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THE MAGAZINE FOR DEMAND-DRIVEN LOGISTICS • AUGUST 2011

IS U.S. MANUFACTURING COMING BACK?

ALSO IN THIS ISSUE:
Temp-Controlled Food Transport
Packaging Innovation Inside & Out

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FACING LOGISTICS CHALLENGES? USE IL'S 3PL EXPERTS AND

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CHECKINGIN

Keith Biondo

by Keith Biondo | **Publisher**

A Career That's Never Boring

Supply chain professionals are increasingly being asked to drive change outside their daily responsibilities of expanding to new countries, overcoming current economic challenges, and satisfying customers while keeping inventory and transportation costs low.

Here are two examples. A recent article described the closing of Chrysler Plant 6 in Windsor, Ontario. This could be one more symbol of manufacturing stress, but there is good news for our profession. With the help of logistics experts, this huge manufacturing plant is being transformed into a world-class logistics facility. The initial phase of re-tasking the massive site will cost more than $100 million and include a 750,000-foot warehouse for parts distribution and a pre-assembly area. I consider this project a symbol of what logistics professionals are capable of, beyond their obvious job descriptions.

Supply chain professionals help manufacturing outside their functional responsibilities in another way, as you'll read in Lisa Harrington's article, *Is U.S. Manufacturing Coming Back?* (page 38).

The article's focus is on China and the presumed convergence with U.S. labor costs when the costs of the extended supply chain are factored in. In my May 2011 column, I wrote about the small trend of reshoring manufacturing facilities making products for domestic consumption and the Boston Consulting Group study that identified this trend. As Lisa's article explains, reshoring is not the right move for all companies–just those manufacturing for U.S. consumption in locations where current offshore labor rates are rising. Manufacturing in China still offers many labor, tax, and regulatory efficiencies. And, even if domestic labor costs converge with China's, another low-wage location is always standing by.

But, with the continuing collapse of the dollar, this trend could increase as the number of greenbacks demanded for off-shore wages will have to rise. There is already a move to warehouse and manufacturing automation in China. It could be time to focus your supply chain expertise on helping top management evaluate if domestic manufacturing holds any promise for your company.

We spent the better part of two decades configuring global supply chain networks that run as well as domestic ones, and positioning domestic production overseas. Now, fast-changing economic growth in some areas, and contraction in others, calls for yet more trading pattern upheaval. Your supply chain expertise will be valuable to upper management as they do their location risk/benefit analysis. That responsibility may be far afield from the original concept of logistics manager, but there you are.

Whether you manage a domestic or global logistics network, or are in the manufacturing sector or not, one thing is clear: you can help your company, and your career, by tackling some of these new supply chain challenges. ■

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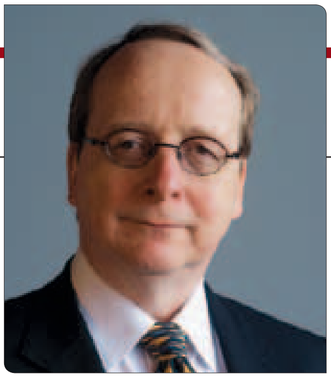

[INPERSPECTIVE]

BY PERRY A. TRUNICK
Associate Editor, *Inbound Logistics*
ptrunick@inboundlogistics.com

Responding to the Past

We may need to remove all the mirrors in Washington, D.C.—not to shrink the egos of lawmakers and regulators, but to keep them from looking back and solving the problems of the past.

While researching the Food Safety Modernization Act and its effect on logistics for my article in this issue *(page 49)*, I found it striking–and alarming–that so many details have yet to be decided. This is clearly a moment our industry cannot afford to overlook, or we will all suffer from the results.

Remember when the Customs-Trade Partnership Against Terrorism (C-TPAT) was developed? While C-TPAT's lack of specificity caused some discomfort, it was also a relief that legislators with no direct experience in the operations they were attempting to regulate would not generate a multitude of well-meaning, but over-reaching, rules. A distribution center does not require the same level of security as a nuclear power plant.

In the case of C-TPAT, the government lived up to the act's name and formed a true partnership with the private sector. Many in the private sector would have preferred more guidance from the regulators, but we got the job done and continue to evolve systems to keep pace with supply chain threats and developments.

When it comes to the safe transportation and interim storage of food, shippers have developed some high-level best practices. Given the potential risk to customers, brand reputations, and balance sheets, monitoring food safety is just good business. It is a minority of bad actors who need close government intervention.

A few years ago, I talked to a slaughterhouse operator on Prince Edward Island, Canada, about its track-and-trace system. Run by a consortium of cattle farmers, the business had some incentive for collecting and sharing data with growers. Growers are paid on yield, so tracking accurate yield through the process was important. In addition, growers could gain insight on which feedstock produced the best final yield.

Cattle typically arrive with bar-coded ear tags, but once they enter the process, that identifier is lost. Using an innovative Psion radio-frequency identification (RFID) tag embedded in the in-plant handling system, the processor gained full visibility.

A discussion with the Psion engineer reveals a much larger story. The United States had an outbreak of Mad Cow disease, and Japan banned beef originating from certain U.S. regions. The Canadian butcher's visibility–back to what food each cow had consumed–opened that export market. Productivity may have been the driver, but food safety was a parallel concern. They met at the bottom line.

The point isn't this single solution, but a plethora of solutions being employed and developed throughout the food chain. Better efficiency, higher productivity, and food safety go hand in hand, and those in the industry know it.

That argument goes well beyond the food industry. Supply chain professionals are moving forward in addressing safety and security concerns, as well as solving productivity problems and improving bottom-line performance every day.

When lawmakers set a deadline and direct regulators to develop rules, our industry must mobilize and demonstrate its capabilities. If we don't, regulators may try to solve problems the industry has already addressed. Let's take the mirror out of government's hands and replace it with a magnifying glass focused on positive results. ■

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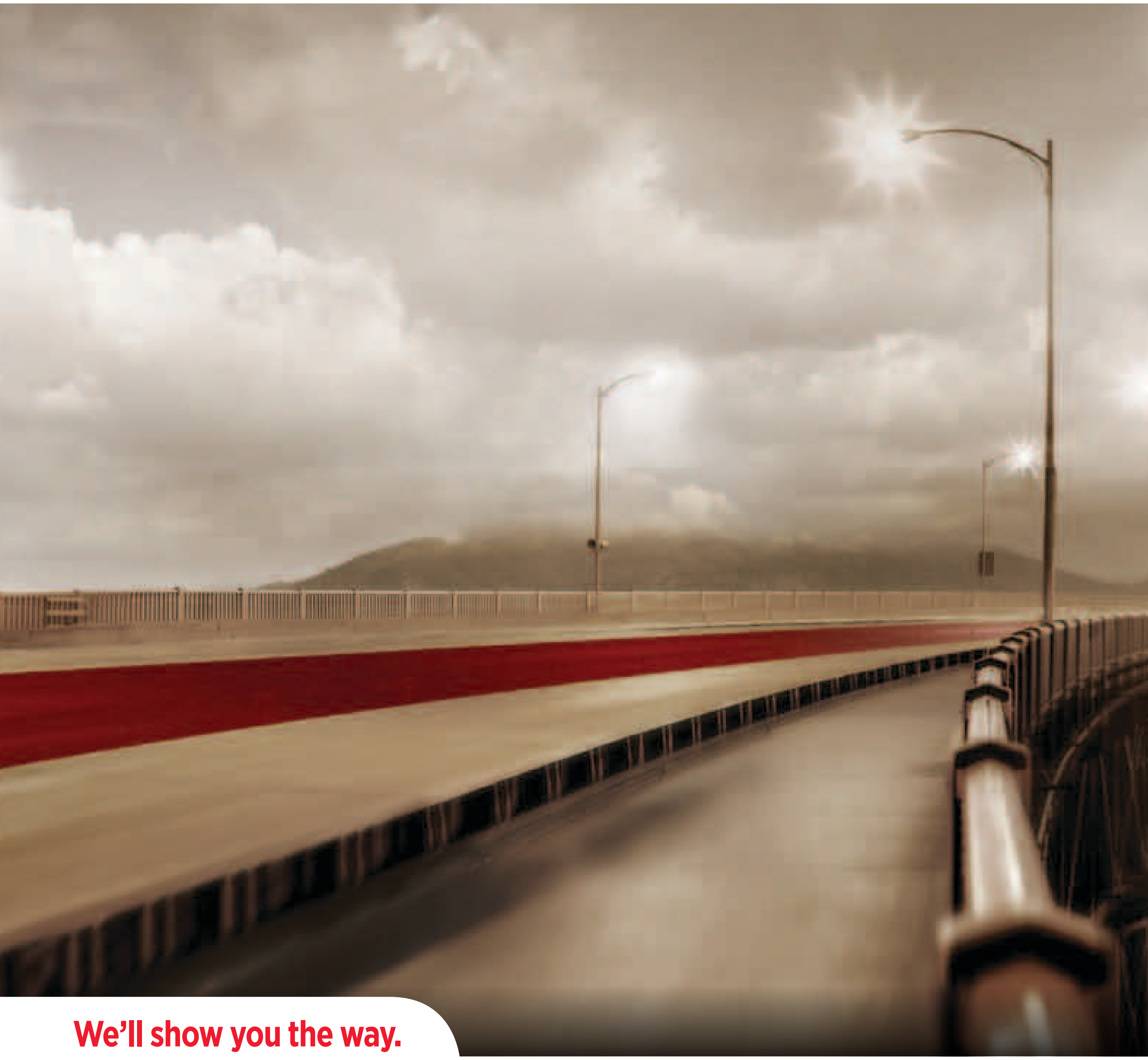


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Nonprofit Providers

I liked Amy Partridge's article *Tier II 3PLs Find Their Niche* (July 2011). A follow-up article could examine the various roles that nonprofit third-party logistics providers play within the supply chain.

As firms are looking to optimize their supply chain networks and lower their total costs, many are utilizing the hidden nonprofit provider network. SubCon Industries, for example, provides employment training opportunities for adults with disabilities. We offer logistics services such as contract assembly, order fulfillment, pick/pack, warehousing, and distribution.

Our supply chain services model has grown dramatically, and we are building a new, larger facility to accommodate client needs.

—**Brian Eddy,** Director of Sales and Marketing, SubCon Industries

Education on the Go

I just read Felecia Stratton's column *School's in Forever* (February 2011) and wanted to tell you how impressed I was by her comment that "*Inbound Logistics* is a moving classroom that goes where you go."

Education in today's high-tech world is all about being mobile. At the Institute of Logistical Management, we emphasize this fact to students every day, through online and distance learning. I have never seen the concept expressed as well before, however. A moving classroom: those three words say it all.

—**Frank R. Breslin,** Dean, Institute of Logistical Management

EDITOR'S NOTE: For more coverage of the ways logistics professionals are improving their job performance through continuing education, see our article *Career Solutions: Working Smarter* in the June 2011 issue.

Deeper Green

I have been an *Inbound Logistics* reader for years and have found it a top-notch resource for applying supply chain ideas to specific industries.

While I appreciate the focus on sustainability in *75 Green Supply Chain Partners* (June 2011), I would recommend readers go to the UPS sustainability Web site at http://bit.ly/cA9yRX for a full picture of what UPS is doing internally and externally to impact the environment.

Most recently, for example, we teamed up with the Dave Matthews Band to coordinate the logistics and reduce the carbon footprint of the band's tour.

—**Jeremiah Beebe,** Field Segment Manager, UPS

tweetlog

tweeting it forward:

CHRobinsonInc C.H. Robinson
Very interesting article by @ILMagazine on the rise of #SaaS. Key takeaway: return can come as early as four to nine months http://ht.ly/4TNNH

TMWSystems TMW Systems
@ILMagazine The cover looks great! Now you just have to create some super hero personas for the Top 100 3PL Providers!

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smitty767 Mark Smith
@UPS @ILMagazine I'm delivering for UPS in Texas. I'd deliver in 90 degree heat if a cold front came through. #noAC

by Deborah Catalano Ruriani

Securing Global Supply Chains

With trading partners spread across various regions, unique security risks associated with different countries, and an array of legal and regulatory regimes, global shippers must be well-prepared to ensure cargo safety. Bill Anderson, group director of security and international safety, Ryder System Inc., provides these tips for securing your international supply chain.

1 **Create a uniform set of global policies, processes, and forms.** Establish procedures that satisfy the varied requirements of programs such as Customs-Trade Partnership Against Terrorism and Canada's Partners in Protection.

2 **Share information with stakeholders.** New threats continually emerge, so companies with international supply chains must regularly update key stakeholders such as government and law enforcement agencies.

3 **Promote cross-functional cooperation.** Many departments within a company can help secure its supply chain. Corporate audit can detect fraud and internal conspiracies, while corporate compliance can monitor for compliance with the Foreign Corrupt Practices Act (FCPA) and conduct ethics investigations. A company's sales force should know its customers and verify the information they provide.

4 **Use activity-based safety and security management.** Building a security management program around events such as audits, inspections, business partner reviews, and employee training can help keep local operations informed.

5 **Develop a formal risk assessment process.** Understand the risks in each region, and compare supply chain threats against each operator's ability to respond and effectively defend itself against these threats.

6 **Conduct real-time vehicle monitoring.** Equipping tractors and trailers with GPS is typically not enough to detect and respond to a potential breach. Establish a manned monitoring center where personnel track vehicles in real time.

7 **Consider extortion risk.** Violence and extortion can affect the supply chain when key personnel are targeted. Companies should ensure employees know the protocol for reporting extortion, and provide resources and training to help them respond to threats.

8 **Evaluate bribery risk.** In some regions, bribery is common, and illicit cash transactions may not be recognized and reported. Loads may be breached in exchange for payment. A robust FCPA program can help increase awareness. Institute work instructions that segregate duties at the point where containers are consolidated. For example, the parties loading the freight should be independent from those verifying container contents and applying container seals.

9 **Verify information through site visits.** While foreign supply chain partners may indicate they are compliant when they complete their self-assessment forms, the only way to confirm this is to go on-site and observe their practices. Be persistent and demand evidence of compliance.

10 **Be flexible and continuously improve your operations.** Don't be afraid to try new methods and innovations to make sure that supply chain security experts stay one step ahead of their adversaries. ■

as told to Merrill Douglas

David Fisher **is director of global logistics at Johns Manville, a leading engineer and manufacturer of residential and commercial insulation, roofing materials, and engineered products.**

RESPONSIBILITIES:

Managing inbound and outbound activities, including international logistics and compliance.

EXPERIENCE:

Air export agent, Schenker International; various positions, culminating in district vice president, Danzas AEI (now DHL-DGF); global logistics procurement manager, manager of global transportation, Goodyear Tire and Rubber.

EDUCATION:

University of Colorado, Metro State College, BA in political science, 1985. Graduate studies in international business management, Thunderbird School of Global Management, 1985-1986.

David Fisher: Raising the Roof

AT ONE OF MY PREVIOUS EMPLOYERS, EACH REGION within the global organization managed its own logistics affairs. We decided that this wasn't an optimal strategy. Why have the European region negotiate its own ocean carrier rates, then have North America conduct the same process with the same carriers, ending up with two different contracts and rate structures?

My team set out to find opportunities for global collaboration. Our first major project was to combine all ocean freight contracts by region, consolidate the spend, and organize a single bid. We engineered solutions to analyze the data efficiently, working with a third-party company that specializes in optimization.

We also developed new metrics to monitor compliance with agreements globally. Those metrics had the additional effect of creating better relationships with our carriers. Service improved significantly, and the contracts were easier for our company and carriers to work with.

Our company gained additional benefits. Communication and visibility improved exponentially. We were able to give better control mechanisms to manufacturing units that were expecting materials. Also, the project became a model for turning other kinds of regional spend into global spend.

When I first accepted that job, I was concerned that I would meet a great

The Big Questions

Who has been your most important mentor?
Juan Molina—now vice president and chief purchasing officer at Westinghouse Electric—was my boss and mentor at Goodyear. He taught me not to fear large projects, and how to assemble and manage a focused group of specialists from supply chain, manufacturing, sales, and other departments.

What's in your laptop bag?
If Aristotle Ran General Motors, by Tom Morris. This book explores the idea that interpersonal relationships within a company determine its success or failure.

How do you recharge?
I ski, golf, and work out on the rowing machine. I also like to spend quality time with colleagues, read, and train my bulldog.

Do you have a hidden talent?
A friend at Johns Manville introduced me to the science and art of making cheese. So far I've mastered how *not* to make mozzarella cheese.

What's on your Bucket List?
Applying my logistics knowledge to the distribution infrastructure needs of charitable organizations working in developing countries and disaster relief.

deal of resistance to change. That turned out to be true – and then some. Within months, though, I knew that the decision to consolidate was correct. There was so much opportunity to make improvements and reduce costs, my team couldn't help but succeed. Many of the changes we put in place became permanent, and they made the organization much more efficient.

The drive to improve is a major goal in my current job as well. One especially tricky area involves our carrier relationships. As a manufacturer shipping direct to customers in a highly competitive industry, Johns Manville often works with very short lead times to meet customer demand. That creates pinch points throughout the supply chain. It's essential that we get our loads dispatched and that they arrive on time. To achieve that, we and our carriers must live up to our commitments.

Shippers must resist the temptation to drive rates down, and carriers need to honor their agreements with shippers. If a carrier agrees to support a particular volume at a particular rate, it cannot refuse a load because other freight becomes available at a penny or two more per mile.

In our outbound distribution, we maintain strong carrier relationships through our Top 50 program for van carriers and our Top 20 program for flatbed carriers. Trucking companies in these programs must be a certain size, belong to the Environmental Protection Agency's SmartWay program, and comply with our service criteria.

By steering freight toward preferred carriers, we deepen service partner relationships. We gain better leverage for negotiating, and carriers gain greater revenue opportunities. Most importantly, our customers gain better delivery performance resulting from these deeper relationships. ■

NOTED

THE SUPPLY CHAIN IN BRIEF

UP THE CHAIN

James A. Hill was appointed senior vice president, supply chain management for **Targus Inc.,** which makes laptop computer cases and accessories. Hill is responsible for the company's global supply chain functions, and strategy and product development efforts. Hill most recently served as vice president, global supply chain and demand planning at Callaway Golf Company, where he managed the global supply chain across all product categories.

Vu1 Corporation, which manufactures and develops general illumination lighting technology, named **Bill Hamlin** as interim president and COO. A former Home Depot group president, Hamlin's influence in distribution, logistics, and worldwide sourcing helped shape Home Depot into the retail giant it is today.

GREEN SEEDS

In the latest edition of its annual *Sustainability Report,* **UPS** discloses that it has again reduced the amount of fuel it uses to deliver each package in the United States. The carrier's U.S. package volume rose 1.8 percent from 2009 to 2010, but it reduced the amount of fuel consumed per package by 3.3 percent. The company attributes the improvement to deploying the right vehicle on the right route, and using technology to minimize the miles driven.

recognition

◀ **Union Pacific (UP)** was named ConAgra Mills' **Rail Carrier of the Year** for its grain product transportation service. UP's selection was based on service quality, attention to on-time delivery, how aggressively it aided ConAgra Mills in obtaining new business, and external customer surveys.

Grupo Comercial Control, parent company to Woolworth Mexico and other well-known retail brands, won Mexico's annual **National Award for Logistics** for its successful implementation of a WMS integral strategy based on the RedPrairie warehouse management solution.

SEALED DEALS

Global supply chain company **OHL** has signed a transportation management agreement with consumer electrical products provider **Breville USA.** Under the agreement, the OHL transportation management team manages 3,000 LTL and truckload shipments moving in and out of Breville's facility in Torrance, Calif.

Jones Lang LaSalle will evaluate and report on the availability and suitability of strategic growth locations in the United States for **TechPrecision Corporation,** a manufacturer of precision, large-scale fabricated and machined metal components and systems. The analysis will help TechPrecision management decide where to locate a new facility later in 2011.

▼ **Menlo Worldwide Logistics** is expanding manufacturing support operations for **Bobcat Company,** which engineers, manufactures, markets, and distributes compact equipment, including skid steer loaders, mini-excavators, and utility vehicles. With its Manufacturing Support Center in Bismarck, N.D., at capacity, Menlo, which provides component logistics and supply chain management services for Bobcat, will locate the expanded operations in a portion of Bobcat's former assembly plant in Bismarck.


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TRENDS

SHAPING THE FUTURE OF LOGISTICS

Trucks Will Dominate

by Joseph O'Reilly

Despite hitting a number of speed bumps during the economic recession, trucking is expected to dominate U.S. domestic transportation over the next 10 years, taking market share from the railroads. Overall, U.S. freight tonnage is expected to grow 24 percent by 2022, while revenue for the industry is projected to rise 66 percent, according to the *U.S. Freight Transportation Forecast to 2022* report authored by the American Trucking Associations and analysts IHS Global Insight and Martin Labbe Associates.

In 2010, trucking accounted for 67 percent of freight tonnage and 81 percent of industry revenue. By 2022, haulage's share of the market will rise to 70 percent in terms of tonnage, the report predicts. The industry will struggle to translate this growth into increased revenues, however, with profits increasing only two-tenths of one percent over the next decade.

The one casualty may be the railroad industry. Trucking's tonnage growth will see the railroad's overall share of tonnage drop from 15.3 percent to 14.6 percent between 2010 and 2022, according to the report. The intermodal sector is expected to fare well over the short term, however, with tonnage increasing approximately 6.6 percent annually through 2016, then 5.5 percent until 2022. Revenue will almost triple during that same period, jumping from $11 billion to $30 billion.

Best Buy Gets Right-Sized

The cracks are beginning to show at some brick-and-mortar retailers. Increasing competition from e-tailers and wholesale channels, exacerbated by sluggish consumer spending and bargain buying, has forced many big-name companies to consolidate their physical presence. Best Buy is the latest chain to follow the trend.

The Minneapolis-headquartered consumer electronics company, which operates 1,300 stores nationwide, is in the process of consolidating retail operations and sub-leasing floor space to smaller boutique stores. Best Buy is looking to shrink new stores by approximately 10,000 square feet.

"We can reduce our overall square footage while actually increasing our presence," explains Brian Dunn, the company's chief executive. "It's an opportunity to capture cost savings and get ourselves 'right size.'"

The corporate-wide consolidation effort is partly driven by changes in the types of products that Best Buy is selling. For example, retail demand for CD and DVD media is waning as digital becomes the preferred format for buying music and movies. So the retailer's footprint is naturally decreasing.

To cut costs, consumer electronics retailer Best Buy is reducing its overall square footage and scaling storefronts to specific products.

Now Best Buy is looking to optimize further with large-scale downsizing efforts.

As another part of its strategy, Best Buy is also scaling storefronts to specific products. The company has announced plans to create Best Buy Mobile stores that specifically cater to cell phones, smartphones, and tablets. The mobile stores, which measure less than 3,000 square feet, ultimately allow Best Buy to direct attention to highly profitable mobile devices.

Cargo Theft Trumps Terrorism

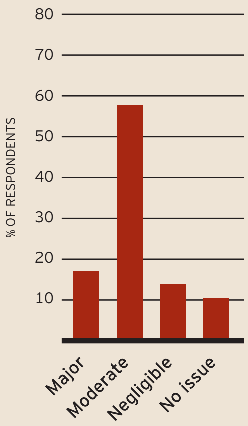
Cargo theft will be the top supply chain risk concern over the next five years, according to more than 200 supply chain security professionals recently polled as part of FreightWatch's 2011 supply chain survey.

Eighty-one percent of respondents—who comprise all levels of management, from manufacturing, third-party logistics, transportation providers, and insurance companies, among others—identify cargo theft as a major concern for supply chain operations (*see chart below*). Only 11 percent of respondents list terrorism as a top concern, according to the Austin, Texas-based global logistics security solutions provider.

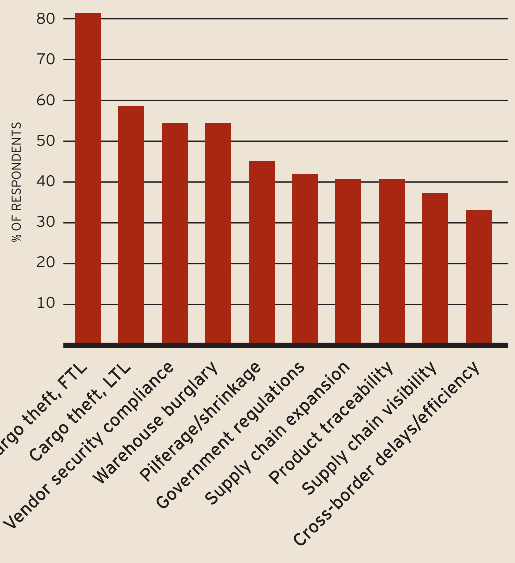
"The information and data collected are invaluable in fully understanding what keeps supply chain professionals up at night and what is necessary to combat the risks their companies face," says Barry Conlon, CEO of FreightWatch.

While the rate of cargo theft has grown every year since FreightWatch began collecting data in 2006, specific industries have experienced fluctuations in both theft rates and average loss values. The ability to further understand how industry professionals view cargo theft in relation to other risks is critical in deploying customizable solutions and procedures to mitigate recurring risks.

Impact of Cargo Crime on Supply Chain



10 Greatest Supply Chain Challenges (next 5 years)



Source: FreightWatch 2011 Supply Chain Survey

Connecting the DOTs

The U.S. transportation and logistics sector relies on state departments of transportation (DOTs) to make sure freight flows freely along roads, rails, and inland waterways. But the high cost of fuel and shrinking transportation budgets across all modes has forced many DOTs to streamline their own operations.

"Many state departments of transportation are turning to technology and environmentally sensitive solutions to cut fuel consumption, improve efficiency, and save money," says John Horsley, executive director of the American Association of State Highway and Transportation Officials. "State DOTs are facing some of the steepest revenue declines in decades. Without these innovative solutions, the impact on the condition and performance of our roads and bridges would be even greater."

DOTs in Indiana, Arizona, Kansas, Michigan, and New Hampshire offer the following examples of how they are adapting their operations:

- The Indiana Department of Transportation (INDOT) is currently converting 527 of its work trucks and vans to run on cleaner-burning domestic propane. The retrofitted vehicles have the same power, acceleration, and fuel economy as gasoline- and diesel-powered counterparts, but propane costs less than half as much per gallon as gasoline. INDOT conservatively estimates replacing 500,000 gallons of unleaded gas with propane over the next year, expecting to save more than $1 million in taxpayer funds.
- The Arizona Department of Transportation (ADOT) is testing a new solar-powered system to eliminate the need to keep its vehicles idling while parked in traffic. This new technology allows emergency lighting mounted on

work trucks to remain illuminated even when the engine is turned off.

■ In separate programs to cut fuel consumption, ADOT, the Kansas Department of Transportation, and the Michigan Department of Transportation are encouraging employees using DOT vehicles to slow down, avoid idling, reduce vehicle loads, and ensure tires are properly inflated.

■ The New Hampshire Department of Transportation is turning to wood-burning technology to supplement its heating systems and reduce the amount of heating oil necessary to keep buildings warm. Initial estimates put annual savings at $200,000; state officials now estimate an additional $100,000 in savings, however, due to the escalating price of home heating oil.

UT Creates SC Think Tank

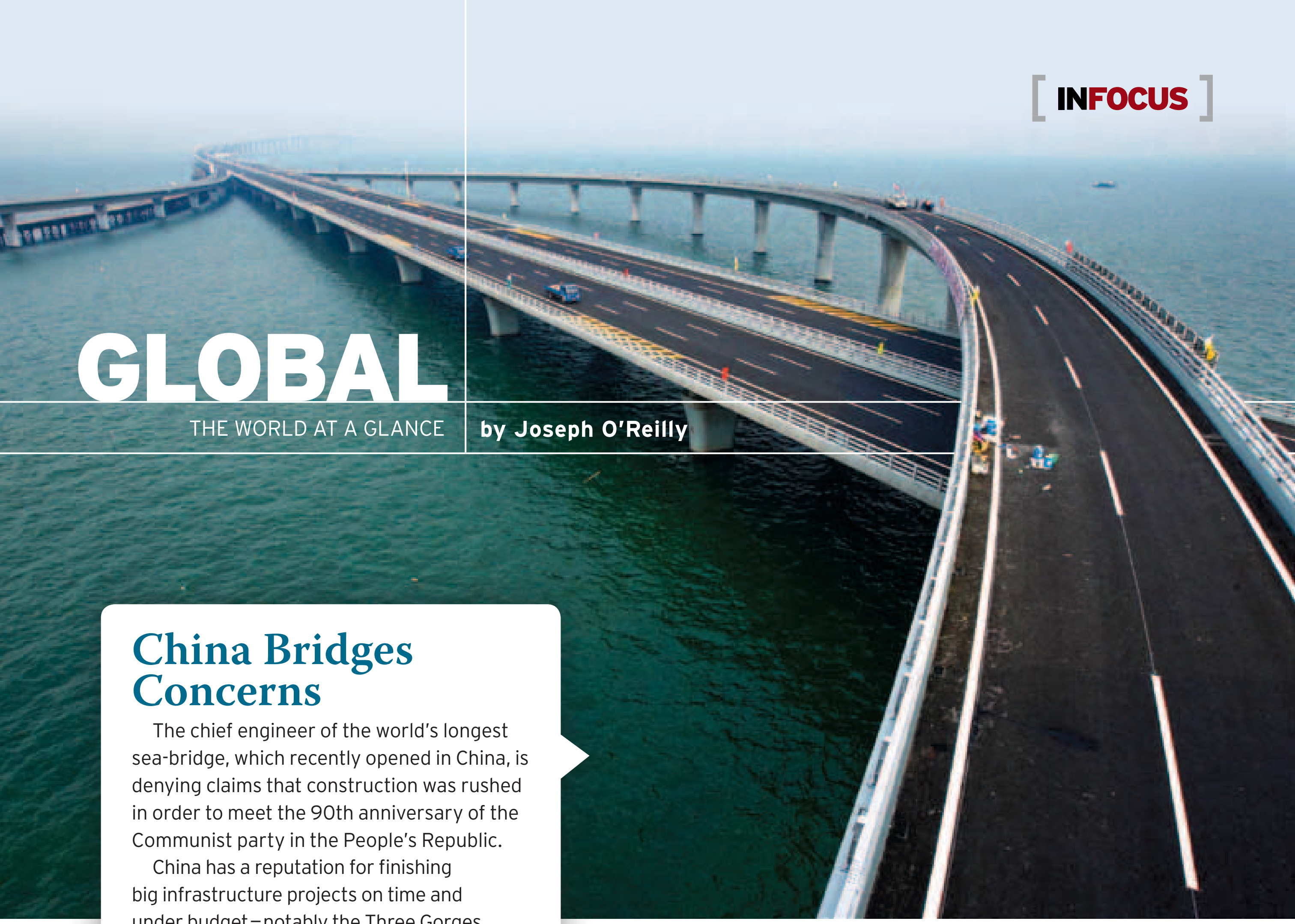
The Global Supply Chain Institute at the University of Tennessee, Knoxville, has formed an advisory board of senior supply chain executives from 30 companies that will meet quarterly through Web conferences to share ideas and observations about the state of the supply chain.

The executives include vice presidents of supply chain and above, from companies representing office products, online services, technology, transportation, aerospace and defense, apparel, and pharmaceuticals.

The purpose of the advisory board is two-fold:

1. To solicit advice from supply chain leaders on the various programs at UT Knoxville, including the Global Supply Chain Executive MBA and Global Supply Chain Forum.

2. To serve as a connection point for senior supply chain executives to discuss the latest industry trends and benchmark best practices. ■



GLOBAL

THE WORLD AT A GLANCE

by Joseph O'Reilly

China Bridges Concerns

The chief engineer of the world's longest sea-bridge, which recently opened in China, is denying claims that construction was rushed in order to meet the 90th anniversary of the Communist party in the People's Republic.

China has a reputation for finishing big infrastructure projects on time and under budget—notably the Three Gorges hydroelectric dam—but officials say the new Jiaozhou Bay Bridge is safe and secure. Secondary projects will continue over the next few months to "tighten the bolts" on aesthetic features.

The 26.3-mile-long bridge, which has received worldwide media attention, links the eastern coastal city of Qingdao to the suburban island of Huangdao, in Jiaozhou Bay. The span makes it about three miles longer than the previous world-record holder—the Lake Pontchartrain Causeway in Louisiana.

And because the country loves to outdo itself, China already plans to construct a newer and longer sea-bridge connecting the southern Guangdong province with Hong Kong and Macau by 2016, soon rendering the Jiaozhou Bay engineering feat obsolete.

Still, China's Danyang-Kunshan Grand Bridge, at 102 miles in length, remains the longest bridge of any kind in the world. In total, the country lays claim to 11 of the 15 longest spans in the world, followed by the United States with three and Thailand with one.

Canadian Shippers Paying More for Freight

The cost of ground transportation for Canadian shippers increased markedly between March and April 2011 due to increases in carrier base rates and fuel surcharges, according to data recently published by the Canadian General Freight Index (CGFI).

The CGFI Total Freight Cost Index rose by 1.7 percent in April, the largest one-month gain since July 2010. The Base Rate Index, which excludes the impact of fuel surcharges assessed by carriers, increased 1.1 percent during the same period. Additionally, average fuel surcharges rose from 18.8 percent of base rates to 19.9 percent, and contributed significantly to the rise in overall freight costs.

The increase marked the seventh consecutive month of rising fuel surcharges, which have reached their highest point since November 2008.

Logistics Services Trend North in Western Europe

Spending on logistics services by manufacturers and retailers in Western Europe—both in-house and outsourced—is set to increase by almost $46 billion over the next five years as the size of the outsourced logistics market expands 26 percent, according to England-based market intelligence company Analytiqa.

Among findings in Analytiqa's latest report, *Western European Logistics 2011*:

- The United Kingdom, Germany, and Italy are set for the greatest growth.
- Some markets won't recover lost revenues until 2013.
- Automotive and high-tech logistics sectors will record the largest growth rates over the next five years.

While growth opportunities exist for 3PLs, given careful targeting of customer and country markets, they also face challenging times. Increasingly sophisticated customers, tighter security, environmental standards, and globalization's changing dynamics require that they constantly evaluate their value propositions, states the report.

China Cashes In on Change

The wave of offshore manufacturing to China over the past two decades precipitated a consumer boom in the United States as low-cost labor and cheap manufacturing deflated U.S. prices. Now that tide is turning.

The costs of imported goods are beginning to climb, which is triggering inflationary pressure on U.S. companies and consumers still sourcing and buying goods made in China, says a *Wall Street Journal* report.

For example, China currently supplies 90 percent of house slippers imported into the United States; 78 percent of footwear; 71 percent of ties; 55 percent of gloves; and 50 percent of dresses and baby clothing, according to Commerce Department data.

As China's middle class consumes, expands, competes for goods, and places upward pressure on global prices, U.S. consumers will continue to pay more for sundry goods. Some American companies still sourcing a lion's share of product from China may see these changing demographics as an opportunity to begin exploring cheaper offshore markets.

Indian 3PLs Primed for Growth

India's third-party logistics industry pales in comparison to more mature outsourcing markets in the United States and Europe, where 3PL services dominate the transportation and logistics space. But the country is beginning to develop its own pedigree

(continued on page 28)

U.S. Imports Rise Despite Political Uprisings

The number of TEUs being imported by vessel to the United States from North African and Middle Eastern countries has actually increased since the start of political uprisings in some regions. Imports dropped in February 2011, but have now surpassed levels seen before the uprisings. Oman and Egypt, specifically, have recently experienced large increases.

Total TEUs imported from July 2010 to June 2011

Source: Zepol Corporation

(continued from page 26)

beyond business process outsourcing, according to RNCOS's latest research, *The 3rd-Party Logistics Market in India*.

The current state of 3PLs in-country is still developing, with multinational companies in all industries among the most likely users of outsourcing services, reports the India-based consultant. Big domestic companies in leading industrial sectors, however, have also begun outsourcing basic logistics functions.

Companies are concentrating on managing their supply chains to deepen market penetration, which explains this recent surge, according to the report. Continuous improvement in transportation infrastructure and increasing awareness of logistics best practices have encouraged Indian companies to leverage 3PLs as a means of controlling both internal and external business processes.

Compared to more developed areas, the Indian 3PL market is full of opportunities because of infrastructure development and the increasing connectivity and rising significance of logistics services in the country, the report notes. As a result, RNCOS forecasts the market to achieve a 26-percent compound annual growth rate between 2011 and 2013.

Doublestack Attack

APL Logistics' recent debut of IndiaLinx, a doublestack container train service in India between the Port of Mundra and an inland container rail terminal at Kishangarh, near Delhi, represents a new mile marker in the country's expanding transportation roadmap.

Doubling freight capacity on trains follows Indian Railways' recent decision to allow stacked-train access along the entire rail corridor. The development is part of the rail authority's bigger project to provide a freight-dedicated railroad network with doublestack train access connecting key gateway ports and major North Indian industrial centers by 2016. APL Logistics, in turn, plans to expand its stacked train service network as more rail corridors are allowed access.

"Double-stack trains help ease congestion at ports where rail corridor capacity constraints exist," says Amitabha Chaudhuri, managing director of APL IndiaLinx. "Shippers also stand to benefit from improved connectivity between key gateway ports and major industrial centers in North India." [ ]

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Reverse Logistics: The Untapped Revenue Stream

Reverse logistics has become an area of high priority for companies looking to reduce costs, add efficiencies and improve the customer experience. As a result, manufacturers are uncovering the hidden value of returned assets and streamlining return, repair and product reallocation processes.

Once a supply chain afterthought, reverse logistics has evolved into a highly complex endeavor. This is especially true in the hi-tech/electronics sector, where product lifecycles have dramatically shortened, global service networks create more supply chain complexity, products are highly customized to consumer preferences and sustainable practices are increasingly required.

For many companies, the whole reverse logistics/returns management process has been a kind of black hole; a cost center that offers little visibility into which products were in the pipeline, whether they should be repaired, repackaged, restocked, recycled or disposed of in some other way, or whether they belong in the reverse channel at all. However, effectively managing the reverse supply chain has increasingly become more important to the operational and financial performance of companies.

More than ever, companies are using robust, efficient reverse logistics networks to:

- increase velocity
- reduce costs (transportation, administrative, aftermarket support)
- gain service market share
- improve customer service and retention
- meet sustainability goals

Reverse Logistics and Sustainability

Reverse logistics is intrinsically aligned with sustainability. Instead of carting products to landfills, companies are recovering the value of the assets through a variety of other paths, such as returning to stock, donations, secondary market sales and recycling.

When companies maximize tons per mile, consolidate shipments, reduce returns and optimize product disposition/asset recovery processes, they are simultaneously reducing harmful emissions and energy usage, while increasing profitability and asset utilization.

More than ever, companies and their suppliers are required to provide environmental scorecards, quantitative environmental performance data and descriptions of sustainable initiatives. The synergy is obvious; end-to-end reverse logistics/product lifecycle management solutions translate into energy savings, provide economic value and strengthen customer relationships.

Advantages of Outsourcing Reverse Logistics

Companies that outsource some or all of their logistics services are looking for better control of their supply chains to drive quality, reduce costs, increase visibility and improve inventory management. For reverse logistics, this means increasing the speed and efficiency of recovering, inspecting, testing and dispositioning returned products.

A growing number of companies are turning to 3PLs to meet those goals. Reverse logistics is well-suited for outsourcing. Unlike forward logistics, it is characterized by uncertainty of supply; no one can easily predict which products are coming back, when they're coming back or in what condition they'll arrive in. Adding to the complexity is the customized nature of reverse logistics supply chains, which operate under company-specific rules that can vary for thousands of different SKUs.

Effective reverse logistics management requires a broad range of operational, technical and strategic capabilities including:

- scale and flexibility to meet changing business needs
- industry and geographic expertise
- visibility into the full product life cycle
- refurbishment/distribution center management
- web-based technologies and data integration

If you're considering outsourcing your reverse logistics operation, here are a few questions you'll want to answer about the providers you're considering:

- Do they have measurable performance standards?
- Do they have the ability to shift fixed costs to a transaction-based environment?
- Can they integrate forward and reverse logistics with overall supply chain strategies?
- Do they have leverageable infrastructure and transportation resources and move products into secondary markets, e-waste streams or back into the forward supply chain?

As companies consider these and other questions, they should keep in mind the cost reductions, supply chain efficiencies and improved asset recovery rates that a robust reverse logistics network can provide. In the face of ongoing competitive and economic pressures, companies should carefully weigh the benefits of working with trusted supply chain partners to navigate the complex world of reverse logistics/Product Lifecycle Management. By doing so they can establish themselves as leaders in sustainable supply chain management, while unlocking the hidden value of reverse logistics, one of the supply chain's last untapped revenue streams.

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ITMATTERS

by Doug Waggoner

Cloudy Days Ahead for Global Logistics

Cloud-based systems are innovating the way businesses connect by optimizing functionality and establishing networks that serve as global business process hubs. They bring order to the chaos created by the hundreds of processes that occur within a supply chain each day, coordinating real-time information being shared across relevant trading partners.

Without a standard business-to-business communications layer, supply chain visibility, efficiency, and velocity suffer, resulting in unnecessary costs and additional human resources needed to manage the inefficiency.

The ease and immediacy of connecting to a cloud-based network is its most significant benefit. Shippers can connect to a pre-built cloud-based network in two to three weeks. In comparison, the timeline to implement and on-board all necessary trading partners within an on-premise or Software-as-a-Service (SaaS)-based system can extend for years and cost millions. The ongoing need to on-board new partners results in additional costs.

The connection established by the cloud is more than just a link between businesses. Rather, it creates a virtual community where all relevant business partners have visibility to the information they need to execute efficiently as part of the network.

The cloud automates processes that occur between companies across the network, resulting in smooth inter-company collaboration and optimized efficiency.

Cloud providers are also able to pool their buying power, resulting in lower freight costs for shippers.

DATA-DRIVEN BUSINESS

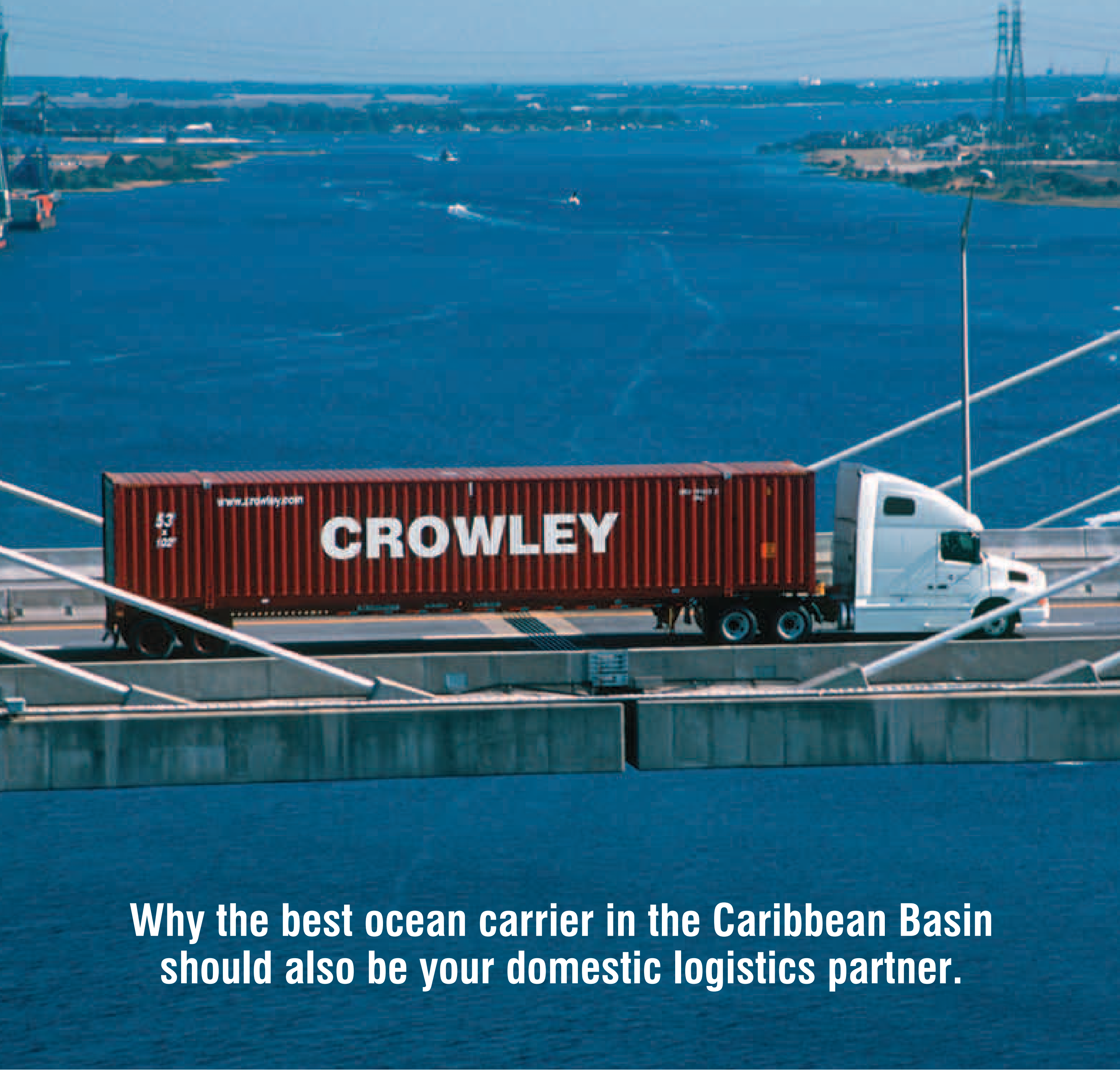
In an age where information is power, companies are hungry for data and the cloud can feed the demand. Cloud-based logistics providers can connect directly to a shipper's enterprise resource planning (ERP) system to analyze and benchmark the performance of their internal operations, which helps identify opportunities for cost savings.

During execution, the direct ERP connection helps automatically recognize customer orders and immediately identify transportation solutions at an optimized cost. This is done using pricing, service and available capacity data derived from the network, historical transaction information, and external market sources.

Cloud-based systems also provide sophisticated analytics that allow shippers to track individual shipments via customized data and reports. Real-time shipment monitoring allows users to take immediate action when problems arise en route. Users are empowered with necessary data to enable preventive or corrective action.

Most importantly, data can be shared across business partners. The data is standardized so all users see the same data in the same format, ensuring fluid communication of information across the network. Capabilities that the cloud enables inherently are nearly impossible to achieve via an on-premise system, and difficult and expensive to achieve via a SaaS-based system.

Cloud-based logistics systems are continually growing in significance as more businesses begin to understand their unique benefits. On a macro level, these systems hold the key to a quantum leap forward in efficiency and cost savings for the entire industry. ■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VIEWPOINT

by Page Siplon

Managing the Three V's of Logistics

As the logistics sector's impact continues to broaden across geographies and industries, a variety of factors are adding pressure on companies to improve logistics efficiencies. Three of the most prevalent supply chain challenges are:

1. Timed temperature control. With goods now being transferred across greater distances than ever before, temperature control is a growing industry concern. Once affecting mainly the agriculture industry, the issue is becoming more important to industries such as electronics and pharmaceuticals.

2. End-to-end visibility. In today's climate of recalls and 24/7 demand for information, business partners require end-to-end visibility throughout the supply chain. Centralized and integrated data also allows companies to shorten forecasting lead times, enabling more accurate inventory levels for their customers. More accurate inventory information, in turn, reduces the amount of waste due to overstocks and/or out-of-date products, and lowers inventory costs for all parties.

3. Security. Different types of security impact the logistics sector. First is threat to the product itself. High-value goods such as electronics and pharmaceuticals are increasingly targeted by thieves.

Multinational companies must also remain aware of possible threats to national security at airports and seaports, and across borders. The federal government is playing a greater role in cargo security, from enforcing credential checks at multiple points in the supply chain to enacting tighter regulations and rules that impact both shippers and logistics service providers.

Another area of security concern is the transport of perishable foods around the world, which increases potential threats to the food system. One solution gaining favor is sensor technology capable of detecting certain chemicals and gases resulting from contaminated food.

ADDRESSING THE CHALLENGES

Businesses can address growing logistics challenges by focusing on the Three V's: volume, velocity, and visibility.

■ **Volume.** Maximizing throughput at existing facilities is the most effective and efficient infrastructure to handle growth. Tools to help manage high volumes include warehouse management software, materials handling equipment, and access control systems.

■ **Velocity.** Businesses can compress their shipping and delivery cycles and improve overall agility or speed of response by implementing information-sharing tools and enterprise resource planning software.

■ **Visibility.** While real-time shipment status information is vital in the global supply chain, process visibility is equally important to identify and resolve systemic problems. Identification tools such as RFID and bar codes; position detection systems; and container security devices all play a role in providing visibility.

Today's environment of rapid change and increased security pressures companies to constantly adapt to new demands. Supply chain technology can help businesses address the increasing complexity of global logistics operations by managing volume, enabling velocity, and providing visibility. Tomorrow's supply chains will likely provide a new host of opportunities and challenges for logistics professionals to resolve. ■

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3PLLINE

by Clyde Mount

Enjoying the Perks of 3PL Order Management

All too often, the third-party logistics (3PL) sector views order management as an operations tool—a method of capturing and processing customer orders, optimizing them through the distribution network, and, finally, delivering goods to the customer. A more holistic view of this procedure includes client-side order processing, which presents opportunities to add value and profit, and control risk, as opposed to simply reducing cost.

Here are a few ways shippers can benefit from 3PLs' order management capabilities.

■ **Manage consumer and retail orders efficiently.** Keep track of who ordered what, where it was shipped, and when it will arrive. Allowing your customers to track their order status provides an opportunity to cross-sell, up-sell, and increase revenue.

■ **Capture sales information and provide marketers with real-time data.** Report multi-channel performance and deliver to marketers and inventory planners intelligence such as statistics on orders placed via phone, Web, your affiliate network, or your interactive voice response (IVR) system. Real-time demand information can also help to quickly identify potential shortages before they become costly problems.

■ **Manage and report on call center performance.** Examine agent and/or IVR performance, average call times, or the general success of a campaign. Order management allows shippers to evaluate and compare sales channel performance and trends, and identify and remedy problems in marketing, sales, conversion, and customer service.

■ **Provide intelligent payment processing alternatives that can increase sales.** Partner with a 3PL that offers alternative payment methods such as multi-pay or installment billing. And don't underestimate the impact of being able to adapt and change payment options and shipping quantities when a client needs an adjustment.

■ **Help manage merchant account relationships to prevent disruption and chargebacks, and keep customer satisfaction high.** Customer dissatisfaction, returns, and refunds affect all parties in the supply chain, but merchants are affected the most. They run the risk of losing not only a customer, but also their merchant account if too many refund requests pile up. Streamlining the returns process and cutting your risk is a necessary and attainable goal. Partner with a 3PL that has the order management experience, programs, and tools necessary to ensure your customers walk away satisfied—product in hand or not.

■ **Manage rapid returns and customer refunds.** The right 3PL will not only process and track returns and refunds quickly, but use the situation as an opportunity to increase customer satisfaction by providing an up-sell or cross-sell opportunity to the consumer.

■ **Detect fraud quickly, before goods are allocated and shipped.** Once an order has made it to the shipping floor, it's difficult to back-track—but your 3PL provider can test for transactional elements that allow you to prevent credit card fraud before it reaches this point.

When you begin to collaborate with your 3PL provider on order management, you will see you're not working with just another vendor, but with a value-adding, risk-cutting, profit-boosting partner you may have unknowingly kept in the dark for far too long. ■

Is U.S. Manufacturing Coming Back?

Shifting perspectives on supply chain management, coupled with the realities of total landed cost, are driving manufacturers to weigh the benefits of flinging production operations in China back to the United States.

By Lisa H. Harrington

U.S. CONSUMERS COULD SEE MORE PRODUCTS LABELED "MADE IN THE USA" ON store shelves in the near future. As labor rates in China soar and manufacturers discover unforeseen complications at overseas production facilities, many businesses are revisiting the advantages of keeping operations close to home. But are the benefits of domestic production strong enough to spark a true U.S. manufacturing renaissance?

One primary reason manufacturers first looked overseas now leads the list of reasons to re-think offshoring.

"Within the next five years, the United States is expected to experience a manufacturing renaissance as the wage gap with China shrinks and certain U.S. states become some of the cheapest locations for manufacturing in the developed world," predicted global business strategy firm The Boston Consulting Group (BCG) in May 2011.

"All over China, wages are climbing at 15 to 20 percent each year because of the supply-and-demand imbalance for skilled labor," says Harold L. Sirkin, a BCG senior partner. "Net labor costs for manufacturing in China and the United States should converge by 2015. As a result of the changing economics, more products will be made in the United States in the next five years."

Industry experts refer to the resulting manufacturing move from China back to the United States as "reshoring."

Twenty-one percent of North American manufacturers surveyed by manufacturing sourcing Web site MFG.com in June 2011 reported bringing production into, or closer to, North America in the past three months, up from 12 percent in first quarter 2011. Thirty-eight percent planned to research such a move in the next three months.

This trend could greatly improve U.S. employment, says MFG.com CEO and founder Mitch Free, who cites "the multiplier effect," in which every manufacturing job can create up to eight ancillary and support jobs downstream in logistics, retail, and services.

Bullish on 'Made in the USA'

The strength of the manufacturing reshoring trend has believers and skeptics. On the believer side, BCG argues that wage rates in Chinese cities such as Shanghai and Tianjin will continue to increase over the next few years, making them just 30 percent cheaper than rates in low-cost U.S. states, after adjustments are made to account for American workers' relatively higher productivity.

Because wage rates account for 20 to 30 percent of a product's total cost, manufacturing in these areas of China will be only 10 to 15 percent cheaper than in the United States – even before inventory and shipping costs are considered.

"After those expenses are factored in, the total cost advantage will drop to single digits or be erased entirely," Sirkin says.

Companies considering building a new factory in China to make exports for sale in the United States are increasingly likely to get a good wage deal and substantial incentives in the States.

"Lower-cost states can supply highly skilled workers," says Michael Zinser, a BCG partner who leads the firm's manufacturing work in the Americas. "And workers and unions are more willing to accept concessions to bring jobs back to the United States." Finding skilled workers in the lower-cost regions of China, by contrast, can be difficult.

Global technology and energy company GE has put reshoring to work. In early 2011, GE moved production of its energy-efficient water heater from Chinese contractors to its own factory in Louisville, Ky., in order to accelerate cycle time and speed new product launches.

The company took advantage of a 2005 labor contract under which Louisville plant employees are paid an average of $13 an hour, down from $22 prior to the agreement. GE also earned state and local tax credits of $25 million over 10 years, and federal incentives that encourage the manufacture of energy-saving products.

Making the device in Louisville already has allowed engineers to work closely with production managers and

Net labor costs for manufacturing in China and the United States should converge by 2015. As a result, more products will be made in the United States in the next five years.

— **Harold L. Sirkin,** senior partner, Boston Consulting Group

Reshoring Takes Hold

Many companies reconsidering the advantages of manufacturing in the United States begin by making incremental moves. Here are some examples of businesses that brought production of specific components or models back from overseas, or created U.S. jobs instead of operating in offshore locations.

- In 2012, **Nissan** will shift production of its lithium-ion batteries for the LEAF zero-emission vehicle from Japan to localized manufacturing, re-tooling an existing assembly plant in Tennessee.

- **NCR Corp.** opened a new 350,000-square-foot ATM manufacturing facility in Columbus, Ga., to produce ATMs for the North American market, bringing production back to the United States from China, India, and Hungary.

- **Yamaha Motor Corp. U.S.A.** and **Yamaha Motor Manufacturing Corporation of America** transferred production of new all-terrain vehicle models from overseas facilities to its state-of-the-art factory in Newnan, Ga.

- By 2012, **Ford Motor Company** will bring in-house approximately 1,975 hourly jobs that would be performed by suppliers inside and outside of the United States, exceeding its original commitment to the United Auto Workers by more than 25 percent.

- In February 2011, **Embraer** opened its first U.S. aircraft final assembly plant in Melbourne, Fla.

- European appliance manufacturer **Electrolux** will build a new cooking products factory in Tennessee, representing a shift from Canada.

- Florida-based **Sleek Audio**, which produces high-end earphones, moved its manufacturing back to the United States after a three-year foray into China.

assembly-line workers to perfect the product's design via rapid prototyping. By improving the efficiency of the design process, GE has cut per-unit costs by $20.

A Question of Balance

Labor cost savings are just one factor driving companies to reconsider manufacturing in the United States. To compete more effectively, a growing number of manufacturers are considering shifting operations closer to customers to provide better service, reduce total costs, and enable accelerated growth, according to a survey of 287 manufacturing companies, conducted by market research firm Accenture.

Companies are realizing that the physical location of supply and manufacturing operations can have a significant impact on overall competitiveness. An unbalanced network—where regional supply is physically separated from regional demand—makes it difficult for the organization to deliver on the very customer expectations that drive growth.

"Getting closer to the customer allows for improved flexibility to respond to uncertain demand and unknown customer requests in an agile way with fast delivery times, while maintaining high quality and optimized costs," write study authors John Ferreira, executive director of Accenture's North American Manufacturing practice, and Mike Heilala, a senior manager in the same practice.

"The ability to do this may not always be the lowest-cost approach, but other value drivers that the customer may require, such as also having the ability to quickly supply customized product or customer-specific SKUs, may be more important," they add.

In some cases, offshoring has negatively impacted companies' competitive advantage, limiting growth and revenue. For example, nearly half of the Accenture survey respondents encountered problems with cycle or delivery time, and 46 percent experienced product quality concerns as a result of offshored manufacturing and supply operations.

To speed cycle times and new product launches, GE moved production of its energy-efficient water heater from Chinese contractors to its own factory in Louisville, Ky. The benefits of this reshoring include labor cost savings, tax credits, and federal incentives.

A Total Cost Perspective

Manufacturers are beginning to recognize that many factors, such as component price and transportation costs, on which they previously based their offshoring manufacturing and supply decisions, have dramatically changed over the past few years—and those potential cost savings are no longer so impressive.

"In the first part of the rush to China, engineering and manufacturing leaders made outsourcing decisions based only on production and labor costs," notes David Morgan, CEO of D.W. Morgan Company, a global transportation and logistics provider based in Pleasanton, Calif. "Logistics wasn't invited to the party. Companies thought they would save 50 percent, but ended up saving only 10 percent once they factored in all the supply chain variables."

Many companies included only a small number of direct costs in their offshoring cost-benefit analyses, according to the Accenture study. They neglected to factor in such cost variables as taxes, country regulations, customer service, quality, inventory and other supply chain costs, human capital, and currency rates.

"This reliance on direct costs to the exclusion of other legitimate cost factors distorts the business case for offshoring, and likely many decisions to offshore were incorrectly made,"

Ferreira and Heilala note.

Although some industry experts support the reshoring trend, others believe it is too soon to say a significant shift is occurring. John White III, president of consulting firm Fortna, explains that the examples of companies reshoring to the United States are anecdotal, and don't represent a major trend. "I don't see a lot of companies reshoring from China, Indonesia, or other lower-cost countries," he says.

Companies may be pulling manufacturing operations from those countries, but they aren't necessarily relocating them in the United States. They may be nearshoring to Mexico, instead.

"Suppose I can manufacture a widget in China for $2 but it costs $1 to ship it here, and takes 80 days," Morgan says. "I can produce the same widget for $2.50 in Mexico, but it costs only 25 cents to get it here, and takes 15 days. Nearshoring, then, is the better option." About 25 percent of Morgan's high-tech clients are relocating production in Mexico.

While MSC Industrial Direct continues to maintain facilities and purchase products globally, it also recognizes the pressure to source in America by offering a 'Made in the USA' product in every category of its metalworking supplies.

Global Sourcing Here to Stay?

Melville, N.Y.-based MSC Industrial Direct Company, a direct marketer and distributor of metalworking and maintenance, repair, and operations supplies, distributes approximately 600,000 industrial products from 3,000-plus suppliers to 320,000 customers. Global sourcing is here to stay, whether operations are in Mexico, China, or other countries, says Doug Jones, the company's executive vice president of global supply chains.

"There is just as much opportunity in global sourcing as there was five years ago—if not more," he notes. "We used to be focused on China, but our Shanghai office now is looking at a number of countries."

There is pressure to source in America, and MSC Industrial Direct's product offering takes that into account. "The way we go to market is to have a 'Made in the USA' product in every category," Jones says.

Global sourcing does brings challenges, however. The company follows a rigorous process to qualify a new production source, with a focus on quality. MSC also weighs the impact of lead time on cost and service.

"We realize our service model increases from 10 or 15 days to 180 days from purchase order to receipt if we source in China," Jones explains. "We weigh the additional investment in lead time and inventory, currency valuations, and other factors, and make sure our total landed cost (TLC) still looks good."

Monitoring TLC is no small task at MSC, which maintains a global sourcing team dedicated to managing it.

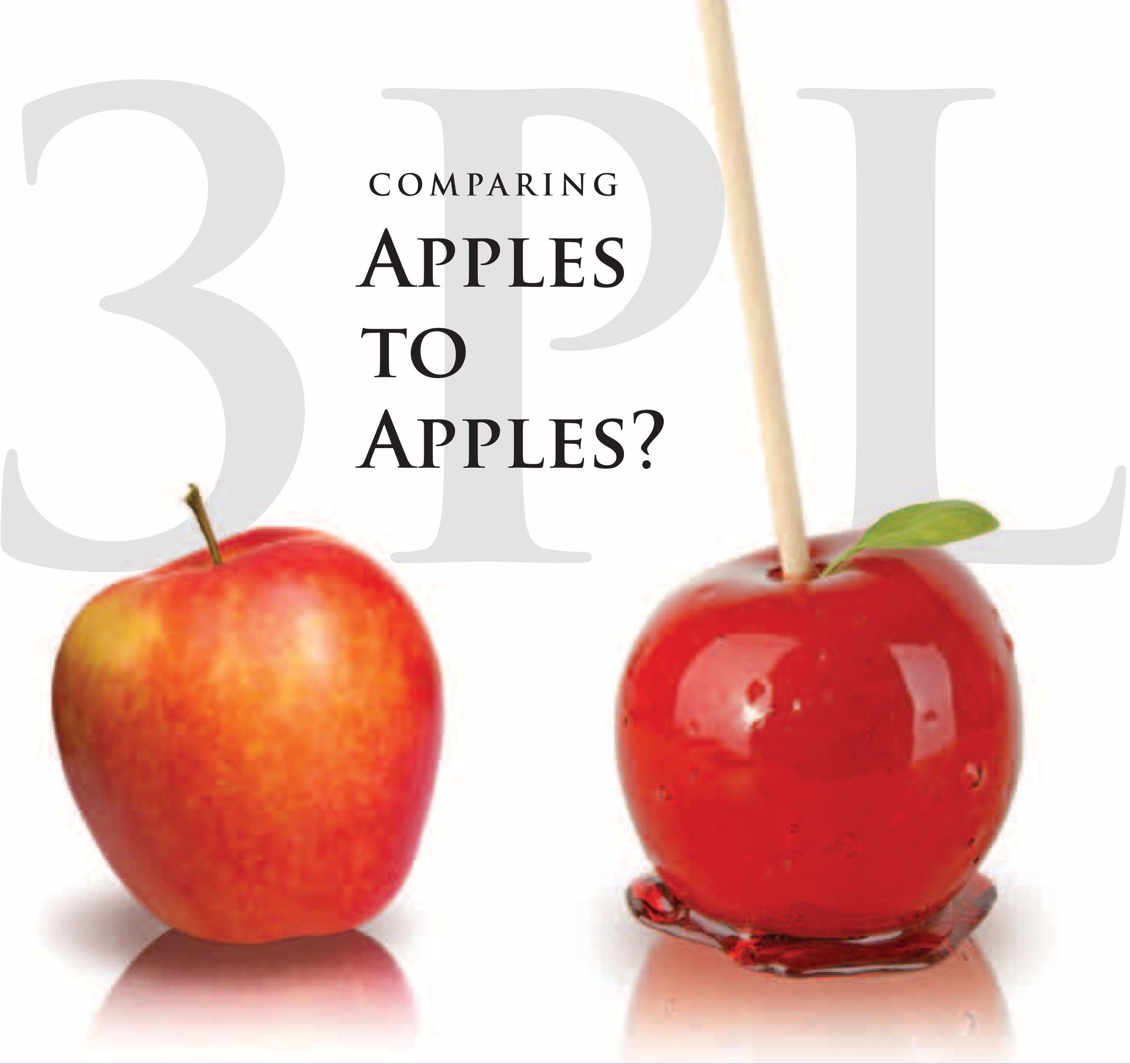
Making the Right Decision

Many companies still struggle with manufacturing location decisions. To help them evaluate suppliers and markets, and make better sourcing choices, Stephen C. Rogers, former director, worldwide purchases mastery at Procter & Gamble, and executive professor, Williams College of Business, Xavier University, developed a nine-step query process *(see sidebar, page 46)*. Rogers recommends taking a total landed cost approach, but being realistic about reshoring.

"It's expensive and difficult to bring manufacturing plants back to the United States, even if you kept the building," he says. "Companies underestimate the challenge of training workers and building self-directed manufacturing teams."

The "concentration of value" concept should also figure into the sourcing equation. "A laptop that sells for $1,000 is small and very high value. You can ship a lot of them a great distance and it still makes economic sense," says Rogers. "Laundry detergent, however, is a completely different value equation. It retails for $8 a bottle, so making it in China makes no sense."

Adopting a total cost approach to manufacturing location strategy is a complex task.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Nine Steps to Choosing a Manufacturing Location

Stephen Rogers, author of *The Supply Chain Advantage: How to Link Suppliers to Your Organization's Corporate Strategy*, developed this nine-step query process as a tool for supporting manufacturing location decisions. Asking the following questions, and completing the accompanying research and analysis, helps companies maintain an ongoing, dynamic, interactive review of their supply base. This review allows them to continually assess and improve supply capability and geographically locate/place suppliers where they provide best value.

1 Is this item currently made anywhere today, or could it be made with relatively small changes to existing supplier operations?

FACTORS/DATA TO CONSIDER: Broad geographic scan; industry analysis; patent searches

2 Is necessary quality available? If not, can existing quality work, or can a supplier make what we need?

FACTORS/DATA TO CONSIDER: 'Spec' understanding; cost and feasibility assessment; supplier assessment

3 Is capacity adequate or expandable with a reasonable investment?

FACTORS/DATA TO CONSIDER: Volume sensitivity analysis; feedstock/labor availability; capacity investment; industry supply/demand forecasts

4 Where are the supplier sites located?

FACTORS/DATA TO CONSIDER: Local, regional or global locations; leveraging opportunities to fill plants; competitive opportunities between suppliers

5 What are the delivered costs from supplier locations?

FACTORS/DATA TO CONSIDER: Freight on board price; market price history; freight, handling, duties, taxes, feedstock and labor cost trends; currency implications; transport capabilities

6 At each using location, are local costs or imported costs more competitive? Can they be influenced via competition, capital utilization, or negotiation?

FACTORS/DATA TO CONSIDER: Sourcing strategy; supply relationships; competitive analysis; trade laws/agreements; total cost of ownership analysis; value analysis

7 Is the logistics or delivery system capable of delivering against business needs?

FACTORS/DATA TO CONSIDER: Lead-time assessment; inventory and cash flow analysis; country entry provisions; political situation demand planning linkage; e-connections

8 Which supplier(s) meet the cost, quality, availability, and service needs of the business to provide value?

FACTORS/DATA TO CONSIDER: Supply matrix and capable supplier listings; potential new supplier options; competitive supplier overlays; contracting strategy; internal using location options; competition's use of capability we uncover; make vs. buy analysis

9 How will we deal with/anticipate market changes?

FACTORS/DATA TO CONSIDER: Annual assessment of usage; market; currency; trade laws; competition; supply/demand; cost structure; spec change; supplier relationship/ results

One way to determine production sourcing options is to focus on the business case and conduct a tipping point analysis. This assessment considers myriad factors from a supply chain perspective, including risk, flexibility, efficiency, and return on assets.

The tipping point analysis should begin with the product. "Start by asking whether you should limit, change, or modify your merchandising assortment," White advises. "These decisions create a ripple effect across the supply chain. Limiting assortment decreases inventory. Fewer products to plan results in better consolidations, so you can consider different modes and flows."

Once a company makes these decisions, it can evaluate tipping points. "Ask the question, 'If any of the assumptions and variables change significantly, at what point do I change my supply chain?'" White suggests. "For example, does a 25-percent transportation cost increase trigger a supply chain design change?"

How companies respond to tipping points varies depending on where they start. For a best-in-class company, for example, justifying a change typically is a bigger challenge because it may produce only a two- to three-percent improvement.

Rebalancing Supply

Recent reshoring and nearshoring moves by large firms suggest that, while there may not be a groundswell toward reshoring production to the United States, companies are rebalancing their supply to get closer to customer demand.

Over the next three years, nearshoring is likely to continue. The direction manufacturers take will depend both on their customers' requirements and on the product itself. More customized products, and those with less stable or difficult to predict demand patterns, will require carefully matching supply to demand location.

Products that require less human labor and are turned out in modest volumes, such as household appliances and construction equipment, are most likely to shift to U.S. production. Goods that are labor-intensive and produced in high volumes, such as textiles, apparel, and TVs, will likely continue to be made overseas.

As the reshoring debate rolls on, shifting perspectives on supply chain management, coupled with the realities of total landed cost, will persist in driving change. For now, the U.S. manufacturing reshoring trend remains neither all renaissance nor all hype, but something in between. ■


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SAFE TRAVELS

Prompted by new FDA regulations, shippers examine food transportation and distribution safety procedures.

by Perry A. Trunick

"WE NEED TO LOOK AT THE FOOD SYSTEM AS A WHOLE, BE CLEAR ABOUT THE FOOD SAFETY RESPONSIBILITY OF ALL PARTICIPANTS, AND STRENGTHEN ACCOUNTABILITY FOR PREVENTION THROUGHOUT THE ENTIRE FOOD SYSTEM—DOMESTICALLY AND INTERNATIONALLY." That's the statement Dr. Margaret A. Hamburg, commissioner of food and drugs, made the day before President Barack Obama signed into law the Food and Drug Administration's Food Safety Modernization Act (FSMA). Hamburg was referring to the entire food supply chain, including its new transportation rules.

The FSMA took a rocky journey through the U.S. Congress, but now that it has passed, it sets a mandate for the Food and Drug Administration (FDA) to require comprehensive, service-based, preventive controls across the food chain. These controls cover safe production and harvest, the facilities used to store and process food, and the transportation system

Facilities such as this Cash & Carry food warehouse must comply with practices outlined by the Sanitary Food Transportation Act.

that handles products along the supply chain.

For food shippers, complying with the FSMA means more inspections, recordkeeping, and testing. It also gives the FDA greater authority to act—including issuing mandatory recalls if a company does not respond to a voluntary recall request.

Before the new law gave the FDA authority to require a recall, food companies typically recalled much more of a product than was actually affected, or even suspect, in an effort to ensure safety, notes Jon Eisen, senior vice president, government relations for the International Food Distributors Association (IFDA), a trade organization of foodservice distributors serving operations throughout the United States, Canada, and other countries.

In recent disease outbreaks resulting from contaminated food, determining the source of the contamination has been difficult, Eisen says. In one case, for example, tomatoes were recalled, but authorities later determined that tomatoes did not cause the outbreak.

Other challenges impede determining a foodborne disease outbreak's cause. For example, even if the FDA knows the source of the contaminated food, the problem could have occurred in a field that has already been harvested. And a blanket recall statement could cause consumers to avoid all products in that class—say, not buying spinach because a specific crop is suspected as the source of an outbreak.

Responding to an advance notice of proposed rulemaking for the Sanitary Food Transportation Act (SFTA), IFDA points out that "foodservice distributors have been primarily regulated by current Good Manufacturing Practices (GMP) contained in Title 21 of the Code of Federal Regulations."

During a revision of the GMP regulations, specific provision was made for warehousing and distribution: "Storage and transportation of finished food shall be under conditions that will protect food against physical, chemical, and microbial contamination, as well as against deterioration of the food and the container," IFDA notes.

However, the SFTA requires the Secretary of Health and Human Services (HHS) to "issue regulations setting forth sanitary transportation practices to be followed by shippers, motor vehicle or rail carriers, receivers, and others engaged in food transport."

That broad-brush language sweeps in not only the food distributors represented by IFDA, but also any shipper, consignee, carrier, warehouse, or third-party logistics provider.

Buried deep in the SFTA's history is the fact that the U.S. Department of Transportation (DOT) was originally assigned the task of inspecting food safety during transportation. Because food inspection fell outside DOT's expertise, that responsibility was eventually shifted to the FDA, which had the opposite problem.

Although it possessed the knowledge and mechanisms for inspecting food safety in the field and in facilities, the FDA did not have transportation expertise. As a result, little has happened in food transport, aside from the industry itself providing better controls and visibility. And now, HHS, the agency over the FDA, is being directed to develop safe practices for food transportation and distribution.

IFDA has been vocal about the rigor the food industry already applies to these functions. "Further rulemaking developments in this area should refrain from overly prescriptive regulatory language, which would be inappropriate because of both over-breadth and under-inclusiveness," it cautioned in comments concerning SFTA.

"Many procedures employed by foodservice distributors are mandated by customer specification," says IFDA. "For example, if one or more customers require that frozen products be delivered at no greater than -10°F, and fresh perishables be delivered at no greater than 38°F, foodservice distributors will adjust their practices to comply with these requirements."

Further describing how best practices regulate the industry, IFDA says, "Sophisticated foodservice operators will present distributors with exhaustive sets of product storage and delivery specifications, as well as require their own or third-party audits."

The FDA's Food Safety Modernization Act aims to ensure the U.S. food supply's safety by shifting the focus of federal regulators from responding to contamination to preventing it.

At this point, the effort is not to stave off regulation—the Food Safety Modernization Act is already law. The effort is to encourage collaborative efforts from the public and private sector to ensure safety while avoiding overly restrictive requirements.

Regarding increased FDA inspections, "Inspection as to the condition and functioning of outbound trailers is part of any master sanitation schedule," the IFDA points out. "The reasons for this are simple: maintenance of the cold chain is an essential part of ensuring not only compliance with Good Manufacturing Practices under 21 C.F.R. § 110.93, but product quality and cost containment as well.

"The essential principle is that a foodservice distributor will not accept an out-of-specification product inbound, and will not send product outbound if the conveyance is not operating in accordance with the customer's specifications," the trade group adds.

ONE UP, ONE DOWN

Traceability is the tougher issue that may result from the mandate for sanitary transportation rules. Doug Sibila, CEO of Peoples Services Inc. and a member of third-party industry group the International Warehouse Logistics Association's (IWLA) government affairs committee, says IWLA has been out ahead of the traceability issue and recall requirements.

On the recall issue, he says, the government initially wanted anyone who touched a product to be responsible for a recall if something was amiss. The third-party industry has held that it does not own the goods under its care. Rather, a condition of bailment (one party gives property to another party for safekeeping) exists where possession or control, but not ownership, of the item is transferred. The bailment condition ceases when the agreed purpose for the bailment has been completed and the goods are returned to the bailor or disposed of according to the bailor's instructions.

For a food warehouse, the bailment exists for the storage of the goods, and essentially ends when the owner of the goods directs them to be delivered to a customer. That much may be clear and can keep the third party out of the recall requirement, except as it acts at the direction of its customer to collect, store, or transport recalled food items.

But as government agencies look for better visibility and traceability of adulterated food, current laws limit how far they can require traceability. And that is one level up and one level down the supply chain, under the Food, Drug, and Cosmetics (FD&C) Act.

The FDA spells it out: "Persons who are required to submit a facility registration under the FD&C Act are the owner, operator, or agent in charge of a domestic or foreign facility engaged in manufacturing, processing, packing, or holding food for consumption in the United States."

This levies a reporting requirement on those "responsible parties" under the Reportable Food Registry in cases where there is "a reasonable probability that the use of, or exposure to, such [adulterated] article of food will cause serious adverse health consequences or death to humans or animals."

In addition to reporting the situation to the FDA, the responsible party also notifies the immediate previous source(s) and/or immediate subsequent recipient(s) of the article of food. Each level of "responsible party" that receives

(continues on page 56)

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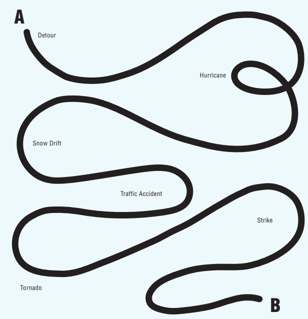

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Refrigerated Transport Faces Cold Realities

There's some debate about whether the developing driver shortage in the motor carrier industry will be as significant to food shippers as feared.

On the industry side, motor carriers cite difficulty recruiting new drivers into the career, added safety reporting under Compliance, Safety, Accountability (CSA) rules, and the impact of other potential regulatory changes, such as hours of service.

From the government side, the Federal Motor Carrier Safety Administration (FMCSA) reportedly commented that it doesn't see the potential for an impact as significant as predicted, in part because of the number of driver layoffs over the past few years.

But the industry reiterates the concerns over drivers electing not to return to the industry, stricter safety reporting that would reduce the number of eligible (or desirable) drivers, and shorter hours of service cutting into productivity and requiring additional drivers to cover the same volume of work (not to mention potential growth in freight volumes).

The problem facing members of the International Food Distributors Association (IFDA) depends more on geography and the economy, says Jon Eisen, senior vice president of government relations for the IFDA. Rather than a widespread shortage, certain markets appear to have a tighter supply of drivers. In addition, local economic conditions come into play as demand for drivers will rise and fall, and competition from other fields may lure drivers off the road. So, shortages in the refrigerated transport (reefer) segment tend to be by company.

One factor that comes into play for drivers in the food segment, the majority user of temperature-controlled transportation, is that drivers don't just drive, they are also responsible for loading and unloading their trucks and providing customer service. That makes the job a little harder to fill, says Eisen.

And, while the segment deals with the need to find drivers willing to do more than drive, Eisen hears the same kinds of concerns from IFDA members as from the industry in general—of every 10 applicants, they are only able to go through the pre-employment process with two or three.

With CSA safety scores being applied not only to the motor carrier company, but also available on individual drivers, there are added concerns over not only the supply of desirable drivers, but also the premium price that may attach to drivers with good safety scores.

Both Sides of the Coin

The food industry sees both sides of the coin when it comes to issues affecting transportation. On the inbound side, most transportation is handled by common carriers, while outbound operations tend to be through private or dedicated contract fleets. Larger industry trends that affect capacity and cost come into play on the inbound side. Some of those issues are mitigated on the outbound side, where companies tend to control their own destiny. Driver retention is one of those factors.

For-hire carriers may experience high turnover rates among drivers, but the experience on the private or contract fleet side leans to more stability. Private or contract, the drivers for IFDA member companies "wear a company uniform," says Eisen.

Other factors coming into play for the industry in general include requirements for onboard recorders to register and report on the vehicle duty cycle. Many private and contract fleets handling food products have already added the recorders for their own productivity gains and in anticipation of federal deadlines.

The industry doesn't see a significant compliance problem on the outbound side, where it operates private and contract fleets, but onboard recorders now shine a light on another problem.

During a state budget crisis, one victim of state shutdowns was highway rest stops. An inconvenience for automobile drivers, the closures were a significant concern for over-the-road truck drivers. Drivers approaching the end of their hours-of-service cycle with no rest stop available to provide safe parking while the vehicle was out of service faced a safety risk or an hours-of-service violation if they elected to drive on and find an open rest stop. Onboard recorders would be unforgiving in recording an hours-of-service violation, which could affect the driver record and the carrier score under CSA.

Taking a Break

The rest stop closures were a temporary problem that the states quickly remedied, but it signals potential problems in the future. Proposed hours-of-service rules would require drivers to take a half-hour break after seven hours on duty. This adds to the need for safe parking for drivers, as well as the more regional types of service performed by outbound delivery fleets such as those employed in the food industries.

Arne Gonzales, a supply chain executive for the H-E-B grocery chain, modeled the impact of CSA and hours-of-service changes on capacity and transit times on the regional chain's inbound produce shipments. The Texas-based retailer determined produce inbound from southern California would require an additional day of transit time. "That is big for us," says Gonzales.

In the final analysis, the refrigerated transport sector may be insulated from some effects of market forces and regulatory changes in motor carriage, but could suffer exaggerated effects in other areas.

And, regulators have one more card to play: the Sanitary Food Transportation Act, which is being driven by the recent passage of the Food Safety Modernization Act.

(continued from page 52)

such notification, in turn, reports and notifies under the same terms, taking the process completely up and down the supply chain.

Currently, industry sources believe the one-up, one-down requirement under the FD&C Act also governs the Sanitary Food Transportation Act.

In the current notification scheme, a responsible party may be called upon to communicate a suspected problem with multiple sources and/or multiple recipients– especially in the case of mixed product loads.

How far sanitary transport rules might go is difficult to say. A facility receiving moldy or foul-smelling produce would likely reject the load and notify its supplier, and possibly the carrier, to initiate a claim. Does that constitute a reportable food under FDA guidelines?

If a load arrives that should be refrigerated to 38°F, but the trailer doesn't feel cold when the dock worker enters, is that enough to require reporting and notifications under the yet-to-be-determined sanitary transportation rules?

In both cases, the problem could be limited to a single load, and the situation is contained when the suspect food is removed from the food chain. A one-up notification helps identify whether the problem extends to an entire lot of multiple shipments or is limited to a single trailer load. And, with the use of technology that is already required for commercial vehicles, that determination could be made quickly.

The same onboard recorders that register vehicle duty cycles and driver records can add data collection from temperature sensors monitoring the load. When a visible problem is detected at the receiving dock, those records could be polled to determine whether the whole load was subjected to unsafe temperature ranges for prolonged periods.

The situation changes slightly if there is no visible cue to examine the load more closely. If the refrigeration unit operation was interrupted but is running when the load is delivered, it may not be apparent that there could be a problem. That information would come from the data record contained in the onboard recorder, and it may only become visible when the carrier retrieves the data.

If the sanitary food transportation rules mirror those already in place for food safety, the carrier becomes the "responsible party" required to notify one up and one down the supply chain of the possible problem.

The food industry has been urging the FDA not to create excessively restrictive or redundant rules as it meets its statutory requirement to develop safety regulations. Parallel developments in driver safety and compliance, industry best practices, and the economic need to improve productivity and reduce waste have come together to provide a nearly complete solution for food safety, just when the responsible regulatory agency is looking for answers. ■

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MATERIAL DIFFERENCE:

PACKAGING INNOVATION, INSIDE AND OUT

Manufacturers are adapting their shipping cartons to effect supply chain change. By reducing waste, slashing transport costs, and boosting efficiency, these innovative strategies provide the total package.

by Joseph O'Reilly

Packaging is generally crumpled, creased, folded, bundled, binned, shredded, sorted, sometimes recycled, and often cast aside. Whether the protective material is corrugate, Styrofoam peanuts, or sealed air, consumers are largely indifferent—only the product nestled inside matters.

Consumers are not alone. In supply chain cycles, packaging rarely receives the attention demand planning, materials sourcing, manufacturing, transportation, distribution, and return logistics enjoy.

For some manufacturers, however, product packaging has redeeming value. Ensuring customers receive what they order in mint condition and at minimal cost is the mark of a well-thought-out strategy.

Orem, Utah-based table and chair maker Mity-Lite and Columbus, Miss.-based Jubilations Cheesecakes each face unique process requirements, customer demands, and supply chain constraints. But they share one common thread: Whether it's spending more or using less, packaging has become a platform for effecting supply chain change.

THE END OF THE LINE

Mity-Lite, which produces and ships a variety of lightweight folding tables and stacked chairs for commercial use, has been in the throes of a lean manufacturing revolution for the past few years. The move to lean began with a 5S initiative—a workspace organization methodology that organized the factory layout so parts and materials were presented when and where they were needed, in the right quantities.

"We moved toward a factory layout that allows product to flow from one end to the other," says Brian Bowers, COO, Mity-Lite.

The manufacturer used to send table legs to China for fabrication. But it became so efficient using a cell manufacturing strategy that it brought production back from China and now manufactures the legs on-site. "We became more cost-effective than our Chinese counterparts," notes Bowers.

Mity-Lite took a similar lean approach to packaging. "We had a vendor-managed inventory arrangement with our corrugated supplier," explains Bowers. "If we wanted to keep 200 of one type of box on our shelves, the supplier would come around a few times a week and replenish our stock to that level."

In 2008, Mity-Lite reconsidered its strategy, sizing up a new project to be implemented in summer 2009 with packaging supplier Packsize. The Salt Lake City service provider's value proposition is unique. Customers pay Packsize for corrugated supply per transaction. In return, they are able to use the company's proprietary box-cutting machine to tailor packaging to SKU size.

Packsize has found a niche among manufacturers that produce a variety of products. It has also identified e-fulfillment, where multi-SKU package configurations present challenges, as an area ripe for greater packaging efficiency.

"The challenge for shippers is that packaging is rarely a core competency," explains Hanko Kiessner, CEO and founder of Packsize. "We can't succeed simply asking for capital. Competing for equipment is always a tough sell."

Manufacturers may not want to

Brown Thinks Green

Over the past few years, UPS has helped industry understand sustainable transport packaging. As part of its Eco Responsible Packaging Program—which recognizes green-leaning customers—the expedited carrier has identified three categories for measuring sustainable transport packaging performance:

1. **Materials.** The most common packaging material is corrugated, which is 83 percent recyclable.
2. **Cube optimization/product package ratio.** Ideally, boxes should be no bigger than necessary without excess material waste.
3. **Protective element.** Protecting the contents of a package means eliminating the costs of damage and shrinkage. If a consignee receives a compromised product, manufacturing and packaging footprints are both doubled—in addition to extra shipping costs.

Engineers in UPS's lab test packaging to ensure it can withstand supply chain stresses while providing sustainability benefits.

Jubilations Cheesecakes developed a packaging solution that incorporates polyurethane foam inserts, dry ice, and corrugate to ensure its products' arrival is cause for celebration.

invest thousands of dollars in packaging machinery, but receiving the equipment with their corrugated supply, from their corrugated supplier, adds value to the arrangement.

Packsize customizes and scales systems to specific user needs, such as different package sizes. It also consults with shippers to help them design efficient packages by considering their corrugated needs and identifying opportunities to simplify operations and reduce spend.

Mity-Lite has netted marked gains thanks to the new solution. During its lean transformation, the manufacturer made a concerted effort to achieve a one-piece flow, demand-pull system. Packsize's solution fits into that ideology by producing right-sized packaging on demand.

Packsize's corrugated box solution allows shippers to create customized packaging on-site, eliminating packaging SKUs and inventory space requirements.

As a consequence, the manufacturer has doubled labor productivity and replaced approximately 40 different packaging SKUs with three or four. The project has improved warehouse utilization by reducing corrugated storage space by 33 percent. Mity-Lite has saved money in the process, as well.

"Summer 2008 brought the highest commodity price increase we've ever seen, so we were considering every opportunity to reduce cost," says Bowers. "Packsize was able to better compete on corrugate prices, because that's all it sells. There is no value add. The machine does everything else."

THINKING INSIDE THE BOX

Packsize's solution enables shippers to eliminate packaging SKUs and inventory space; reduce labor; purchase bulk corrugate at a commodity price; avoid packaging shrinkage and obsolescence when lines switch over; and create customized package designs that increase protection and rationalize cube space.

"A cabinet manufacturer shipping a portion of product with UPS needs a different level of protection when it ships full truckload dedicated to one consignee," says Kiessner. "Our system recognizes this on the fly, and provides a different package design with more protection."

UPS knows a few things about the importance of packaging, given its reputation for moving brown boxes around the world.

"Packaging is what the customer sees," says Arnold Barlow, marketing manager of sustainability solutions at UPS. "It doesn't matter how good a product is if the packaging is not consistent and does not convey the message a company wants to send. It can undercut an organization's value proposition and brand equity."

UPS has been operating a package engineering group for more than 30 years. Visiting and working with customers, it observes different processes, tests prototypes, and helps with design.

"Shippers consistently come to us for assistance testing packaging worthiness," adds Barlow. "We also help design better solutions that reduce damage, use space more effectively, and eliminate packaging material."

Because of the breadth of UPS's global operations, it can identify ways packaging influences different areas of the supply chain. Its customer solutions group looks at warehouse design, network optimization, carbon and cost effectiveness, and business process engineering.

Shippers often seek UPS's counsel when trying to balance cube optimization and product protection.

"Shippers approach us because they either have damage issues or want to prevent damage issues for a new product," says Barlow. "Packaging has a disproportionate influence because of its visibility. You can't see how a laptop is manufactured, but you can see the box it ships in."

Jubilations Cheesecakes has more

incentive to protect its product than most. The company has been working in concert with Elmwood Park, N.J.-based packing provider Sealed Air and UPS over the past few years to fine-tune the boxes used to transport its prized cheesecakes.

"If we want to ship cheesecakes cross-country, we have to start with package design," says George Purnell, president, Jubilations Cheesecakes. "It's more important than anything else we do.

"The package design creates economy in shipping, which allows us to sell in markets that otherwise would be too expensive," he adds. "It helps us cut shipping costs and sell at a price point where we can't otherwise."

Making sure product is properly refrigerated during transport is a cardinal consideration. Jubilations has developed a sophisticated packaging solution that incorporates polyurethane foam inserts, dry ice, and corrugate to ensure proper protection. But the company continues to tinker with its boxes to find even better ways to increase insulation and protection.

ENGINEERED FOR SUCCESS

Jubilations designs its packages with UPS in mind. Then Sealed Air makes it happen. For example, the logistics company provides heat cabinet testing to simulate summer conditions so Jubilations can see how its packages perform. UPS also manages several different environments and figures out how long cheesecake can stay frozen, which is critical.

Beyond that, UPS's engineering group helps the cheesecake maker identify the best balance between insulation/protection and transportation cost—which is especially important for smaller shippers.

"We can insulate a cheesecake so it will last a long time, but it won't be in a package that ships efficiently," says Purnell. "The cube of that box becomes detrimental to our UPS rate. We had to find the right combination of insulation and cube that allows us to ship as many days via ground as possible, and avoid requiring air freight."

Purnell doesn't mind spending more money on packaging if it helps reduce transport costs. UPS doesn't want to ship dead air any more than Jubilations does. In extreme cases, the cheesecake maker will spend two to three times as much in packaging so that it can reap savings in shipping. The difference can be as much as $40 per cake.

"The packaging design was harder than the recipe for our cheesecake—and the recipe for our cheesecake is pretty special," says Purnell. "Without experts in packaging—at Sealed Air, our corrugated and polystyrene suppliers, and UPS—we would never have gotten it done."

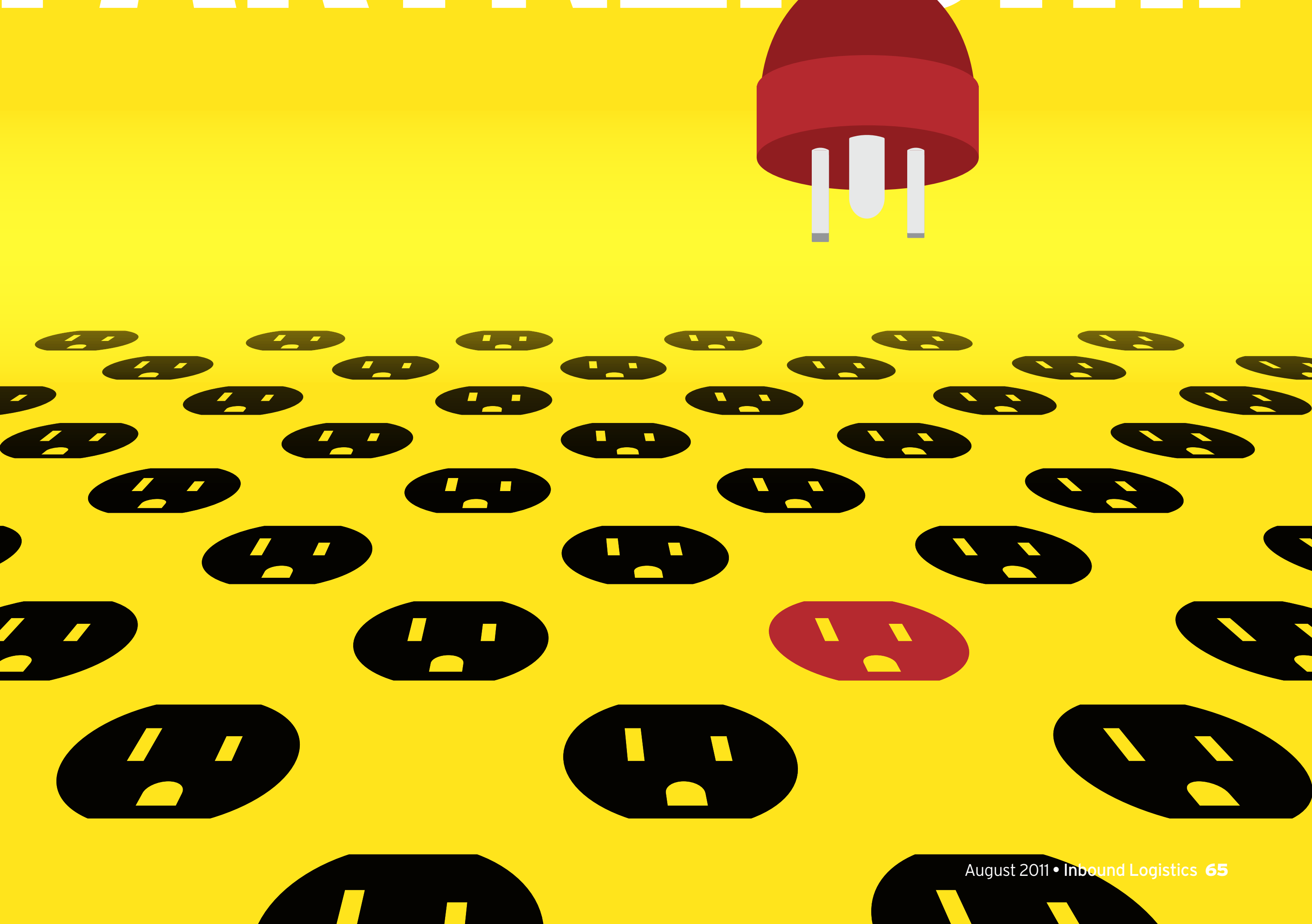
However you want to insulate, pad, wad, wrap, tape, or tie it, packaging is changing the way companies look at different functions within their supply chains—from the inside and out. ■

SPONSORED EDITORIAL

Utilities & Site Selection

A POWERFUL PARTNERSHIP

Energy resources often spell the difference between an adequate location and a great one. What better argument for plugging into energy utilities during the site selection process?



Utilities & Site Selection

A POWERFUL PARTNERSHIP

When a company starts shopping for a new facility site, its first call might be to a state or local economic development agency. Somewhere along the line, though, it also makes sense to reach out to the people who will be responsible for lighting and heating the building and making the machinery run.

Utilities often play an energetic role in site selection. One reason is that a business planning to open a new facility needs reliable power at a reasonable price. But utilities also bring extensive knowledge to the process, along with a refreshing surge of impartiality.

Energy utilities get involved in economic development because they have a vested interest in helping grow the communities they serve, says Mike Kearney, manager of economic development for St. Louis-based Ameren Corp., which supplies electric and gas services primarily to Missouri and Illinois.

As businesses investigate prospective homes for a new site, a utility can serve as an effective liaison. "Ameren is a neutral party in this process," Kearney says. "The client chooses the sites to consider. Our goal is to provide information that helps our communities put their best foot forward."

In states and communities with active economic development agencies, utilities often function as supportive partners, says David Smith, current president of the Utility Economic Development Association (UEDA), a non-profit international association of investor-owned electric and gas utility economic development professionals.

But where government organizations don't have a strong presence, utilities may step in to fill the gap.

Ameren Missouri serves 1.2 million electric customers in a service territory that includes the large St. Louis metropolitan area.

Either way, utilities offer a unique perspective, in part because of their longevity.

"Utilities are not subject to political changes that often arise in state and local government when a new party takes over," says Smith, who is director of economic development for Duke Energy Ohio and Kentucky. With less turnover, economic development officials at utilities can get to know their communities in depth, and develop solid relationships with all key players.

And their expertise cuts across jurisdictions, a fact that's especially useful to a company looking at multiple states. "Utilities are unbiased when it comes to where a project actually locates—as long as it's in their service territory," Smith says.

Bi-state Benefits

Broad geographical reach is one of several advantages that Ameren Corp. brings to the site selection process. A holding company, Ameren straddles the Mississippi River with two major energy subsidiaries. Ameren Illinois, based in Peoria, is a regulated electric and gas delivery company serving three-quarters of the state. Ameren Missouri generates, transmits, and delivers energy to about 1.2 million electric and 126,000 natural gas customers in central and eastern Missouri.

Ameren offers a single point of contact for site selection on both sides of the state line. One of its services is a comprehensive database of available sites and buildings in its territory. To add extra value to that list, "we are trying to pre-screen industrial sites to further qualify them and help accelerate the process," Kearney says.

Another resource Ameren offers is a series of workforce surveys that quantifies the skills, education level, and other attributes available in each community it serves.

Companies enjoy a great deal of choice in Ameren's service region, which includes the large St. Louis metropolitan area and mid-sized cities such as Peoria and Jefferson City. It boasts cities with prominent universities, and a diverse transportation infrastructure encompassing highways, railroads, airports, and barge terminals.

Ameren's operations group works with companies to make sure they get the energy infrastructure they need for their new facilities.

"When companies look for a new site, they're on a fast timetable," Kearney says. "They want to get in and start operating, hassle-free."

Starting early in the site selection process, Ameren helps companies identify their necessary energy services, and stays involved through the construction process.

Both existing companies and new arrivals benefit from Ameren's programs designed to encourage energy efficiency.

"We offer our existing business base the opportunity for facility upgrades that can include lighting, HVAC systems, and geothermal and motor retrofitting projects," says Cheryl Welge, business development executive at Ameren Business and Corporate Services.

Companies can use these incentive programs to design for energy efficiency as they develop new facilities. Anheuser Busch distributor Donnewald Distributing Co. recently consolidated four distribution centers into a single facility in Greenville, Ill.

"Donnewald utilized the incentive program to install a geothermal cooling system," Welge says. "That project is achieving about 750,000 kilowatt-hours of energy savings each year." Donnewald received approximately $50,000 from the Ameren Illinois Utilities Act On program to help reduce the project's payback period.

Public Powerhouse

In Nebraska, companies also may turn to a utility to help site a facility, or to manage energy costs once a location is chosen.

With a chartered area that includes 91 of Nebraska's 93 counties, Nebraska Public Power District (NPPD) is the state's largest electric utility. It operates as both a wholesaler and a retailer. In some regions, it delivers power directly to business and residential customers; it also supplies power to local utilities operated by 52 towns and 25 rural public power districts and cooperatives.

Companies conducting location searches will find a database of sites and buildings, and a series of community profiles on NPPD's Web site.

"If site selectors have additional questions about a site or community, our team of professional economic developers will work with them confidentially," says Ken Lemke, an economist with NPPD.

Businesses already located in NPPD's service area may work with its energy efficiency team to conduct audits that identify opportunities to reduce energy use. The utility also offers incentives for conservation. One program, for example, helps commercial and industrial facilities cover the cost of upgrading to more energy-efficient lighting systems.

Another helps pay to install high-efficiency motors.

Whether or not it takes advantage of such programs, any company building a facility will be looking for a reliable power source with enough capacity to meet demand. It also will be looking for reasonable rates.

In 2010, NPPD spent $215 million on capital projects to enhance reliability, including constructing a new transmission and distribution infrastructure and a new operations center. NPPD also recently received a 20-year extension on the operating license for its Cooper Nuclear Station, and completed its first year as a member of the Southwest Power Pool, a regional organization that coordinates the development of transmission capacity.

To increase reliability, "we have made major investments in upgrading our infrastructure 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," Lemke says.

NPPD also works to maintain variety in its energy sources, including renewables. The utility currently buys energy from several wind farms and has agreements to buy from multiple facilities due to be constructed.

As for cost, businesses in NPPD's service area benefit from the fact that the utility and its wholesale partners are publicly owned. "Customers receive their dividends through their rates," Lemke says.

Open for Business

In Joplin, Mo., rebuilding after the devastating tornado that struck in May 2011 is top priority. But Joplin is very much open for business, and its utilities play a major role in helping the city move forward.

Empire District Electric Company, an investor-owned utility headquartered in Joplin, serves about 10,000 square miles of territory in southwestern Missouri, southeastern Kansas, northeastern Oklahoma, and northeastern Arkansas. Following the May 22, 2011, tornado, Empire moved quickly to restore power to affected areas, says Rob O'Brian, president of the Joplin Area Chamber of Commerce. "Most of Joplin had its power back within one week," he says.

Over the past five to 10 years, Empire has worked steadily to increase its generation capacity and broaden its array of energy sources. "For example, the utility has added wind energy to its mix," O'Brian notes.

Empire also has added new gas-fired power plants to provide supplementary capacity during peak demand periods, and has collaborated with several other utilities to construct two clean coal plants. Those investments have boosted capacity and increased service reliability in Empire's territory.

The natural gas utility that serves Joplin also has increased its capacity in recent years. O'Brian cites the city's Crossroads Business and Industrial Park, which stands in an area that previously did not boast a great deal of gas infrastructure. When Joplin's Industrial Development Authority decided to tap a major interstate gas pipeline about three miles away in order to serve the park, Missouri Gas Energy agreed to share the cost of that connection.

"Then, when it came to the main lines inside the park, Missouri Gas installed oversized lines, so the park would have a substantial amount of gas service," O'Brian says.

The abundant natural gas supply attracted Hampshire Pet Products, a Joplin-based producer of baked dog treats founded in 2000. Energy costs were an important consideration when Hampshire chose Joplin for its 160,000-square-foot facility.

"Crossroads is connected to the Southern Star gas transport pipeline, and the park was designed to provide the volume of gas that we needed," says Bob Weaver, the company's CFO. "This factored in our site selection process."

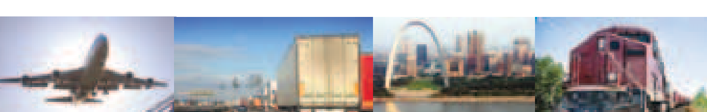
To maintain variety in its power offerings, Nebraska Public Power District purchases energy from several wind farms.

Speed to Market

One more advantage a utility brings to the site selection process is its ability to streamline the search. As a company starts narrowing its focus to specific sites, a utility partner can screen those locations to determine which ones offer adequate power today, and which are viable candidates for adding extra service capacity in the future.

It's also another powerful argument for plugging into an energy utility. ■

For information on participating in an Economic Development Supplement, contact James O. Armstrong at 815-334-9945 or jim@inboundlogistics.com.



SPECIAL ADVERTISING SUPPLEMENT

FORKLIFT 2011 BUYER'S GUIDE

INBOUND LOGISTICS

Lift truck buyers must match their facility's needs with a materials handling solution that can flex with expectations. You'll find some of the market's top offerings here, in Inbound Logistics' annual Forklift Buyer's Guide. The manufacturers featured in this special supplement offer the safest, best engineered, most ergonomic, efficient, and reliable forklifts available.

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▼ Drexel SLT30AC

CAPACITY: 3,500 lbs.

POWER SOURCE: Electric

MAXIMUM LIFT HEIGHT: 26′

TRAVEL SPEED: 6 mph loaded; 7 mph unloaded

APPLICATION: For use in a range of settings, including bulk storage, drive-in rack, and loading dock work.

The Drexel SLT30AC is a very-narrow aisle SwingMast forklift for applications where stacking aisle size is the most important feature. The three-wheel lift truck offers rear-wheel drive and steering, and can maneuver in aisles as narrow as 4.5 feet.

▲ Landoll Stand Up Compact (LSC)

CAPACITY: 3,000 lbs.

POWER SOURCE: Electric

MAXIMUM LIFT HEIGHT: 18′

TRAVEL SPEED: 6 mph loaded; 7 mph unloaded

APPLICATION: For use in a range of settings, including bulk storage, drive-in rack, and loading dock work.

The LSC is a three-wheel, stand-up ride, compact forklift for applications where operators get on and off the truck frequently. Its short turning radius, high-visibility mast, and compact design make it suitable for stacking and dock work, while the low step height provides easy access on and off the truck for order picking and load checking.

▶ Bendi B40VAC

CAPACITY: 4,000 lbs.

POWER SOURCE: Electric

MAXIMUM LIFT HEIGHT: 30′

TRAVEL SPEED: 6.5 mph loaded; 7 mph unloaded

APPLICATION: Suitable for use inside or outdoors, and in bulk storage.

The Bendi B40VAC is a very-narrow aisle articulated forklift for applications where stacking aisle and 180-degree versatility are the most important features. The four-wheel, multi-purpose lift truck maximizes cube utilization while providing front loader versatility.

MANY CHOICES FOR MANY APPLICATIONS

DREXEL SLT30AC

The Drexel SLT30AC is a VNA SwingMast forklift for applications where stacking aisle size is the most important feature. The SLT30AC can be used for bulk storage, drive in rack and dock work.

- **Lift height reach 312”**
- **Stacking aisle is under 5’**
- **Max capacity is 3,500 lbs.**

The Landoll LSC

The LSC is a stand up ride, compact forklift for applications where the operators get on and off the truck frequently It can be used for bulk storage, drive in rack and dock work.

- **Lift heights reach 216”**
- **Stacking aisle is under 10’**
- **Max capacity is 3,000 lbs.**

Bendi® B40VAC

The Bendi B40VAC is a VNA Articulated forklift for applications where stacking aisle and 180° versatility are the most important features. The B40VAC can also be used inside or out and in bulk storage.

- **Lift heights reach 360”**
- **Stacking aisle is 6’**
- **Max capacity is 4,000 lbs.**

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▼ MPE

CAPACITY: 6,000 to 8,000 lbs.

POWER SOURCE: Electric

LIFT HEIGHT: 6′

APPLICATIONS: Designed for use in heavy duty environments and extreme operating conditions.

This heavy duty end rider is designed, manufactured, and tested to provide superior dependability. With a tight turning radius, short head length, and control handle design, the MPE series provides excellent maneuverability in small spaces, such as crowded loading docks.

▲ ERP-VF

CAPACITY: 3,000 to 4,000 lbs.

POWER SOURCE: Electric

TIRE TYPE: Pneumatic Shaped Solid

APPLICATIONS: Suitable for load handling in warehouses and trailers, and on loading docks.

Designed for demanding applications that require clean, quiet running and heavy duty capacities, the ERP-VF series features dual independent front-wheel drive motors that rotate tires in opposite directions, creating a tight turning radius.

NR-EA

CAPACITY: 3,500 to 4,500 lbs.

POWER SOURCE: Electric

TRAVEL SPEED: 8 mph loaded; 7.5 mph unloaded

APPLICATIONS: A multi-purpose truck for high density warehousing environments.

The NR-EA series combines the latest technology with improved performance and operator comfort. Designed to be among the most dependable trucks in the industry, the NR-EA series offers a low cost of ownership by decreasing overall operating costs.

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I.T. Toolkit

Import Data: It's in the Bag

Targus Group International Inc., headquartered in Anaheim, Calif., pioneered the development of carrying cases for personal computers. Yet when it came to filing Customs and duty drawback documentation, the company's interests were anything but well-protected. A global trade management (GTM) solution helped Targus get organized.

Computer carrying case manufacturer Targus gets a handle on duty drawback with global trade management software, unloading paperwork and packing in 30 percent higher refunds.

Targus maintains 45 offices worldwide and distributes products in more than 145 countries. The company manufactures most of its goods in southern China and imports finished goods into the United States for distribution, necessitating a great deal of Customs-related documentation.

The company used to rely on two systems for entering its import data and processing drawbacks, the refund of duties paid on imported products subsequently exported or used to make products for export.

Freight forwarders prepared U.S. Customs and Border Protection (CBP) Importer Security Filing (ISF) documents on Targus' behalf because the company could not compile all the necessary data elements quickly enough to meet filing deadlines.

Relying on these systems created four challenges:

1. The self-entry system was near the end of its supported lifecycle.

2. Duty drawback filings were behind schedule, and the filing deadline for some claims was fast approaching.

3. ISF documents required much of the same information as self-entries, yet Targus was missing out on the financial and efficiency advantages of compiling ISF data in-house.

4. Neither of the two systems providers offered ISF software. Targus would have to acquire a separate system from a third vendor if it elected to compile its own ISF data.

Targus decided to explore whether

CONTINUED FROM PAGE 77

one software solution could meet all its GTM needs. It solicited several bids and compared vendor offerings.

After a comprehensive analysis, Targus selected Westfield, N.J.-based QuestaWeb and its modular, Web-based GTM software, *TradeMaster*. It opted for the solution's *Customs House Broker* module.

"QuestaWeb's system offered full integration, and flexibility for adding future functionality," says Brian Couch, Targus' manager of logistics. "The software was well-suited to our current and future needs."

HANDLING THREE NEEDS AT ONCE

With *Customs House Broker*, Targus can transmit and receive imported merchandise data through a direct electronic interface with CBP, leading to more timely, complete, and accurate data.

The company is now working with suppliers around the globe, preparing them to enter their own ISF data elements via the Web-based system. Having suppliers enter data eliminates one step in the current two-step process. Targus will no longer need to pay freight forwarders to prepare ISFs, and *TradeMaster* will be able to automatically generate import documentation from systems data, saving time and money.

Duty drawbacks also provide incentive for Targus to do self-entries. "We reclaim more than 10 percent of the duties we pay annually, on average," says Couch. "Duty drawbacks play a substantial role in managing costs and profits."

The new system not only automated the labor-intensive duty drawback filing process, but also enabled Targus to submit the filing electronically. As data became better organized, the number of filings decreased significantly, and the company became eligible for accelerated payments. Refunds are now available in five weeks instead of one year.

"We proved to Customs the reliability of our drawback documentation and recordkeeping system," says Tami Nelson, import supervisor, Targus. "Now we don't have to provide the same level of documentation. Customs only requires two to three sample documents to support our claim. We have to produce detailed back-up only if Customs decides to do a desk audit."

A CHANGE IN ACCOUNTING

An important side benefit emerged from the implementation: QuestaWeb put Targus in touch with a drawback consultant who advised Targus to use a different accounting method for matching exports and imports for drawback purposes.

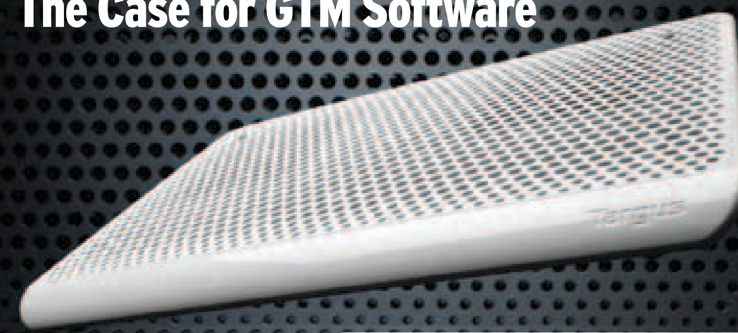
For years, Targus had employed a first in/first out methodology for drawback computation, because that's what its old software required. The company's duty rates are not variable, however, making the low-to-high methodology more appropriate. The new methodology increased the percentage of successfully recovered claimed refunds from 70 percent to almost 93 percent.

In 2010, due to a backlog in drawback filings, Targus claimed higher refunds and, with the new methodology, netted substantially more. "In years to come, the system should continue providing much higher average annual refunds," says Couch.

"The new system provides growth potential and sophisticated automation," Nelson adds. "We can easily add new functionality on our schedule with no fear of obsolescence."

With the new GTM system in place, Targus' success is in the bag. ■

The Case for GTM Software



CHALLENGES

- Targus relied on two separate systems for self-entries and drawbacks.
- Freight forwarders prepared and filed ISFs on Targus' behalf.
- Targus wanted to do ISFs in-house but would need a third, unintegrated system.

SOLUTION

- QuestaWeb's *TradeMaster Customs House Broker* module

RESULTS

- One integrated system meets all current global trade requirements and can accommodate future needs.
- Using a Customs-approved Automated Broker Interface system allows electronic filing and reduces documentation requirements.
- Targus achieved a 93-percent success rate in receiving claimed refund amounts, an increase of 30 percent.
- Refunds are available in five weeks.
- In the first year, the higher refund rate reached six figures. In the second year and beyond, it will be at least five figures.

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www.ups.com 800-PICK-UPS

▼Pallets: ORBIS Corporation

Engineered to optimize space in standard 53-foot trailers, ORBIS's nestable plastic grocery pallet features an anti-skid surface to hold cases and boxes in place during transit and in warehouses and retail operations. The pallet was developed to be smooth and non-porous to avoid absorbing moisture or odors.

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▲ Software: Wasp Barcode Technologies

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http://waspbarcode.com 866-547-9277

CONTINUED FROM PAGE 81

MATERIALS HANDLING

Kardex Remstar

The Megamat RS Vertical Carousel's interchangeable carrier design allows operations to change storage configurations by adding partitions, dividers, intermediate shelves, and rollout drawers. The configuration adapts to match the stored inventory, allowing maximum storage density and minimizing wasted space.

www.kardexremstar.com 800-639-5805

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Tharo Systems Inc.

Tharo's PA500w wipe-on label printer/applicator prints and affixes more than 100 labels per minute. It applies labels in sizes from three inches by one inch to 4.5 inches by seven inches to cartons, tray and blister packages, bags, and cans.

www.tharo.com 800-878-6833

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Razient is a new global incident and supplier compliance tracker, offered as a Software-as-a-Service model. The program identifies and tracks disasters, risk potential, and vendors to help businesses keep products flowing to market. *Razient* creates daily reports on global incidents and tracks key areas, including raw materials, works in progress, finished goods, and support services. A free version can track up to 25 company, customer, and supplier locations.

www.razient.com 855-747-5911

INTTRA

INTTRA Automatch, with the existing *INTTRA eInvoice* dispute management module, matches carrier invoices to shipper freight estimates. The tool identifies and initiates ocean freight invoice disputes automatically using configurable business rules established by the shipper.

www.inttra.com/einvoice 973-263-5100

PARTNERSHIPS

MOL and Hoegh Autoliners

The companies integrated their European short sea and logistics operations to create Euro Marine Logistics, a common carrier that will operate 13 vessels in European waters, beginning in third quarter 2011.

www.molpower.com 630-812-3700

White Paper Digest

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

3PL Central

TITLE: ***Warehouse Transparency: A Competitive Advantage For 3PL Warehouse Owners and Their Customers***
LENGTH: *8 pages*
DOWNLOAD: *www.3plcentral.com/warehouse_transparency_white_paper*
SUMMARY: The era of transparency has arrived, bringing with it unprecedented opportunities for 3PL warehouses to strengthen their customer relationships, achieve new levels of efficiency, and reach new heights of customer satisfaction and profitability. To learn more, download 3PL Central's whitepaper *Warehouse Transparency: A Competitive Advantage for 3PL Warehouse Operators and Their Customers*. Written by industry experts, it identifies the features your 3PL WMS will need to prosper in this new age of heightened customer expectations.

GENCO ATC

TITLE: ***Winning the Expired Products Battle***
LENGTH: *11 pages*
DOWNLOAD: *http://bit.ly/pEnREe*
SUMMARY: Between $3 billion and $5 billion is lost each year to unsaleables. The explosion in expired products has led some retailers to establish stringent requirements for guarantees of remaining shelf life at the time of delivery to retailers and wholesalers. Discover the formula-driven approach that is successfully being used by a manufacturer with its trading partners.

Management Dynamics

TITLE: ***Improving Supply Chain Visibility via Technology***
LENGTH: *17 pages*
DOWNLOAD: *http://bit.ly/pfE7G1*
SUMMARY: This expert eBook from Management Dynamics will provide you with a better foundation for managing your supply chain and getting visibility with suppliers, as well as within your organization.

Ryder

TITLE: ***5 Lean Guiding Principles for the Supply Chain Principle 1: People Involvement***

LENGTH: *14 pages*

DOWNLOAD: *http://bit.ly/qC6rqZ*

SUMMARY: Ryder's Lean Guiding Principles are the foundation for operational excellence in all its customers' warehouses. The most important of the Lean Guiding Principles is People Involvement: engaging every employee to root out waste, eliminate problems, and make improvements. Nothing happens in a company without people to drive it forward. Learn more by downloading this free whitepaper.

Optricity

TITLE: ***Rethinking Your Reslotting Strategy***

LENGTH: *16 pages*

DOWNLOAD: *www.optricity.com/whitepapers*

SUMMARY: This whitepaper focuses on the elements that go into achieving a solid reslotting strategy. Slot maintenance performed in sync with distribution center dynamics helps achieve optimal slotting. Leveraging opportunities such as product volume and mix changes, seasonal demands, and promotions allows for reslotting that increases picking efficiency. Identifying inflection points and reslotting at the appropriate time using underutilized labor at standard rates minimizes costs and improves payback cycles. Once a company determines its slotting strategy and establishes business rules, it can employ slotting technology to achieve a reslotting strategy that minimizes costs and optimizes efficiency. Find out more by downloading this free whitepaper.

Kuehne + Nagel

TITLE: ***Real-World Network Optimization***

LENGTH: *6 pages*

DOWNLOAD: *usco.kuehne-nagel.com/whitepapers.cfm*

SUMMARY: Logistics network optimization can yield significant systems-wide warehousing, transportation, and inventory savings. But many companies mistakenly conduct optimization studies that are almost exclusively data-driven. Download this whitepaper to discover a better solution: a six-step approach that weighs the strategic and practical, in conjunction with data analysis, to deliver optimal results.

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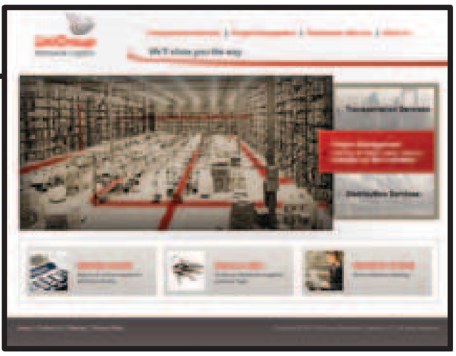

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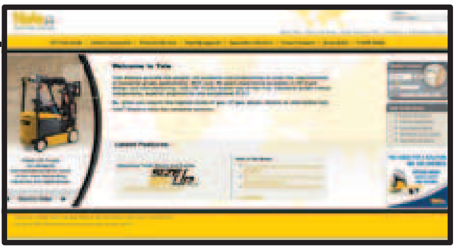

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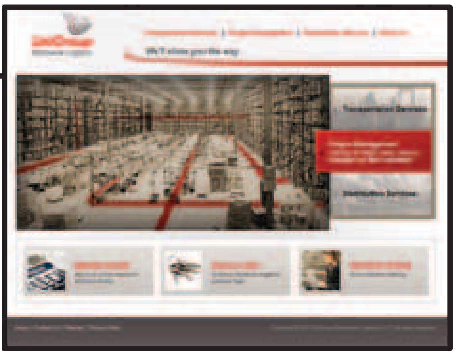

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262-860-6546
www.mhc2011.com

September 28-30, 2011, Supply Chain Council Executive Summit, Palm Springs, Calif. This event outlines lessons learned from the recent economic downturn and natural disasters; strategies for improving efficiency and responsiveness; and methods for keeping up with rapidly evolving technology.

202-962-0440
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October 2-5, 2011, CSCMP Annual Global Conference, Philadelphia, Pa. At the Council of Supply Chain Management Professionals' conference, learn ways to cut supply chain costs, boost efficiency, and improve your bottom line; network with colleagues from around the world; and discover new and innovative ideas that will keep you and your supply chain competitive. FOX Business Network anchor Stuart Varney provides the keynote address, offering a positive take on the economy, and describing what the current financial situation means for you and your business.

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THE LAST MILE

Logistics Puts British Workers On Track for Career Satisfaction

Logistics jobs top the ranks of most enjoyable professions in Britain, according to data collected by employment Web site TheJobCrowd.com. The London-based recruiter asked 525 young professionals from a range of industries to rate their jobs according to responsibility, progression, colleagues, training, and enjoyment.

Even those working in performing arts and music loved their jobs less than logistics professionals. The best company to work for in Britain, according to TheJobCrowd.com's research, is Network Rail. The London-based railroad authority owns and operates all rail infrastructure in England, Scotland, and Wales, providing both passenger and freight transport services.

"I really couldn't wish for a better job," noted one respondent who works for Network Rail.

"I have been working for Network Rail for only two months, but I have fallen in love with trains and the principles the company stands on," says another employee.

An impressive 83 percent of surveyed employees say that if they could go back in time, they would take the same job again.

How employees rated Network Rail
(scale of 1 to 10; larger numbers are better)