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THE MAGAZINE FOR DEMAND-DRIVEN LOGISTICS • AUGUST 2013

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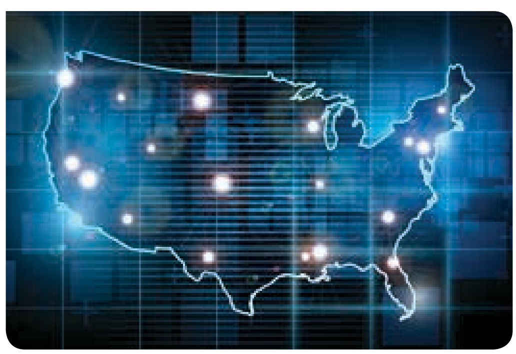

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page 63

CHECKINGIN

Felecia Stratton

by Felecia Stratton | **Editor**

Keeping Track of Time

If your average day is anything like mine, you face an endless barrage of internal emails, corporate memos, newsletters, and once-in-a-lifetime opportunities to refinance a home loan. Spam filters, email notifications, and custom preferences help organize this self-perpetuating info soup, making it easier to manage communications–then act according to priority.

Complicating matters is the reality that many of us are accessible on demand. Fifty-six percent of U.S. adults own a smartphone, according to Pew Research. Among logistics professionals, that percentage is likely far greater. We're conditioned to the thwump, beep, and buzz alerts that never fail to get our attention.

In the context of today's supply chain, the ability to communicate is at a premium. We collect and disseminate information in countless ways–through email, social media, EDI, RFID, and bar code, on a truck in the DC, or at the point of sale. As the speed of e-commerce continues to shape consumer expectations, whether they are shopping online or not, supply chains have to keep pace. Time is money. The faster shippers can collect and analyze this wealth of data, and even predict customer behavior, the better they can react.

Our August issue explores how different parties along the supply chain, from retailers to OEM suppliers, are keeping track of parts and finished goods to drive visibility and create flexibility.

Increasingly, shippers are leveraging cloud-based solutions to seamlessly connect disparate functions and business partners, mine and integrate data, and build flexible IT architecture that can expand and contract as business growth dictates. In *Retailers Try I.T. on for Size (pg. 47)*, learn how Urban Outfitters is using a customized retail store Web application to better capture merchandise analytics; and why leather goods e-tailer Saddleback Leather Company implemented a bundled ERP and inventory planning solution to more accurately forecast demand.

When supply chains are complex, or companies are sensitive to quality control and chain-of-custody requirements, interplay between suppliers and producers is amplified. If critical parts run out on an assembly line, for example, the ripple effect downstream can be cataclysmic. Merrill Douglas' article *B2B Manufacturing: Feeding the Line (pg. 38)* demonstrates how suppliers, manufacturers, and 3PLs are working in concert to better sense changes in demand, then align parts procurement and production accordingly.

And, as evidence of how the physical and digital worlds collide, Lisa Harrington's *Scantastic Bar-Code Tracking Tools (pg. 55)* examines how shippers are squeezing more information out of bar codes to track and manage inventory as it moves through the supply chain.

As always, if you would like to comment on what you read in this issue, please email me at: editor@inboundlogistics.com. That's one email I'm looking forward to receiving.

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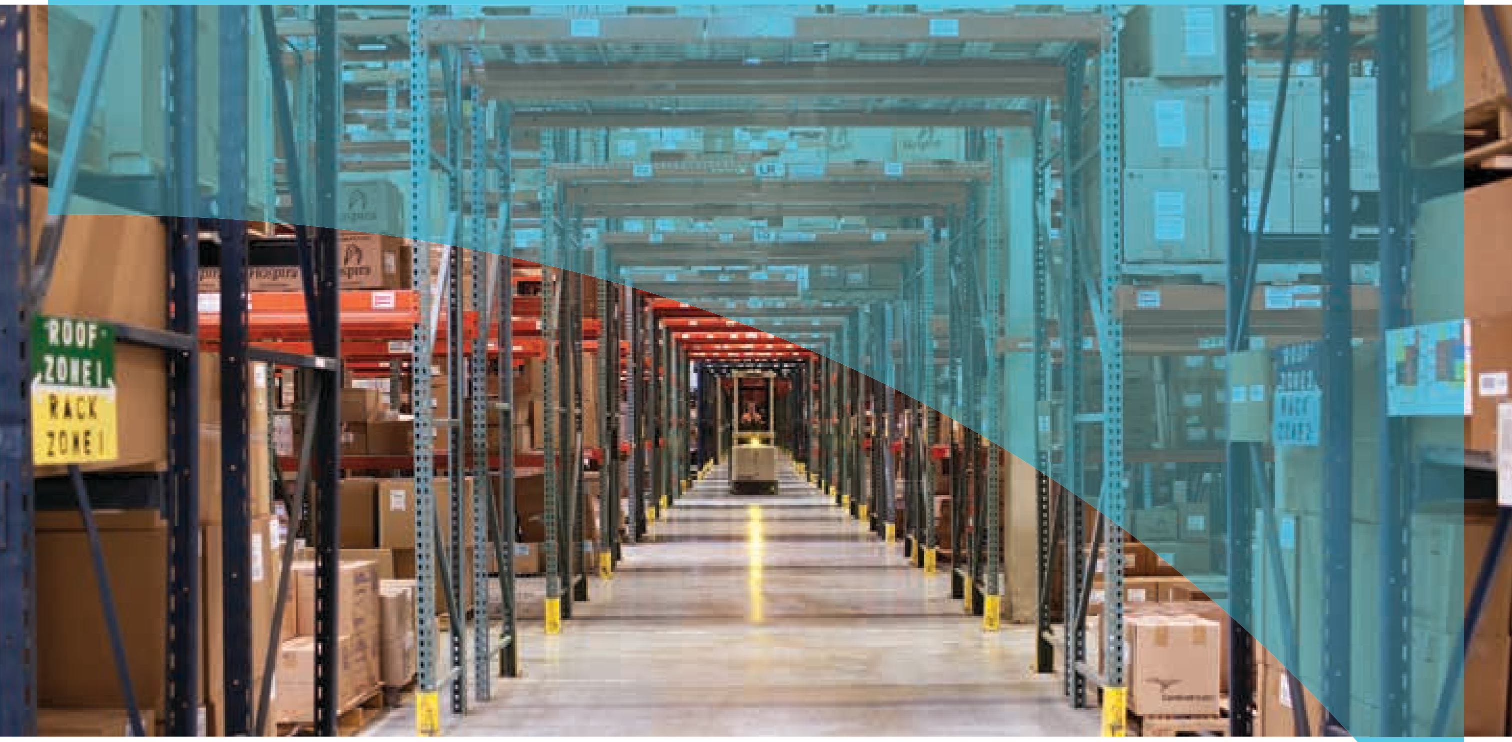

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10 JULY 2013
Army leads nation in push to digital manufacturing: 1.usa.gov/18NcPUB via @USArmy

JODY @NeoIsThe1
10 JULY 2013
@ILMagazine @USArmy Very good! The Army is where logistics all started.

Inbound Logistics
24 JULY 2013
To Rebuild America's Economy, Keep Products at Home: bit.ly/1dESPRL via @ILMagazine @AlanTonelson

Tandem Logistics @TandemLogistics
24 JULY 2103
Thanks for the honest analysis.

Inbound Logistics
30 JULY 2013
#Georgia Logistics: Front and Center: bit.ly/1dFbWuW

Go Torizon @GoTorizon
30 JULY 2013
Good thing we service that lane regularly!

Logistica @Logistica_Group
29 JULY 2013
Let's talk about important stuff: What 3PL has the best logo? Any votes?

SupplyChain Observer @SupplyChainObsv
@ILMagazine Off the top of my head, I would have to say FedEx due to the embedded hidden arrow.

Inbound Logistics
27 JULY 2013
"Sell By" Dates Cost Shippers Billions in Wasted Perishable Goods: bit.ly/12VCQtx via @ILMagazine

Martin Arrand @supplychainv
27 JULY 2013
@ILMagazine Muddled thinking surely? Hiding this info from consumers does nothing to solve problems of short shelf life, inventory/forecast.

UP FOR DISCUSSION

I have a question regarding transport carriers. It seems to be the trend to reduce the number of carriers and encourage consolidation because of benefits such as better negotiated rates and improved customer service. But are there advantages to increasing the number of transport carriers? And when is it suitable to do so?

joshua_e5@hotmail.com, *via e-mail*

I am writing this letter to show my appreciation for your support through the 2013 *Inbound Logistics* & ASTL Scholarship. I am truly honored to have been chosen to represent *Inbound Logistics* and the American Society of Transportation and Logistics as the recipient of this award. I am also extremely excited to represent the University of Wisconsin Superior and our transportation and logistics management program in such a respected publication.

I am entering my senior year of college and I am currently working and learning about transportation and logistics management through an intern position with CN Railway.

I can assure you that I will continue to work my hardest to properly represent both *Inbound Logistics* and The American Society of Transportation and Logistics throughout my final year of college and into my career.

Drew Strandberg,
2013 ASTL/Inbound Logistics scholarship award winner

HOT TOPICS | *IL* articles getting the most impressions on LinkedIn: Managing Shipment Data to Meet Customs Requirements bit.ly/ILMagCustoms • Home Depot Integrates Clicks With Bricks bit.ly/ILMagHomeDepot • 6 Secrets to Finding the Right 3PL bit.ly/ILMagTheRight3PL • The Strategic Approach to Optimizing Inbound Shipments bit.ly/ILMagStrategic

10 TIPS

STEP-BY-STEP SOLUTIONS

by Deborah Catalano Ruriani

Selecting the Right Drayage Provider

Drayage—moving shipments short distances, such as from a port to a nearby warehouse—plays a critical role in intermodal moves, and selecting the right motor carrier partner goes well beyond the lowest rate. Once you move past monetary considerations, examine the total service offering to ensure your drayage provider is the perfect fit. James Miller, account executive at International Asset Systems, offers these tips for selecting the best drayage partner.

1 **Seek out partners that value safety.** Ensure the company hires drivers who are rated by the Federal Motor Carrier Safety Administration, and possess validated Transportation Worker Identification Credential cards and clean driving histories.

2 **Check on-time delivery history.** Choose a drayage partner whose on-time performance meets the expectations of both you and your customer. The driver's reliability and professionalism are a proxy for your own.

3 **Ensure the provider has capacity to cover assignments.** If you assign hundreds of loads, you should know your drayage partner has them covered, and nothing will fall through the cracks.

4 **Require responsiveness.** You need a partner who will answer your call, whether you are submitting a rate request, confirming receipt of a work order, or checking shipment status. Evaluate your potential partner's responsiveness and communication capabilities.

5 **Select a carrier that shares your culture.** If your company is driving environmental initiatives, find partners with similar green goals. If yours is a high-touch, service-centered company, your partner's reliability is critical. Compare mission statements, and select a motor carrier that shares your company's values.

6 **Ask about data availability.** Be sure your partner can provide as much data as you need, when you need it. Can it provide confirmation of receipt and appointment time quickly enough? Offer proof of delivery before your customer asks for it? Track and trace shipments, then alert you when the load arrives so it can be picked up on time to avoid storage fees?

7 **Expect accurate billing—and notification of exceptions.** Invoices should be accurate, with no surprises. On-the-fly changes are inevitable, but a good drayage partner will communicate them as quickly as possible. For example, you should be notified of a wait-time charge immediately, not after 90 minutes of idling.

8 **Look for a well-informed motor carrier.** True partners can spot problems before they happen. Expect them to share that a port is striking; bad weather is approaching; or a driver may have trouble getting to the terminal. Look for a solutions provider that can advise you to pull on a different weekday to save money; or find a street-turn opportunity that will save you both money.

9 **Choose specialization to meet your needs.** If your partner can provide specialized equipment, such as tri-axle chassis or reefers, you will not have to supply it or find one to rent. If you need the drayage provider to accommodate high-value goods such as hazardous materials, pharmaceuticals, or refrigerated produce, ensure it has the necessary capabilities and certifications.

10 **Require knowledge of the local market.** Partners who can quickly navigate the gates and traffic at terminals and facilities have faster turn times. Find partners who understand facility procedures and roadways so you can get cargo moving quickly. ■

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READER
PROFILE

as told to Merrill Douglas

Hu Huang is director of international logistics and customs compliance at Kichler Lighting in Cleveland, which is among the top one percent of importers in the United States. She has worked for Kichler since 1988, and served in her current position since 2002.

RESPONSIBILITIES

Worldwide imports and exports, including direct imports to Fortune 100 companies; direct export to 14 countries; global customs compliance; contract negotiations for global transportation; global logistics and supply chain security; duty drawbacks.

EXPERIENCE

Import and export representative, Shanghai Bicycle Corp.; import and export representative, import manager, director of international logistics and customs compliance/manager of China office administration, Kichler Lighting.

EDUCATION

B.S., international trade, Shanghai Foreign Trade College, 1982; M.A., economics, University of Cincinnati, 1987.

Hu Huang: Bright Light in Global Trade

IN 1985, I CAME TO THE UNITED STATES WITH A FULL scholarship to study economics as a graduate student at the University of Cincinnati. I had a very hard landing in the Land of Opportunity. I faced a language barrier and culture shock. I felt homesick. And worst of all, having grown up in a country with a centrally controlled economy, I'd never even heard of basic economic concepts such as supply and demand.

When I started at Kichler in 1988, I worked in imports and exports. Since then I've been involved in international trade, with a focus on global opportunities. For example, I set up six regional offices in Asia, worked on new product development, imported product from 16 countries, managed international letters of credit, designed global transportation networks, and created systems to enhance supply chain security.

One of the most challenging aspects of my work is the need to control all the variables that come into play in complex international transactions. A good example is when I managed a direct export

The Big Questions

What was your first job?
During China's cultural revolution, the government sent me to work on a farm for five years. I earned $15 or less per year, or nothing if the harvest was poor.

Do you have a hidden talent?
I'm an amateur photographer. I like to capture beauty in nature, and keep a history of my life and family.

If you could take back one sentence you've ever spoken, what would it be?
About 15 years ago, while I was still improving my English, a co-worker taught me the expression, "Good riddance." He said it meant, "Goodbye, so long, farewell." Four hours later, I decided to practice my new sentence—on the chairman of Kichler's board. When I discovered my mistake, I demanded that the co-worker tell the chairman the truth. I learned a lesson: always check the meaning of words before you use them.

If you had a week to devote to anything but work, how would you spend it?
With my husband, our son, and my mother, visiting parks and nearby cities to enjoy various cultural festivals. I also like to cook and garden, often while listening to audiobooks.

project that involved five countries. Kichler was in the United States, the buyer was in Saudi Arabia, the manufacturing base was in China, the buyer's agent was in London, and the letter of credit was issued by a bank in Lebanon.

I had to deal with four languages, four time zones, and more than 20 parties—a manufacturer, a trucking company, customs attorneys, ocean carriers, an insurance company, and others. In a situation such as that, knowledge and experience are power. And when challenges arise, you have to be decisive.

One of my proudest accomplishments at Kichler is our perfect performance in customs compliance and supply chain security. Under my leadership for the past 20 years, Kichler has not incurred any trade violations or customs penalties. This saves us millions of dollars, and sends our products to market faster than our competitors.

Some keys to that achievement are knowing our responsibilities, implementing new laws and regulations, updating written procedures and policies, conducting frequent self-audits, monitoring key performance indicators, and keeping import and export activities as transparent as possible.

We also make a point of educating our staff and vendors. In this business, success takes a village—not just the efforts from my side. So every year I hold seminars in China.

Most importantly, we treat our vendors and logistics providers as partners. Most of our vendors have been with us for years. We've developed a good corporate culture: we identify the responsibilities, then help one another succeed. ■

NOTED

THE SUPPLY CHAIN IN BRIEF

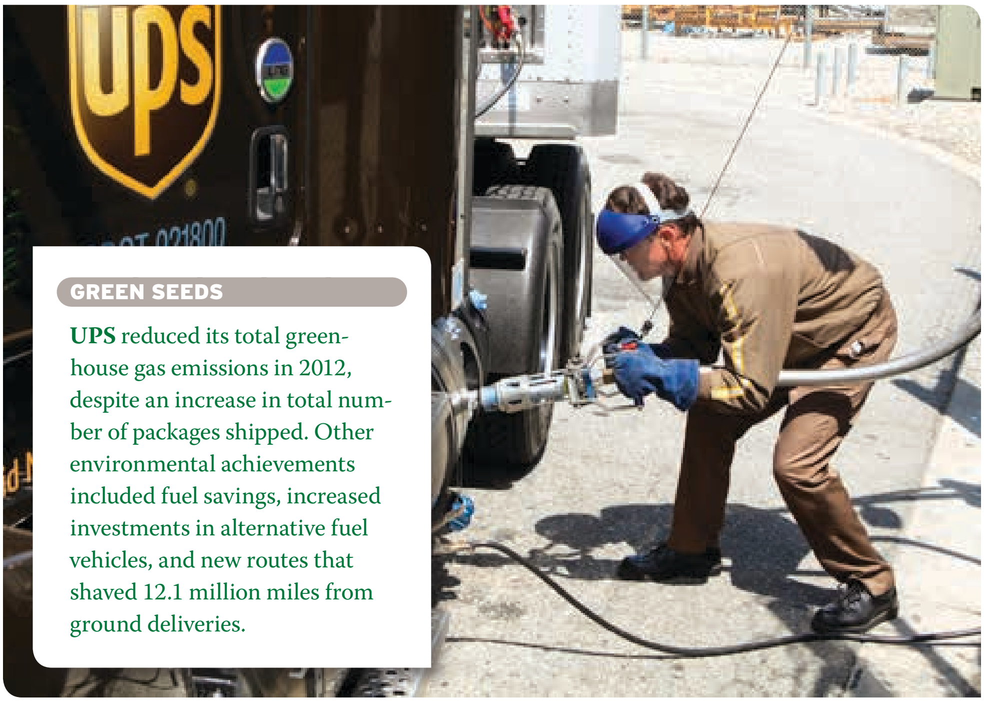
SEALED DEALS

▲ UK-based next-day delivery company **Tuffnells Parcels Express** is expanding its delivery fleet with 25 drawbar vehicles and 11 tractor units from **Ryder Europe**. Tuffnells' fleet already includes 100 trucks leased from Ryder in 2012.

Global logistics provider **Agility** will supply warehousing services for Egypt-based home appliance company **Universal**. Agility will manage the storage of various components in 6th of October City, Egypt.

Diamond Foods selected **Transplace's** transportation management system (TMS) to improve real-time visibility, planning, procurement, and execution management across its brands. The TMS also provides the ability to manage all inbound and outbound transportation from domestic vendors to Diamond Foods' distribution centers and to all customer locations.

CHEP, a provider of managed pallet-pooling solutions, extended its contract with food manufacturer **Johanna Foods** to transport its products to grocery stores, retailers, and distributors.



GREEN SEEDS

UPS reduced its total greenhouse gas emissions in 2012, despite an increase in total number of packages shipped. Other environmental achievements included fuel savings, increased investments in alternative fuel vehicles, and new routes that shaved 12.1 million miles from ground deliveries.

UP THE CHAIN

Global security firm **Northrop Grumman Corporation** appointed **Mark Cleary** vice president of supply chain management for the company's electronic systems sector. Cleary is responsible for developing and implementing the sector's supply chain management strategic plan.

▼ **Hau Thai-Tang** was named **Ford Motor Company's** new group vice president, purchasing. Thai-Tang is responsible for the $90 billion of production and non-production goods that Ford purchases annually.

GOOD WORKS

▼ **USA Truck**, an Arkansas-based transportation and logistics provider, donated $2,500 to The Intrepid Fallen Heroes Fund, an organization that provides support to military members, veterans, and their families. USA Truck contributed one dollar to the fund for every Like received on its Facebook page between June 14 and July 4, 2013.

Toyota Material Handling, U.S.A. contributed equipment and resources to support the Vincennes University Logistics Education and Training Center in Plainfield, Ind. Two donated lift truck engines support hands-on instructional use, while an internal combustion lift truck gives students firsthand experience in safely operating forklifts.

Crown Equipment gained recognition from Employer Support of the Guard and Reserve, a Department of Defense committee, for its continued support of employees who are members of the U.S. National Guard or Reserve services. Crown currently employs more than 375 people who have served or are currently serving in the U.S. military.

m&a

E-commerce outsourcer **One World Direct** purchased third-party logistics provider (3PL) **Sanyo Logistics Corporation**, a subsidiary of Panasonic. The acquisition expands One World's offerings to include traditional 3PL, e-fulfillment, call center, and e-commerce services. One World also gained Sanyo's 500,000-square-foot Los Angeles-area logistics center.

Swift Transportation expanded its presence in the over-the-road temperature-controlled market by purchasing trucking company **Central Refrigerated Transportation**.

Supply Chain Solutions (SCS), a transportation, logistics, and technology solutions provider, bought the freight forwarding business unit of third-party logistics firm **England Logistics**. The acquisition gives SCS offices in Los Angeles, and Shanghai, Qingdao, and Ningbo, China, allowing the company to grow its portfolio of international service offerings.

Logistics provider **Roadrunner Transportation Systems** acquired global logistics solutions company **Marisol International**. With the addition of Marisol, Roadrunner can now offer international logistics and domestic services including less-than-truckload, truckload, intermodal, freight consolidation, and warehousing.

recognition

▲ **TBB Global Logistics** earned a **2013 VOLTAGE Award** from Baltimore SmartCEO for its Supply Chain Guardian solutions. The award recognizes the 3PL as a company that understands the importance of technology and its effect on the business community.

Global supply chain solutions provider **UTi Worldwide** received the **Best Logistics Partner** award from Wacker Chemie AG in recognition of its quality, efficiency, service, safety, and sustainability excellence.

Southeastern Freight Lines earned the **LTL Carrier of the Year** award from Rheem Water Heating Division for the fourth year in a row. Southeastern was evaluated on customer satisfaction, on-time performance, and billing accuracy.

BJ's Wholesale Club presented **C.H. Robinson** with its **Perishable Vendor of the Year** award. The 3PL was recognized for innovation, collaboration, and creativity in its branded product offerings, supply chain management solutions, and packaging services.

The North Carolina League of Transportation & Logistics awarded **Steve Palmer**, vice president of transportation for Lowe's Companies, the **Bill H. Teague Lifetime Achievement Award** for his contribution to supply chain and logistics, and to the education and success of others in the field.

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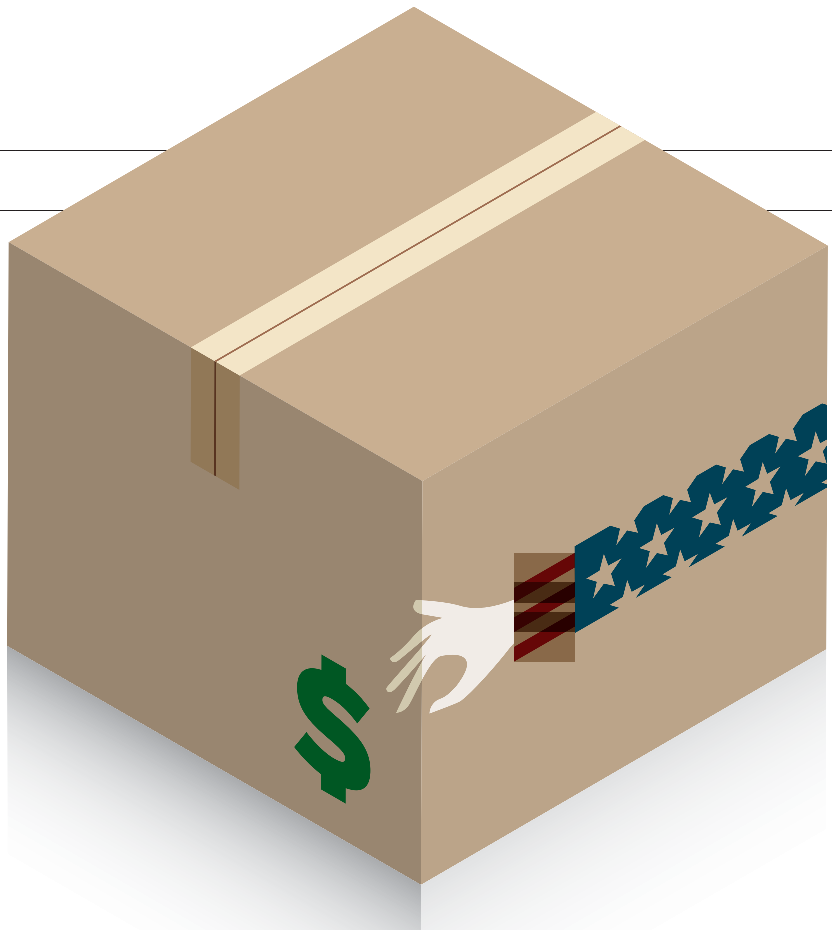

The Government is 'Helping' Again...

Transportation and logistics companies have a hard enough time navigating the twists and turns in today's economic landscape without facing inertia from the executive branch. But states are strapped for cash, and lawmakers are trapped by special interests. Many are acting on impulse, then ducking for cover.

by Joseph O'Reilly

The Minnesota State Legislature's recent decision to pass a 6.5-percent sales tax on warehouse services in an effort to balance the state budget have area companies concerned that the hike will push business away. Cutting costs remains a priority for shippers, so any action that inflates the total cost of doing business beyond what can be controlled raises a red flag.

Despite rampant industry opposition, and calls for a special legislative session to repeal the warehouse tax, Governor Mark Dayton is standing firmly behind the state's decision. Calling the Republican-led effort a grandstanding stunt, he says: "The previous administration and Republicans put us into this hole, and now they are complaining about how we are getting out of it. Well, we're getting out of it. We're putting our accounts back in order. We have a balanced budget, and it's going to be an honest budget."

The bill won't take effect for another year, which keeps the door open for legislators to amend the tax. But the damage may already be done. There's no guarantee the state will make changes, and retailers or manufacturers looking at expansion opportunities in Minnesota will view the looming impasse as a negative. Wisconsin and Iowa will use it to their own advantage to lure suitors away.

The nature of the appropriations is most problematic for Minnesota's third-party logistics industry, which finds itself directly in the crosshairs of the new tax. The bill includes exemptions for both farmers and retailers. Governor Dayton is a member of the Minnesota Democratic-Farmer-Labor Party, which cut its teeth in the Depression era protecting farmer and labor rights. He is also the great-grandson of George Dayton, who founded Dayton Department Stores, the precursor to Target.

Washington State failed to pass a $10-billion transportation bill that would have funded road improvement projects through a 10.5-cent gas tax increase.

While some might question the "honesty" of the warehouse tax given these conflicts of interest, a clear disconnect exists between protecting labor rights and killing jobs. Third-party service providers will be at a competitive disadvantage, says the Minnesota Trucking Association (MTA).

"Deciding where to warehouse products is primarily based on cost and service considerations," says the MTA. "Adding 6.5 percent to the cost of Minnesota warehousing services would render them at a significant competitive disadvantage. In an industry with single-digit profit margins, absorbing the cost is unfeasible, as it would result in a profit loss."

Minnesota businesses aren't the only ones concerned that legislative myopia and oversight are threatening competitiveness. Whether it's balancing state budgets or getting down to nitty-gritty transportation planning details, drama is building across the country.

In Massachusetts, Governor Deval Patrick's ambitious $1-billion transportation financing bill, which has been scaled down precipitously by both the state House and Senate, includes a veiled 6.25-percent tax on "tech services"—a hit that some observers argue will negatively impact industries such as healthcare and retail, which rely heavily on computer software services. It's in the interest of improving transport infrastructure, but at what cost?

Pennsylvania faces similar issues. Its House and Senate are having problems reaching agreement on a $2-billion transportation package that would subsidize highway, bridge, and mass transit upgrades. Democrats believe more funding should be directed toward mass transit.

Texas legislators are haggling over how to appropriate a 20-cent tax on gasoline. Twenty-five percent of that revenue currently goes toward public education. One proposal on the docket would direct voters to approve a constitutional amendment to allocate fuel taxes solely for transportation needs.

Washington State, in the middle of its own budget battle, failed to pass a $10-billion transportation bill that includes a 10.5-cent increase to the gas tax after last-minute Senate opposition. Lawmakers there contend they need to first address policy changes for transportation projects before they tackle infrastructure funding.

In New Jersey, a fight is brewing over the passage of an employee misclassification bill. The Truck Operator Independent Contractor Act reclassifies both drayage truck operators and parcel delivery truckers as employees, not independent contractors.

Pro-business interests argue that the presumption of an employer-employee relationship will run trucks out of the state—which poses a major concern as Port of New York and New Jersey cargo volumes continue to grow and capacity shrinks.

The Teamsters and other labor groups contend that companies are shirking their responsibilities by avoiding taxes and not contributing to employee benefit obligations. Whether Governor Chris Christie, long a thorn in labor's side, will sign off on the bill remains to be seen.

That states are wrestling with funding mechanisms amid budgetary constraints is not necessarily a negative. When President Obama signed the Moving Ahead for Progress in the 21st Century Act (MAP-21) in July 2012, it lit a fire under state legislators and transportation industry stakeholders to formulate freight transportation strategies. Assessing and prioritizing need is one matter; finding the money to execute these plans is another. That is the source of much contention.

Private sector interests across the supply chain must remain vigilant to ensure government action does not create industry inertia. Public-private partnerships have long been a favored strategy for advancing infrastructure projects; policymaking needs such collaboration even more now.

High-end Retailers Shop for New Outlet

As yet another indication of the changing retail landscape, high-end department store outlets are gradually supplanting traditional brick-and-mortar locations, reports Bloomberg Industries.

For example, 60 percent of Saks locations are now outlets, and all but two of the 15 stores it plans to open in the next two years will be discount centers. Nordstrom, meanwhile, operates 127 Rack outlets and plans to open another 17 by the end of 2013, according to Bloomberg.

Nordstrom Rack locations sell 40 percent more than the company's traditional locations in terms of revenue per square foot. And expenses are lower at outlets, where shoppers don't need to be enticed by fancy storefronts and amenities.

The trend is partly driven by recessionary consumer spending and the success of retailers such as Ross Stores and TJ Maxx. "These companies are serving entirely different customers who know they can't afford the full-line merchandise, but still desire the brand," says Bloomberg analyst Poonam Goyal.

Price differentiation is a proven strategy that works well for high-end retailers, less so for middle-tier sellers, adds Goyal. Outlets physically separate brands and buyers, which allows consumers to pay more rather than chase cheaper options. From an inventory management perspective, retailers are better able to move outdated product without slashing prices, conditioning consumers to wait for discounts.

The growth of outlet stores, and changes in how retailers allocate inventory to meet demand, present new twists in evolving omni-channel fulfillment strategies.

Nordstrom Rack offers customers on-trend merchandise at 30- to 70-percent off regular prices.

Blimps Over Barrow

Polar bears. Northern Lights. Ice floes. Blimps? If necessity is the mother of invention, then Alaska is a logistics laboratory unlike any other. Given the inherent challenges shippers face delivering supplies to remote areas where road infrastructure is absent, state officials are looking at airships as a viable option.

The Alaska Department of Transportation, NASA's Ames Research Center, and University of Alaska Anchorage recently sponsored the third-annual Cargo Airships for Northern Operations Workshop to discuss with industry and business leaders the feasibility of using cargo airships.

"Distance becomes a tyranny unless you can afford to spend the money to build ground transportation systems in every location where you want to go," says Ron Hochstetler, the workshop's technical chairman.

Rural villages rely on airstrips and cargo planes to re-supply basic necessities. But the cost to build and maintain such infrastructure is often prohibitive, making airships a viable solution.

Dirigible transport offers myriad advantages. Airships can travel for weeks at a time, if necessary. They can land in remote locations, and require fewer on-the-ground resources compared to airplanes and landing strips. Large airships can conceivably carry very heavy freight while providing a more environmentally friendly transportation mode.

"The expansion of cargo aviation in Alaska can't continue to depend upon building more runways and more airstrips to accommodate freight shipments," Hochstetler explains. "It becomes expensive and untenable from an economic and environmental perspective."

Workshop attendees share consensus that a prototype could be in service within a few years, with commercial applications soon to follow.

Practice Makes Perfect

Attention to order metrics is paying dividends for companies that invest in the necessary talent, technology, and processes, according to a recent report by Tompkins Supply Chain Consortium.

"We are seeing a large increase in the number of companies using the perfect order metric compared to previous years' data," says Bruce Tompkins, executive director of the Raleigh, N.C.-based consortium. The report, *Distribution Customer Satisfaction Core Benchmarks*, is based on a survey of respondents across eight industries, including apparel and footwear, electronics, food and beverage, and pharmaceuticals.

Among the report's highlights:

- On-time delivery is on the upswing, with those leading the way capable of greater than 98.5 percent, compared to a historical average of 94.2 percent.
- The average order cycle time is three hours, but leaders are capable of shipping orders in less than two hours after receiving them.
- Order fill rates have shown a slight improvement, with a leading 98-percent fill rate in comparison to the average of 94.7 percent in previous years.

WHAT IS THE PERFECT ORDER METRIC?

The Warehouse Education and Research Council defines a perfect order as:

- Complete
- Delivered on time
- Damage-free
- Correct documentation, pricing, and invoicing

The Perfect Order Index is a popular performance metric calculated by multiplying each of the four perfect order components.

M&A Mega Deals Drive T&L Activity

While merger and acquisition (M&A) activity in the transportation and logistics sector is largely subdued due to economic uncertainty, infrastructure mega deals continue to drive value at the top end of the market, according to PwC US.

The second quarter of 2013 saw 31 transportation and logistics transactions worth $50 million or more, totaling $15.2 billion, compared to 51 transactions totaling $14.3 billion in the second quarter of 2012. Additionally, average deal size increased to $490 million in the second quarter of 2013, compared to $281 million during the same period in 2012.

While strategic investors represented the majority (61 percent) of transportation and logistics deals in the second quarter of 2013, financial investors have shown an increasing appetite for shipping and port deals, likely due to potential opportunities to improve performance within an overcapacitated mode.

The second quarter did see relative strength from Asian acquirers, who engaged in nearly half of all global deals in the second quarter of 2013 in an effort to pursue M&A strategies that consolidate local markets across modes. Additionally, while European dealmakers have stayed on the sidelines, that region, along with South America, seems likely to provide some larger infrastructure deals later this year, says PwC. ■


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GLOBAL

THE WORLD AT A GLANCE

by Joseph O'Reilly

America's Global Image: Taking a Closer View

Yahoo! News paints a pretty grim picture of how outsiders perceive the United States: "Who loves ya, baby? If you're the United States of America, the answer is fewer and fewer people around the world," according to a recent blog by the online news aggregator.

Yahoo! might consider double-checking its source, Pew Research. The non-partisan fact tank offers the opposite assessment in its recent Global Attitudes project—a survey conducted in 38 countries among 37,653 respondents from March 2 to May 1, 2013.

"Overall, global attitudes toward America are positive," says Pew Research. "In 28 of 38 nations polled, half or more of those surveyed express a favorable opinion. And across these nations, a median 63 percent have a positive view of America."

The United States receives high ratings in most of Europe, Latin America, the Asia/Pacific region, and Africa. That sentiment is muted in predominantly Muslim nations; and only 40 percent in China see the United States in a favorable light.

Most intriguing is how other countries perceive the world's two leading economies. While many believe China is poised to eventually become the dominant world player—since 2008, the median percentage naming the United States as the world's leading economic power has declined from 47 percent to 41 percent, while the median percentage placing China in the top spot has risen from 20 percent to 34 percent—America's image is seen more positively (63 percent vs. 50 percent) and less negatively (30 percent vs. 36 percent) compared to China (*see chart, page* 27).

Taken for what it is, this is a referendum on how most global observers view a totalitarian political regime that denies personal liberties and, in terms of trade, has a tendency to exploit rather than engage.

Parsing why certain countries feel the way they do presents an interesting study. Cultural and political affinities shape perception. The Philippines, El Salvador, Israel, Korea, and Italy—all among the top 10 countries that have a favorable opinion of the United States—share long and storied military and/or diaspora histories.

Commerce is a platform for tolerance as well. Israel and Korea have free trade agreements with the United States. Brazil is the top South American destination for U.S. foreign direct investment. With the exception of China (India and Saudi Arabia are not included in the Pew Research survey), the top 10 U.S. import and export partners hold a favorable opinion of America.

Africa shares kinship with the United States as well; less so economic synergies.

The fact that Ghana, Senegal, Kenya, and Uganda have such high esteem is surprising. U.S. economic aid offers one explanation. Pew Research suggests another.

"America enjoys a soft power advantage over China among Latin Americans and Africans," according to the report. "Many embrace American scientific and technological achievements, ways of doing business, and popular culture. The appeal of U.S. soft power is generally stronger today in Latin America and Africa than it was during the final years of the Bush administration."

African nations, and much of South America (Brazil, Chile, and Venezuela), seem easy to please, as they generally share positive vibes about China as well. But why shouldn't they? Both continents are courting foreign investment they hope will help build a foundation for economic growth.

On the other side of the like-dislike continuum there is a clear division over political ideology and U.S. foreign policy. Negative perceptions among countries in the Middle East/North Africa and Mediterranean regions are largely predicated on U.S. support for Israel.

The Heritage Foundation's annual Index of Economic Freedom also offers insight into these dissenters. It defines economically free countries as those that "allow labor, capital, and goods to move freely, and refrain from coercion or constraint of liberty beyond the extent necessary to protect and maintain liberty itself."

With the exception of Jordan and Turkey, the 10 countries with the least favorable attitude toward the United States are "mostly unfree," according to the Heritage Foundation's index. It's little wonder that politically, socially, and economically repressed nations see America's "freedom" as anathema to their worldview.

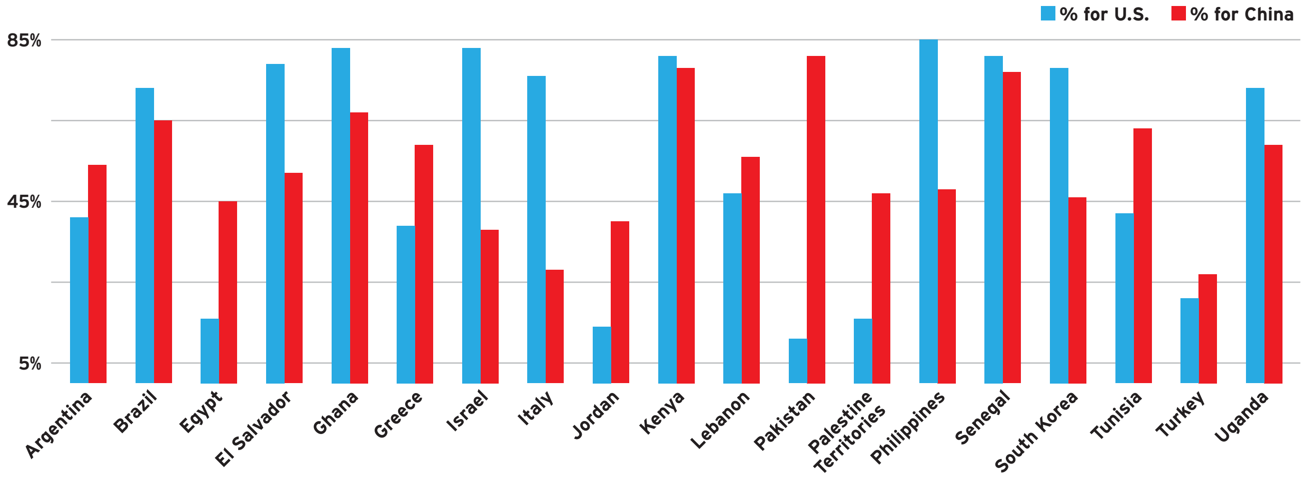
Jordan presents an interesting case. It has long shared a strategic alliance with the United States since it gained independence following World War II. Yet Jordan has the second least-favorable opinion—and it is a U.S. free trade partner. The country also ranks very high globally in terms of economic freedom (33rd).

Egypt, too, holds a very negative view of the United States. Still, it leads the Middle East and all of Africa in terms of U.S. FDI at $14 billion, according to the most recent Bureau of Economic Analysis figures. U.S. aid to Egypt, given its current socio-political climate, has been a hotly debated topic on Capitol Hill. But the Suez Canal is an important pivot in world trade, especially with regards to oil. Stability in Egypt and Middle Eastern accord are intrinsically

(continued on page 28)

U.S. and China Favorability Ratings

Overall, the United States enjoys a stronger global image than China. Across the nations surveyed, a median of 63 percent express a favorable opinion of the U.S., compared to 50 percent for China.



Sources: Global Attitudes Project, Pew Research; 2013 Index of Economic Freedom, The Heritage Foundation & Wall Street Journal; U.S. Direct Investment Abroad, Bureau of Economic Analysis

(continued from page 26)

linked. Remarkably, Egyptians feel that U.S. aid is having a negative impact in their country, according to Pew Research.

Turkey's general loathing for both the United States (21 percent) and China (27 percent) is notable. The United States has high hopes for Turkey as it continues along the path toward democracy. Located along the Suez trade at the nexus between Europe and Asia—and sharing borders with both Syria and Iran—Turkey is one country where the United States would like to sway a more favorable opinion.

The loyalties that are emerging between how different countries perceive China and the United States present an interesting backdrop for future developments. While some loyalties are ideologically motivated, others are dictated by investment and trade.

As China's middle class continues to grow, and its collective voice amplifies, its human rights record will be more closely scrutinized. Only 28 percent of countries surveyed by Pew Research hold a majority view that China respects the personal freedoms of it people, compared to 95 percent who feel the same way about the United States.

"Another challenge for China's image is that around the world the prevailing view is that China acts unilaterally in world affairs, pursuing its own interests and not taking into account the interests of other countries when making foreign policy decisions," according to Pew Research's study.

That's a global perception the United States has also confronted. What will be interesting moving forward, however, is whether China's unilateral approach to foreign policy, disregard for personal freedoms, and aggressive investment in emerging economies will be viewed as altruistic or exploitative. That will tip the balance for countries that are currently hedging their fidelities. [ ]

WDFG Expands in Asia

Global businesses looking to tap Asia's growing middle-class consumer base are rethinking how they align and orchestrate their supply chains with both sourcing and selling in mind. Take, for example, World Duty Free Group's (WDFG) recent decision to locate a logistics hub in Singapore.

The UK's leading travel retailer submitted bids for various tenders at Singapore Changi Airport. But it is broadly seeking to build a retail presence throughout Asia. As part of the move, it has partnered with LF Logistics, a member of Hong Kong-based Li & Fung Group, which specializes in export sourcing, distribution, and retailing.

The main focus of the partnership agreement is to support business development in the region, according to WDFG. The retailer will also use the Singapore hub as part of its global supply chain network and to support sourcing for the company's existing operations in Sri Lanka and India.

World Duty Free Group plans to establish a logistics hub in Singapore as it seeks to build its retail presence in Asia.

Supply Chain Management ROCKS!

Ten years ago, when DSC Logistics said we're *"ready for anything!"* we could see big changes coming.

The first change was...change itself. Companies were faced with rapid, unpredictable and discontinuous change from all directions — both internal and external. At DSC, we decided then that the best way to help our customers succeed in that ever-changing environment was through dynamic supply chain leadership — combining intellectual capital and operations expertise to build strategic partnerships.

Today, those partnerships are helping leading companies in fields such as consumer goods and food, health care, electronics, and others to compete, grow, and succeed.

Which leads to another major change in our industry: the growing recognition of supply chain management as a key business strategy. As supply chain partners, we're responsible for moving products and information all around the globe — with tremendous impact on both the top and bottom line. The Supply Chain ROCKS the world!

Today's supply chain partner needs to understand business and at DSC we do. That enables us to align strategically with our customers, managing change and information to achieve their business goals.

With a focus on innovation and continual improvement in areas such as supply chain analysis & design, network management, Lean Logistics Center management, transportation management, value-added services, business process integration, supply chain visibility, and sustainability, DSC is collaborating with customers on creative, integrated supply chain solutions.

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Have You Seen That 584-Page 'Map' Yet?

If you are reading this magazine, you are likely either directly or indirectly involved in the $700 billion domestic freight industry. So you know that to be successful, every logistics organization must overcome hurdles that challenge profitability, on-time service and, most importantly, safety. One of these hurdles should not be a marketplace that tolerates carriers, brokers, or forwarders who cut corners and routinely violate safety regulations.

Originally known as H.R. 4348, the 584-page "Moving Ahead for Progress in the 21st Century Act" (simply known as MAP-21) was signed into law by President Obama on July 6, 2012. Before retiring in July, former Secretary of Transportation Ray LaHood said: "It builds on our aggressive safety efforts, including our fight against distracted driving and our push to improve transit and motor carrier safety."

October 1st is Almost Here. Are You Ready?

Of MAP-21's 584 pages, several address highway safety, but page 423 in particular deserves your attention. There, you will find new rules that rightly place increased financial responsibility on freight brokers; one of these rules raises the "minimum" surety bond requirement to $75,000 from just $10,000. By October 1st, every freight broker's approved surety bond or trust must be at least $75,000 or they will not be properly registered and must cease operation.

How Serious Is the Department of Transportation About This Issue?

Here is the text of subsections (c) and (d) on page 423 of the law regarding unauthorized brokering:

> "(c) CIVIL PENALTIES AND PRIVATE CAUSE OF ACTION. – Any person who knowingly authorizes, consents to, or permits, directly or indirectly, either alone or in conjunction with any other person, a violation of subsection (a) is liable –
>
> > (1) to the United States Government for a civil penalty in an amount not to exceed $10,000 for each violation; and
> > (2) to the injured party for all valid claims incurred without regard to amount."
>
> "(d) LIABLE PARTIES. – The liability for civil penalties and for claims under this section for unauthorized brokering shall apply, jointly and severally –
>
> > (1) to any corporate entity or partnership involved; and
> > 2) to the individual officers, directors, and principals of such entities."

Core Values – Safety First (Peace of Mind)

UTXL is far from being the biggest broker, but we are bigger than most and there may be none safer. Our surety bond is the TIA's $250,000 "Performance Certified" bond and UTXL's customers have the peace of mind of knowing that we are in full compliance with, or exceed all registration requirements. In our 17-year history, there has not been a single charge to any of our bonds or insurance policies. Even though the DOT does not require a federally licensed broker to have insurance, UTXL maintains cargo, general liability, auto liability, workers comp, E&O and umbrella policies in addition to the carrier's primary coverages.

At UTXL, a contract carrier is only qualified after every step of our proprietary review process is accomplished by our skilled staff and reviewed and approved by an officer. And that is just the beginning. Every day, our TMS receives automated updates regarding the licensing, safety ratings, SMS BASIC scores, insurance limits and underwriter ratings of more than 2,500 contract carriers. These niche carriers operate over 100,000 trucks (van, reefer and specialized decks) coast-to-coast. That's capacity.

Not Just Shippers of Goods – Good Shippers, Too

During the last 25 years, I have managed small, medium and large asset-based and non-asset freight companies. In 1997, I co-founded UTXL, which is honored to arrange truckload services for dry freight and perishables shippers nationwide who value our unmatched safety, near-perfect service, great systems, amazing people, savings through efficiency and peace of mind too. We continue to serve several customers today who were our customers in 1997. UTXL is perhaps best known for resourceful surge capacity solutions and excellent 24 x 7 proactive communications that include systems from EDI to award-winning automated web tracking and alerts.

As logistics professionals, we are all more than just shippers of goods. We are also "good shippers" who care about the safety of each shipment, each driver, and the public on our nation's highways – highways that all of our livelihoods depend on every day. My team and I can help you take the "cap" off of reliable truckload capacity in any length of haul. Please call or email me at info@UTXL.com, anytime. For other helpful resources, tools and links, please visit our website www.UTXL.com.

THE LEAN SUPPLY CHAIN

BY PAUL A. MYERSON
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We're All in This Together: Teamwork in a Lean Workplace

While some Lean practitioners focus on manufacturing pioneer Taiichi Ohno's Seven Wastes (transportation, inventory, motion, waiting, overproduction, overprocessing, and defects), many add an eighth waste: behavioral waste, or under-utilized employees.

It takes a real change management effort to successfully implement a Lean program—especially when it involves changing workers' habits. Someone who has been doing a job for a long time may be reluctant to adopt new procedures. That's why a culture of teamwork is vital in creating a Lean workplace.

Team Building

Two keys to success in any team-based activity are support from upper management, and the participation of everyone in the organization. To build a successful team effort, a company should meet the following conditions:

- Executive leaders must communicate that they expect teamwork and collaboration.
- Organization members should talk about and identify the value of a teamwork culture.
- Management should encourage employees to emphasize teamwork.
- The company should reward and recognize teamwork.

A key feature of a team-based culture is the concept of employee empowerment. Empowered employees bring their knowledge and involvement to daily operations, and can support teams through tasks such as training.

Management's Role

In addition to supporting teamwork in the organization, the company's management must have a vision for Lean supply chain and logistics management. These goals can provide the foundation for operations excellence, continuous improvement, and supply chain efficiency.

Management should develop some guiding principles for the Lean implementation effort related to employee involvement, quality, standardization, short lead times, and continuous improvement—and communicate those principles to everyone involved.

When creating and running a Lean team in a warehouse, for example, it is important for team leaders to own their processes; for supervisors and managers to remove roadblocks; and for hourly team members to earn bonuses tied to metrics and improved processes.

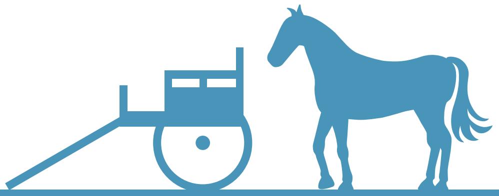
Keeping It Going

To keep everyone informed about the Lean implementation's progress, discuss performance and improvement in weekly departmental meetings. Scheduling a monthly kaizen event to concentrate on improving the operation will let everyone know how important a Lean culture is to management.

Lean tools can also be helpful in the warehouse environment, such as problem-solving using root-cause analysis and fishbone diagrams, and error-proofing with standardized work that includes visual instructions on how to perform tasks such as using strapping machines and loading/unloading trucks.

An estimated 50 to 70 percent of Lean initiatives fail, often because management does not both lead and support the cultural change. When company leaders do support a Lean culture, however, the long-term advantages can be extremely beneficial to the organization. ■

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



THE PROBLEM WITH A LOT OF SUPPLY CHAIN SOLUTIONS IS THAT THEY DON'T FIRST DEFINE THE PROBLEM.

Today, global logistics providers must have the tools to manage customer supply chains. A global office network, transportation and distribution services, integrative IT platforms, and so on. With these tools in place, one might think that is enough. It isn't. However, they all have to be in the "cart."

At MIQ, we believe what should come first is a customer partnership based on a deep understanding of their core business. Thus, we hire the best talent in the industry to analyze each customer's needs/problems, then dip into the cart for solution tools specifically designed to address them.

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VIEWPOINT

BY PATRICK LABRIOLA
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When Government Oversight of Motor Carriers Fails, Shippers Pay

While overall truck accident rates have been trending lower over the past several years, avoidable carrier accidents are still common. Comprehensive safety compliance reviews (CRs) by the U.S. Department of Transportation's Federal Motor Carrier Safety Administration (FMCSA) protect lives and property.

In the year after a CR is conducted, crashes decrease 16.3 percent, according to the Volpe National Transportation Systems Center. Because of the labor requirements for CRs, however, FMCSA often uses performance data as an indicator of potential risk.

Unfortunately, this data is not an effective accident predictor, according to 2012 studies. Even if it were, FMCSA's review capabilities are limited; the lack of data makes it possible to score only about 12 percent of the entire industry.

When FMCSA does conduct a compliance review, it is often because a motor carrier has an excessive number of out-of-service violations or accidents. The program is reactive, and the CR is initiated only when the agency believes the carrier is a potential risk.

Despite evidence that safety compliance reviews reduce the number of accidents, fewer than 20,000 motor carriers are subject to state or federal inspection every year. With FMCSA reporting more than 700,000 freight carriers and 52,000 hazardous material carriers in operation, this is clearly an inadequate system.

Increased Legal Exposure of Shippers and Brokers

A proactive, market-driven approach to transportation safety compliance is overdue, both to mitigate the inherent risks to life and property, and to reduce shipper and broker liability exposure. Recent judicial rulings and proposed legislation make them liable for failing to seek high safety standards when selecting a motor carrier.

Given the low percentage of compliance reviews, motor carriers themselves may lack the information to know if their current safety levels are the result of good practices or good luck.

This means they must take matters into their own hands by adopting a zero-tolerance stance for unsafe actions, and making safety a critical part of their culture. Motor carriers cannot wait for the government to tell them what to do; rather, they must take the initiative to be safe.

Shippers and brokers must also do their part by recognizing their added risk and responsibility, and evaluating and vetting the safety records of the motor carriers they use.

This evaluation must take into account the motor carrier's safety management controls, going beyond publicly available information to include a review of operating maintenance policies, driver qualification/management programs (including drug and alcohol testing, Hours-of-Service compliance, and driver background tests), on-site evaluations, customer references, and insurance.

Some motor carriers offer higher-quality services than others, and the marketplace should recognize and reward those with excellent compliance and safety standards. When lives and livelihoods depend on safe, high-quality carriers, having a quick, easy, and reliable means of identifying them is critical.

By promoting the fact that they meet or exceed high and objective quality standards, motor carriers gain a competitive advantage and market differentiation, while keeping our roads safer. ■


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3PL LINE

BY BLAKE VAUGHN
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Consumer Electronics and Reverse Logistics: Play It Again

Shoppers return between 11 and 20 percent of consumer electronics devices, according to industry experts. While returns are the beginning to device recovery, all the steps in the reverse logistics process, including repair/refurbishment and remarketing, can be improved.

Recognizing the importance of reverse logistics in maintaining and growing profit margins, many consumer electronics manufacturers and retailers are taking steps to improve returns management. Organizations that mitigate and efficiently manage the total number of returns; streamline repair and refurbishment processes; and master recaptured device remarketing and recycling can positively impact their bottom line.

Research suggests that 68 percent of return volume comprises devices that fail to meet customer expectations. To mitigate buyer remorse returns:

- Look for opportunities to share the responsibilities for preventing returns.
- Support the product before and after sales with effective, attractive alternatives to returns.
- Provide proactive post-sale support for complex devices.

Repair and refurbishment services are essential to recouping what would otherwise be lost value for many returns. Through these services, products are restored to marketable, near-new condition. High-functioning and efficient device recovery solutions include two critical capabilities:

1. Parts management, which relies on the ability to strategically procure replacement parts from the lowest-cost source, such as reclamation yield, new manufacturer parts, and aftermarket parts.

2. Reconfiguring a repaired or refurbished device, which often requires programming its software, physically branding the unit, assembling it with components, and repackaging it.

Aligning with a partner who already has the capabilities, manufacturer-issued certifications, and infrastructure to repair and refurbish your product in-house will alleviate some logistics complexity.

Once a consumer electronics device is restored to a marketable state, the manufacturer or retailer can add it back into inventory and deploy it into the market to generate additional service revenue. In some instances, however, a device can generate more value if it's introduced into a market outside the United States.

Think Globally, Compete Locally

Companies that think globally can leverage foreign markets to realize the most value on recovered end-of-life devices. If your company chooses to remarket its products globally, it is important to ensure your reverse logistics partner maintains a substantial global network of buyers you can leverage to recoup value on devices that lack sticking power in the U.S. market.

Carriers and retailers often make the mistake of assuming devices that are economically irreparable have no value. When a device is identified as irreparable, you can still take steps to salvage remaining value. Reclaiming recyclable parts and precious metals helps improve your bottom line, while also preventing adverse environmental effects that stem from electronic device waste.

To maximize competitiveness, consumer electronics manufacturers and retailers must strategically approach reverse logistics. Mitigating returns at the outset, and recovering the maximum value of returned assets, allows companies to operate more profitably. ■


B2B

FEEDING THE LINE

When you make materials or components for other companies, their production rhythms become just as important as your own.

By Merrill Douglas

A LATE SHIPMENT OF BATH TOWELS WILL CAUSE A SNAG IN A RETAILER'S EFFICIENT OPERATIONS. BUT A delayed shipment of auto doors or plastic pellets might shut down a manufacturer's entire assembly line. And you definitely don't want to be the supplier who causes that disaster.

"For an original equipment manufacturer (OEM), line stoppage is the cardinal sin," says Rob Zachrich, president of Fabri-Form, a New Concord, Ohio-based manufacturer of thermoformed plastic components and packaging units used in the automotive industry.

Making and shipping products to meet customers' production schedules is just one logistics challenge suppliers to other manufacturers face. When you engage in the business-to-business (B2B) manufacturing supply chain, you also must respond nimbly to changing product specifications, and gauge the needs of your customers' customers, among many other requirements. Issues may vary with the industry, but in each case you're trying to deliver exactly what customers need while managing your own production and logistics costs.

What does it take to get this right?

As a third-party logistics (3PL) provider serving many automotive industry suppliers, England Logistics, Salt Lake City, well understands the challenges posed by just-in-time manufacturing.

When a supplier ships to an automotive OEM or tier-one supplier, the customer usually arranges and controls the transportation. "The supplier has the 3PL put the freight on a truck, or get it to a distribution center where they can take control of it, then bring it into the production line in 10-minute windows all day long," says Jim Monkmeyer, England's vice president of supply chain.

But that doesn't free suppliers from worries about timing.

"They still want freight moving at certain times, during certain hours, with their carriers," Monkmeyer says. "They'll report us if we don't have on that truck exactly what we said we would supply, or what their purchase order release says we were supposed to have on that truck on that particular day."

Along with timing, automotive OEMs care a lot about packaging. Suppliers ship components in crates designed to fit a precise number of parts, using a specific configuration, all dictated by the OEM.

BETTER BY DESIGN

Automakers are also holding suppliers more responsible for designing and building sub-assemblies such as seating.

"Even though the suppliers don't do all the designing and building themselves, they bring the parts in, assemble the seating, and take the chair to the automotive company," Monkmeyer says.

The supplier designs the sub-assembly based on the OEM's specs, and often the OEM dictates which suppliers to use for components, such as upholstery leather.

Those instructions sometimes spell trouble for a supplier—for example, if the OEM suddenly decides to use a different kind of leather. "It's a big problem if containerloads of hides are on their way from overseas via ocean freight," says Monkmeyer, noting that much of the leather used in cars comes from South America. Not only is the supplier stuck with material the OEM no longer wants, but it has to obtain new material fast.

"We occasionally end up air freighting the equivalent of a full ocean container

Staying Close to the Customer

Fabri-Form, New Concord, Ohio, is one of many automotive suppliers that recently moved close to its customers in Mexico (*see main story*).

Fabri-Form uses thermoforming technology to manufacture three lines of plastic products: automotive components such as cabinets and panels for tractor-trailers; reusable packaging to transport components to assembly lines; and reusable materials for blocking, bracing, and filling voids for freight in transit. Fabri-Form's automotive industry customers include large car and truck manufacturers and many upper-tier suppliers.

The company opened a plant in Ramos Arizpe, Mexico, in 2012. It took that step primarily to provide better service to its largest customer. "We want to take such good care of them that they won't ever entertain an alternative supplier," says Rob Zachrich, president of Fabri-Form.

When Fabri-Form makes a product in the United States and ships it to a customer in Mexico, transportation costs force it to charge about eight percent more than for the same item made in Mexico. "If you tell an OEM, 'Tomorrow I'll lower your price by eight percent,' they will jump over the desk for you," Zachrich says.

A customer buying from a supplier just next door also gains shorter lead times, so it needs to hold less safety stock, Zachrich adds.

Fabri-Form's second reason for entering Mexico was strategic. "Both OEMs and tier suppliers do a lot of manufacturing in Mexico," Zachrich says. A facility close to that action positions Fabri-Form to capture new business.

Fabri-Form itself relies on local suppliers in Mexico for many materials and components. But, in some cases, it's actually more expedient to make the items at the company's own plant in Ohio and ship them to Ramos Arizpe. "If we have an urgent request, we can make the product tomorrow, instead of waiting three weeks for a supplier," Zachrich says.

By opening an assembly plant in Ramos Arizpe, Mexico, Fabri-Form is better able to serve its automotive industry customers.

Manufacturing in Mexico isn't cheaper for Fabri-Form, because its automated processes don't require much labor. But besides helping the company compete for new business in Mexico, the operation in Ramos Arizpe allows Fabri-Form to provide new, value-added services to existing customers.

One of those services is line sequencing—delivering exactly the parts the OEM needs, in exactly the order it needs them, to match its production schedule. Fabri-Form makes many parts that are bulky, and OEMs don't want them taking up space in their plants.

A customer using the line sequencing service transmits each day's production schedule to Fabri-Form via electronic data interchange. From just down the street, Fabri-Form ships exactly the components the OEM needs for the first assembly project of the day–say, a bunk and TV cabinet for the sleeper unit on a specific tractor-trailer.

"Then we send another set of goods for the next truck," Zachrich says. "The sequence is perfectly lined up and very efficient for their operations."

Because Jabil Circuit provides electronics manufacturing services to OEMs in various industries, with different service requirements, it must understand the true level of end-user demand.

from South America, just to keep up with production," he says.

To meet customers' complex requirements, many automotive industry suppliers locate their manufacturing plants as close as possible to the OEMs they serve. For example, several of England's customers have moved facilities from the United States to a "supplier park" adjacent to the Ford assembly plant in Hermosillo, Mexico.

Supplier parks aren't new, but some suppliers abandoned the concept in recent years, preferring to make parts in Asia. "Hermosillo is once again becoming a model after a five-year distraction of trying to produce parts in Asia, then ship the parts back," Monkmeyer says.

THE NEED TO SEE DOWNSTREAM

When a company makes product for another manufacturer, the supplier always stands at least two steps removed from the end customer who uses the product. That poses a significant challenge, says Fred Hartung, vice president, supply chain solutions and logistics at Jabil Circuit, a St. Petersburg, Fla.-based contract manufacturer with facilities and customers around the world.

OEMs engage Jabil to manufacture both complete finished products and sub-assemblies that carry the OEMs' brand names. Jabil serves companies in healthcare, telecommunications, aerospace, defense, energy, and other manufacturing sectors.

To cost-effectively provide each customer the required service level, Jabil must understand the true level of end-user demand.

"Jabil must also be able to quickly identify statistically significant deviations from past demand, and understand whether a change in demand is a one-time occurrence or a continuing trend," Hartung says. Do medical labs need more analytical equipment? Are pay TV systems distributing more set-top boxes? The farther upstream in the supply chain you operate, the harder it is to gauge those requirements.

A huge jump in orders might look like an increase in customer demand, when it's really only occurring to build up depleted safety stock in another supply chain node. If a supplier such as Jabil misinterprets that signal, and buys materials, schedules production, and otherwise ramps up its supply chain, it might get in trouble once the OEM fills its own warehouse. Orders could fall abruptly to zero.

"That creates a huge burden of trapped working capital that you can't do anything with," Hartung says.

Or, if the OEM fails to tell the supplier that it's filling a surge in orders with safety stock, the OEM and its supplier could be caught short once the safety stock is gone.

The answer to this challenge is to gain visibility into the true demand of the customer's customers. Jabil has designed software that compares and contrasts current demand, demand forecasts, and historical demand at both the SKU and product-family level.

"The information we gain allows us to have a detailed, fact-based, intelligent conversation with customers, to ensure that we can meet their needs with an efficient use of capital," Hartung says.

Just as customers' needs can fluctuate, so can many other conditions in a dynamic global economy. The strength of markets in different countries, labor rates, foreign exchange rates, and other factors all combine to determine where a company should manufacture, and how it should get product to market. Jabil has designed analytical processes and created accompanying tool sets to help customers keep their supply chains competitive now and in future years.

"The next decade will bring a lot of volatility in terms of the right places to manufacture to service new markets and ensure competitiveness," Hartung says. For some products, it will make sense to move production to other countries; other products will stay where they are.

To make the right decisions, Jabil and its customers must consider more than the potential impact of individual changes in the global marketplace. They must be able to quantify the cumulative effect of all those developments.

QUALITY QUESTIONS

Supply Chain Services International (SCSI), a 3PL based in Peoria, Ill., serves overseas companies that supply components to manufacturers including Navistar, John Deere, Caterpillar, Cummins, and Yamaha Motor Craft. Along with traditional logistics services such as transportation and warehousing, SCSI helps some customers with containment services.

If the OEM receives a shipment, and finds some components are defective, SCSI steps in on the supplier's behalf.

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"We'll take the product out, sort it based on sets of criteria, rework it if we can, and return only good product to the OEM," says Edward Ubelhor, senior project manager at SCSI. "Or, if necessary, we'll let the supplier know that none of the product is good."

The items that these manufacturers produce tend to vary more in quality than finished goods usually do. "Some items are just metal castings that haven't been finished yet; they have to go through the machining process," Ubelhor says.

"Shippers of these lower-level components don't always exert the same controls in transit as shippers of finished goods," he adds.

For example, inadequate packaging may cause problems. "Some suppliers from China overload their containers with product, just to squeeze in as much as possible," Ubelhor says. "The crate, or whatever packaging they're using, isn't capable of handling the weight. Loads shift as they ship, and products get damaged."

To avert such problems, SCSI recommends improvements such as better methods for loading parts into crates.

Although SCSI's customers might not be bound by the imperatives of just-in-time assembly, they do need to time their shipments to customers' manufacturing schedules. SCSI helps them by pulling data from the OEMs' systems and then, based on the lead times for different components, letting suppliers know when it's time to ship.

"We reach out to suppliers and provide due dates to keep them on track," Ubelhor says. "And we let them know how much stock we have on hand, and what they need to replenish." The 3PL typically sends those alerts three or four months ahead of when the OEM needs the parts.

Like many of England's automotive suppliers, SCSI's customers retain ownership of their inventory until the OEM needs the parts for production. That means they live with the continual risk of getting stuck with obsolete parts.

"We might be carrying weeks of inventory when the OEM decides to revise a part," Ubelhor says. "Now we have all this inventory that has to be consumed."

If it's possible to modify the parts to meet the new spec, the supplier incurs only a rework cost. But if the OEM makes the change because of a safety issue, the supplier often must scrap the material entirely.

SAFETY AND INTEGRITY

Companies that sell food grade products to manufacturers share one important mandate: To keep product pure and clean throughout the supply chain. Ingredion, Westchester, Ill., faces this challenge every day.

Ingredion makes starches, sweeteners, and other ingredients used in food, beverages, and pharmaceuticals, as well as in everything from baby powder and cosmetics to textiles and corrugated boxes. The company maintains manufacturing and sales operations in 40 countries. Within North America, most of its product moves in liquid or dry bulk form, by either truck or railcar. Some of it travels in bags packed in dry van trailers; all of it must be handled with care.

"We follow stringent sanitation procedures," says Mike Moran, director of logistics for Ingredion's North American operations. Those procedures include establishing and enforcing correct wash cycles for bulk trailers and containers, and making sure those assets are properly sealed. Ingredion maintains certification with the International Organization for Standardization (ISO) to demonstrate that it follows all the necessary procedures.

Seventy-five percent of Ingredion's facilities worldwide are certified by the Global Food Safety Initiative (GFSI), and the company is working toward 100-percent certification.

> Companies that supply materials and components to other manufacturers must keep on top of any factors that can affect the supply chain.

To further ensure product safety, Ingredion maintains close relationships with a small number of carriers that often dedicate specific units to specific facilities.

"For the most part, those assets cannot be used to transfer other products, so they guarantee the trailer's integrity," Moran says. "The trailers are specially designed to efficiently move the products that we're delivering to our customers."

Along with maintaining quality, Ingredion — like so many other suppliers — must carefully coordinate its deliveries to match customers' production schedules. The company delivers large volumes, but customers use that product quickly.

"Customers may only keep a half-day or one day's worth of inventory on their site," says Moran. "So we're potentially making multiple deliveries to one site on any given day." Ingredion carefully monitors carriers' performance to make sure each trailer arrives within one hour of its delivery appointment.

To synchronize with customers' demands, Ingredion closely follows their manufacturing processes. "In many facilities we serve, we actually can monitor the inventory in the tanks," says Dave Gardner, vice president, North American supply chain, Ingredion. "We can see how the customer is using the product, then tailor the delivery rate to maintain the inventory in the plant."

SUPPLIER COORDINATION

Coordinating with Ingredion's own suppliers is a bit simpler. The company's raw materials include tapioca, wheat, and potatoes, but mainly corn. Like its customers, Ingredion doesn't carry a large inventory in its plant.

"We need a responsive and robust network that allows us to continuously get the corn into the plant, and adjust the rate at which the corn comes in to support the facility's production requirements," Gardner says.

But demand for these products stays relatively stable. "There are not huge swings in production," he adds.

For companies that supply basic materials for industrial processes, the rise and fall of commodity prices can create tremendous pressures. Take, for example, the recent drop in the price of natural gas, and the way that has affected companies that process and deliver sand for use in natural gas production.

Most of the best sand used in the drilling process known as hydraulic fracturing, or fracking, comes from Wisconsin, says Taylor Robinson, president of PLG Consulting in Oak Park, Ill. Once the supplier mines, grades, and cleans the sand, it ships the commodity to a transload facility near gas fields in Texas, Pennsylvania, Ohio, or other states with shale gas activity.

Providing frac sand used to be a very profitable business. But as gas prices have fallen in the past year, frac sand suppliers have faced a much tougher market.

And that has meant making logistics as efficient as possible. "Currently, the cost of frac sand delivery is roughly 70 percent transportation," Robinson says. Sand usually moves to the transload facilities via rail, so shippers try to keep their rail costs low.

One strategy is to build a unit train—an entire train loaded with one commodity, all moving from one origin to one destination.

Shipping by unit train is 25 to 30 percent cheaper than shipping by manifest train—sending smaller groups of cars to different locations. Manifest shipping is also much slower. "The cars can sit in a yard for days or weeks at a time, and it takes one month to get to Texas," says Robinson. A unit train can get from Wisconsin to Texas in five to seven days, he notes.

Unfortunately, it takes tremendous volume to build a unit train. That's bad news for smaller suppliers. "The industry will experience a shakeout," Robinson says. "The smaller sand players will not be competitive if they can't ship in unit trains."

EFFICIENCY ISN'T EASY

Like sand producers, companies that make plastic resins for use in manufacturing must design their supply chain networks for maximum efficiency. But in today's market, that's not always easy.

Many resin producers manufacture on the Gulf Coast because of its easy access to petrochemicals. And many of their customers are in the Midwest. Plastics suppliers must establish distribution centers close to those customers, then ship the product—mostly in the form of plastic pellets—to those locations as efficiently as possible.

One irony of the current market is that shale gas states such as Ohio and Pennsylvania offer plenty of "feed stock" for plastic resin. And demand for resin in that region is high, as well. But because it takes billions of dollars to build a new resin plant, production is unlikely to start up close to the shale gas wells.

"They will have to move all that ethane—feed stock for plastic—via pipeline out of Ohio and Pennsylvania down to, say, Houston, to be processed into plastic," Robinson says. "Then they'll put the pellets on a train and send them back to Pennsylvania."

Companies in all industries that supply components and materials to other manufacturers operate in complex environments. A drop in the value of a key currency, a customer's new marketing plan, an earthquake, a prolonged drought—all sorts of factors, working together, can change the logic of a supply chain. For companies that supply other businesses, it's essential to pay attention to all those conditions at once, and keep up with continual change. ■

RETAILERS TRY I.T. ON FOR SIZE

As retailers shop for ways to adapt to e-commerce and changing consumer behaviors, logistics technology provides the perfect fit.

by Joseph O'Reilly

RETAILERS TRY I.T. ON FOR SIZE

Today's retail space has a touch-and-go vibe. Lingering economic stagnation has groomed consumers to be deliberate and discerning in what they buy, casting even greater uncertainty over spending behavior and demand forecasts. In addition, shoppers are more inclined to touch a product in the store—test it or try it on—then go elsewhere in search of a better bargain.

The growth of e-commerce has illuminated this show-rooming effect. And it's changing consumer expectations. Brick-and-mortar retailers need to attract and retain business while providing customers elevated service levels and inventory sensitivity that guarantees the right product is available in the perfect size and preferred color.

By their own creation, e-tailers are held to higher expectations as well. Online shoppers expect availability, economy, and expedited service. When virtual stores fail to deliver, countless competitors—brick-and-mortars included—are waiting to turn a dissatisfied customer into a new Facebook friend. Online, memory never fails.

Given these challenges, logistics technology is evolving to meet demand. Retailers are shopping for cloud- or Web-based solutions that can adapt to changing market dynamics and business growth. Retailers of all stripes—large and small, with both physical and virtual storefronts—are under greater pressure to harness control of their inbound supply chains and better match inventory to demand. This visibility is especially important at the retail store, but it extends upstream to DCs and manufacturers as well.

Whether it's mining more accurate merchandise flow analytics, or aggregating data and inventory visibility from point of sale to source, solutions are flexing to need. Sellers and buyers alike are benefitting.

Tailor-made Technology

The way Travis Serpa tells it, receiving cartons at an Urban Outfitters retail store used to be like opening birthday presents. Emotions ranged from excitement to anxiety, then the inevitable catharsis when expectations were either fulfilled or crushed.

"You saw how many boxes you had, and you knew what you had asked for, but you were never sure what was in those boxes until you opened them. Then, it would be like hoping for jeans but getting socks," says Serpa, director of retail development for the Philadelphia-based company, which includes Urban Outfitters and Anthropologie among its five branded retail chains.

The retailer's store operations did not have visibility to inbound shipments from DCs beyond broad summary details, making it difficult for store planners to proactively manage inventory. They had to react to what they received, which often created a mad scramble to get product where it needed to be in the store.

Urban Outfitters had engaged its Philadelphia neighbor PCS Technologies to help drive better shipment visibility and tracking on the transportation side. In early 2013, a chance conversation led the retailer to consider using the IT company's PCSTrac, an eponymous supply chain solutions suite for retail store operations. That got the ball rolling for the two companies to work together and tailor a retail store-specific solution.

"At the time, we didn't have any internal way to track merchandise flow outside our existing inventory tracking software," recalls Serpa. "We had to find a partner who could build a solution with minimal input from us. We said, 'Here's the information our IT team can deliver to you; how can you turn it into what we're looking for?'"

What Urban Outfitters wanted was advanced shipment notice with varying levels of detail. This way, the second a shipment was packed in the DC and ready to move, the retail store knew what was coming and when it would arrive. Apart from some time-consuming manual processes

Urban Outfitters implemented new technology that allows a single view of inventory across channels, reducing the time between order placement and market delivery.

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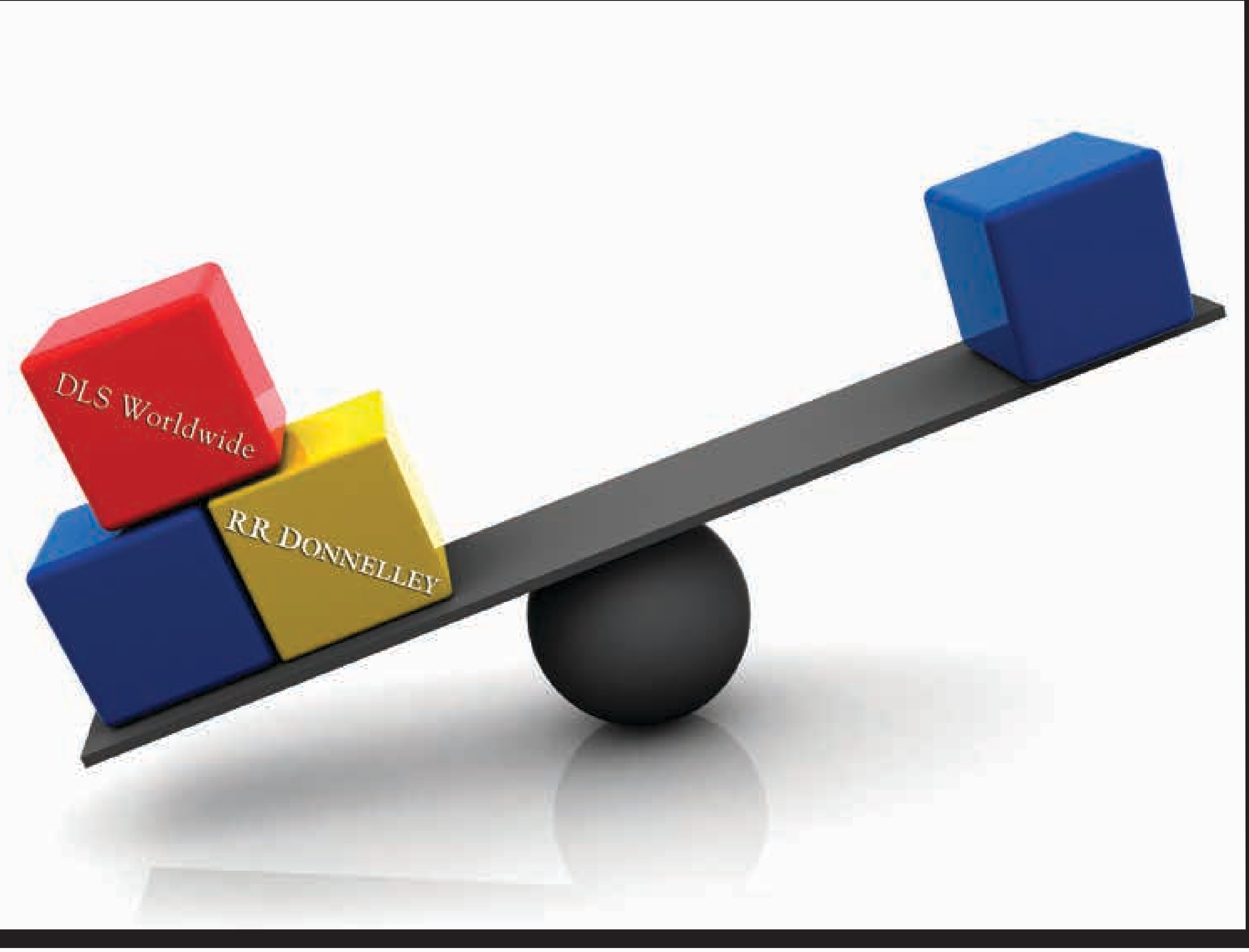

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that creative store managers had devised to mine more specific information, the retailer had little insight into carton contents.

"Urban Outfitters had no internal mechanisms aside from spreadsheets, phone calls, and emails to analyze exactly what was delivered to a store, or whether an order was complete," says Chandra Allred, chief operating officer, PCSTrac. "It had no real ability to manage delivery to a specific window; or manage its network's performance without increasing staff."

PCSTrac built its *StoreTrac* solution with guidance from Urban Outfitters, repurposing the data it was already receiving from pool providers in a simple, store-facing Web site that provides myriad drill-downs.

"Every retailer has its own sense of what data is most important," adds Allred. "Some are less focused on product category, and want more information regarding replenishment and pick and pack because it affects labor hours."

The problem that Urban Outfitters and other retailers face is that they don't receive timely information or, when they do, it's unusable and difficult to interpret. Allred recalls one customer who sent 40-page daily email reports.

During the first phase of implementation, PCSTrac was able to break down shipment information by product category, which allowed Urban Outfitters to allocate shipments to specific areas within departments. Prior to that summary, detail would only specify, for example, whether a shipment was for the apparel or housewares department.

The second phase aggregated data from the warehouse management system, and took merchandise analysis down to SKU-level detail. "That's what changed our lives," notes Serpa.

Labor Day

Labor cost is an important consideration for any retail store environment, especially Urban Outfitters. Store operations staff getting summary detail only about cartons coming in from the DC added a great deal of extra time to the receiving process.

"The biggest value of item-level detail is that it provides the ability to see the future," Serpa explains. "It allows us to know exactly what product is on its way to us at any given moment, and when we can expect it, so we can better plan our tasks and make business decisions based on inventory levels."

For example, when a hot-selling item starts to sell down, stores will generally move it to a smaller fixture. Urban Outfitters often would do this, only to receive an order of replenished inventory the next day. Then they would have to move it back to a larger fixture.

By providing greater visibility to inventory on the move, PCSTrac empowers Urban Outfitters staff to prioritize incoming shipments and plan floor moves in advance.

"That was extremely frustrating," Serpa says. "We knew a reorder was coming, but we didn't know when it was going to hit."

By providing greater visibility to inventory on the move, PCSTrac empowers Urban Outfitters staff to prioritize and allocate incoming shipments, and plan floor moves in advance. When a shipment hits the back door, store employees can find the exact boxes they need, grab the product, and move it onto the shelves.

This is especially helpful when locations are stocking up for sales. In the past, stores didn't have the right product in stock to meet demand for a special promotion; or they might receive delivery of the sale item two days later. Then, the boxes would sit for another two days because it took the staff so long to go through the shipments. Before they knew it, the promotion was over.

"PCSTrac tells us that an item will be delivered on Thursday. On Wednesday evening, we move product and clear the front tables," says Serpa. "When the item arrives, we're ready to go."

Customer service ROI is another benefit. Store product is hitting the shelves faster, which offers greater opportunity for a sale. If customers are looking for an item that has sold through, or is available in limited quantities, Urban Outfitters can use the PCSTrac system to identify when the next shipment will arrive.

"Because we can use our payroll and staff more effectively, we can provide better customer service on the sales floor," Serpa says. "We're able to complete our logistics tasks before or after hours, instead of chasing our tails during the day."

The last phase of the *StoreTrac* installation includes integrating driver scans into the retailer's inventory system. Stores currently have to double-scan product to acknowledge a shipment and close the loop. PCSTrac provides this feed and allows stores to eliminate that process.

Technology Keeps Pace

The collaboration between PCSTrac and Urban Outfitters to progress through this development curve speaks to the changing nature of supply chain technology. As retail demands shift, technology needs to keep pace. Sometimes the right solution requires a little creative effort—such as taking an application that was designed for transportation and inventory control, and repurposing it for retail store operations.

"From our perspective, Urban Outfitters is a risk-taking organization; it has an

appetite for doing things that haven't been done before," says Allred. "So this implementation hit a home run."

Saddleback Has Demand in the Bag

San Antonio, Texas-based Saddleback Leather Company typifies the entrepreneurial spirit of its founder and CEO David Munson. He started the company 10 years ago, making leather bags one at a time in Mexico, then selling them across the border in the United States.

The business grew slowly, and then took off six years ago, forcing Munson to open a manufacturing operation called TrueBlue in León, Mexico. He owns a 50-percent stake in the company, making Saddleback a true soup-to-nuts organization.

The company sells its quality leather bags, luggage, wallets, and accessories exclusively online—through its own Web storefront as well as with Amazon.

As is often the case with hyper-growth startups, the company eventually outgrew its labor-intensive and error-prone inventory planning spreadsheets.

"Raw materials, sales, and production data were all on one spreadsheet. We knew we'd be hindered by these manual processes, and would have to automate at some point," says Blake Lebrun, Saddleback's operations manager.

The retailer's growing pains are common, especially for those that rely on QuickBooks or Excel for inventory planning. "It's a typical evolution—a company reaches the point where it recognizes it needs better processes," says Ranga Bodla, director, industry marketing, wholesale distribution and manufacturing for Netsuite, a San Mateo, Calif.-based software developer.

Saddleback was forced to think strategically about how it wanted to plot its technology implementation roadmap. The retailer preferred an IT platform where it could integrate its different operations—from TrueBlue's Mexico manufacturing plant to its Dallas-based fulfillment house, Chamberlain Shipping (also family-owned).

So, in 2011, it turned to Netsuite to implement an ERP manufacturing and e-commerce solution. Saddleback retooled its Web store with the vendor's *SuiteCommerce* platform, and multi-currency transactions with *Netsuite OneWorld*. Once that infrastructure was in place, Saddleback had an IT base to build upon. The next step was finding a demand planning application.

"We wanted a cloud solution that integrated with our core systems, so we could add IT pieces along the way," says Lebrun. "The more integration with stand-alone systems, the more difficult they are to maintain. And we wanted to tie retail to manufacturing."

One unique feature of Netsuite's business is its Suite Cloud Developer Network.

"This platform allows users to customize and upgrade solutions," says Bodla. "Partners can build a platform and seamlessly interface with the information in the Netsuite system. We can expand functionality and enable complete solutions for our customers. It's a force multiplier."

In 2013, Saddleback elected to work with Netsuite's cloud development partner Valogix, Saratoga Springs, N.Y., and implement its demand planning software to provide a fully automated joint solution replete with forecasting, daily planning, and automated replenishment.

"Valogix's Web services interface receives data from Netsuite and runs it through its analytics engine," explains Bodla. "It then selects the forecast that best fits the data. That produces a daily demand plan to Netsuite, which triggers orders."

Instead of manually creating weekly forecasts in Excel, Saddleback now receives automated daily updates. As a result, it has repurposed one full-time employee previously dedicated to planning, and reduced on-hand inventory by 25 percent.

This bundled solution improves Saddleback's visibility to demand, empowering it to make informed inventory and production decisions. When Saddleback made the transition to Netsuite, it brought data over from its legacy system, which

Netsuite's solution lets Saddleback better plan the production of its leather goods, and ensure that the right inventory is in its fulfillment center, ready to ship.

provided a better picture of historical sales.

"Having that data opened our eyes," says Lebrun. "It was there all along, but we were making manual assumptions."

Finding the optimal inventory level is key to Saddleback's success, especially because it controls the means of production and fulfillment. With Valogix, it can better respond to demand and supply variables.

Saddleback's supply chain spans Mexico and the United States. Tanneries are predominantly local to the manufacturing plant, with some U.S. sourcing as well. Glue and thread come from Mexico. Having top-to-bottom visibility is important because seasonality affects leather supply. During certain times of the year, shortages occur, and lead times grow. Better visibility between TrueBlue and Saddleback, and more accurate data, allows them to react faster to these changes.

The demand side faces similar challenges. For example, in the lead-up to the busy holiday season, Valogix forecasted that September-October demand was pushing capacity at its Mexico plant. To account for this spike, Saddleback pushed production forward to June and July.

"We want to stay as lean as possible – reflect the inventory necessary to replenish to a certain stock level," explains Lebrun. "Inventory on the shelf is money not being capitalized elsewhere."

The retailer currently ships twice a month from its Mexico production facility, a three-day trip to Dallas. Its goal is to carry no more than 30 days of inventory. Two weeks would be ideal, notes Lebrun.

With greater supply chain visibility and inventory control, Saddleback has opportunities to push the envelope even further. The next step would be to extend Valogix's demand planning capabilities to TrueBlue and its suppliers – which would close Saddleback's supply chain loop.

The Pull of the Future

There is also an impulse to collaborate in a more pull-oriented manner. Chamberlain currently relies on TrueBlue to manage transportation from the plant to the fulfillment center. Saddleback is considering more frequent shipments, which incurs greater freight costs. It's a matter of finding the best trade-off between paying more for transportation and having inventory sit on the shelf.

"We don't want to be at the mercy of the manufacturer to receive shipments on time," says Lebrun.

A few years ago, that wasn't even a consideration. But a carefully and strategically orchestrated technology progression, built on flexibility, has Saddleback in front of the demand curve, seeking new horizons. ■

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BAR-CODE TRACKING TOOLS

New product traceability requirements are making bar codes an essential part of many supply chains.

by Lisa Harrington

Who knew that a day at the beach could result in a tool that revolutionized the world—and is now essential to supply chain management?

N. Joseph Woodland originated the idea of the bar code in 1949, drawing lines in the sand with his fingers. Based on his study of Morse code as a Boy Scout, Woodland's first version was a circular design, which he and a partner patented in 1952. They eventually sold the patent for this bull's-eye design to radio, television, and battery company Philco for $15,000—the only profit the pair ever made from their invention.

Over time, laser-scanning technology and the advent of the microprocessor made bar codes viable. In the early 1970s, IBM's George Laurer designed the familiar black-and-white rectangle based on Woodland's model—with considerable input from Woodland, who also worked at IBM.

In 1973, the U.S. grocery industry implemented bar codes, in the form of the Universal Product Code (UPC), to help speed grocery checkout lines. GS1—a not-for-profit organization with global headquarters in Brussels, Belgium, and a U.S. branch, GS1 US, headquartered in Lawrenceville, N.J.—became the administrator of the UPC bar code, and instituted a global standardized numbering system for UPC bar codes.

From its humble beginnings—when the first bar code on a pack of Wrigley's gum was scanned at an Ohio grocery store—to today, the bar code has become an instantly recognizable symbol, and an essential tool for businesses and consumers alike.

Linking Two Worlds

It's hard to imagine modern supply chains and global business functioning without the bar code and its related technologies. They connect the physical with the digital world, and link supply chain players together.

"Supply chains are significantly more complex than they were four decades ago," observes Bernie Hogan, senior vice president, emerging capabilities and industries, GS1 US. "Many more intermediaries and players—manufacturers, assemblers, packagers, transportation and logistics organizations, and consumers—are involved. Managing that interoperability and scale is critical."

To accomplish this task, the amount and types of data bar codes contain has increased exponentially over the years. Bar codes have evolved from a simple one-dimensional linear design technology to include matrix two-dimensional bar codes and QR codes. The more sophisticated iterations carry vast amounts of information that businesses and consumers depend on and use daily.

Bar-code technology has evolved from providing simple price lookup codes to offering manufacturers and consumers access to detailed product and shipment data.

Bar-code adoption has not only accelerated supply chain velocity, it has also stripped out extra handling and, as a result, costs.

"In the past, many vendors in Asia couldn't provide bar codes," recalls Sally Miller, vice president of IT Americas for third-party logistics provider Exel, based in Westerville, Ohio. "Cartons had to be sent to a consolidation center where workers applied bar codes before the shipments left the country. That added time and cost to the equation."

Bar codes have given companies the ability to track goods at the pallet, case, and item level from point of origin to consumer. They have also enabled mechanization within distribution centers—allowing conveyor systems and robots to apply logic based on the carton moving past a scanner, and sort and process the goods at high speed. These same systems also prevent and catch errors and exceptions—stopping problems before they get out the door.

The technology also allows a level of supply chain agility never before possible. Atlanta-based expedited carrier UPS provides a Delivery Intercept capability, for example.

"Using the automated UPS shipping or tracking system, shippers can interrupt a package before it is delivered, then return, redirect, or hold the shipment," explains Keith Kellison, vice president, UPS Corporate Public Affairs. "This gives shippers and receivers greater flexibility in managing their shipments."

Syncing Up

While bar codes have transformed commerce, how entities communicate and share data across the extended supply chain still needs improvement. One of the biggest issues is synchronizing the data used to identify products and communicate their status and location.

Creating a common data lexicon—i.e., universally accepted and synchronized methods for identifying products and locations, and exchanging data—could improve these processes.

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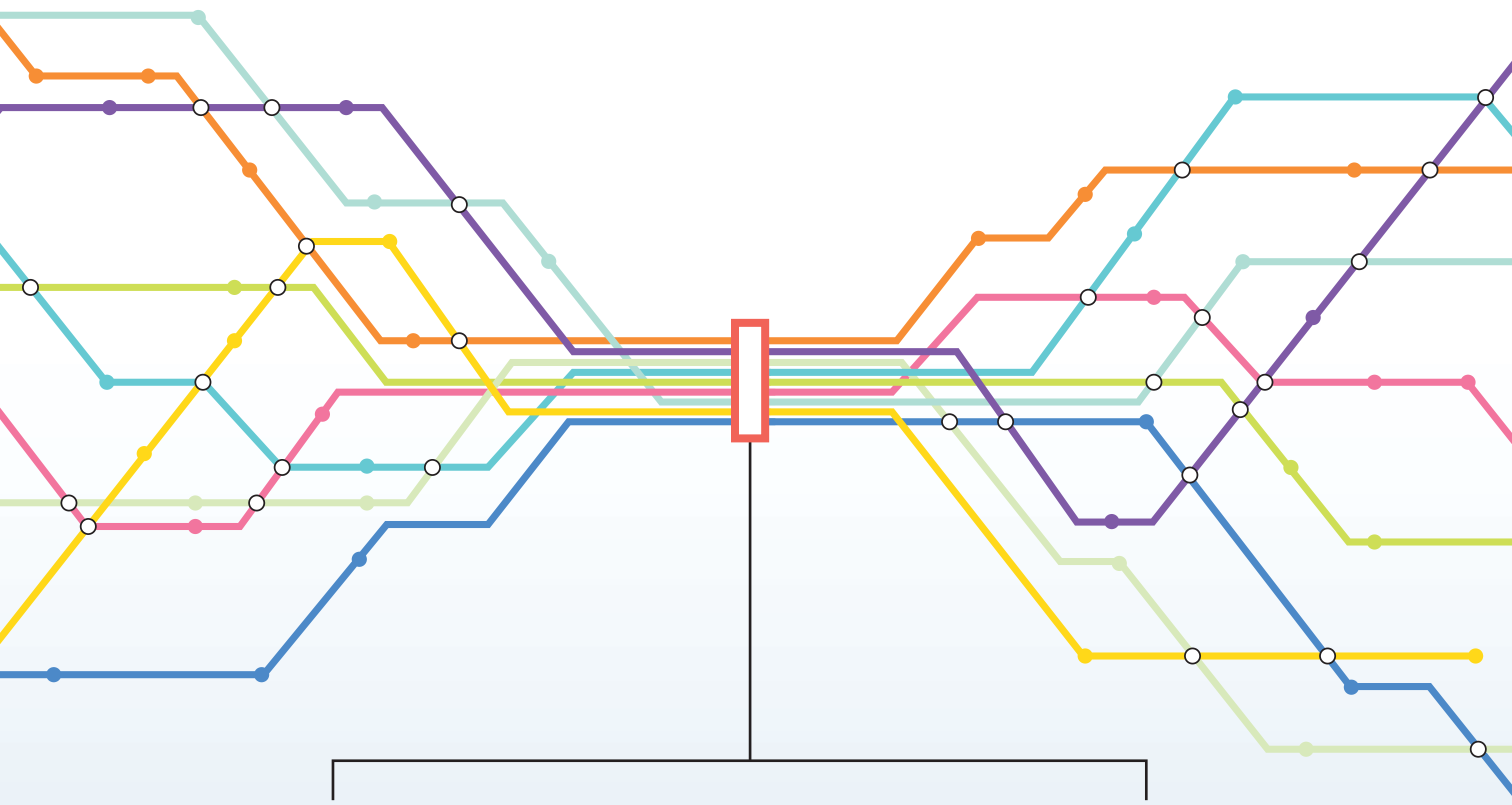

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"Most companies have a database of information about the products they make, sell, or buy," says Hogan. These databases serve as a catalog customers can use to place orders. Difficulties occur when one company needs to change information or add a new item to its database. Suddenly, the catalog isn't up to date anymore.

That's where standards come in, making it possible for companies to speak the same language and connect with each other by identifying, capturing, and sharing information about products, business locations, and more—across all channels and countries. Without these global standards, the solutions that emerge could create inaccurate data, supply chain inefficiency, and marketplace confusion.

"As an industry, we need to put more work into making sure standards are well-adopted throughout our business networks," noted José Lopez, executive vice president, operations and global business excellence, at global food company Nestlé, in a commentary on the topic.

A Common Language

One such standards effort is the Global Data Synchronization Network (GDSN), managed by GS1. GDSN is an Internet-based, interconnected network of interoperable data pools, and a global registry that enables companies to exchange standardized and synchronized supply chain data with their trading partners using a standardized Global Product Classification (GPC).

GPC provides trading partners with a common language for grouping products in the same way. It ensures products are classified correctly and uniformly, everywhere in the world. GPC is the mandatory classification system for the GS1 GDSN.

As GDSN becomes more mature and populated with data, it can act as a central location and clearinghouse for collaboration and information.

The Compass Group North America—a Charlotte, N.C.-based contract food service company that manages restaurants inside museums, corporate headquarters, and other institutions—is using GDSN to help address food and customer safety issues.

"Our chefs create menus, then we provide Web-based tools that streamline the ordering process," says Jennifer Ignacio, nutrition communications manager at Compass. "If the data were complete, our chefs could look up an item, review its ingredients, and click on a link to supplier data.

"Right now, however, we have many different systems to gather this data," she continues. "A one-stop-shop would be a huge win, especially for tracking allergens and food safety issues."

Widespread participation in GDSN is still evolving. For Compass, the GDSN data set is far from complete.

"It's a challenge to get all vendors and suppliers to provide information on their items," Ignacio says. She estimates that about 250 of the company's suppliers are sending data to GDSN.

"But of the items we receive, less than 20 percent include allergen information, and only 25 percent include nutrient information," she notes. "It's important to provide clear information so our customers can make informed choices about what they eat, and avoid allergens."

CASE STUDY: A CRUTCH FOR MEDICAL DEVICE TRACKING

For a global manufacturer of medical implants, tracking and managing inventory is critical to profitability. "One of our greatest challenges is ensuring we have the right product in the right quantity at the right location at the right time," according to the company's Asia region supply chain director. "Our surgical 'kits'—everything a surgeon needs to perform surgery—range in value from $30,000 to $70,000."

Depending on the surgical procedure—whether it's a knee or a hip replacement, for example—the total number of kit components varies from 150 to 400 items. The instruments in the kits are not universal, meaning the surgeon can't substitute components from different original equipment manufacturers (OEMs) because most of the components are uniquely engineered to support that specific implant.

"If our kit is not there when surgeons are ready to perform an operation, they will use a product from a different OEM," the supply chain director explains. "So we lose the entire sale. That can easily add up to millions of dollars in lost opportunity in just a few weeks. Being able to improve how we manage our inventory can directly increase our revenue."

The company is looking into bar-code labels or radio-frequency identification (RFID) tags as a possible solution for ensuring that kits are complete, and thus avoiding potential lost opportunities. For example, certain instruments in the surgical kits are reusable in multiple surgeries. They must be returned to the manufacturers, sterilized, and repackaged in a new kit. These instruments also have a lifecycle, however, and can only be used a certain number of times before being retired from service entirely. Bar-code or RFID solutions potentially could help manage this use tracking.

This kind of capability wouldn't come cheap, and would require capital infrastructure in the hospitals and distribution facilities. The company is evaluating the cost-benefit ratio of such a system. "The biggest factor in justifying the investment is preventing lost opportunity," the supply chain director notes. "This is risk mitigation. It's the opportunity to capture new sales and become the vendor of choice."

The amount of information generated and collected in the supply chain has grown quickly in recent years—and is about to explode further as several key regulatory requirements go into effect. Developing strategies for managing and capitalizing on big data is high on everyone's hot topics list.

"We are being overwhelmed with data," Miller says. "The type and volume of information our customers are able to send us electronically continues to increase.

"For example, we're getting a lot more information such as manufacturing date, and lot, serial, and case numbers," she notes. "Our customers' traceability rules now require this information, so our capability for capturing, storing, and managing this explosion of data has to keep pace, and become far more robust.

"Parcel carriers are also driving new bar-code data requirements," she adds. "They continue to upgrade and increase the data available from shipping labels, and it's a continuous challenge on our part to stay compliant as they issue new rules."

Putting Food Safety on the Menu

In the United States, two industry sectors in particular are undergoing major change when it comes to tracking product—food and pharmaceuticals/medical devices. In both cases, new regulations that arose as a result of threats to human health and life are significantly expanding tracking requirements across the supply chain.

In the most sweeping reform of U.S. food safety laws in more than 70 years, President Obama signed the U.S. Food and Drug Administration's (FDA) Food Safety Modernization Act (FSMA) into law on Jan. 4, 2011. Its goal is ensuring the U.S. food supply is safe by shifting the focus from responding to contamination to preventing it.

Foodborne diseases cause illness in 48 million people—one in six Americans—as well as 128,000 hospitalizations and 3,000 deaths annually, according to recent data from the U.S. Centers for Disease Control and Prevention.

FSMA requires that all companies in food supply chains be able to trace foods back to the point of origin—whether domestic or global. It covers several key areas that carry far-reaching implications for managing the food supply chain:

Food manufacturers and distributors rely on data collected by bar-code tracking systems to locate potentially dangerous items during product recalls.

■ **Mandatory recalls.** FSMA provides the FDA authority to issue mandatory recalls when companies fail to voluntarily recall unsafe food after being asked to by the FDA. To recall food, companies must track all data attached to that food—including origin (even back to the farm), movement through processing and the supply chain, and delivery.

■ **Product tracing.** FSMA also carries an enhanced product-tracing component. It directs the FDA to establish a system that will enhance its ability to track and trace both domestic and imported foods.

■ **Enhanced recordkeeping for high-risk foods.** The FDA will establish new rules that increase recordkeeping requirements for facilities that manufacture, process, pack, or hold foods designated as high-risk.

All these regulations rely on accurate data capture and tracking via bar-coding systems. Unique product data is often lost in manual operations as pallets are broken apart and cases become indistinguishable from one another. If this information is lost at the case-pick level, the ability to trace contaminated product back to its origins is also lost.

A Healthy Medical Supply Chain

Like the food sector, the healthcare and life sciences industry is seeing new federal and state regulations for tracking and tracing products across the supply chain to final usage by the patient, medical professional, or consumer.

The 2012 FDA Safety and Innovation Act (FDASIA), the 2010 Patient Protection and Affordable Care Act, the FDA's proposed Unique Device Identification (UDI) rule, and product serialization and e-pedigree requirements all elevate inventory management, authentication, and track-and-trace capabilities within supply chains.

Consider pharmaceutical e-pedigree requirements. Counterfeit pharmaceuticals are a huge and even life-threatening problem worldwide. Looking to thwart the flow of counterfeit drugs, the United States and many other countries are implementing e-pedigree and serialization regulations designed to track the provenance of medicines and their components/ingredients.

In the United States, these regulations exist on the state level, with California, Florida, and Maryland leading the way. The California law, which appears to be setting the standard for other states, requires e-pedigree systems for prescription drugs on the following schedule:

- Manufacturers must implement e-pedigree on 50 percent of their products by 2015, and the remaining 50 percent by 2016.
- Wholesalers and re-packagers must accept and forward products with the e-pedigree by July 1, 2016.
- Pharmacy and pharmacy warehouses must accept and pass e-pedigrees by July 1, 2017.

E-pedigree and serialization tracking systems rely on bar-code technologies to enable serial-level traceability of individual medicine packages. Serialization—applying a unique and absolute identifier to an individual product unit rather than a lot level—maintains a product's pedigree throughout the supply chain, whether it is being shipped out or returned.

But compliance and required labeling can create complex warehouse management implications. "Serialization adds multiple bar codes," says Phil Siewert, senior director of business development, life sciences, and healthcare, Exel. "A single carton could have two to four bar codes in different formats."

The FDA's proposed rule requires that most medical devices distributed in the United States carry a UDI—a unique numeric or alphanumeric code that includes a device identifier, which is specific to a device model, and a production identifier, which includes the current production information for that specific device, such as the lot or batch number, the serial number, and/or the expiration date.

The intent is to improve the quality of information in medical device adverse event reports, which will help the FDA identify product problems more quickly, better target recalls, and improve patient safety.

"In our distribution centers, our warehouse management systems (WMS) must be able to execute, control, and capture all the processes needed to support our customers' compliance requirements by industry," says Miller. "Because the product is already bar-coded, we can ensure traceability at the 'each' level. But if we open a case in the warehouse, we have to apply a bar code to every unit to ensure traceability.

"The WMS must record every process in the DC, especially exception processes, where a unit might get damaged or broken down into smaller quantity shipments," she notes. "This affects our picking and inventory control to ensure we capture the serial number for the lowest unit of measure."

Looking Ahead

Supply chain management as we know it today could not exist without the bar code. But looking ahead, issues must be resolved if global business is to continue getting safer and more efficient.

Trends such as regulatory requirements in food and healthcare will only demand that more data be collected from the supply chain. Industry must figure out how to standardize this information, and how to handle the exponential growth in the sheer volume of supply chain data. ■

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Ensuring adequate and affordable energy for new manufacturing and distribution facilities can challenge site selection teams. Many energy providers now offer resources to plug them into locations that will help their operations shine.

Utilities companies are experiencing a power surge as new advances in logistics technology, Lean manufacturing techniques, and supply chain best practices prompt American manufacturers to reconsider the advantages of operating overseas production facilities.

Thirty-seven percent of U.S. companies with production plants in China, for example, have either moved those operations back to America or are strongly considering doing so, according to a recent poll of manufacturing executives. Domestic production is once more becoming cost-competitive with offshore operations, creating a rise in demand for siting new manufacturing and distribution facilities with reliable power supplies in the United States.

"A perfect storm is brewing in the global marketplace," says Erik Dunnigan, commissioner of the department for business development at the Kentucky Cabinet for Economic Development, a Frankfort, Ky.-based organization that encourages new investment, job creation, and retention across the state. "The natural disasters that have taken place overseas in the past few years disrupted many supply chains.

"Those problems, combined with fluctuating economic conditions and currency rates internationally, mean more companies are considering coming back to the United States when siting new facilities," he adds.

The growing demand for industrial sites is keeping economic development agencies and utilities hopping.

"Utilities play a significant role in site selection, because a business planning to open a new facility needs reliable power at a reasonable price," says Rick Nelsen, economic development manager at Columbus, Neb.-based Nebraska Public Power District (NPPD), the state's largest electric utility. "Companies want to know the utilities they will eventually work with have a plan for the future, and will be able to meet their energy needs."

Energy often ranks among the most important factors when companies site new facilities. "Energy has a significant impact on day-to-day manufacturing operations, so it's an important part of the site selection equation," says Dunnigan. "When we are approached by a business looking to locate operations in Kentucky, we talk first with the local economic development association, then we get utilities providers engaged in the process."

Partnering for Prosperity

Many utilities providers establish divisions to help site selectors find the best location for their business. For example, NPPD educates site selection teams about its current system capacity, and ensures economic development coordinators are on hand at all times to provide advice on future energy needs, including generation mix and transmission capabilities.

NPPD has been involved in economic development throughout its service area since its inception in the 1970s. The collaborative effort involves other public power organizations across the state, local and regional economic development groups, and the State of Nebraska Department of Economic Development.

"By working together, NPPD and its partners provide many varied resources that help position communities to not only attract new businesses, but also retain existing or expanding firms," says Nelsen. "All these opportunities ultimately help enhance the quality of life in Nebraska."

NPPD'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.

Bloomington, Ind.-based Hoosier Energy—a generation and transmission cooperative that provides electric power and services to 18 electric distribution cooperatives throughout Central and Southern Indiana and Illinois—offers similar help to site selection teams. The organization developed the Hoosier Energy

Manufacturing facilities depend on a reliable power supply to keep production lines moving. In Kentucky, several automakers have established operations, such as this Toyota facility, to take advantage of the state's energy resources.

Economic Development department to provide comprehensive economic development assistance 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.

ElectriCities of North Carolina's Economic Development division also offers site selection services to help companies find the communities that best fit their unique needs.

"Not all of our target sectors fit in each community, so we have to hone in on the specific area's advantages," says Brenda Daniels, manager of economic development for ElectriCities, a Raleigh, N.C.-based organization whose membership includes public power communities in North Carolina, South Carolina, and Virginia. Automobile manufacturing and aerospace companies, for example, are particularly suited to the communities ElectriCities serves.

For states such as Indiana, Nebraska, Oregon, and Iowa, the key to growth lies in attracting companies that plan to build large data centers. Construction for large enterprise data centers in the United States is estimated to reach nearly $12 billion by 2015. These projects require plenty of reliable and cost-effective electricity, as well as proximity to water, and large areas of land to allow for privacy and security.

"Ten years ago, the ethanol industry had the greatest demand for space," says Nelsen. "Today, it is data centers. Several certified data center sites have already been established in Nebraska."

Reliability is King

While energy costs rank high among concerns when a company is looking to site a new facility, reliability is often as important – if not more important – than cost.

"Even a momentary power failure could cause some companies to lose an entire queue of product," says Daniels. "Fortunately, the United States has a secure and reliable power solution that allows for redundancy and reliability."

The ability to provide backup generation in case of a power disruption is an important component in siting a new manufacturing or production facility. For example, two industrial parks in North Carolina provide onsite backup generation at no cost to tenants.

In 2010, NPPD spent $215 million on capital projects — including constructing a new transmission and distribution infrastructure, and a new operations center — to enhance reliability. "We want to ensure that the power is there when it's needed, and that we're capable of restoring power if we hit an occasional blip," Nelsen says.

Utilities are facing an additional concern: Intentional attacks against electric power systems have grown over the past several years, giving utilities another concern to manage. For example, in April 2013, a gunman fired a rifle at a Pacific Gas and Electric Company substation near San Jose, Calif. Other incidents in the past few years include sabotage; physical assault; disruption of sensors, information systems, and computer networks; tampering with process safety; disruption of fail-safe systems; and indirect attacks such as disruption of water, fuel, or key personnel. Companies siting new facilities should consider whether their future energy supplier has a physical security plan in place to protect the power supply.

Nebraska Public Power District's Cooper Nuclear Station operates the largest single-unit electrical generator in the state, producing up to 791 megawatts of power annually. The utilities provider has offered economic development guidance since the 1970s.

The potential for weather disruptions is another consideration. "If reliability is a major factor for a company locating here, we can set up a new site with dual feeds and redundancy, and we can help locate the company in a place with the least probability for interruption," says Harold Gutzwiller, manager of economic development for Hoosier Energy.

Building a Greener Future

Sustainability is another consideration when siting new facilities, with more companies looking to reduce their carbon footprint and introduce green initiatives. To anticipate federal and state mandates, many corporations have set timelines for reducing their reliance on fossil fuels, and increasing the percentage of energy derived from renewable or sustainable sources. In many cases, that means considering how their energy provider plans to do the same.

"In the past few years, companies looking to expand or relocate have begun considering not only the cost of electricity, but also the generation mix, especially as it relates to carbon footprint," says Nelsen. "Using a certain percentage of renewable or clean energy will likely become mandatory throughout the United States. Companies know this is coming, and they want to be prepared."

NPPD operates a highly diversified generation fleet that includes nuclear, fossil fuels, hydro, wind, oil, and gas. More than 40 percent of NPPD's generating resources are carbon-free, and the organization is more than halfway to its corporate goal of 10 percent renewable generation by 2020.

States that rely primarily on fossil fuels to meet their energy needs may have a harder time introducing clean energy initiatives. In some cases, they are getting creative. Hoosier Energy, for example, primarily relies on coal because it is located in a coal-rich area of Indiana. Using coal allows the organization to keep costs down, because transportation expenses to get coal to the power plants are minimal. But Hoosier Energy recently introduced a project that uses coal to produce clean energy without increasing transportation costs.

The project extracts coal bed methane gas from reserves located under Hoosier Energy's Merom Generating Station in Sullivan County, Ind. Similar technology has been used successfully in Australia and China, but this will be the first project in the United States to use coal bed methane to directly produce electric power.

"The methane escapes from the coal beds naturally," says Gutzwiller. "This project captures the methane before it escapes, and uses it to produce clean energy. The technology is unique, and it has great potential."

The project's initial phase is designed to generate 13 megawatts of clean electric energy, and shows potential for total generation of up to 26 megawatts.

Future Forward

Economic activity in the U.S. manufacturing sector expanded in July 2013 for the second consecutive month, while the overall economy grew for the 50th consecutive month, indicating stable demand and slowly improving business conditions, according to the Institute for Supply Management.

As U.S. manufacturing continues its upward trend, companies will be looking to site many new types of facilities. With energy such a critical consideration in the site selection process, companies can turn to utilities providers for assistance in finding productive and profitable locations. ■

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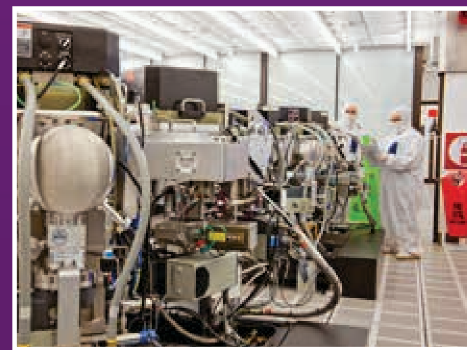


A Pipeline for Progress

Ports-to-Plains Corridor

Stretching from Texas' U.S.-Mexico border to Alberta, Canada, the Ports-to-Plains Corridor represents a vital trade conduit for North America's energy and agriculture heartland.

Cutting a 2,300-mile swath through rural North America, the Ports-to-Plains Corridor represents an economic pipeline from the U.S.-Mexico border to the northern border with Canada.

Counties, cities, and towns located within the corridor – which comprises Colorado, Kansas, Montana, Nebraska, New Mexico, Oklahoma, North Dakota, South Dakota, Texas, and Wyoming – depend on the region's transportation infrastructure for both access to, and export of, a vast array of goods and services.

They also rely on the Ports-to-Plains Alliance, a bipartisan nonprofit organization that promotes policy, trade, and investment priorities for the region.

"Sometimes communities in rural areas get overlooked," says Michael Reeves, president of the Ports-to-Plains Alliance. "But our group works at the local level to ensure cities and towns are doing all they can do to attract industry."

Based in Lubbock, Texas, the Ports-to-Plains Alliance is a community-driven group led by mayors, councilpersons, economic development officials, and business leaders from the 10-state economic development corridor.

The organization serves as the collective voice of the region, fighting for highway-improvement funding, and marketing the region as a logistics lane linking the central United States' energy and agriculture industries with Canada and Mexico.

Over the past decade, the Ports-to-Plains Alliance has raised more than $1 billion in federal funding for road improvements in the region. The alliance collaborates with industry partners, federal and state government officials, and their counterparts in Canada and Mexico to deliver the necessary infrastructure, food, and fuel to secure a strong quality of life in America's cities.

At the same time, the organization embraces America's new energy economy, and seeks to capitalize on wind power, biofuels, and other innovation sectors to renew the rural heartland.

Given the size and weight of wind turbines, their manufacturers have good reason to produce and erect them along the Ports-to-Plains Corridor. "There is a great incentive for turbine manufacturers to locate near the best wind," Reeves says. "And we are in the sweet spot."

The corridor serves eight of the United States' top 10 installed wind-generation states, generating more than 6,000 megawatts, or nearly 78 percent of total U.S. wind energy. A single wind tower requires 126 trucks for major parts, including the crane, concrete, or rebar. One planned wind farm in West Texas will install more than 2,600 towers, and put more than 21,000 trucks on the highways serving the site.

Developing the burgeoning renewable energy industry is critical to national security and economic growth. The energy generated in the corridor feeds into the national grid, benefiting all Americans. In addition to wind energy, the Ports-to-Plains Corridor serves 28 percent of the nation's ethanol-refining capacity, and five of the top six natural-gas-producing states.

Traditional energy industries are also well-represented in the region. The corridor serves seven of the top 10 oil-producing states.

This energy industry growth is putting tremendous pressure on the north-south highway network. For example, developing just one oil well requires an estimated 2,300 truck movements.

The Corridor's Reach

Covering more than 2,300 miles, the Ports-to-Plains Alliance corridor spans from Coahuila, Mexico, to Alberta, Canada, and includes 10 U.S. states, one Mexican state, and one Canadian province.

New manufacturing and distribution facilities are springing up all along the Ports-to-Plains Corridor.

Agriculture is another vital industry in the Ports-to-Plains region. The corridor runs through four of the top eight farm states that produce $23 billion of agricultural goods, and 19.5 percent of all U.S. agriculture products. The food produced in this region is destined for cities and towns throughout the nation, and truck movements along the corridor are a critical part of the agricultural distribution network.

The corridor is also feeling the effects of increased international trade with Canada and Mexico. It is a major U.S. trading region, generating $280.4 billion in trade with Canada and Mexico, more than 25 percent of total U.S. trade with those countries. Much of this trade results in freight movement up and down the corridor, including spillover traffic from heavily congested parallel corridors.

Big News in Big Spring

"The Big Spring region is definitely growing," says Terry Wegman, executive director of the Big Spring Economic Development Corporation in Big Spring, Texas. "Tax receipts show double-digit increases month-over-month for the past two years."

One of the sweetest spots along the Ports-to-Plains Corridor, Big Spring, the county seat of Howard County, is located in the Panhandle Plains region of West Texas at the crossroads of U.S. Interstate Highway 20, and State Highways 87, 350, and 176.

"We call ourselves the Crossroads of West Texas," Wegman says.

Big Spring's unique topography is a mixture of wide-open plains mixed with the convergence of the northern limit of the Edwards Plateau and the southernmost hills of the Caprock region. The city maintains a diverse and varied economy. Oil and gas production became a major economic force in the area in the early 1900s, and continues today. The economy has grown to include refining, manufacturing, wind-energy production, transportation, and government and healthcare services.

Companies are drawn to the community because of its friendly environment for companies and residents alike. With a population of 27,000, Big Spring has the flavor of a small town with the amenities of a big city.

Moreover, it offers extraordinary advantages for logistics providers, including Big Spring McMahon-Wrinkle Airport and Industrial Park. The former home of Webb Air Force Base, the facility now serves the community and region as a top-notch airpark with an 8,800-foot newly upgraded runway that can accommodate large aircraft as well as smaller planes.

A newly refurbished rail spur connects the airpark with the mainline railroad. The new rail, operated by Transport Handling Specialists, provides service to existing airpark/industrial park customers, as well as creating opportunities for new clients.

"We are currently developing a rail terminal on the east side of town, which will create more warehousing and distribution opportunities, and strengthen the

Ports-to-Plains Corridor," Wegman says.

A soon-to-be-built relief around the west side near the airpark will provide additional opportunities for commercial development and utilization of the airpark.

Lubbock Leads the Way

"A lot of people may not have heard of the Ports-to-Plains Corridor," says John Osborne, president and CEO of the Lubbock Economic Development Alliance (LEDA) and its partner organization, Market Lubbock Inc. To change that, Osborne and his team are committed to working with members of both organizations to promote the area's business benefits.

"Cooperation is a powerful tool to develop the corridor to its fullest potential," says Chris Allen, director of the Foreign Trade Zone for the LEDA.

The extraordinary level of collaboration and cooperation inherent in the Ports-to-Plains Alliance has its roots in the history of the Plains region. The area's pioneers were compelled to rely on each other when the region was sparsely populated.

"Over the course of decades, it became a farming community," Osborne says. "That same spirit of cooperation remains today. Farmers still need to rely on each other. We need each other to survive and thrive."

A healthy transportation system supports the Lubbock region, which proudly proclaims itself the "Hub City" for the Ports-to-Plains Corridor. Major interstates and highways, including Interstate 27, connect the city to the two major east-west interstate systems: Interstate 20 and Interstate 40.

The city offers rail access as well. Lubbock is located on the main line of the BNSF Railway, which connects the city to major metropolitan areas of the central and western United States. The Lubbock Rail Port, a 526-acre tract of land located just north of the Lubbock Preston Smith International Airport, provides convenient access to Interstate 27, BNSF Railway, and the airport.

"Having easy access to an international airport is critical in expediting exports and imports," notes Allen.

The Lubbock Rail Port is currently buzzing with activity, thanks to new rail and road construction funded by a $1.5-million matching grant from the U.S. Department of Commerce Economic Development Administration.

If all roads – not to mention airways and train tracks – lead to Lubbock, it also is fair to say that all winds blow in its direction.

Located on the high plains of West Texas, Lubbock is home to the National Institute for Renewable Energy, and Texas Tech University's Wind Science and Engineering Research Center. Texas Tech has been a leader in wind energy research for more than 40 years, and offers the country's only Ph.D. program in Wind Science and Engineering.

Lubbock offers easy access to wind-generation farms, research facilities, and turbine manufacturing plants located in the Panhandle region.

The Ports-to-Plains Corridor serves eight of the United States' top 10 installed wind-generation states, generating more than 6,000 megawatts, or nearly 78 percent of total U.S. wind energy.

Amarillo's Ideal Spot

In Amarillo, the Ports-to-Plains Alliance has a strategic partner positioned mid-continent with access from California all the way to North Carolina. Interstate 40 runs east to west through the state and beyond, and Interstate 27 is the thoroughfare to the north and south.

It is little wonder, then, that the Amarillo Economic Development Corporation (EDC) is a key member of the alliance.

"Alliance is a perfect term," says Ashton Allison, the Amarillo EDC's director of marketing and communications. "All the communities align themselves, creating a carefully and thoughtfully constructed dialogue to advance the corridor's interests."

As one of the largest cities along the corridor, Amarillo benefits from the full array of economic development opportunities the Ports-to-Plains Alliance offers.

Another organization of like-minded interests, the High Ground of Texas, also serves the region. The 25-year-old organization represents some 75 members in the West Texas region. The group's principal purpose is to create jobs and increase the region's tax base.

"Within that coalition, all the communities work together in an unconventional way," Allison says. "We all recognize that what is good for any one of us is good for the region as a whole."

The Amarillo region's advantages are well-recognized. The city ranked 17th in the small cities category out of 179 metropolitan areas in the nation in the 2012 Milken Institute Best-Performing Cities Index, which ranks U.S. metropolitan areas by how well they are creating and sustaining jobs and economic growth. Factors considered for the distinction include job, wage and salary, and technology growth.

"Among Amarillo's strengths is its workforce," says Allison. "Companies from outside the region that locate here often say the city's workforce is the best they have found anywhere."

The quality of life in Amarillo matches the quality of its workers. The city offers an ideal business climate, low cost of living, a safe environment, excellent schools, and diverse neighborhoods.

These advantages set the stage for even more success for the city and the Ports-to-Plains Corridor, of which it is such an important part.

The Ports-to-Plains Corridor creates an intersection of opportunities and challenges. The opportunities are abundantly clear, and they are being embraced not only in Big Spring, Lubbock, and Amarillo, but at all points along the corridor. In Texas alone, $250 million has been approved for corridor-related projects in just the past two years, the Ports-to-Plains Alliance reports.

The challenges lie in transportation infrastructure. That's where the Ports-to-Plains Alliance comes in. "There is such a shortage of transportation funding nationwide that we really have to work together as advocates," Reeves says. "The needs in urban areas are different. We work with other rural organizations on behalf of our region."

The alliance's advocacy efforts are focused primarily on state legislatures, but the organization is also actively promoting relationships with Mexico and Canada.

"And we stay updated on what's going on in Washington, D.C.," Reeves adds, with lobbying targeted to transportation, energy, and agriculture issues.

"The Ports-to-Plains Corridor represents a great economic boom for our states and our country," says Reeves. "We look forward to North American energy independence, but we must have the transportation infrastructure to get there." ■

For information on featuring your region in an Economic Development Supplement, contact James O. Armstrong at 314-984-9007 or jim@inboundlogistics.com.

Amarillo Economic Development Corporation • amarilloedc.com
Currently ranked #17 out of 179 metros in the United States for creating and sustaining jobs and economic growth by the Milken Institute, Amarillo, which is located in America's breadbasket, provides one of the tastiest distribution centers in North America. Food processors find abundant growers, rail, air, and truck transportation, as well as a hard-working and productive labor force.

Big Spring Economic Development • www.bigspringtx.com
Big Spring is located at the crossroads of U.S. Interstate Highway 20, State Highway 87, State Highway 350 and State Highway 176 in West Texas. Big Spring has a diverse and varied economy. Oil and gas production became a major economic force in the early 1900s and continues today. Today the economy has grown to include refining, manufacturing, wind energy production, transportation, governmental services, and a broad range of healthcare services. To learn more about Big Spring's industrial community and economic development initiatives, visit the Web site.

Community Futures Southwest • www.cfsask.ca/southwest
Community Futures Southwest, which is based in Swift Current, SK, Canada, promotes economic and business development in its entire region. A part of their mandate is to work with communities in the Southwest part of Saskatchewan in stimulating the economy and developing a growth strategy. This organization also helps entrepreneurs get on their feet, one good idea at a time.

Lubbock Economic Development Alliance • lubbockeda.org
Lubbock's highly skilled and educated workforce, proximity and connection to major national and international markets, and affordable utility and living costs make it the ideal place to grow your business. Lubbock's diverse economy is based on manufacturing, agriculture, wholesale and retail trade services, as well as government, education and healthcare. Visit the Web site for more information.

Ports-to-Plains Alliance • www.portstoplains.com
The Ports-to-Plains Alliance, based in Lubbock, Texas, is a non-profit, non-partisan, community-driven advocacy group led by mayors, council representatives, economic development officials, business and other opinion leaders from a nine-state, 2,300-plus mile economic development corridor between Texas, and Alberta, Canada. Over the past decade, Ports-to-Plains Alliance members have raised more than $1 billion in federal funding for road improvements in the Ports-to-Plains region. Today, the Alliance collaborates with federal and state leaders, partners in Canada and Mexico, and industry partners, to deliver the infrastructure, food, and fuel to secure the quality of life in America's great cities.

Casebook | by Marty Weil

Healthcare Logistics Gets a Shot in the Arm

Transporting temperature-sensitive flu vaccines to developing countries can be a headache. A logistics partner that stays cool under pressure provides a cure.

Influenza, a contagious respiratory illness caused by viruses, can bring on mild to severe illness—and even death. The best way to avoid contracting the flu is by getting vaccinated annually, but in low-income and developing countries, administering vaccinations presents a number of challenges, from education to logistics.

In 2010, the federal government's Atlanta-based U.S. Centers for Disease Control and Prevention (CDC), along with a coalition of donors, launched a program to address vaccine logistics.

"In the United States and other developed economies, most years end with plenty of flu vaccine left over," says Dr. Joseph Bresee, chief of the Epidemiology and Prevention Branch of the CDC's Influenza Division. This vaccine must be destroyed and disposed of.

"About three years ago, drugstore chain Walgreens, which was also struck by the amount of vaccine left over annually, approached the CDC about putting the surplus to use," explains Bresee.

The CDC reached out to its international partners to see if any countries were interested in receiving a vaccine donation. Through a process that determined the best potential recipients, the CDC selected the Southeast Asian nation of Laos for the program launch.

In 2012, Deerfield, Ill.-based Walgreens donated 375,000 doses of surplus vaccine to Laos. Delivering the vaccine for the program, however, posed a major logistical challenge.

One challenge was transporting the vaccine from Walgreens' storage facility in Louisville, Ky., to Vientiane, the capital of Laos. From there it had to be disseminated for use by the Laotian Ministry of Health. The process was further complicated by the need to keep the vaccine within a very tight temperature range throughout transit.

The CDC turned to Atlanta-based expedited carrier and logistics provider UPS because of the strong working relationship between Walgreens and UPS.

"The project was a challenge," admits Dimitri Zacharenko, manager of temperature-sensitive healthcare solutions, UPS. "There was no setup to fly the vaccine directly into Laos, so we had to consider outside-the-box solutions that would deliver the vaccine closest to Laos."

Because the small, regional aircraft that flew into Vientiane was not able to carry cargo containers, UPS had to look elsewhere. The closest appropriate airport was in Bangkok, Thailand. From there, the carrier orchestrated a 19-hour truck move to Vientiane.

Typically, shipping into Laos is operationally and logistically prohibitive, with restrictive Customs and regulatory requirements. Because of the project's unique nature, however, UPS was able to work around these obstacles.

"Because we were dealing with the Laos Ministry of Health, we had the government's cooperation in border crossing, and the ability to tender the product directly to the ministry," notes Zacharenko.

Precise time and temperature requirements guided the effort to transport donated influenza vaccines from the United States to be administered in Laos.

"Thankfully, we didn't get bogged down in Customs issues or other government red tape."

From a technical perspective, the CDC and UPS had to meet two principal requirements in shipping the vaccines to Vientiane: temperature and time. First, the vaccine had to remain at a temperature range within 35.6 degrees to 46.4 degrees Fahrenheit across the supply chain. That's a major challenge, given the summer heat in Southeast Asia.

Second, because influenza programs are structured in campaigns based on the disease's seasonality, the vaccine has a strict time window for arrival—it must be administered before the virus begins to spread. In this case, time also had to be considered for internal handling and shipping within Laos.

To meet these needs, UPS tapped its Temperature True dedicated service, which is specifically designed to safeguard temperature-sensitive shipments. For pharmaceutical and life sciences manufacturers, it provides door-to-door transportation of vital products based on precise, measurable operating procedures, including:

- Protection against temperature excursions using a network of control towers worldwide to monitor critical milestones.
- Quick response by trained agents to help mitigate any risk by employing predefined contingency plans.
- Full visibility throughout transit so stakeholders know where shipments are at all times.
- Improved compliance supervised by quality assurance teams instructed in the latest cold-chain procedures.

Temperature True proved to be up to the task. "The CDC didn't lose any vaccine," says Bresee. "UPS maintained the full shipment at the correct temperature, and delivered it on time. Once the Laotian Ministry of Health had custody of the vaccine in Vientiane, it took over responsibility for maintaining the required conditions."

More than 90 percent of the flu vaccine was administered throughout the country in about two weeks.

Repeat Performance

The initial program was so successful that the CDC repeated it in May 2013. UPS delivered nearly 100,000 flu vaccinations to Laos, just in time for Southeast Asia's flu season. This time, bioCSL, an Australian pharmaceutical manufacturer, donated the flu vaccine.

While still destined for Laos, the shipment originated in a different part of the world, involved coordination with a new donor, and required UPS to work with multiple Australian commercial carriers to transport the vaccines to Bangkok for trucking to Laos.

In 2012, UPS used its own fleet to ship the vaccine from Louisville to Anchorage to Inchon to Shenzhen to Bangkok, but in 2013, the carrier had to be more flexible. "This speaks to the robustness of the Temperature True program," says Zacharenko. "UPS is not only a carrier, but also an integrator. We can expand our footprint by using a combination of capabilities."

UPS transported the vaccines using eight UPS PharmaPort 360 airfreight containers, in two separate shipments and over 5,000 miles, while maintaining a constant temperature range of 37.4 to 44.6 degrees Fahrenheit. Providing accurate temperature control, the PharmaPort 360 limits temperature fluctuations to within two degrees at its preconfigured 41-degree Fahrenheit set point. It sustains this range for more than 100 hours at an ambient temperature of 163 degrees Fahrenheit.

The Right Equipment

To maintain these strict temperature tolerances, as well as monitor location and other shipment data, UPS equips the container with integrated environmental sensors and GPS/GSM communications capabilities.

"We were able to move the product in those containers because we didn't have to stop and re-ice or recharge," says Zacharenko.

The airfreight containers arrived in Bangkok, where workers staged them, then loaded them on trucks for the trip to Vientiane.

In 2013, the CDC extended the program beyond Laos to Nicaragua, which is using 30,000 doses of donated vaccine to expand its existing flu vaccination program. The vaccine is being distributed via the country's already-established network of vaccination sites.

Additionally, UPS helped ship approximately 6,000 doses of vaccine in pre-filled syringes from Japan to Uganda on behalf of the U.S. Air Force and the U.S. Department of Defense.

By taking advantage of increasing interest in influenza protection in developing countries, and matching it with vaccine production excess in developed countries, the CDC is preventing disease in developing countries, and using the experience these countries gain in giving vaccines to catalyze the development of their own sustainable immunization programs.

"We see this as a humanitarian program, but also as a U.S. health security program," says Bresee. "One of our chief tools in security for pandemics is to make sure that countries around the world are using vaccines. So when a pandemic pops up, these countries are primed to use vaccines and administer programs."

Cutting Costs

Cost is a huge issue in shipping goods that have to be temperature regulated, and the CDC has managed the influenza vaccination program by defraying costs. UPS donated the use of its cold shipping containers, which is a large part of the logistics expense, and the CDC picked up the other parts of the shipping costs.

"As we expand the programs with more donors and countries, the transportation and logistics issues will grow increasingly more complex," says Bresee. With UPS as its logistics partner, however, the CDC's program should receive a strong and healthy prognosis. ■

3PLs

Argol Villanova Group • www.gruppoargolvillanova.com

The Argol Villanova Group is a global integrated logistics services provider serving the automotive, aerospace-defense, and energy sectors. Stats: Established in 1952, $500M revenue, 3,500 associates, 60 operations, 15M sq. ft. We have competencies in: warehousing, plant logistics, transport, air cargo, packaging, value-added, engineering and IT. Regions: EMEA, North and South America, Asia.

KTI • www.ktitrans.com

In business since 1997, KTI is an EPA SmartWay Transportation Partner specializing in arranging truckload, drayage, and intermodal shipments throughout our large network of contracted carriers. From start to finish, KTI manages not only freight, but peace of mind. With thousands of logistics companies to choose from, let us show you why we *are* the Transportation People.

Saddle Creek Logistics Services • www.sclogistics.com

Saddle Creek Logistics Services is a third-party logistics company. We leverage our broad array of capabilities—including warehousing, transportation, packaging and fulfillment—to provide integrated solutions that support our customers' business objectives. For more information, visit www.sclogistics.com.

CONSULTANTS

Open Sky Group • www.openskygroup.com

Open Sky Group is dedicated to being the best consulting partner on the planet for implementing supply chain software solutions, including implementation and integration, and services for JDA (formerly RedPrairie) software. Contact Open Sky today for help reaching new heights of supply chain efficiency with your WMS or TMS.

IN THIS SECTION:
Education • Retail Logistics

EDUCATION

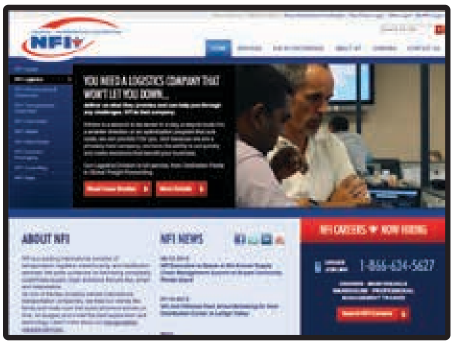
Mount Royal University-Continuing Education
http://conted.mtroyal.ca/supplychain

Mount Royal University's Supply Chain Management Extension Certificate provides the fundamental topics and components of working within supply chains, including distribution, inventory, and warehouse control; and e-business and procurement strategies. If you are a supply chain professional, consultant, or seeking a career in this growing field, acquire a broad overview of how different parts of the supply chain fit together and the critical role they play in the success of all organizations. Courses available online and in the classroom.

RETAIL LOGISTICS

Acuitive Solutions • www.acuitivesolutions.com

Acuitive Solutions' work-process tools and solutions serve leading companies in the home center, premium fashion, specialty and direct retail, home and office décor, and apparel markets. Global TMS ... It's everything we do. Winner: 2011 Supply Chain Distinction Award - Best Collaborative Practice category, and finalist: 2011 Supply Chain Innovation of the Year Award.



NFI • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering logistics, distribution, warehousing, intermodal, global, commercial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates more than 21 million square feet of contract and public warehouse and distribution space, and generates $1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.

RR Donnelley Logistics • www.rrd.com

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- D ◯ Rail, Rail Intermodal
- E ◯ Small Package Delivery, Expedited Freight, Express Services
- F ◯ Third Party Services (3PL), Contract Logistics
- G ◯ Supply Chain Technology, Software/Systems
- H ◯ Transportation Equipment
- J ◯ Warehousing & DC Services
- K ◯ Materials Handling Systems, Equipment, Forklifts
- L ◯ Packaging/Labeling Systems
- N ◯ Intl. Shipping Services, Freight Forwarding
- P ◯ Fleet Operations, Dedicated Contract Carriers
- R ◯ Site, Port, or Facility Selection
- X ◯ Other: ______________________________
- Z ◯ None of the above

3 Number of people at your location. (YOURSELF PLUS OTHERS)

M ◯ 1000+ E ◯ 1-99 J ◯ 100-249
K ◯ 250-499 L ◯ 500-999

4 Business category. (CHECK THE BEST ONE)

- 1 ◯ Manufacturer/Producer (any product)
- 2 ◯ Retailer, Wholesaler, Distributor
- 6 ◯ Services: (Medical/Health, Financial, Insurance, Legal, Gov't., Consulting, etc.)
- 3 ◯ Agriculture, Construction, Engineering, Mining
- 4 ◯ Utilities (Water, Power, Electric, Gas), Telecommunications
- 5 ◯ Transportation, Logistics & Supply Chain Services (Carrier, Broker, Freight Forwarder, Transportation Intermediary, 3PL, Warehouse/DC)
- 9 ◯ Other: ______________________________

5 Your job classification. (CHECK THE BEST ONE)

- N ◯ Corporate Management
- Q ◯ Logistics, Transportation, Traffic Mgmt.
- P ◯ Supply Chain Management, Purchasing, Procurement
- R ◯ Warehousing, Distribution, Inventory, Materials Management
- S ◯ Operations, Production, Quality Mgmt.
- T ◯ Customer Service, Marketing, Sales Mgmt.
- Z ◯ Other: ______________________________

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INBRIEF | NEW SERVICES & SOLUTIONS

//Services//

AIT Worldwide Logistics opened a new 18,500-square-foot facility in Houston, Texas. The facility is located across the street from the George Bush Intercontinental Airport, and near the Port of Houston. AIT added the Houston facility to serve the oil and energy industry.

Temperature-controlled warehouse provider **Preferred Freezer Services** began constructing an 118,000-square-foot cold storage facility in Hileah Gardens, Fla. The facility will serve cold chain users in the Miami area.

UPS Freight opened a 72-door service center in Indianapolis, Ind., to increase its offerings to the greater Indianapolis area. The new center handles eastern Indianapolis, while the company's existing facility in the region serves western Indianapolis.

Virgin Atlantic Cargo implemented **OnAsset Intelligence's** SENTRY FlightSafe tracking device on its aircraft, enabling shippers moving vulnerable and valuable freight to monitor the location and environmental conditions of their cargo on the ground and in the air in real time.

Ocean carrier Mitsui O.S.K. Lines (MOL) began running its Canadian liner operations under a new brand. **MOL (Canada)** has offices in Mississauga, Ontario; Vancouver, British Columbia; and Pointe Claire, Quebec. The company offers five international services from the Canadian ports of Vancouver and Halifax that include destinations in Asia, the Middle East, Europe, and both U.S. coasts.

Supply chain software solutions provider **Llamasoft** opened an educational center featuring product training courses and instruction in strategic supply chain modeling techniques and methodologies. The facility is located at Llamasoft headquarters in Ann Arbor, Mich.,

Crown Equipment Corporation, a materials handling equipment provider, introduced the Crown ES 4000 Stacker Series, a forklift designed for small spaces. It is capable of handling capacities up to 3,500 pounds, and can reach a lift height of 132 inches. Applications include stacking, stock replenishment, and work positioning.

and offers guidance to new supply chain design professionals, as well as advanced modelers seeking specialized instruction.

Bahri, the national shipping company of Saudi Arabia, put into service a new 26,000 deadweight tonnage vessel. The *Bahri Tabuk* is equipped with 240-ton-capacity heavy-lift cranes for a variety of cargo. The vessel's smaller size reduces fuel consumption by 45 percent.

Less-than-truckload carrier **Old Dominion Freight Line** opened a 32-door service center in Amarillo, Texas. The new facility enables Old Dominion to offer increased service to the agricultural, oil, and natural gas industries in the Texas Panhandle.

Akro-Mils' TiltView stack carts combine tilting bins with the versatility of a mobile cart, and feature a work-height top for added workspace. Handles at each end of the cart allow for ease of transport, and padded corner bumpers keep the cart safe from damage.

Menlo Worldwide Logistics, the global logistics arm of Con-way Inc., leased a 160,000-square-foot facility at Singapore's Mapletree Benoi Logistics Hub. The multi-client facility, set to open in the fourth quarter of 2013, will be Menlo's eighth facility in Singapore, and will be used to provide inventory storage and distribution management.

Global logistics and supply chain provider **Yusen Logistics** added a Hong Kong-to-Rotterdam route to its dedicated less-than-containerload portfolio. The direct service sails from Hong Kong every Sunday, arrives at Rotterdam 26 days later, and is supported by a distribution network reaching all major inland destinations.

Crowley Maritime Corporation, a global ocean liner and logistics provider, relocated its Panama facilities to a new location in Panama City. The complex is near the airport, seaport, and major highways, and offers both bonded and nationalized cargo services in the same warehouse.

Supply chain management company **CEVA Logistics** expanded into the Richmond Airport Distribution Center in Richmond, Va. The new multi-use facility allows CEVA to increase its air and ocean freight, warehousing, and e-commerce offerings in Virginia.

Global supply chain solutions provider **UTi Worldwide** opened London operations at Heathrow Airport. The new 33,000-square-foot facility offers X-ray screening and bonded storage, including refrigerated capabilities. The warehouse also holds Home Office Section 5 approval for handling firearms and ammunition shipments.

//Technology//

Shiraz, **W&H Systems'** warehouse control system, provides real-time operations intelligence into warehousing processes. Features include improved real-time operations visibility, minimal downtime while troubleshooting, advanced wave planning, and diagnostic and reporting tools for problem-solving and trend analysis.

C3 Solutions released version 13.06 of its dock scheduling system, *C3 Reservations*. The Web-based appointment scheduling software allows users to streamline the flow of goods into their facilities by reducing

HID Global's SlimFlex Standard 200 and Standard 301 RFID tags offer quick, secure mounting using standard cable ties, and can attach snugly to round or irregular surfaces, such as cylindrical containers, pipes, and bags. The tags are waterproof, food compatible, and designed to perform in harsh conditions.

carrier and supplier phone and email traffic. Real-time dashboards and reports track dock productivity, and measure carrier/supplier conformance to scheduled due dates.

Paragon Software Systems, a provider of vehicle routing and scheduling optimization solutions, launched a national mapping software for routing vehicles in China, allowing users to create accurate, optimized routes and schedules for transport operations anywhere on the mainland.

RF Controls' Intelligent Tracking and Control System uses antennas to track RFID tags over a large area without the use of a handheld reader, making it useful for tracking inventory movement in distribution centers, warehouses, and retail stores.

The RangerX rugged tablet from Xplore Technologies provides a large storage capacity and bright outdoor-viewable display, and holds both IP65 and MIL-STD 810G ratings for durability. It is designed to withstand drops, debris, water, screen pressure, and other potentially damaging conditions found in warehouses, distribution centers, and harsh industrial environments.

Logistics and supply chain software developer **Logility** launched *Logility Cloud Services*, providing implementation options for the company's *Logility Voyager Solutions* software suite. The suite can now be deployed as software-as-a-service, on-premise, or hosted.

ExpressTruckTax.com began offering services for trucking and leasing companies that are required to pay heavy vehicle use taxes. The Web site allows e-filing of IRS Form 2290 for all companies owning vehicles with a gross vehicle weight of at least 55,000 pounds.

Sage Inventory Advisor, a cloud-based solution that integrates with **Sage North America's** ERP system, provides companies with a daily diagnostic of inventory, reduces time spent on forecasts, and is designed to work on any Web browser or mobile device. The solution is compatible with Sage's *100 ERP, 300 ERP, 500 ERP,* and *ERP X3* software.

Fleet mobility solutions provider **PeopleNet** updated its in-cab mobility product line to meet Federal Motor Carrier Safety Administration Hours-of-Service compliance standards. The update was also applied to existing in-cab equipment containing PeopleNet's *eDriver Logs* software through the use of the company's over-the-air programming process.

//Transportation//

A.N. Deringer added new options to its airfreight forwarding services. The added routes include services from Europe, Brazil, and throughout the Pacific Rim to all points within the United States and Canada.

Ocean freight consolidator **CaroTrans** began a weekly less-than-containerload and full containerload export service from Houston, Texas, to Rio de Janeiro, Brazil. Transit time is 25 days.

The Grand Alliance, consisting of ocean carriers **Hapag-Lloyd, NYK Line,** and **OOCL,** added direct ocean shipping service to northern Europe from Port Everglades, Fla. The service operates a fleet of five 3,237-TEU vessels that call at Port Everglades every Saturday, and proceed to Houston, Texas; Savannah, Ga.; Charleston, S.C.; Portsmouth/Norfolk, Va.; Antwerp, Belgium; Thamesport, England; and Bremerhaven, Germany.

Liberty Global Logistics began a monthly service for vehicle shipments between **Ports America's** Providence, R.I., port, and Middle Eastern destinations including Lebanon, Turkey, Egypt, Libya, Jordan, Saudi Arabia, Oman, Pakistan, India, United Arab Emirates, Iraq, and Kuwait.

//Products//

XZ Series hydraulic floor-level lifts from **Presto Lifts** can handle loads up to 6,000 pounds, and are useful in lift-table applications including assembly, maintenance, and palletizing. The XZ lift's platform lowers to floor level for easy roll-on/roll-off, and can be loaded and unloaded with a standard hand pallet truck.

Hirschmann Car Communication and **Freightliner** developed a film antenna solution that can be integrated into the body of a semi tractor, improving the truck's aerodynamics and eliminating the need to replace a cab's antennae every year or two.

The Alvey robotic palletizing solution from **Intelligrated** features an interactive system with robotic arms equipped with custom end-of-arm tooling, software, and controls; and integrated with a pallet conveyor and motor-driven roller-case conveyor. The robots are capable of handling variable loads, allowing distribution centers and warehouses to automate more processes.

Wasp Barcode Technologies released a new line of bar-code printers. The WPL612 features die-cast aluminum construction, enabling the printer to withstand harsh production environments. The printer produces up to 20,000 labels in one run at 203 dpi. Optional 300- or 600-dpi print heads are available.

Dematic, a supplier of materials handling solutions for factories, warehouses, and distribution centers, introduced FlexSort SL2, a sliding shoe sorter. The FlexSort SL2 is useful in multiple operations, including receiving, order fulfillment, consolidation, and shipping. Web-enabled modular software and distributed controls manage all areas of the sortation system.

CALENDAR

October 7-9, 2013, PARCEL Forum '13, Chicago, Ill. This conference provides parcel shipping, logistics, distribution, and warehousing professionals with the information they need to ship more packages, more frequently, and more cost-effectively. With six tracks and more than 50 individual sessions, workshops, panel discussions, and all-day tutorials, attendees will find content geared to their specific job requirements.

203-378-4991
www.parcelforum.com

October 19-22, 2013, ATA Management Conference and Exhibition, Orlando, Fla. The American Trucking Associations (ATA) annual conference features keynote speakers including ATA President Bill Graves, former Governor Jeb Bush, and Fox News' Stuart Varney. General sessions focus on the economy, the state of the trucking sector, logistics, driver issues, and transportation infrastructure funding. The conference also features an exhibition of the latest trucking equipment and related products.

703-838-1755
mce.trucking.org

October 20-23, 2013, CSCMP Annual Global Conference, Denver, Colo. The Council for Supply Chain Management Professionals' (CSCMP) Annual Global Conference offers supply chain management practitioners the opportunity to learn ways to cut costs, improve the bottom line, discover new ideas to keep supply chains competitive, and find solutions to improve productivity and efficiency.

630-574-0985
www.cscmpconference.org

November 17-19, 2013, IANA Intermodal Expo, Houston, Texas. The Intermodal Association of North America's 31st annual trade show highlights the latest transportation and distribution products and services. The event also features educational sessions on the latest industry issues and challenges.

301-982-3400
www.intermodal.org

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Your Cargo Might Be A Theft Risk If...

In 2012, U.S. cargo thefts rose to 947 – the highest number on record, according to logistics security firm Freightwatch International Group. If you're shipping at-risk commodities through vulnerable geographic areas, or leaving cargo in locations thieves commonly target, take extra precautions. Install locks and alarms, deploy tracking technology, minimize dwell time, and work with transportation providers to ensure trustworthy drivers are handling your freight.

Danger Zones

Be extra careful if your cargo is moving through the cities or regions most often hit by thieves.

Highest risk North American areas

America's Most Wanted

Are you shipping the type of goods thieves find irresistible?

- Food/Beverage 23%
- Electronics 15%
- Base Metals 15%
- Plastics/Rubber 8%
- Apparel/Accessories 8%

Top Five Commodities for U.S. Cargo Theft (% of total thefts in 2012)

Location, Location, Location

Nearly 85% of U.S. cargo stolen is from stationary, unattended containers. High theft-risk areas include:

- Lot 24%
- Yard 15%
- Truck Stop 14%
- Facility 7%
- Street 3%
- Warehouse 2%

Theft activity by location, 2012

Source: *Cargo Theft: How Cargo Is Targeted and What Can Be Done About It*, C.H. Robinson


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