific has also invested in wayside detectors. It also uses distributed power units—placing locomotives in the middle and/or end of trains to reduce the physical forces on them, which makes them less prone to derailments, and facilitates more even braking to reduce wheel and track wear.

In Mexico, Class I railroad Kansas City Southern Railway (KCS), based in Kansas City, Mo., has implemented GPS, geo-fencing, security applications for smartphones and iPads, and other security technologies and investments, in addition to constant security auditing. For damage prevention in both the United States and Mexico, KCS introduced a solar-powered, wireless data system that monitors several parameters on rail cars to help reduce freight claims.

Analytics and Process

Processes and procedures for properly preparing freight to move on rail represents another area where railroads are concentrating their safety improvement efforts.

Perhaps the fastest education on how to secure a load properly for the longitudinal shifting that impacts cargo in a rail car—and how it differs from a truck's latitudinal movement—is to open a car after a rail trip and see what it looks like.

That's where a railroad such as Pioneer Valley Railroad in Western Massachusetts has a lot to offer.

"We transload many shipments—taking them off the rails, holding them in our warehouse, and trucking them to the destination," says Mike Rennicke, vice president and general manager for Pioneer Valley. "We're in the perfect position to go back to the shippers with a digital photo that shows how a load looks when it arrives, so they can compare it to when it was put in the rail car.

"It always starts out looking perfect, but loads shift in transit," he adds.

Pioneer Valley and others offer services to help shippers plan and improve their loading processes. One Pioneer Valley customer that makes bagged plaster, for example, was using air bags to fill space between products to prevent damage. But pallet shifts were still causing problems, so Pioneer recommended plywood between pallets.

For a birdseed company customer, switching pallet sizes so loads fit more snugly across the rail car interior helped eliminate damage. For another shipper, new strapping and cushioning recommendations improved the condition of rolled aluminum shipments.

Norfolk Southern recently restructured its damage prevention team, creating expert positions for automotive, intermodal, open-top, and closed-car commodities. "We are working closely with our marketing and sales colleagues to develop training programs for both internal and external participants," says Horgan.

> "The more information shared—from shipper to railroad and railroad to shipper—the less chance of shipment damage." —**Gary Sease,** CSX

Handling Hazmat

Hazardous materials present a special challenge no matter how they are moved, but rail companies have developed their own technologies, policies, and processes to move these materials as safely as possible.

In 2010, U.S. railroads transported approximately 1.8 million carloads of hazardous materials—including 77,000 carloads of toxic inhalation hazard materials. In 2010, 99.998 percent of rail hazmat shipments reached their destination without a release caused by a train accident, according to the AAR. Rail hazmat accident rates are down 38 percent since 2000.

"Hazardous materials are subject to greater scrutiny—such as handoff procedures from one supply chain partner to another," says Robert Ledoux, senior vice president at Florida East Coast (FEC) Railway, a Jacksonville, Fla.-based intermodal shortline operating on the east coast of Florida. "We have to ensure we are prepared to receive and secure those shipments, as does the receiving customer."

One contributor to safety achievements is the Rail Corridor Risk Management System, a sophisticated statistical routing model designed to ensure that materials are transported on routes that pose the least overall safety and security risk. A railroad will intentionally route hazardous materials away from a stadium full of football fans on a Sunday afternoon, for example.

In August 2013, the Federal Railroad Administration issued additional mandates for certain processes and policies intended to help prevent trains operating on mainline tracks or sidings from moving unintentionally.

Steps include daily job briefings for those involved in securing a train, and communicating with dispatchers regarding the number of hand brakes applied, the tonnage and length of the train or vehicle, the grade and terrain features of the track, any relevant weather conditions, and the type of equipment being secured.

Designing and maintaining equipment

is only part of the task of ensuring the successful movement of freight from Point A to Point B. Railways maintain comprehensive security organizations to protect goods from damage and theft.

"The biggest challenge is when the train stops," says Ledoux. Rail workers can't monitor every mile of train, and cars branded with familiar retailer names can be a particular draw for thieves.

Security Investments

To continue enhancing its security, FEC is reducing stops, performing more field inspections in both directions, and deploying its police force to ensure cargo protection at vulnerable times such as crew changes and during emergencies.

The railroad is also investing in automated gate systems and a new yard under construction in Port Everglades, Fla. And FEC is starting to offer on-dock rail in PortMiami to avoid transferring to trucks for the six-mile trek across town.

Security technologies in place at Fort Worth, Texas-based BNSF—a Class I railway operating on 32,500 route miles of track in 28 states and two Canadian provinces—include camera systems with detection analytics, gate access systems, portable surveillance systems, thermal imaging devices, tamper-resistant barrier seals for trailers and containers, and uniformed police and K9 teams with marked police vehicles.

BNSF employees are trained to be aware of and report security-related issues and threats, and the railroad helped start Citizens for Rail Security, which taps members of the public to help protect the railroad by reporting security violations, trespassers, or unusual occurrences. Today, BNSF is broadening that effort by further educating community and legislative groups.

Solutions in Development

Many of the industry's technological advancements are developed and refined at TTCI. The facility uses its 48 miles of test tracks, highly sophisticated testing equipment, metallurgy labs, simulators, and other diagnostic tools to test all aspects of railroading, including track structure, freight car and locomotive performance, and component reliability.

To ensure cargo security, Florida East Coast Railway is reducing stops, increasing field inspections, and deploying its police force to monitor trains during crew changes. The railroad is also investing in automated gate systems at its facilities.

Technologies currently under development at TTCI include:

- **Rail defect detector.** Special cars detect internal rail flaws caused by fatigue and impurities introduced during manufacturing. TTCI is developing a prototype of an advanced "phased-array" rail inspection system to detect hard-to-find internal rail defects.
- **Optical geometry detectors.** This technology identifies poorly performing freight cars. While a relatively small percentage of freight cars are defective, they cause an inordinately high percentage of track damage, and have a higher-than-usual propensity to derail.
- **Automated detector systems.** These inspect the undercarriage, safety appliances, and other components using machine-vision-based car inspection systems.

Other TTCI projects include evaluating track substructure under heavy-axle load operations; an overlay treatment to combat running surface degradation; steel bridge testing; and improved brake riggings to prevent asymmetric wheel wear.

What Shippers Can Do

Some shippers exert an unusually high level of control over their freight because they own the rail car as well as its contents. But whether they're using their own, a third party's, or the rail company's equipment, shippers can take steps to maximize load safety and security.

The AAR maintains a set of standardized loading rules and procedures for shippers, and rail companies advise shippers on preparing loads.

"Provide as much information as possible to the railroad regarding the commodity or product to be shipped and any potential for damage or spoilage," recommends Gary Sease, corporate communications director at CSX. "The more information shared—from shipper to railroad and railroad to shipper—the less chance of damage."

Also make sure trading partners are aware that the shipment they are preparing may involve rail transportation, so they can optimize intermodal container loads for rail travel as well as other applicable modes.

Preparing for the Future

Measured in ton-miles, about 40 percent of U.S. freight volume moves by rail—more than any other transportation mode. Thanks to their significant investment in technology, processes, and infrastructure, railroads are ready to move even more of this freight securely and safely. ■

INBOUND LOGISTICS'

2013 SHIPPING LINES GUIDE

Since economic recession began spreading around the world in 2008, the ocean freight industry has been in a period of marked transition. The rise and fall of global economies has precipitated a similar effect as global steamship lines try to balance capacity to demand—all while seeking rate stability and reducing costs.

Larger, greener ships are coming on line, which equates to better economies of scale and fuel consumption. Ocean carriers have idled vessels to reduce capacity and artificially stimulate rates; they have trimmed services – jettisoning intermodal chassis, for example – and entered into strategic alliances to share capacity and better utilize assets. Shipping lines are also tailoring their sailing frequencies, identifying growth markets, exploring new ports, and investing in container terminals.

Inbound Logistics' annual Shipping Lines Guide offers snapshot perspectives of leading shipping lines—detailing how and where they are investing capital in assets, services, and infrastructure to best meet your demands.

PHOTO COURTESY OF CROWLEY

Atlantic Container Line (ACL)

800-ACL-1235 **aclcargo.com**

PARENT COMPANY: Grimaldi Group

Since 1967, ACL has been 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 provides five weekly transatlantic sailings, and markets direct CONRO service between the United States and West Africa under its parent company, Grimaldi Lines. The company also offers service for non-containerized cargo from North America to the Mediterranean, Middle East, South Africa, Australia, and Asia.

WEB TOOLS: Booking and rate requests, express documentation.

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

CUSTOMER AWARDS: Honda Premier Partner Award; Customer Service Award, Canadian International Freight Forwarders Association

WHAT'S NEW: Construction has begun on ACL's new Generation 4 (G4) CONRO vessels. The first of their type ever built, the vessels will be bigger, faster, greener, and more efficient than their predecessors. The G4s will have a 3,800-TEU container capacity, 311,077 square feet of RoRo space, and capacity for 1,307 vehicles. The vessels are 10 percent faster than their predecessors, yet will consume 50 percent less fuel per TEU. All five vessels will be delivered in 2015.

APL

800-999-7733 **apl.com**

PARENT COMPANY: NOL Group

SISTER COMPANY (LOGISTICS): APL Logistics

APL is a global container shipping company offering more than 80 weekly services and 500 calls at more than 140 ports worldwide. It combines intermodal operations with information technology and e-commerce to provide shippers with seamless and integrated transportation solutions. APL is a unit of Singapore-based global shipping and logistics company Neptune Orient Lines.

WEB TOOLS: APL's HomePort Web portal enables shippers to book and track cargo electronically, and provides e-bills of lading. Terminals connect with truckers via the Internet and mobile devices, enabling them to manage cargo pickup and delivery.

FLEET SIZE: 132 vessels

CUSTOMER AWARDS: Clean Air Action Plan Air Quality Award, San Pedro Bay Ports; 2013 Best Cold Chain Logistics Provider, Asian Manufacturing Awards; Intra-Asia Best Shipping Line, Asian Freight and Supply Chain Awards; Green Ship of the Year, International Maritime Awards

WHAT'S NEW: APL is on track with its 34-containership fleet renewal program, with vessel delivery to be completed by 2014. Ranging from 9,200 TEUs to 14,000 TEUs, these ships rank among the industry's most fuel-efficient, and are equipped for optimal environmental performance. As they progressively replace older and less-efficient ships in APL's fleet—as well as chartered vessels that will be returned—APL's new investments will position the company for future growth.

APL is also achieving good results in its target to reduce carbon emissions 30 percent by 2015. In 2012, the company recorded a 22-percent CO_2 reduction against its 2009 audited emission baseline.

Bahri General Cargo

410-625-7000 **bahri.sa**

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

Formed in 1978, The National Shipping Company of Saudi Arabia (Bahri), Saudi Arabia's first national carrier, offers ocean transportation services to meet the world's changing needs. The company specializes in project cargo, breakbulk, RoRo, automobiles, and containers. It contracted six new RoRo/container vessels in 2011—with three already in service—to provide increased frequency and better transit times.

FLEET SIZE: Six vessels by the end of 2014

CUSTOMER AWARDS: Best-Managed Company in the Middle East in the Transport and Shipping Sector, Asharqia Chamber

WHAT'S NEW: In August 2013, Bahri agreed to prepare a feasibility assessment to develop a world-class maritime yard in Saudi Arabia. The firm merged its fleet and operations with Vela International Marine Limited—a subsidiary of oil company Saudi Aramco—and took delivery of a new vessel—*Bahri Tabuk*—in July 2013.

China Shipping

888-712-7811 **chinashippingna.com**

PARENT COMPANY: China Shipping Group Company

China Shipping offers container transportation and related services including storage, transshipment, Customs arrival manifest filing, and intermodal on-carriage. Its 620,000-TEU

fleet calls 12 China base ports and most river ports along the Yangtze River, the Pearl River, and their branches, providing fast, safe, economical containerized freight transportation. A total of more than 40 international routes round out the line's current service profile.

WEB TOOLS: Tracking/tracing, electronic data interchange (EDI), eBrochure, sailing schedules.

FLEET SIZE: 155 vessels

CUSTOMER AWARDS: 2012 Ocean Carrier of the Year, Dollar Tree

WHAT'S NEW: China Shipping enhanced its Transpacific, Transatlantic, Mediterranean, North Europe, China Pearl River Delta, and China Yangtze River Delta services.

CMA CGM

757-961-2100 **cma-cgm.com**

LOGISTICS DIVISION: CMA CGM Logistics

CMA CGM, founded in 1978 by Jacques R. Saadé, provides regular services to 400 ports on more than 170 main shipping lines around the world. With a presence on all continents, and in 150 countries through its network of 650 agencies, CMA CGM employs 18,000 people and transports 10.5 million TEUs annually. The group offers a complete range of activities, including transport by sea, river, and rail, and operates facilities in port—as well as logistics on land—to guarantee high-quality, door-to-door services. CMA CGM has also been investing in rail, inland waterway, and road haulage services and strategic shipping terminals worldwide.

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

FLEET SIZE: 414 vessels

WHAT'S NEW: In 2013, CMA CGM added 20 vessels to its fleet to improve service to its worldwide network.

COSCO Container Lines Americas

800-242-7354 **cosco-usa.com**

PARENT COMPANY: China Ocean Shipping Company (COSCO)

COSCO maintains 85 representative offices in 49 countries around the world, and operations agencies in 1,000 cities in 160 countries. Cargo handling capabilities include 20-foot and 40-foot dry containers, refrigerated containers, flat-racks, open tops, high cube, and other specialized equipment. Routes and scheduling are designed for rapid and cost-efficient service worldwide.

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

FLEET SIZE: 120 vessels

WHAT'S NEW: In addition to equipment improvements, recent scheduling additions and revisions have created significantly faster transit times. COSCO's 23 main line services connect more than 1,000 ports.

Crowley

800-CROWLEY **crowley.com**

PARENT COMPANY: Crowley Maritime Corporation

LOGISTICS DIVISION: Crowley Logistics

Crowley Maritime Corporation, a privately held family- and employee-owned company established in 1892, provides marine solutions, and transportation and logistics services in domestic and international markets. Services include cargo shipments by containers and trailers; refrigerated and speed-to-market shipping; breakbulk, heavy lift, and over-dimensional items; and rolling stock such as cars, trucks, buses, and construction equipment, all with company-owned specialty equipment and top-quality Lift-on/Lift-off (LoLo) and RoRo vessels.

WEB TOOLS: Track-and-trace, sailing schedule, e-freight manager, tariff rate retrieval, inland rate table, online booking request, online freight payment, live chat.

FLEET SIZE: More than 200 vessels

CUSTOMER AWARDS: Top Line Haul Performance, Payless ShoeSource; Logistics Excellence Award, Toyota; Marine Environmental Business of the Year Award, Seattle Maritime Festival

WHAT'S NEW: Crowley Maritime's TITAN Salvage subsidiary and Italian firm Micoperi partnered in salvaging the wrecked cruise ship *Costa Concordia*, rotating the ship to an upright position. In addition, Crowley offered numerous extended freight consolidation stations in the United States, including a new weekly less-than-containerload service from Chicago. The company also entered the LNG market, and opened the CrowleyFresh cold storage and warehouse facility.

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 Evergreen's ShipmentLink portal; enhanced e-reports available to all

customers, with new functions including event-driven notification, tracking reports, and statistics to help manage and monitor shipments.

FLEET SIZE: 150 vessels

WHAT'S NEW: Evergreen Line launched two new services to enhance its service network in the Indian subcontinent, and introduced a new Asia-West Coast of South America service linking Taiwan and China with five countries along the west coasts of Central and South America.

Hamburg Süd

973-775-5300 **hamburgsud.com**

PARENT COMPANY: The Oetker Group

Hamburg Süd specializes in containerized temperature-sensitive cargo shipping. Company services link North America, South America, Europe, the Mediterranean, Asia, India, Pakistan, and Australia/New Zealand.

WEB TOOLS: Cargo booking, tracking, and tracing.

FLEET SIZE: 174 vessels

WHAT'S NEW: Hamburg Süd added a new fixed-day service from South Africa to Argentina and Brazil.

Hanjin Shipping

201-291-4600 **hanjin.com**

PARENT COMPANY: Hanjin Shipping Holdings

Hanjin Shipping, Korea's largest container carrier, operates 60 liner and tramper services around the globe, transporting more than 100 million tons of cargo annually. With 6,000 employees in 60 different countries and 230 branch offices, Hanjin Shipping is building its global logistics network, which is also supported by the company's 13 dedicated terminals at the world's major hub ports and six inland logistics bases.

WEB TOOLS: Vessel and port schedules, booking tools, cargo tracking, reporting, and rate and tariff information.

FLEET SIZE: 200 vessels

CUSTOMER AWARDS: Award for Operational Excellence, The Scoular Company

WHAT'S NEW: Hanjin Shipping added weekly service to Indonesia, served by four 2,500-TEU vessels.

Hapag-Lloyd

732-562-1800 **hapag-lloyd.com**

PARENT COMPANY: The Albert Ballin consortium and TUI AG

Hapag-Lloyd connects all major ports worldwide via 93 liner services—including U.S. flag services. The carrier operates 330 offices in 114 countries, and offers a container stock of more than one million TEUs of all types, including one of the largest reefer fleets in the industry.

WEB TOOLS: Schedule overview, download, and subscription; shipment overview listing; tariffs, freight rates, inland rates, essential terms, and local charges; detention and demurrage rules and regulations; sea waybill of lading download; track-and-trace by booking, container, or bill of lading number; import overview with Customs information; invoice copy download.

FLEET SIZE: 150 vessels

CUSTOMER AWARDS: 2012 Blue Circle Award, Port Metro Vancouver; Ocean Import Carrier of the Year, Whirlpool; Quality Service Award, John Deere; 2012 Carrier of the Year, Newell Rubbermaid

WHAT'S NEW: Hapag-Lloyd launched its Levante Express Service (LEX), with weekly service linking 10 ports in Italy, Turkey, and Egypt, including the hub ports Cagliari, Damietta, and Port Said for connectivity to Hapag-Lloyd's global service network.

Horizon Lines

877-678-7447 **horizonlines.com**

PARENT COMPANY: Horizon Lines Inc.

LOGISTICS DIVISION: Horizon Logistics LLC

Horizon Lines is a domestic ocean shipping and integrated logistics company comprised of two primary operating subsidiaries. Horizon Lines LLC operates a fleet of 13 U.S.-flag containerships and five port terminals linking the continental United States with Alaska, Hawaii, and Puerto Rico. Horizon Logistics LLC offers customized logistics solutions to shippers from a suite of transportation and distribution management services, information technology developed by Horizon Services Group, and intermodal trucking and warehousing services provided by Sea-Logix.

WEB TOOLS: Booking, track-and-trace, and payment applications that allow shippers to create customized reporting; event notification; and e-mail or threshold activity alerts.

FLEET SIZE: 13 vessels

CUSTOMER AWARDS: 2012 Platinum Carrier Award, Lowe's Home Improvement

WHAT'S NEW: In June 2013, Horizon Lines announced plans to convert the power plants on two of its steam turbine cargo vessels to modern diesel engines capable of burning conventional liquid fuel or liquefied natural gas.

Hyundai Merchant Marine (HMM)

877-7-HYUNDAI **hmm21.com**

LOGISTICS DIVISION: Hyundai Glovis, specializing in auto logistics

HMM is an integrated logistics company, operating 75 vessels and a global business network serving more than 100 ports of call worldwide.

WEB TOOLS: Track-and-trace, booking, bill of lading, vessel schedules, customer reports, EDI, rates/tariffs, HMM21 Mobile.

FLEET SIZE: 75 vessels

CUSTOMER AWARDS: Terminal of the Year Award - Hyundai Pusan New Port Terminal, Busan Port Authority

WHAT'S NEW: In September 2013, HMM opened a new off-dock containeryard (ODCY) in Qingdao, China. It is HMM's first ODCY in China.

Intermarine

800-229-8701 **intermarineusa.com**

PARENT COMPANY: Intermarine LLC

Houston-based Intermarine provides worldwide ocean transport and inland heavy-haul services for breakbulk, specialized project, and heavy-lift cargo. The company operates offices worldwide.

WEB TOOLS: Company information, rate quotes, weekly sailing schedules.

FLEET SIZE: 30 vessels

WHAT'S NEW: In 2012, Intermarine initiated service in Africa, offering multiple port access in Nigeria, Angola, and Ghana for new operations and project cargo headed to Africa.

K Line America

804-560-3600 **kline.com**

PARENT COMPANY: Kawasaki Kisen Kaisha Ltd.

In North America, K Line offers multiple fixed-day sailings between the Pacific Northwest, Pacific Southwest, and the Pacific Rim, and five all-water services between the U.S. East Coast and the Far East via the Panama Canal, as well as weekly fixed-day services between Europe and the North American East Coast and between India/Pakistan and the North American East Coast.

WEB TOOLS: Global Route Planner, a route and schedule search tool for containerized cargo.

FLEET SIZE: 449 vessels

CUSTOMER AWARDS: 2012 Green Flag Award, Port of Long Beach; President's Award for Logistics Excellence—Import Marine, Toyota Logistics Services

WHAT'S NEW: In August 2013, K Line announced plans to add four next-generation car carrier vessels to its fleet.

Maersk Line

973-514-5000 **maerskline.com**

PARENT COMPANY: A.P. Moller–Maersk Group

Maersk Line, the global containerized shipping division of the A.P. Moller-Maersk Group, is dedicated to delivering customer-focused, reliable ocean transportation services. The first Maersk Line vessel sailed in 1904.

WEB TOOLS: With the launch of the new maerskline.com in September 2013, shippers now have more intuitive, easy-to-use online tools. The full range of e-commerce capabilities includes booking; shipping instructions; My Shipment; ETA notification; MyFinance with eInvoices, eDispute, eStatement, and ePayment; eRates; bill of lading viewing and printing; sailing schedules; and track-and-trace.

FLEET SIZE: More than 600 vessels

CUSTOMER AWARDS: 2013 Supplier Excellence Award, Eastman Chemical

WHAT'S NEW: The Customer Charter delivers performance measurements for eight essential transaction areas to streamline container shipment processing. Maersk Line also put 18,000-TEU Triple-E vessels into operation. In June 2013, the P3 Network alliance between Maersk Line, MSC, and CMA CGM launched to serve the Asia-Europe, Transpacific, and Transatlantic trades in 2014.

Matson Navigation Company

800-4MATSON **matson.com**

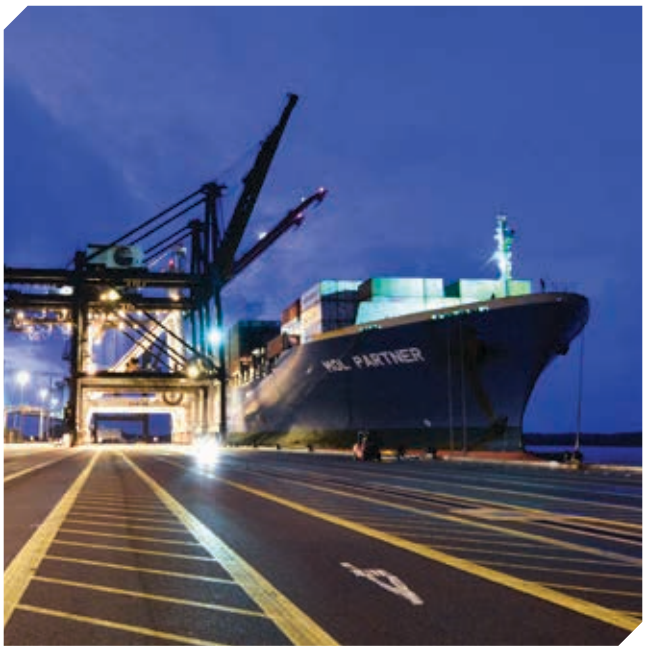
LOGISTICS DIVISION: Matson Logistics

Matson's transportation offerings span the globe from Shanghai to Savannah, and encompass everything from providing a vital lifeline to the island economies of Hawaii, Guam, and Micronesia to offering a premium, expedited service from China to southern California.

WEB TOOLS: Online booking, tracking, billing, account balances, container tracking, EDI.

FLEET SIZE: 17 vessels

WHAT'S NEW: Matson's China-Long Beach Express offers weekly service from Hong Kong and Yantian, with a new second weekly call at Shanghai.



MOL (America) Inc.

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. Founded in 1884, MOL's business diversity makes it one of the world's most financially solvent transportation companies.

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

FLEET SIZE: 922 vessels, including 114 containerships

WHAT'S NEW: MOL makes continuous efforts to improve service quality, and prove it with quantitative evidence. The company reports the results of key performance indicators such as vessel on-time performance, CO_2 emissions, documentation accuracy, and EDI uptime.

Mediterranean Shipping Company (MSC)

212-764-4800 **msc.us, mscgva.ch**

Founded in 1970, privately owned shipping line MSC operates 460 container vessels, with an intake capacity of more than 2.3 million TEUs. MSC serves six continents, with scheduled liner services calling 316 ports through 200 direct and combined weekly liner services. The company offers worldwide coverage, allowing the rapid movement of goods through dedicated transhipment hubs and swift connections as on-carriage services.

WEB TOOLS: Track-and-trace, schedules, container specs, contact information.

FLEET SIZE: 460 vessels

WHAT'S NEW: MSC introduced its Ipanema service from Shanghai to South America, calling Ningbo, Chiwan, and Yantian, China; Singapore; Santos, Brazil; Buenos Aires, Argentina; Navegantes, Chile; Coega, South Africa; and Hong Kong.

NYK Line

201-330-3000 **nykline.com**

PARENT COMPANY: Nippon Yusen Kabushiki Kaisha

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

Founded in 1885, Nippon Yusen Kabushiki Kaisha (NYK Line) is a comprehensive 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, shipment alerts and information, shipping instructions, container tracking, and vessel schedules.

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

WHAT'S NEW: With the introduction of the G6 Alliance in the Asia-U.S. East Coast trade, NYK Line has expanded its container services and ports called, while improving on-time performance. Overall, fewer ships were deployed with a greater average capacity, which reduces emissions and avoids adding capacity to the trade. NYK Line also took delivery of the second of its four new 13,000-TEU ships, which will operate in the Asia-Europe Loop 4 service.

OOCL

888-388-OOCL **oocl.com**

PARENT COMPANY: Orient Overseas (International) Ltd.

LOGISTICS DIVISION: OOCL Logistics Inc.

As one of Hong Kong's most recognized global brands, OOCL provides shippers with fully integrated logistics and containerized transportation services, with a network that encompasses Asia, Europe, North America, and Australasia.

WEB TOOLS: OOCL's Web site and My OOCL Center portal provide advanced visibility and exception management, enabling shippers,

consignees, and logistics providers to keep cargo moving and delivered on time.

FLEET SIZE: 100 vessels

CUSTOMER AWARDS: 2013 Canadian International Freight Forwarders Association Award; Top Carrier Award, AgTC; 2013 Clean Air Action Plan Air Quality Award, San Pedro Bay Ports

WHAT'S NEW: OOCL is exploring new technologies to offer shippers enhanced visibility and convenience in managing their cargo in transit. The latest version of the OOCL Lite 4.1 app provides access to real-time vessel sailing schedules.

Safmarine Container Lines

866-866-4723 **safmarine.com**

PARENT COMPANY: A.P. Moller-Maersk Group

Shipping line Safmarine offers a worldwide container shipping network, specializing in transporting cargo to and from Africa, the Middle East, and the Indian Subcontinent.

WEB TOOLS: Online sailing schedules; e-rates; e-booking; e-shipping instructions; electronic transport documentation and bill of lading printing; track-and-trace; reports; alerts and notifications; online transport certificates; arrival notices; and shipment status overview and deadlines.

FLEET SIZE: Safmarine's vessel fleet is managed by Maersk Line.

CUSTOMER AWARDS: 2013 Ocean Supplier of the Year, CEVA Logistics

WHAT'S NEW: In 2014, Safmarine North America will strengthen its customer service foundation by creating a North America Commercial Services Center, supported by a combination of regional resources at its Houston, Texas, location.

Trailer Bridge

800-554-1589 **trailerbridge.com**

PARENT COMPANY: Trailer Bridge Inc.

Trailer Bridge provides multiple weekly U.S. flag sailings between Jacksonville, Fla., and San Juan, Puerto Rico; weekly sailings between Jacksonville and the Dominican Republic; and weekly inter-island service between Puerto Rico and the Dominican Republic. Its fleet of primarily 53-foot by 102-inch-wide high-cube equipment provides door-to-port service.

WEB TOOLS: Shipment tracking, customizable reports, booking, rate request, sailing schedule.

FLEET SIZE: Seven vessels

WHAT'S NEW: Trailer Bridge offers three 400-by-100-foot ocean-going barges for charter-hire for project work. The barges are U.S. flag and Jones Act qualified, and are designed for RoRo, float-on/float-off, breakbulk, and container cargoes.

United Arab Shipping Company (UASC)

908-272-0050 **uasc.net**

UASC is the largest ocean carrier of dry cargo to the Middle East. Maintaining a commitment to serve the Arabian Gulf, UASC offers a wide scope of services to the Arabian Gulf/Red Sea and Indian Sub-Continent regions.

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

FLEET SIZE: 54 vessels

WHAT'S NEW: In September 2013, UASC launched intra-Asia container service covering Japan, South Korea, central and south China, and Thailand.

Yang Ming (America) Corp.

201-222-8899 **yangming.com**

PARENT COMPANY: Yang Ming Marine Transport Corporation

SUBSIDIARY COMPANIES: Kuang Ming Shipping Corporation, Yes Logistics Corporation, Kao Ming Container Terminal Corporation

Established in 1972, Yang Ming operates a fleet of 88 vessels with a 386,000-TEU operating capacity.

WEB TOOLS: Scheduling, vessel tracking, shipment track-and-trace, bill of lading processing, booking, and tariffs.

FLEET SIZE: 88 vessels

WHAT'S NEW: Yang Ming has invested in exclusive terminals in Los Angeles and Tacoma; Keelung, Kaohsiung, and Taipei Harbors in Taiwan; Antwerp, Belgium; and Rotterdam, the Netherlands. In June 2013, the company launched its new China-Australia-Taiwan service.

ZIM Integrated Shipping Services

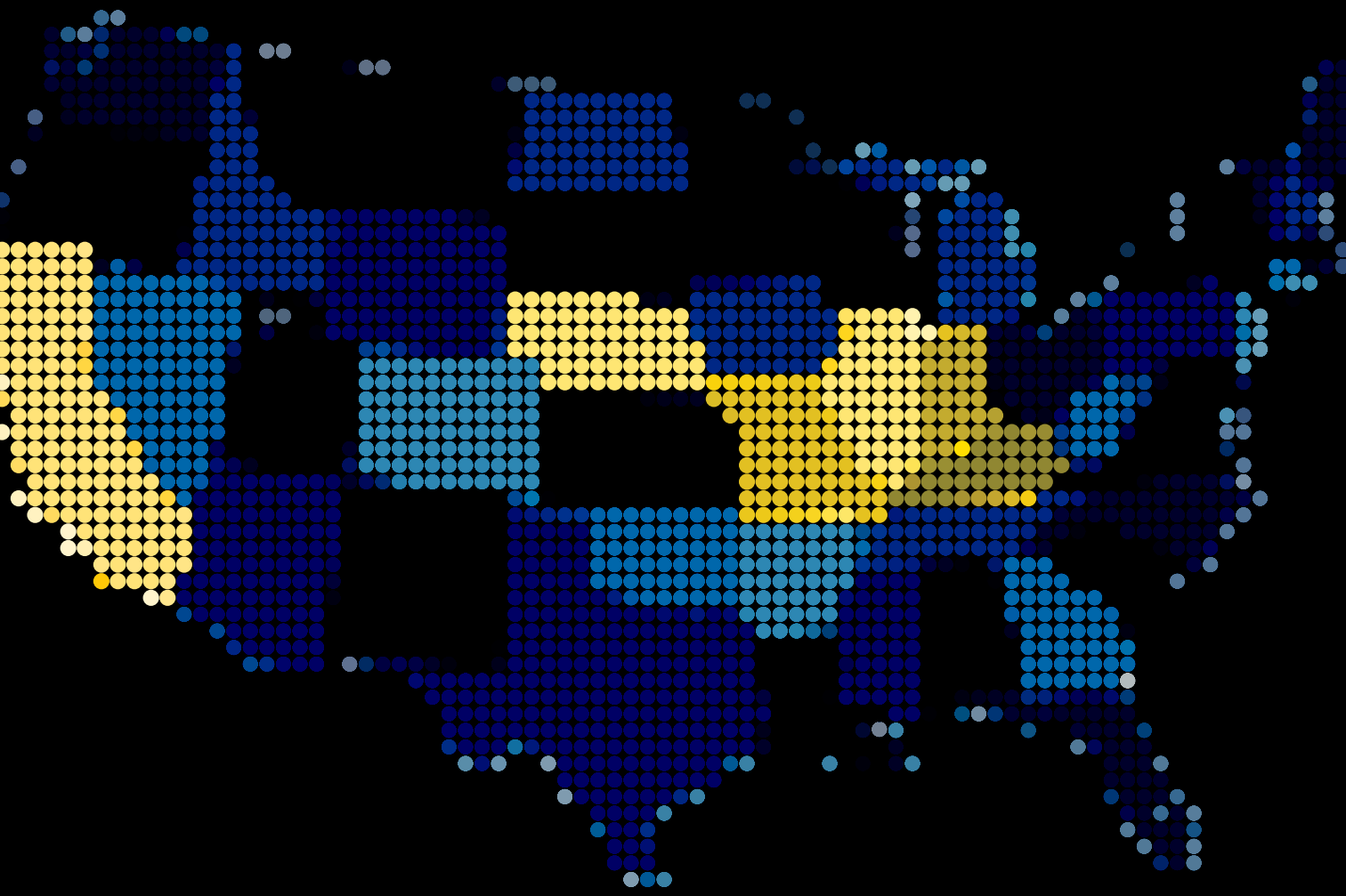
757-228-1300 **zim.com**

Established in 1945, ZIM's network of global shipping services covers all major international trade routes, complemented by an extensive array of regional shipping lines, connected by 10 major hubs.

WEB TOOLS: Shipping quotes submissions, cargo tracing, and vendor portals.

FLEET SIZE: 100 vessels

WHAT'S NEW: ZIM is deploying 420 new 20-foot open-top containers, which will increase its open-top capacity by about 20 percent.



SITE SELECTION STANDOUTS

The best spots for manufacturing and distribution facilities offer geographic, economic, and logistics advantages.

Today's business leaders are seeking any formula that can help them compete in the global marketplace. Manufacturing and distribution facility location can play a large role in that equation, ensuring companies are positioned for quick turnaround and efficient transportation access to points across the country and around the globe.

Here's a look at six regions that boast unique combinations of geographic, workforce, economic, transportation, and business climate benefits that make them hotspots for logistics and supply chain activity.

Illinois-Missouri: Midwest Advantages

Competitively priced real estate, labor, energy, and transportation all help keep logistics costs low for companies in the Illinois-Missouri region. In some areas, transport costs are reported to be 27 percent lower than the national average, according to Ameren Corporation, an investor-owned electric and natural gas utility that serves 64,000 square miles of the Missouri-Illinois bi-state region. Selected business costs in the region are at least 18 percent lower than typical or national average costs for distribution centers. Meanwhile, the available labor pool has experience in all aspects of wholesale trade, distribution, logistics, and related businesses.

The Illinois-Missouri region's central location and rich transportation infrastructure put it within an eight-hour drive of 78 million consumers whose incomes are above the national average, and interstate highways offer convenient access to markets such as Chicago, Indianapolis, Memphis, Dallas, and Denver. All seven of North America's Class I railroads operate in the region.

In Illinois, Ameren recently introduced a 10-year Modernization Action Plan (MAP) that involves investing $625 million in thousands of infrastructure projects. The company will create up to 450 new jobs during MAP's peak year, while the infrastructure improvements are expected to enhance reliability, convenience, service, efficiency, and savings.

Additionally, the Missouri Public Service Commission recently approved Ameren Missouri's filing under the Missouri Energy Efficiency Act, which calls for Ameren to invest $147 million in energy efficiency programs through 2016. The installation of smart sensors and switches will help detect and isolate outages so they can be fixed faster, while new software and technology is expected to reduce outage duration and frequency. Annual energy savings from these programs are expected to total nearly 800 million kilowatt-hours.

Home to more than 318,000 people, St. Louis is among the bustling communities served by businesses and logistics providers in the Missouri-Illinois bi-state region, which also offers convenient access to Chicago, Indianapolis, Memphis, Dallas, and Denver.

Nebraska offers abundant warehouse space (*above*), a well-trained workforce, and transportation infrastructure connecting cities such as Lincoln (*right*) with major U.S. markets.

Nebraska: Centrally Located

Geographically, Nebraska is central to both regional and national markets. Through Nebraska's roadways, goods delivered by truck reach more than 25 percent of the U.S. population in just one day. Within two days, that percentage rises to more than 90 percent. Meanwhile, 10 freight railroads operate more than 3,200 miles of track throughout the state. No major city in the United States is more than five days by rail from Nebraska.

"Nebraska's central location makes it ideally suited for ground transportation logistics distribution centers, especially with both east/west and north/south interstate access," says Ken Lemke, Ph.D., economist for the Nebraska Public Power District (NPPD), the state's largest electric utility. "And a large number of trucking firms are headquartered here, providing high-level distribution logistics support to businesses."

Nebraska also has a well-educated workforce and low unemployment rate. "Historically, unemployment has been around four percent," says Lemke. "Even during the recession, Nebraska had one of the nation's lowest unemployment levels. The workforce consists of productive, dependable, educated, and well-trained individuals who care about what they do. This contributes to high productivity and success rates, and low absenteeism and turnover rates."

NPPD employs a dedicated economic development group that helps businesses evaluate prospective sites within its service area. The team's services range from supplying requested information to guiding firms through the entire site selection process, including gathering community proposals, identifying information and financial resources, and facilitating final negotiations at the local level.

Businesses find value in Nebraska's electricity costs, which are often more than 20 lower than the national average. In addition to being affordable and reliable, electrical power in Nebraska is diverse. The state's utilities use a balanced mix of resources—including water and wind, as well as coal, nuclear, natural gas, oil, and methane—to generate power.

Joplin: A Regional Effort

The Joplin, Mo., region comprises seven counties in southwest Missouri and southeast Kansas. Situated nearly equidistant between Los Angeles and New York, as well as the Mexican and Canadian borders, and served by an excellent highway system, the Joplin region is within easy reach of major markets such as Chicago, Dallas-Fort Worth, Tulsa, Little Rock, and Memphis.

Three Class I and two regional shortline railroads play an important role in the region's transportation system. These rail lines provide direct access to major ports on the Gulf of Mexico and Pacific Ocean. Air service is available at the Joplin Regional Airport and, within a 90-minute drive, at airports in Tulsa, Okla.; Springfield, Mo.; and northwestern Arkansas.

The Joplin Regional Partnership provides site selection assistance, incentive and business tax information, key contacts in business and local government, demographic and economic data, and other services. Contacting the partnership allows site selectors to access information about multiple locations throughout the area that meet their specifications. This insight can reduce the number of inquiries a site selector has to make, and help expedite the selection process for companies looking to move, expand, or begin operations.

To build a quality workforce, employers in the region can take advantage of customized training programs offered through several institutions of higher learning. On the Missouri side of the border, Crowder College, a two-year institution, and Missouri Southern State University both offer training with state support through the Alliance for Business Consulting and Development. On the Kansas side, Pittsburg State University and two community colleges provide similar opportunities.

Kentucky: On Target

"Distribution and logistics are target industry sectors for Kentucky, and the state continues to see significant growth from both new companies locating to the state and existing firms expanding operations here," says Mandy Lambert, deputy commissioner of business development at the Kentucky Cabinet for Economic Development. "Kentucky's economic success stems from factors such as its central location, extensive infrastructure, low business costs, and quality workforce."

Located at the center of a 34-state distribution area in the eastern United States, Kentucky's location facilitates the distribution of goods and materials to a massive industrial and consumer market. Shipments moving by truck can reach more than 65 percent of the nation's population within one day.

That accessibility extends to other transport modes. In addition to 19 interstates and major highways, Kentucky's logistics network also includes major rail networks, barge traffic on the Ohio and Mississippi rivers, five commercial airports, and dozens of regional airports, making it easy to reach all points of the globe easily and efficiently.

Kentucky businesses can also rely on two major shipping hubs—operated by expedited carriers UPS and DHL—at the state's two international airports. Providing Kentucky with a significant logistics boost, UPS and DHL help the state rank third in the nation in total air cargo shipments.

"Kentucky's business costs were named the lowest in the country by CNBC in 2012, and the state's utility costs were ranked most affordable in the country by site consultants in a 2011 survey," says Lambert.

Many of Kentucky's most recent economic development successes have been aided by the state's Incentives for a New Kentucky programs, which offer several innovative tax incentives to businesses locating, expanding, or reinvesting in the state.

Kentucky's central geographic location and attractive business incentives draw manufacturers such as General Motors.

Indiana/Illinois: Abundant Options

The interstate highways that converge in Indiana have earned the state the nickname "Crossroads of America." In addition, an extensive network of rail services and several inland ports—including facilities on the Ohio River at Jeffersonville and Mount Vernon—give companies in Indiana and southeast Illinois many cost-effective choices for shipping and receiving freight. The state is within a one-day drive to every area east of the Mississippi River, including parts of Canada.

Compared to typical East Coast figures, Indiana's development, real estate, and operations costs are low, making the central and southern parts of the state especially good sites for distribution centers serving eastern markets. This region also offers convenient access for businesses that need to be near Indianapolis, Louisville, St. Louis, or Evansville, Ind.

Site selection teams considering the region can gain insights from Hoosier Energy—a generation and transmission cooperative that provides electric power and services to 18 electric distribution cooperatives throughout central and southern Indiana and southeast Illinois. Hoosier Energy developed the Hoosier Energy Economic Development department to provide economic development solutions throughout its service territory. Since its creation in 2008, the department's efforts have helped generate thousands of new jobs, $300 million in capital investment in member territories, and an estimated 25 megawatts of additional load. The Hoosier Energy Power Network provides electricity to developed sites and industrial parks along the I-70, I-65, I-64, and I-74 corridors.

Southern California: Port Power

The combined ports of Los Angeles and Long Beach are the largest in North America, and in the top five for global container volume. They provide an ideal gateway for products manufactured in Asia. Some logistics experts predict that even after the Panama Canal expansion opens in 2014, it may still be faster and less expensive to route freight to the West Coast and transport it via landbridge to the Midwest.

"Because so many of today's imported products come from Asia, the West Coast has become a premier destination for shippers," says Lance Ryan, vice president of marketing and leasing for Watson Land Company, which develops, owns, and manages industrial properties throughout Southern California.

The region also boasts an extensive freeway network. The major highway routes providing intercity connections are Interstate 5 (north to Sacramento and south to San Diego), Interstate 15 (north to Las Vegas and south to San Diego), U.S. Route 101 (north to Santa Barbara), and Interstate 10 (east to Phoenix).

Shipping through the Port of Los Angeles gives businesses access to a wealth of logistics and transportation resources that speed goods to their final destination.

"About 40 to 50 percent of goods imported through the Port of Long Beach and the Port of Los Angeles are delivered to the local population," says Ryan. "The rest are transported across the United States to other locations either by rail or truck."

Southern California's vast population of approximately 22 million people also means a talented workforce is easy to locate. Several logistics-focused trade schools operate in the region, and California State University, Long Beach, boasts a global logistics program dedicated to creating future logistics leaders.

Watson Land Company has developed several million square feet of master-planned centers within four miles of the ports of Los Angeles and Long Beach, and maintains a footprint that includes facilities in Carson/Rancho Dominguez, Chino, Apple Valley, Fontana, and Redlands, Calif. It is also the first developer in Southern California to design and construct speculative buildings in accordance with the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) guidelines.

Each LEED-certified building features design elements, materials, functionality, and construction procedures that reduce environmental impact, enhance energy efficiency, and cut operating costs.

"The fact that Southern California is on the leading edge of design is a big plus for businesses," says Ryan. "Operational improvements – such as more efficient warehouse lighting – create significant cost benefits."

In addition, due to recent demand for higher clear heights, a number of 36-foot clear buildings are currently under construction in the area. Because average net rents trend well above national averages in Southern California, many businesses find it more cost effective to increase their vertical product storage by 10 to 25 percent than to occupy additional square footage.

"The new 36-foot clear buildings offer less expensive, expandable storage capacity, coupled with the operational efficiencies that come with operating under a single roof," says Ryan.

And as most business and logistics leaders know, small factors that improve efficiency and cost effectiveness can mean the difference between success and failure. ■

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BELGIUM

Dispatched from Flanders

Inbound Logistics recently joined Flanders Investment & Trade on a tour of Belgium's ports and distribution facilities, and learned a little something about running shoes and waffle irons.

by Joseph O'Reilly

For all Belgium's medieval charm, reputation as a gateway to continental Europe, and esteem as headquarters of both the European Union and NATO, its neighbors often draw all the attention. The country's federal monarchy is a mélange: the Flemish-speaking region of Flanders, French Wallonia, and bi-lingual Brussels. Dutch, German, and English are equally influential—all squeezed into an area roughly the size of Maryland.

Identities aside, in the transportation and logistics world, Belgium has few equals. Given a paucity of natural resources, the country's economy relies on manufacturing, value-added services, and re-exportation. In the northern region of Flanders—home to Brussels Airport and the seaports of Antwerp, Zeebrugge, and Ghent—transportation and logistics is fundamental.

And it shows. Belgium is home to a who's who of American multinationals, with the U.S. Top 50 alone contributing more than $2.3 billion to the country's economy, according to the American Chamber of Commerce in Belgium. Companies such as Nike and Stanley Black & Decker have located their European distribution hubs in Flanders, largely because of the region's multimodal strengths and the efficiency with which they can dispatch cargo into, through, and out of the European market.

Waffle Irons and Warehousing

When University of Oregon track and field coach Bill Bowerman developed a revolutionary new running shoe in the 1960s, his inspiration was a waffle iron. The self-cleaning, batter-dripping mold—which, when applied to footwear, provided better traction than traditional circular designs—kick-started the Nike brand.

It's fitting that the Beaverton, Ore.-based company's primary European distribution hub is located in the ancestral home of waffle-making, where a do-it-yourself ethos echoes through its Laakdal location. But like Bowerman

Ranked second in Europe in total tonnage, Belgium's Port of Antwerp – located 50 miles inland from the North Sea on the upper River Scheldt – spans 50 square miles and operates seven locks, including the world's largest.

and Nike co-founder Phil Knight, pragmatism and innovation go hand in hand. Flanders is all that and more, having been the cornerstone of the company's European operations for the past 20 years.

Nike's Laakdal DC is the essence of modality and sustainability. Located adjacent to the Albert Canal—an 80-mile waterway that connects the inland city of Liege with the Port of Antwerp—the facility also has direct rail and roadway access. Remarkably, 96 percent of the company's inbound product arrives via barge.

The only mode absent is air. And yet Nike has still succeeded in capitalizing on that element by sourcing 100 percent of its energy needs from six on-site wind turbines leased to a local utility, as well as rooftop solar panels. "It's the only global Nike DC with on-site power generation," says Filip Peeters, spokesperson for the Laakdal operation.

Sustainability is a big part of the corporate ethos—and a reflection of Belgium and EU standards in general. With turbines towering above, a rack of orange Nike-swooshed bikes frames the entrance to the DC. Employees are incentivized to cycle to work. In keeping with the company's mantra: "If you have a body, you're an athlete."

When Nike contracted its European distribution footprint from 32 facilities in the early 1990s, it chose Laakdal as its primary hub because of the location, proximity to major ports in Belgium and the Netherlands, and mode access. Barge and rail service didn't exist at the time, but those services developed with Nike's presence.

Before the Laakdal move, Nike's disparate network of DCs operated independently. Service levels and price points varied from country to country. If inventory imbalances occurred in one area, overstock was liquidated elsewhere at cost. DCs were competing against one another.

By centralizing distribution in Flanders, Nike was better able to capitalize on economies of scale. With so much volume moving through the region and its ports—60 percent of Europe's purchasing power is within a 300-mile radius of the country—companies can take advantage of better asset utilization, explains Peeters. When Nike located in Laakdal, inbound transportation costs dropped markedly.

Getting Closer to Customers

Stanley Black & Decker, based in New Britain, Conn., discovered similar efficiencies when it opened its 700,000-square-foot Tessenderlo DC in 2012. As part of the merger between the two industrial tools companies, the new conglomerate has been consolidating its European and MENA footprint from 14 DCs to eight over the past three years.

"The intent is to optimize the networks across both brands to get closer to the customer," says Dominic Vogels, logistics director EMEA, Stanley Black & Decker.

The new DC merged a space parts facility, outsourced operation, and privately managed warehouse (all in Belgium), and now serves 50 percent of the European market—specifically customers in the Benelux region, Scandinavia, France, Germany, Austria, and Switzerland.

By design, the new facility has less automation than the company's previous DCs, and provides more flexibility to accommodate different business units. At 34 feet high, the building allows Stanley Black & Decker to take advantage of high-density shuttle racking storage for high inventory count items.

Transportation connectivity was a cardinal reason for the Flanders site selection. Tessenderlo is the nerve center for the manufacturer's European distribution, feeding retail stores, as well as other DCs, across the continent. About 70 percent of product arrives from the Far East – much of which comes through Zeebrugge – then is delivered via barge. As with Nike, Stanley Black & Decker relies on overland transportation for most of its outbound movements.

Ports Galore

Nike and Stanley Black & Decker are telling examples of why multinational companies favor Flanders and its environs. The area's road network is the densest in Europe, and among the best in the world, and Brussels is a top-50 airfreight hub. But what differentiates Flanders is its port infrastructure.

Zeebrugge, Ghent, and Antwerp — the three most prominent ports in Belgium and Flanders—complement one another. As a collective, they provide a mix of differentiated services and industry-specific capabilities that deliver value as well as connectivity to remote locations. Flanders' ports function as both short-sea and deep-sea transport hubs, providing shippers greater latitude to consolidate and de-consolidate freight, and execute value-added activities.

With strength in container and RoRo shipments, Zeebrugge operates as a peripheral port to Antwerp, says Lieve Duprez, B2B communications and public relations, Port of Zeebrugge. Situated on the coast of the North Sea, Zeebrugge has become a primary transshipment and distribution hub for both European imports and exports. That balance appeals to steamship lines.

The complex has an inner and outer port. The outer port has been developed through land reclamation, and serves to expediently move unit load shipments, such as containers and automobiles.

The inner port is designed to handle valued-added logistics activities—whether processing and packaging green coffee beans, or customizing cars. What makes Zeebrugge unique is that no industrial activity surrounds the complex. It's a "clean port," which is attractive to certain industries.

Antwerp—ranked second in Europe to Rotterdam in terms of total tonnage, and third in containers with 8.6 million TEUs in 2012—is noticeably more industrial. Situated 50 miles inland from the North Sea on the upper River Scheldt, and spanning 50 square miles, the expansive port operates seven locks – including the biggest in the world – with another in the works that will surpass even that.

More than 50 percent of Antwerp's total cargo business is containers, with liquid bulk (25 percent), dry bulk (10 percent), and break bulk (nine percent) filling the quota. The port's petrochemical cluster is the largest in Europe, and home to seven of the top 10 companies in the world. But the real economic driver for the port is in breakbulk cargo such as steel, non-ferrous metals, fruit, coffee, forest products, and project cargo. Currently, it has about a 25-percent market share in Europe.

"Breakbulk generates more employment than containerization—because there's more cargo handling," says Stefanie D'Herde, marketing coordinator for the Port of Antwerp. "So we want to maintain this type of business."

By contrast, the commodity of choice at the Port of Ghent is dry bulk, which accounts for about two-thirds of its total volume. The port is located at the southern end of the Ghent-Terneuzen Canal—about 20 miles from the Terneuzen, Netherlands, locks on the upper Scheldt estuary. At a depth of 44 feet, the port can accommodate Panamax vessels for re-distribution in and out of the hinterland.

In Ghent, new and old energy dominate the scene. Adjacent to a biomass wood pellet facility, coal is unloaded from a vessel as wind turbines twist in the distance. Sweden is the port's leading trading partner—a notable short-sea destination for automobiles—followed by Russia, then the United States.

Given its inland location at the junction of two major north-south and east-west European roadways—the E17 (Stockholm to Lisbon) and the E40 (London to Istanbul)—Ghent is the epitome of intermodal connectivity. Sixty-three percent of the port's traffic is short-sea cargo, making it an ideal complement to Zeebrugge and Antwerp. Work on an expanded sealock at Terneuzen is expected to improve access for seagoing vessels in the near future.

The Low Down

For a region its size, Flanders lays claim to a diverse network of symbiotic transportation assets that is the envy of much larger peers. Given its lack of natural resources and dependence on trade, public and private sectors have made transportation and logistics investment a priority—which has led to considerable foreign speculation.

In 2011, 43 percent of U.S. foreign direct investment in Europe—more than $800 billion—was appropriated to the Benelux region, largely because of its central location and position as an import redistribution hub for the continent. The Netherlands and Luxembourg, by virtue of its financial services strength, attract the most U.S. dollars on the continent.

But Belgium is its own unique magnet. Whether it's renewable energy demands driving U.S. exports to the Port of Ghent, or Antwerp's growing petrochemical cluster, American companies are setting their sites in Flanders for a reason.

As both a regional and global cargo crossroads, specific attention has been focused on building the region's value-added manufacturing and logistics capabilities—adding touches, growing volume, increasing economies of scale, and creating more incentive for companies to locate in the area.

Continued investment in port infrastructure and hinterland services is key to Flanders' and Belgium's shared growth as new trade opportunities and bigger vessels navigate the North Sea. "We don't want to miss the boat," says Duprez. ■

DC Solutions | by Suzanne Heyn

Enhancing Safety Up-N-Down

In-N-Out's new distribution center serves up an extra helping of loading dock safety and efficiency.

When California-based restaurant chain In-N-Out Burger decided to build a Las Vegas, Nev., distribution center to serve a growing number of surrounding restaurants, it took advantage of the opportunity to improve loading dock equipment, and mitigate several long-standing issues that plagued its other facilities.

With the help of Serco, a loading dock equipment supplier based in Carrollton, Texas, In-N-Out customized standard equipment to fit the special needs of its high-profile trucks.

Adding four extra inches to standard dock levelers, for example, stabilized the equipment against the trailer floor, creating a solid foundation for forklift operators. And doubling the size of traditional dock door panels helped the company adequately protect the interior from Las Vegas' harsh weather conditions, including sweltering desert temperatures and frequent dust storms.

Fresh Food, Served Fast

In-N-Out promotes itself as a purveyor of high-quality fast food. Focused solely on burgers, fries, shakes, and drinks, its simple menu, created with fresh ingredients, has spawned legions of devoted followers. Grand openings inspire waits of several hours; the frenzy generates even more anticipation.

The company began in 1948 as Baldwin Park, Calif.'s first drive-through restaurant. Today, In-N-Out operates more than 280 restaurants in California, Nevada, Utah, Arizona, and Texas. Founded by husband and wife team Harry and Esther Snyder, the fast food chain remains privately owned.

From its inception, In-N-Out has ground and shaped its own patties, cooked preservative- and additive-free burgers to order, and sliced potatoes into French fries right in the store. Eschewing microwaves, heat lamps, and freezers, the company's focus on quality, and

masterful ability to incite demand, has led to resounding success.

But that success also created supply chain challenges. As In-N-Out expanded into Las Vegas and surrounding areas, the company supplied the growing number of restaurants with food and paper products trucked in from its Baldwin Park distribution center, more than a three-hour drive away. When enough stores opened in the area, the chain built a 20,000-square-foot DC in Las Vegas, which began operations in September 2010. Today, the Las Vegas facility serves about 12 In-N-Out restaurants.

Building the new DC from the ground up created an opportunity for In-N-Out to take a fresh look at equipment suppliers and processes.

"The previous loading dock equipment installation didn't completely meet our standards," says Tom Buffum, director of supply chain management for In-N-Out. He wanted to ensure that in the new DC, ingredients remained fresh, workers stayed safe, and operations complied with regulations mandated by the government and third-party carriers.

One main issue Buffum wanted to address involved the speed bump created by dock levelers that failed to lay flush against the floor of In-N-Out's refrigerated trailers. Buffum also sought to improve the security of the wheel chock restraint system. Other upgrades in the new facility included heavily insulated dock doors, a flexible-arm lighting system, and an electronic master control panel from which DC employees can orchestrate the equipment.

Selecting the Right Supplier

The first step to selecting new loading dock equipment for the facility was finding the right supplier—one that could address In-N-Out's concerns. During the search, In-N-Out discussed its needs with multiple companies, ultimately choosing to work with Serco.

"We talked with a number of different suppliers," recalls Buffum. He reviewed equipment options, spoke with other customers, and conducted internal comparisons to determine which supplier offered the best solutions.

Serco, one of six brands marketed under parent company 4Front Entrematic, sells dock levelers, restraints, fans, and other accessories to manage the transition of products from trailers to warehouses or DCs. 4Front operates manufacturing facilities in Carrollton, Texas, and Reynosa, Mexico, then sells its products—including those manufactured under the Serco brand—through a network of more than 130 independent distributors worldwide.

One of these independent distributors, Casco, had an existing relationship with In-N-Out that established the connection for the Las Vegas DC project.

"In-N-Out was having communication issues with its current equipment supplier, and sought a new company to work with," says Michael Brittingham, manager of marketing communications for Serco. "They were looking for a change."

To find a solution that would fit In-N-Out's needs, and accommodate its equipment, Serco engineers went to work analyzing the fast food chain's existing DC operations. After much discussion, and several site visits, Serco built a simulation of its proposed equipment on 3D software and invited In-N-Out staff to its Dallas facilities for what Brittingham calls the VIP, or Visit in Person, program.

In-N-Out trucks continuously flow into the Las Vegas DC's seven loading dock doors, delivering everything from hamburger patties and potatoes to napkins and straws. New loading dock equipment enables workers to handle all these products safely and efficiently.

The in-person visit involved showroom tours, in-depth discussions, and the final unveiling of the proposed solutions in the 3D software. The software allowed In-N-Out to view the equipment from every angle and watch it operate—all before officially signing off on the proposal. Through the simulation, In-N-Out could ensure that any equipment it installed at the new Las Vegas distribution facility would solve existing problems, and avoid creating new ones.

Serco often customizes solutions to fit

companies' needs when off-the-rack equipment falls short of requirements. "We determine each company's unique needs, and adapt our equipment to fit those needs," explains Brittingham. "We don't necessarily design a product straight out of the gate.

"For In-N-Out, we adapted our products to fit the needs of its Las Vegas distribution center," he adds.

Customized Equipment For High-Profile Trucks

One main issue In-N-Out needed to resolve was the speed bump created by a dock leveler that didn't adequately line up to the trailer floor.

When a delivery truck pulled into the company's Phoenix distribution facility, and the dock leveler lowered to meet the truck, the seal of the refrigerated truck would hit the dock leveler. This created an unsafe speed bump for the forklift operator, while also decreasing efficiency during loading and unloading of food and other products.

Finding a way for the dock leveler to connect seamlessly to the trailer floor was one of In-N-Out's prime concerns when building the new DC. In-N-Out's trucks sit higher above the ground than average trucks; they also have lift gates used to lower food to the ground at the chain's restaurants in lieu of unloading at docks. Serco needed to find a way for the dock leveler to clear the lift gate while also accounting for the higher-profile truck.

"Lift gates tend to get in the way of traditional docks," says Brittingham. "Because of all the special equipment on the trucks used to deliver food and supplies to its stores, In-N-Out needed dock levelers that would reach into the trailers more effectively.

"The previous dock levelers were interfering, making it inefficient and unsafe to move the forklifts and products in and out of the trailers," he adds.

As a solution, Serco created an elongated lip for its vertical storing dock leveler. Instead of the standard 20-inch lip, In-N-Out opted for one that extended 24 inches. Those extra few inches, finished off with a special tapered edge, provided enough material for the leveler to clear the lift gate and lay flush with the trailer floor. The added four inches substantially increased stability for forklift operators as they load and unload deliveries onto the trucks, and ensured In-N-Out meets federal worker safety standards.

"Employee safety is paramount to In-N-Out, and they didn't want to have any issues," Brittingham says.

Buffum is pleased with the outcome. "We now have a safer loading and unloading process," he says. "The trucks are secured."

Enhancements to In-N-Out's Las Vegas DC include new dock doors, vertical storing dock levelers, master control panels, ultra LED dock lights, dock seals, and in-ground wheel restraints.

In addition to their new length, the vertical dock levelers provide added benefits. When not in use, the equipment creates a buffer against accidental impacts to the dock doors from operating machinery. The levelers also function as a second barrier against the desert dust and heat circulating outside the DC walls.

On the other side of the vertical dock levelers, as the final barrier between In-N-Out's food and the arid Nevada air, lay the dock doors. The doors feature four-inch-thick, closed-cell XEPS foam panels, and a wrap made of a special foil fabric that reflects energy. The doors help insulate the DC's indoor air from the stifling Las Vegas desert heat and dust storms. Tight sealing along the doors' perimeter keeps out light, heat, and debris.

To further insulate the facility interior from outside air, In-N-Out swapped traditional, 24-inch dock door panels for 48-inch panels. This move reduced the number of seams by 50 percent, and added to the impenetrability of the DC's walls.

Robust insulation and efficient door sealing is key to food safety, and ensures burgers and vegetables stay fresh while workers unload them from the truck. For extra safety, a master control panel powers the overhead doors, keeping employees safe from the vertical leveler's deployment arc.

Wheel Restraints Boost Safety

In its other DCs, In-N-Out uses an above-ground wheel restraint system. The fast food chain sought a safer and more streamlined system, however, for the new Las Vegas DC. Now, when In-N-Out's trucks pull up and slide into position on the outside of the loading dock doors, Serco's universal truck-chock in-ground wheel restraints are applied. The hydraulic-powered system exerts 32,000 pounds of continuous pressure to keep the trucks in place.

The in-ground wheel chock system offers more stability, reducing the likelihood of vehicle creep, vehicle walk, or landing gear collapse. The new system also ensures In-N-Out's trucks stay firmly tucked inside the dock seal, keeping food and products away from outside air and at the right temperature.

To activate the chocks, operators press a button and the wheel restraints rise into place. When the trucks are ready to leave, operators deactivate the system, and the chocks descend into the ground. Because the chocks remain hidden when not in use, the in-ground system limits tripping hazards for workers.

"We bury the wheel restraint system in the ground, flush with the pavement," says Brittingham. "No trailer can get enough

traction to pull away from that system."

Buffum says the equipment has helped make the Las Vegas DC a safe place to work. He attributes decreased rates of trips and falls to the new system, including the integration of the dock plate, door, and truck wheel chocking equipment.

"And, we have not had any compliance issues for chocking wheels by any of our third-party carriers delivering inbound materials," he adds.

The focus on safety features would not be complete without appropriate lighting to ensure workers have optimal visibility. For this important element, In-N-Out selected Serco's APS Resource FT Ultra LED dock light. The 15-watt lamp offers a flexible arm that allows workers to move the light wherever it's needed most.

The light lasts for 50,000 hours, and complies with U.S. Department of Agriculture regulations governing food handling facilities.

Mastering Equipment Control

To orchestrate all the high-tech equipment In-N-Out installed in the new Las Vegas DC, the company opted for a Serco master control panel. This master panel provides one-stop controls for overhead doors, dock levelers, in-ground wheel chocks, and other equipment integral to the facility's operations.

The single master panel ensures that all the equipment operates in the appropriate order, maximizing safety and efficiency. Using one system also condenses wiring, which minimizes long-term maintenance issues.

In-N-Out is very pleased with the results of the DC's new dock equipment. "We have not had a lost-time accident in our Las Vegas warehouse since opening," Buffum says.

The Las Vegas facility was the first to receive the equipment customizations, and Buffum says no similar equipment has been installed at other DCs.

"We are testing the equipment in Las Vegas," he says. "We'll consider employing the same equipment at any facilities we open in the future." ■

3PLs

C.H. Robinson Worldwide, Inc. • www.chrobinson.com

Founded in 1905, C.H. Robinson Worldwide, Inc. is one of the largest third-party logistics companies in the world, providing multimodal transportation, fresh produce sourcing, and information services to more than 32,000 customers globally, ranging from Fortune 500 companies to small businesses in a variety of industries. For more information about our company, visit our Web site at www.chrobinson.com.

MIQ Logistics • www.miq.com

Started in 2002, MIQ Logistics has locations in Asia, Europe, North America, and Latin America. Along with its global network partners, MIQ Logistics operates in and between all international trade lanes supported by more than 5,000 in-country logistics professionals. Its broad portfolio of global, transportation, and distribution services makes it possible to offer global end-to-end supply chain solutions supported by the visibility of Web-native technology. If your business is seeking supply chain improvements, let MIQ Logistics add value to your business.

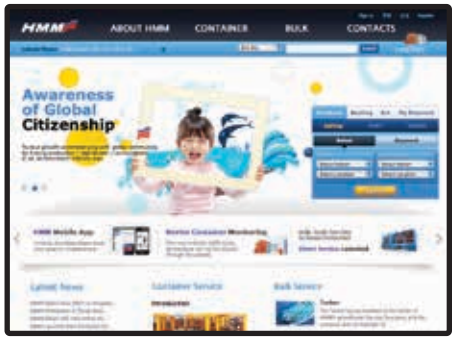
UTi Worldwide • go2uti.com

UTi Worldwide is an international, non-asset-based, global integrated logistics company providing air and ocean freight forwarding, distribution, contract logistics, customs brokerage, and supply chain management services and design, including enhanced warehousing, transportation, order management, and manufacturing support. With over 21,000 employees in 313 locations, and 245 logistics centers around the world, we offer complete logistics solutions that maximize value along the supply chain from end-to-end.

OCEAN/INTERMODAL

Hyundai Merchant Marine (America), Inc. • www.hhm21.com

Hyundai Merchant Marine 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.



IN THIS SECTION:

Ocean/Intermodal - Ports

Jacobson Companies • www.jacobsonco.com

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R.R. Donnelley • www.rrd.com

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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.

PORTS

Alliance Shippers, Inc. • www.alliance.com

With operating facilities in the United States, Canada, and Mexico, Alliance Shippers, Inc. combines excellent customer care with state-of-the-art rail, highway, ocean, and air transportation solutions. Additional services include warehousing, distribution, customs clearance, equipment/driver leasing, and expedited transportation. For cost-effective logistic solutions tailored to your company's exact needs, contact Alliance Shippers, Inc.

Georgia Ports Authority • www.gaports.com

The Georgia Ports Authority (GPA) includes the Port of Savannah, the Port of Brunswick, the Bainbridge Inland Barge Terminal, and the Columbus Inland Barge Terminal. Its home page offers history and background about the Ports Authority, a port directory, shipping directory, GPA statistics, maps, photos, and more.

Port Everglades • www.porteverglades.net

Nobody moves cargo in and out faster than Port Everglades. The port is part of a thriving global transportation network that counts among its attributes a favorable location less than one mile from the Atlantic Shipping Lane, direct access to multi-modal inland links through Florida's interstate and highway systems, an FEC rail hub within two miles, and across the street, Fort Lauderdale Airport, one of the fastest-growing airports in the nation. Visit the Web site for more details.

Port of Long Beach • www.polb.com

The Port of Long Beach is one of the world's busiest seaports, a leading gateway for trade between the United States and Asia. During the next 10 to 15 years, the Port of Long Beach plans to create at least four container terminals of more than 300 acres each, and to build at least one other large terminal. The new terminals will have dockside rail facilities, which allow cargo to be transferred directly between ships and trains. Such transfers speed deliveries between Long Beach and markets nationwide. For more information on the advantages and services offered by the Port of Long Beach, visit www.polb.com.

RAIL/INTERMODAL

J.B. Hunt Transport Services, Inc. • www.jbhunt.com

J.B. Hunt Transport Services, Inc., a Fortune 500 company and one of the largest transportation logistics providers in North America, supplies safe and reliable transportation services to a diverse group of customers throughout the continental United States, Canada, and Mexico. Using an integrated, multimodal approach, J.B. Hunt offers comprehensive solutions centered on delivering customer value and industry-leading service.

IN THIS SECTION:

SC Mgmt./Optimization – Warehousing

SUPPLY CHAIN MANAGEMENT / OPTIMIZATION

Penske Logistics • www.penskelogistics.com

Penske Logistics is an award-winning logistics services provider with operations in North America, South America, Europe, and Asia. Our products and services range from dedicated contract carriage and distribution center management to transportation management and fully customized solutions. No matter what your needs or industry, Penske Logistics engineers supply chain solutions that deliver business results like boosting productivity, improving service, and shrinking carbon footprints. Call us today at 1-800-529-6531 to learn more.

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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 master-planned 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.

TRUCKING

New Penn • www.newpenn.com

New Penn is a regional LTL motor carrier providing reliable next-day service through a network of 24 service centers located in the northeastern United States; Quebec, Canada; and Puerto Rico. The company also provides service to portions of the west, midwest, and southeast regions of the United States, and all of Canada.

WAREHOUSING

ClearSpan Fabric Structures • www.clearspan.com/ADIL

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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.

3PL Central

TITLE: ***The Five Reasons Smart Warehouses are Migrating to the Cloud***

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TITLE: ***AberdeenGroup 2013 Supply Chain Visibility Report: A Critical Strategy to Optimize Cost and Service***

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SUMMARY: In this new AberdeenGroup study, 63 percent of respondents placed a high priority on improving visibility into their global supply chains. This report investigates top supply chain strategic initiatives, identifies common visibility gaps, and suggests key takeaways for enhancing your company's visibility. Download your copy today.

Infinity QS

TITLE: ***5 Must-Have Strategies for Enterprise Quality***

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SUMMARY: Even the slightest quality issue can seriously impact your bottom line, destroy customer satisfaction, or create potential conflicts with industry regulations. The traditional method of managing quality site by site doesn't work in today's complex supply chain, and it's time for quality professionals to take ownership of product quality data, and deliver that manufacturing intelligence to the rest of the organization. This whitepaper shows how quality can take a more prominent, enterprise-scale role.

UTi Worldwide

TITLE: ***Developing a Roadmap Toward Global Vehicle Platform and Supply Chain Harmonization***

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Seegrid

TITLE: ***Automated Guided Vehicles: The Hot Trend in Distribution Centers***

DOWNLOAD: *http://bit.ly/1aoDkNL*

SUMMARY: Faced with rising labor costs, limited real estate, and pressure to become more lean and profitable, DC managers are turning to automated guided vehicles (AGVs) to meet new demands. This whitepaper examines workforce concerns, flexible AGV growth in distribution, flexible leasing options, and where 3PLs fit in distribution automation.

Inbound Logistics

TITLE: ***2013 3PL Perspectives: Drafting a Blueprint for Growth***

DOWNLOAD: *www.inboundlogistics.com/digital/3pl_perspectives_2013.pdf*

SUMMARY: *Inbound Logistics'* ninth-annual *3PL Perspectives* market research report documents how third-party logistics providers are differentiating their value proposition beyond transactional services – creating an outsourcing blueprint for shippers to grow, in spite of economic uncertainties.

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// Services //

Dayton Freight Lines relocated its Midway, Ill., service center to enhance its less-than-truckload transportation service. The new facility features 190 doors, doubling the company's door capacity in the Chicago market.

Third-party logistics (3PL) provider **Kane Is Able** expanded its operations in the southeastern United States. The 3PL relocated from an existing facility in Lithia Springs, Ga., to a 426,000-square-foot distribution center in Atlanta. The new building allows Kane to offer warehousing, distribution, transportation, deconsolidation, consolidation, and packaging services to the metro Atlanta market.

ContainerPort Group moved to a larger facility in Indianapolis, Ind. The new location is near major interstates, as well as loading locations for multiple railways. The increased yard space enhances terminal throughput, and provides additional container and trailer storage options.

Shipping company **GAC USA** opened a 180,000-square-foot LEED-certified crossdocking facility in Houston, Texas. The location includes four acres of outdoor storage space located within a foreign trade zone, and is in close proximity to George Bush Intercontinental Airport.

Ocean and airfreight provider **DSV Air & Sea** expanded its airfreight service from the United Kingdom to include all major destinations in the United States. The Everyday Service offers a range of daily and weekly airfreight options, with a door-to-door rate structure.

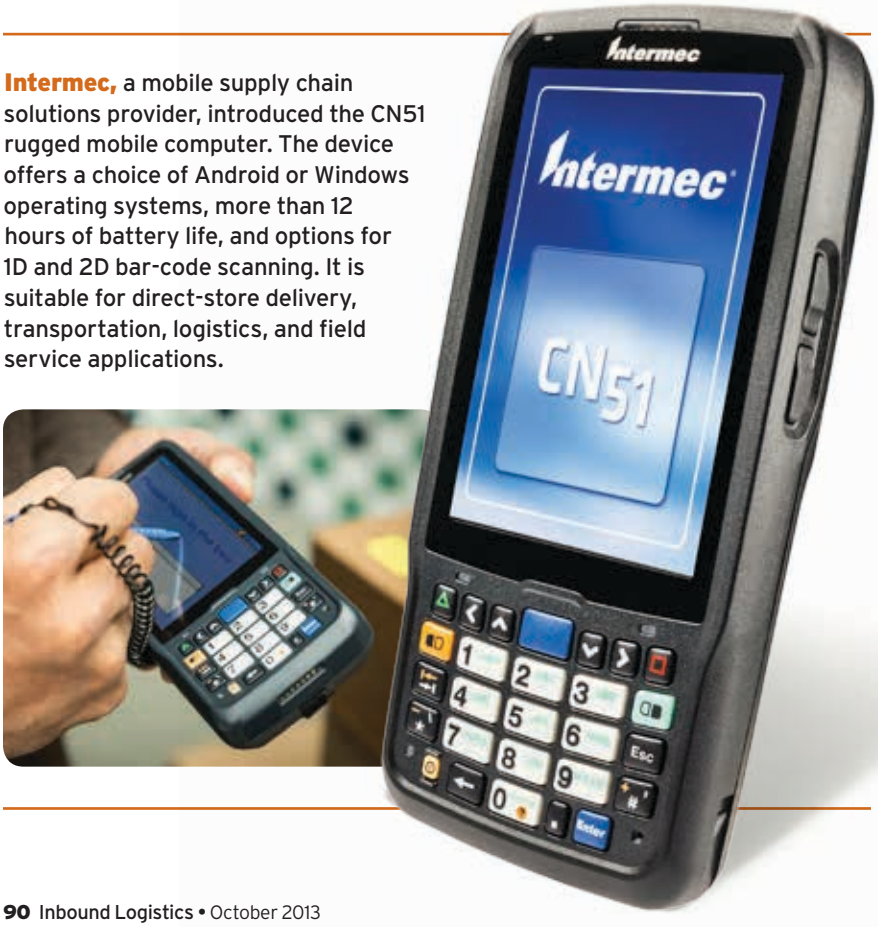
NYK Global Bulk Corporation (NGB), a NYK Line subsidiary, began operations again after a merger with NYK-Hinode, another NYK subsidiary. The shipping line is now headquartered in Tokyo and specializes in bulk cargo transport.

Sunrise, Fla.-based **Corropack Containers Corp.** received approval from the city of Fort Lauderdale, Fla., to operate its warehouse as a foreign trade zone. The company made the move to prepare for the surge in imports that is expected to follow the opening of the expanded Panama Canal.

Choice Logistics, a provider of critical service parts logistics for high-tech industries, enhanced its service portfolio in Japan by partnering with a Japanese logistics provider. The company now offers climate-controlled strategic-stocking locations in Japan, with same-day and next-day delivery capabilities from cities including Tokyo, Nagano, Nagoya, Osaka, Fukuoka, and Hiroshima.

Third-party logistics company **UTi Worldwide** expanded service options at its Chicago warehouse. In addition to shipping, receiving, and crossdocking operations, the multi-client facility offers inventory management, order consolidation, materials handling, reverse logistics, packaging/repackaging, kitting, and quality inspection.

Intermec, a mobile supply chain solutions provider, introduced the CN51 rugged mobile computer. The device offers a choice of Android or Windows operating systems, more than 12 hours of battery life, and options for 1D and 2D bar-code scanning. It is suitable for direct-store delivery, transportation, logistics, and field service applications.



Less-than-truckload (LTL) provider **Old Dominion Freight Line (ODFL)** moved its Wytheville, Va., service center to a larger facility. The new facility provides pickup and delivery services to Virginia, North Carolina, and West Virginia, and acts as a turn-point location for ODFL's line-haul operations.

// Products //

The HL7200 high-speed, inline palletizer from **Columbia Machine** palletizes up to 120 cases per minute. Standard features include dropped case detection, a multi-colored light stack to show machine status at a glance, advanced diagnostic capabilities, and screens to communicate the status of the machine to the operator.

Minnesota Thermal Science's DURACUBE temperature-controlled container now comes in three classes: Credo DURACUBE BP for biopharma, Credo DURACUBE LT for lightweight goods, and Credo DURACUBE HD for heavy-duty cargo. The product line provides a range of hard shell containers between two and 96 liters that have transit capabilities up to seven days.

// Transportation //

Ocean carrier **Galborg USA** now provides liner service from the Port of Jacksonville, Fla., to South Africa. Galborg's vessels carry a mix of cargo types aboard each ship, including container, refrigerated container, general, and bulk.

Specialized furniture carrier and logistics provider **Zenith Global Logistics** opened a 90,000-square-foot regional hub in Indianapolis, Ind. The facility

offers LTL and warehousing services, and is part of the company's effort to improve operational efficiencies and boost speed to market in the Midwest.

FedEx Trade Networks began its International Direct Priority Ocean service between India and the United States, aimed at providing a more economical option to air cargo. The new end-to-end ocean solution is available from Bangalore, Chennai, Delhi, and Mumbai, with final delivery available throughout the United States.

Airfreight services provider **Cargolux** began 747-8 cargo service from Hong Kong to Rickenbacker International Airport in Columbus, Ohio. Flights leave from Hong Kong on Sunday and Thursday.

United Arab Shipping Company and **China Shipping** teamed up to offer weekly service covering Japan, South Korea, Central and South China, and Thailand. The Intra-Asia Container Service operates through a vessel-sharing agreement between the two companies, and offers weekend cut-offs from major ports in each country.

//Technology//

The *Hot Pick Module* for **Kardex Remstar's** *Power Pick Global* storage and retrieval management solution allows operators to suspend a batch picking operation in progress so individual items or orders can be picked from the storage and retrieval system. Once the individual operation is complete, the batch picking operation can be resumed where it left off, with no interruption in continuity.

The CPP 200 plastic pallet, released by pallet and bin manufacturer **CABKA**, holds up to 2,200 pounds, has a nesting height of 2.2 inches, and is made of recycled material. Empty pallets can be densely stacked, potentially reducing freight and storage costs.

DropShip Commerce, a provider of distributed supply chain management solutions, launched *Global Templates*, a new feature to its SaaS-based platform for integrating and managing drop ship partners, inventory, data, and orders. Through a directory of pre-built integrations, the software offers retailers and manufacturers a common interface for matching back-office systems with key trading partners.

CALENDAR

YOUR LOGISTICS DATEBOOK

November 18-20, 2013, Transportation and Logistics Council Fall Seminars, Elmhurst, Ill. The Transportation and Logistics Council's fall seminars cover freight claims in plain English; contracting for transportation and logistics services; and legal aspects of transportation. Attendees may register for all seminars or each individually.

631-549-8984
www.tlcouncil.org

November 20-21, 2013, CIO Transportation Summit, Scottsdale, Ariz. The CIO Transportation Summit brings together transportation executives, solutions providers, and thought leaders to examine critical technology issues affecting transportation and logistics. Attendees will discuss cloud systems integration, business alignment, and collaboration.

312-374-0805
www.ciotransportationsummit.com

December 4-5, 2013, Reinvesting in American Manufacturing, Houston, Texas. Supply chain, logistics, and procurement executives from global manufacturers will discuss topics such as investing in American manufacturing; mitigating global supply chain risk; reducing costs while increasing production; capital sourcing; and site selection.

646-895-7424
bit.ly/ReinvestingInMfg

January 29-30, 2014, Cargo Logistics Canada, Vancouver, B.C. This conference addresses the needs of businesses that trade with Canada. Panels and seminars will discuss driving change in your supply chain, mitigating the risk of global outsourcing, planning for the next 20 years of NAFTA, rethinking offshore sourcing to minimize landed cost, and identifying the next emerging BRIC country.

877-739-2112
www.cargologisticscanada.com

February 10-13, 2014 Reverse Logistics Association Conference & Expo, Las Vegas, Nev. This conference covers reverse logistics-focused topics for original equipment manufacturers, retailers, and third-party service providers. Attendees can participate in a workshop on maintaining food safety during transportation, and join discussions on building and implementing a returns management strategy, asset management, choosing a service provider, streamlining warranty reverse logistics, and minimizing repair costs.

801-331-8949
www.rltshows.com/vegas.php

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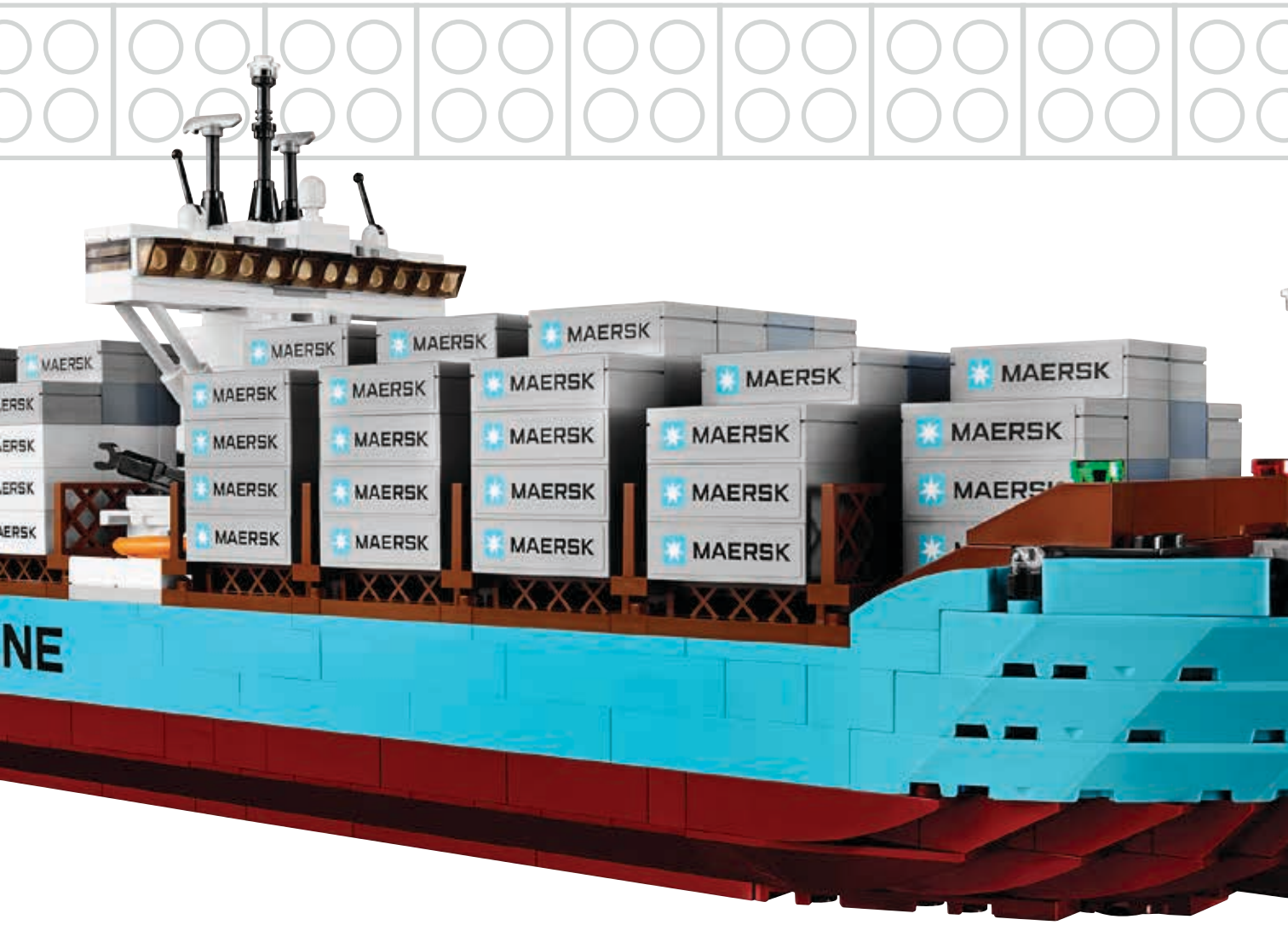

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For Shippers 5 and Up

Ever dreamed of being a shipping magnate? Here's your chance. With 1,518 LEGO bricks and a few spare hours, you can launch your fleet with a true ocean-going giant: the Maersk Triple-E containership, the world's largest vessel.

True, the 25-inch-long scale model is not seaworthy, but the set allows you to add intricate details such as rotating gold-colored propeller blades, brick-built twin 8-cylinder engines, a viewing window into the engine compartment, adjustable rudders, detachable lifeboats, removable containers, and rotating crane arms.

Available January 2014, the LEGO set even includes the special gold coin Maersk Line places under the mast of all its ships for good luck on their voyages.