ALSO INCLUDES:

NASCO

NORTH AMERICA'S SUPERCORRIDOR COALITION

H.O.W.

HELP ON THE WAY

inbound logistics

www.inboundlogistics.com

THE MAGAZINE FOR DEMAND-DRIVEN LOGISTICS • NOVEMBER 2008

EXPEDITED SERVICE: THE ULTIMATE STRESS TEST

CRITICAL SHIPMENTS: Delivery Under Pressure

Surviving Holiday Shipping

PHARMA LOGISTICS: Prognosis Positive


Don't Push Y
With Your Pu
Make your business instantly more productive b
that comes with the Verizon Wireless Network an
coverage and 24/7 customer service. Verizon Wir
Let Verizon Wireless make your job easier and l
Call 1.800.VZW.4BIZ Click verizonwireless.co

verizonwireless

Your Luck
ush To Talk.

y choosing the only Push to Talk service
nd its reliable voice service, coast-to-coast
reless. The smart choice for Push to Talk.

business more productive.

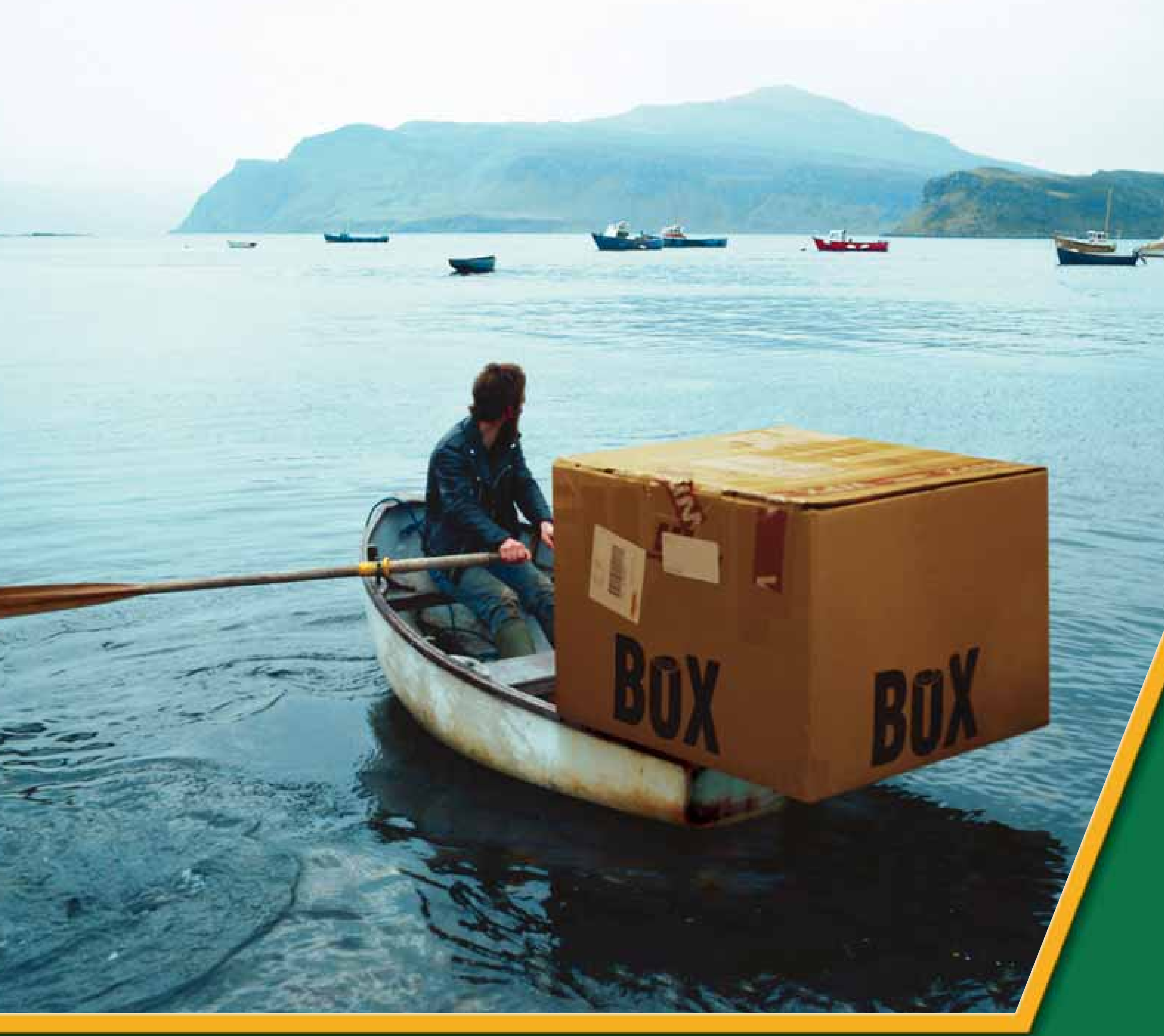
WANT MORE HARD-WORKING OPTIONS ON YOUR PUSH TO TALK PHONE?

Field Force Manager to dispatch jobs, track timecards and more.

VZ Navigator℠ for turn-by-turn directions.

m/pushtotalk **Visit a Verizon Wireless store**

Push to Talk is available only with other VZW Push to Talk subscribers; coverage not available everywhere. Network details & coverage maps at vzw.com. Device capabilities: add'l charges apply.



Is the wrong size company handling your international shipments?

Smaller shippers are often under-equipped to handle your business. And mega shippers can't offer you personalized service. That's why Pilot Freight Services is the right fit.

We're large enough to offer shipping to 190 countries, customs clearance and import/export capabilities, plus convenient online service that lets you get quick quotes, book, ship and track cargo 24/7. Yet we're flexible enough to offer you many air, ocean and custom delivery options to precisely match your unique scheduling and budget requirements.

Pilot isn't just global shipping, either. We're also the right fit for domestic deliveries, logistics, automotive and special services. Visit our website or call 1-800-HI-PILOT. When bigger isn't better, and smaller can't give you enough options, Pilot has the right size solution.

ON TRACK. ON TIME.

PILOT® FREIGHT SERVICES

1-800-HI-PILOT pilotdelivers.com

inbound logistics

THE MAGAZINE FOR DEMAND DRIVEN LOGISTICS

A HOLIDAY DEMAND STORY
page 43

November 2008 • Vol. 28 • No. 11

INBRIEF

INPRACTICE

INDEPTH

inbound logistics
THE MAGAZINE FOR DEMAND DRIVEN LOGISTICS

PHARMA LOGISTICS
page 81

November 2008 • Vol. 28 • No. 11

INSIGHT

INFO

INDEPTH

Anticipating Canada cross-border freight shipping hassles? FedEx eases the way.

FedEx Freight and FedEx National LTL provide reliable regional and long-haul LTL (less-than-truckload) shipping solutions throughout the U.S. By teaming up with FedEx Freight Canada, you have a seamless cross-border solution with the reliability and service needed to quickly move your shipments between the U.S. and Canada.

FedEx Freight and FedEx National LTL deliver:

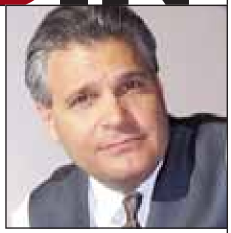
- Reliable cross-border service between the U.S. and Canada.
- Streamlined, cross-border clearance.
- Personal service from our knowledgeable Canada Solutions Team.
- End-to-end shipment visibility across the border.
- Next-day cross-border service to and from select locations.

For more information, contact your account executive or call our Canada Solutions Team at **1.866.FXF.INTL** (1.866.393.4685), and let FedEx help make your cross-border shipping easy.

All services are subject to the terms and conditions of the FXF 100 Series Tariff.

FedEx®

CHECKINGIN



Keith Biondo

by Keith Biondo | **Publisher**

Getting All, Like, Demand-Driven

Did you know that a 16-year-old girl in Spain is the logistics genius behind one of the most sophisticated and effective retail supply chain operations on the planet? Neither does she.

The typical Zara demand signal–to buy or not to buy–sets in motion a demand-driven process that has the global apparel chain retailer, based in Spain, growing in a down market. How is this possible? Zara also expects to open more than 600 retail units next year. How is *that* possible?

Zara also uses expedited shipping, earning more in sales and saving on inventory and touches to offset the extra transport cost. Even though Zara gets product to market quicker than competitors, its logistics process, thanks to demand-driven commitment, is not so fast as to be unmanageable.

Zara utilizes higher-cost Spanish and European labor to produce 75 percent of its line. The savings on containers from the East and inventory in transit, the ability to build smaller marketed, targeted lots and eliminate the risk of cheaper knock-offs flooding the market, plus the sales increase resulting from speed to market, are more than enough to offset the higher costs of domestic and near-sourced labor.

Near-sourcing smaller lots keeps inventory investment lower than competitors and reduces the markdown risk when demand falls off. Zara uses a hub-and-spoke system located in Spain to ship to the world–even to New York and Moscow–in 48 hours or less.

And it all starts with a 16-year-old and demand-driven dedication that reaches into her mind and all the way back to the design boards at Zara headquarters. Clothing retailers typically rely on designers to set style trends and predict what consumers will want the following season. Zara relies instead on demand intelligence–determining what is selling in stores and what is popular on the street, then designing, producing, and delivering to retail outlets globally within two to eight weeks. If a product becomes, like, so yesterday, it is instantly dropped from production and another product follows. The retailer builds small lots of all items, even top sellers.

Zara uses stockouts as a marketing device. If a consumer sees something she likes but does not immediately buy it, she may go back to the store to buy it later and find it gone forever–a great Pavlovian device to convince shoppers to buy without a second thought. These positive and negative demand signals flow all the way back to design and production quickly enough to enable Zara to beat industry markdown averages by multiples, beat new product introductions by a factor of three over the industry average, and attract more annual customer retail visits than competitors. All this with less waste.

Can demand-driven logistics practices help shield businesses from a down economy? Like, totally! ■

inbound logistics

Vol. 28, No. 11 November 2008

THE MAGAZINE FOR DEMAND-DRIVEN LOGISTICS

www.inboundlogistics.com

Inbound Logistics welcomes comments and submissions. Contact us at 5 Penn Plaza, NY, NY 10001, (212) 629-1560, Fax (212) 629-1565, e-mail: editorial@inboundlogistics.com. For advertising, reprint, or subscription information, call (212) 629-1560, or e-mail publisher@inboundlogistics.com. Inbound Logistics is distributed without cost to those qualified in North America. Interested readers must complete and return the qualification card published in this issue, or may subscribe online at www.inboundlogistics.com/free. Subscription price to others: in North America: $95 per year. Foreign subscriptions: $129. Single copy price: No. Amer. $10, foreign $12, back issues $15. Periodicals postage paid at New York, NY, and additional mailing offices.

by Merrill Douglas

Home Sweet Home

Throughout your industry, sales are down. But the cost of materials keeps going up, and those higher prices sure don't help you draw in hordes of new customers. What to do? Get all your partners working together to drive costs out of the supply chain, says Bill Justus, vice president, supply chain services at David Weekley Homes, Houston.

"We're not looking to pull links out of the chain," Justus says. "We're looking to challenge all partners to actively manage the supply chain and deliver optimum performance."

David Weekley builds homes in 16 cities in Texas, Colorado, Arizona, Florida, Georgia, and the Carolinas. Like other construction companies, it deals with some unusual challenges, such as the fact that manufacturing takes place outdoors, where a storm can shut down work completely. Then there's the fact that the main manufacturing labor–carpenters, roofers, tile installers, and the rest–are a transient group, with new personnel constantly arriving at job sites.

"Training is a big challenge," Justus says. "We have to make sure these tradesmen maintain the standard of quality we expect."

But since Justus arrived at David Weekley in 2002, he has devoted much of his energy to a different challenge: finding creative ways to keep costs down so more buyers can afford the company's homes. Key to his strategy has been the National Trading Partner Survey, a tool Justus launched five years ago to give manufacturers and distributors constructive feedback on their products and services.

In the past, that feedback simply wasn't flowing. Like their counterparts in other building firms, David Weekley employees who worked in the field often complained that suppliers didn't respond to their needs. For their part, suppliers said it was difficult to learn what the builders needed. If a product or service didn't meet expectations, suppliers didn't always get the news.

"Everyone operated in their own silos, doing the best they could," Justus says. "But the reality was, we needed to

BILL OF MATERIALS

NAME: **Bill Justus**

TITLE: Vice president, supply chain services

COMPANY: David Weekley Homes, since 2002

EXPERIENCE: Various supply chain positions in manufacturing, particularly in health care. Some highlights: Inventory control supervisor at the Prince Matchabelli division of Chesebrough-Pond's; several positions culminating in director of logistics, Agfa-Division of Bayer Corporation, United States; executive vice president, Livingston Healthcare Services, United States; vice president, logistics, Dal-Tile; executive vice president of operations and supply chain services, Daisytek International.

EDUCATION: BS, business administration and BA, economics, Kean University, 1977; MS, contracts and acquisitions management, Florida Institute of Technology, 1984.

The Big Questions

What do you do when you're not at work?
I collect art, garden, read, and do some community work. I also like to fish.

Ideal dinner companion?
Norman Schwarzkopf.

What's in your briefcase?
My cell phone and keys, a few files for projects I'm working on, and some family photos.

Your idea of a successful day?
When we overcome a critical need by creating a win-win situation with a home buyer, team member, or trading partner.

improve the performance of the supply chain." The Trading Partner Survey addresses that need.

Each quarter, 1,000 employees–anyone who deals with suppliers, from senior executives to accounts payable staff–complete the survey. Respondents score trading partners on product and service quality, using a scale from one to 10. By averaging the product and service scores, the company ranks suppliers in descending order and assigns letter grades–A for companies in the top 20 percent, B for the next tier, and so on.

Each supplier receives a report card containing its grade plus every rating it received, with each rater's contact information.

"We instruct suppliers to have a conversation with anyone who gave them a rating of seven or less," Justus says. Low-scoring partners work on improving the relationship. Suppliers that earn A's throughout the year win David Weekley's annual Partners of Choice Awards.

The strategy has boosted performance. "Each year, the survey's average scores have improved," Justus says. "We also have seen job site issues drop dramatically. And we have reduced turnover among our base of tradesmen."

In today's weak housing market, working with partners to tighten the builder's supply chain is especially important. "There are a lot of smart people and innovative products that we can leverage to help us drive down building costs," Justus says. ■

GEODIS
wilson

YOUR FREIGHT MANAGEMENT SOLUTION

As one of the top ten global transport and logistics companies, we provide our clients with integrated solutions and unrivaled customer service. We develop and execute tailor-made solutions to complex challenges.

Geodis Wilson is committed to Operational Excellence by offering you the following:

- Air and Sea Transportation
- Marine Logistics
- Project Logistics
- Contract and Reverse Logistics
- Customs Brokerage
- Warehousing and Storage
- Distribution and Cross-Docking
- Web-based Freight Tracking and Freight Pricing Tools
- Supply Chain Management

For a Freight Management solution that will ensure your company's future success and maximize your potential please email us at ***info@us.geodiswilson.com*** or call us at ***+1.877.469.0510***. To learn more about our products please visit us at our website ***www.geodiswilson.com***.

10TIPS

STEP-BY-STEP SOLUTIONS

by Deborah Catalano Ruriani

Selecting Pallets: Wood vs. Plastic

Wood remains the most common pallet material used in the United States. But for about five percent of shippers, plastic is a better choice for moving goods. How does a shipper choose? Should you change to a new pallet material? Steven Mazza, president of S&B Pallet Co., Plainfield, N.J., and member of the board of directors of the National Wooden Pallet & Container Association, offers these tips for choosing between wood and plastic.

1 **Understand the differences.** Wood pallets are recyclable, can be repaired, are less costly, and can hold more weight than plastic. But they also give off moisture, splinter, harbor bugs, and contain fasteners that can damage products. Plastic pallets are durable, clean, bug-free, weather-resistant, and contain no fasteners. They also cost three times the price of wood, are not easily repaired, are not as stiff, and have fire safety ratings.

2 **Consider your industry.** Industries that operate in closed-loop warehouse environments often use plastic pallets. Because their pallets are returned, the pharmaceutical, automotive, dairy, and beverage industries purchase plastic pallets to maintain costs.

3 **Determine the weight of the products you ship.** Plastic pallets are most suitable for shipments weighing 1,500 pounds or less. Wood pallets are best for heavy items weighing 1,500 to 3,000 pounds.

4 **Analyze your pallet management system.** If you use wood and are not in a closed-loop system, consider using a third party to pay per trip rather than per pallet, and transferring that cost to your customer. If you use plastic, you should get your pallets back. If you are unhappy with the return rate, consider outside pallet management.

5 **Recognize environmental impact.** Plastic pallets have a longer shelf life and go back into the system, but if damaged they cannot be repaired; they are made from oil and must be melted down to be recycled. Wood pallets, however, are made from a sustainable natural resource and are easily repaired and recycled.

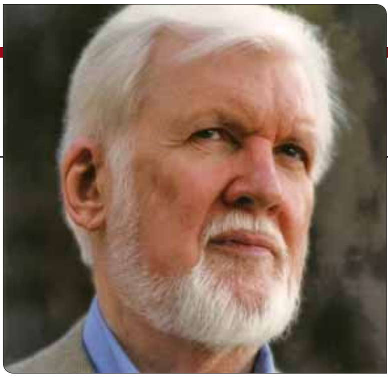
6 **Consider your product's fragility.** Wood pallets have fasteners that can cause problems with fragile items. If you ship paint cans, for example, fasteners can come loose, puncture the cans, and cause product damage. In that case, plastic is the better choice for the product you move.

7 **Determine if pallets will serve a dual purpose.** Will your pallets also be used as a store display? The electronics industry utilizes plastic pallets for shipping because, in many cases, the pallet becomes a display and then is picked up and returned to the distributor.

8 **Examine trade-off costs.** If you move fragile products, weigh the cost trade-off. Is the cost of a pricier pallet higher than the cost of damaged products, shipment delays, and disgruntled customers?

9 **Understand warehouse fire codes.** Plastic pallets burn at a much higher temperature than wood. If you invest in plastic, make sure you understand the fire codes and purchase UL-listed plastic pallets.

10 **Educate yourself on new exporting rules.** For shipping overseas, use wood pallets. You won't get the pallets back, and the cost of plastic could be prohibitive. New rules govern exporting shipments on wooden pallets, so familiarize yourself with ISPM 15 code regulations. ■



[SCPERSPECTIVES]

BY ROBERT A. MALONE
Contributing Editor, Inbound Logistics
RMalone@inboundlogistics.com

Curve Appeal

The efficient delivery of goods requires a thoughtful way to negotiate curves and arcs to find the optimal route.

All motion is curved. The Earth turns on an asymmetrical axis while it revolves around our sun in an orbit that moves within the Milky Way galaxy, and the galaxy moves within the universe. Smaller arcs of motion in rail, truck, air, and containership travel govern the efficiency of a specific trip. When truck drivers navigate along a graded highway, for instance, speed and acceleration are critical to fuel use. The same applies for train engineers. The track is set, acceleration and deceleration are variable, and the proper speed around a curve is measurable.

Or we might consider a popular pastime: auto racing. Drivers find the optimal line along an oval track and reach the greatest lap speed by riding high along the straightaways, then angling in and down to the inner radius of the track through the end curves. This approach reduces the tightness of the end curvature; any deviation cuts lap time and speed.

In ocean transportation, a containership's voyage from China to Los Angeles travels a course set along a great circle arc. The arc along the Earth is a geodesic–the shortest possible path along a sphere. The variance of speed along this arc determines efficient use of ship fuel, as does idling time and proper handling at the port.

We can even compare this paradigm to a quality control chart–an abstraction of actual work done well or poorly. The intended level in a quality control system can be measured as a deviation against a center line established as highest quality. Actions that fall in the upper or lower control limit are of less quality. Even if a user achieves 99.99-percent quality, the line of quality becomes a recording arc of the actions slightly above and below the center line.

A CASE FOR ARC SUPPORT

Attention to supply chain arcs is particularly important today as shippers and carriers explore better processes and more efficient routes for managing fuel usage.

For example, the American Trucking Associations aims to reduce fuel demand by holding truck speeds to 65 mph and using electronic devices to prevent drivers from exceeding 68 mph.

It is hard to argue with the intent of this goal. However, someone can stay below 68 mph and still be a lousy driver in relation to hitting the right groove uphill and down, around the curve, and along the straightaway.

In fact, holding to 65 mph may be the wrong action. If a big hill lies ahead, a driver may have to exceed 65 mph to get a surge–burning more fuel going down to burn less going up.

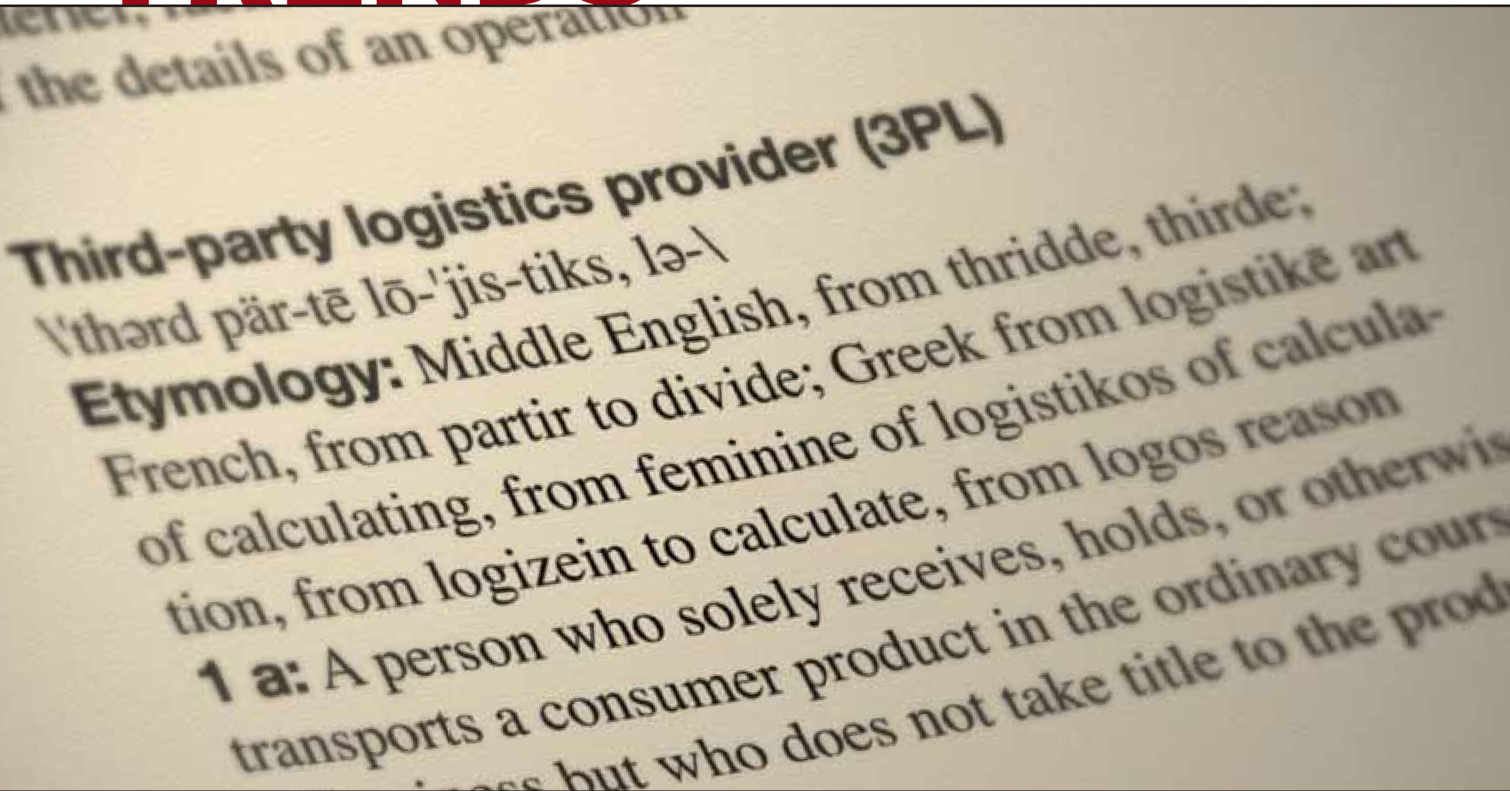
A similar theory applies to tightening and slackening transportation performance to drive consistency. The goal should be to travel the best possible arc for all trips, regardless of mode. This requires a process of continuous planning and action–a cause-and-effect relationship between shippers and carriers.

The key is executing with as little variance as possible. Constant and unregulated spikes, too much or too little, do not sustain business. In this view, the enterprise becomes a compendium of all the little things added up over time. But isn't there value in risk-taking within transportation?

Risk in process may be fine for an individual making intelligent decisions at the right time and place. But it may not be fine for those affected but not consulted–partners, customers, suppliers, and shareholders.

Moving too fast or too slow, arriving too early or too late, can negatively impact a customer straddling a just-in-time curve. Avoid the zig zag and stick to the arc. ■

TRENDS



H.R. 4040: Defining 3PLs

by Joseph O'Reilly

Outsourcing demands spin third-party logistics providers in countless directions, a reality manifest in the array of value-added services today's players bring to the market. Look no further than where 3PLs have evolved from–warehousing, transportation, forwarding, freight payment, truck lease, chemical, automotive, electronics–and the level of complexity, breadth of resources, and geographic scope they now wield. Supply chains have become nothing less than many-layered networks of integrated logistics partnerships. Lines have blurred and expectations have evolved.

Strip a 3PL bare, take away all the value, and what are you left with?

"A person who solely receives, holds, or otherwise transports a consumer product in the ordinary course of business but who does not take title to the product," according to the *Consumer Product Safety Improvement Act of 2008* (H.R. 4040), signed into law last August in response to a spate of recent consumer product recalls and quality concerns.

You have to dig deep into H.R. 4040 and maneuver beyond and around 38 references to "third-party testing requirements" and "third-party conformity assessment bodies" before you find government's definitive assessment of what a "third-party logistics provider" is. That defining a 3PL comes

CONTINUED FROM PAGE 12

Full Disclosure

Some companies pull the green card to indulge consumer whim; others push green innovation to new levels. Hewlett Packard (HP) is among the latter, and the technology manufacturer continues to lead the way in pioneering industry best practices.

In an effort to promote transparency in environmental standards, HP recently announced emissions data for its largest suppliers, representing more than 80 percent of the company's costs for materials, manufacturing, and assembly in its global product line.

In 2007, the aggregated carbon dioxide equivalent (CO2e) emissions associated with more than 80 percent of HP's first-tier manufacturing expenditures totaled approximately 3.5 million metric tons. Operating the largest supply chain in the technology industry, HP will use this data to incorporate energy efficiencies into how it manages first-tier suppliers. Additionally, the manufacturer will propagate this information to the rest of its supply chain to determine further emissions reductions as it incorporates similar reporting processes in lower tiers.

HP's CO2e supply chain emissions reporting represents an initial step in a long-term program. The company is working to establish better standardization of tools and methodologies to facilitate consistent and reliable measurements among suppliers and enable a robust process that it can implement throughout its global supply chain.

What it Means to be Green. HP has a legacy of supply chain social and environmental leadership:

- In 2002, HP established a social and environmental responsibility policy for its supply chain and extended the HP Supplier Code of Conduct to include its supply base.
- HP helped lead the development of the industry-wide EICC, which was introduced in 2004.
- HP has conducted more than 500 audits with first–and second-tier suppliers worldwide.
- In April 2008, HP became the first major technology company to publish a list of its largest suppliers, advancing supply chain transparency standards across the industry.
- In August 2008, HP became the first company to qualify for the U.S. Environmental Protection Agency (EPA) SmartWay product packaging logo, certifying that its surface transportation carrier network reduces transportation-related emissions.

second to detailing the services it can provide is indicative of the difficulty, perhaps simplicity, of actually placing a label on something that is evolving. But it's necessary.

Service providers largely support Congress' recognition if for no other reason than it gives them a steadier leg to stand on when confronted with recurring liability issues. The ramifications of 2004's *Schramm v. Foster* case still reverberate among 3PLs in the transportation brokerage business.

More broadly, the fear that any negligence among contracted supply chain partners, at any touch point and during any thought process, can be brought to bear in the court of law is very real. So intermediaries can appreciate a legislative imprimatur that limits legal accountability in handling and transporting product.

"From our perspective, this is a significant and timely piece of legislation in its effort to increase consumer safety and provide protections against the importation of potentially harmful products," observes Jim Butts, senior vice president of C.H. Robinson.

"The actual definition of a 3PL is perhaps secondary," he adds. "In this context it is appropriate for the purposes of describing the aim and intent of the legislation, which attempts to identify the role and responsibilities of a 3PL in relation to the bill, rather than to establish a lasting legal description."

"The legislation reinforces that 3PLs often don't take ownership to product. In this regard, it serves as a credible definition," agrees John Nofsinger, CEO of the Material Handling Industry of America (MHIA), an international trade association representing the interests of the materials handling and logistics industry.

As an example, Nofsinger shares how the MHIA is working as a facilitator for the American Logistics Aid Network, helping humanitarian agencies such as the Red Cross engage private industry to apply supply chain best practices.

"If an agency ships a product that ultimately hurts someone, are we to be held responsible?" he asks.

In the framework of H.R. 4040, the answer would be no.

As integrated as supply chains have become, and given the seamlessness of some outsourcing relationships, **one might even consider whether "third-party" is appropriate taxonomy.**

Contextual Semantics

But outside this context, Nofsinger wonders how this seemingly "de facto" definition truly reflects a 3PL's evolving value proposition.

"Some 3PLs offer value-added services, manufacturing value," he says. "They may not own product, but they add value to that product and they own some piece of that responsibility and liability."

Indeed, given current price pressures and the visibility 3PLs have into extended supply chain networks, some outsourcing customers are soliciting logistics service providers to operate distribution centers in accordance with vendor-managed inventory requirements. If a third party takes ownership of a product, it is necessarily inclined to reduce inefficiencies and costs while the product remains on its balance sheet. This is the type of value-add that customers demand, and the "sell" 3PLs bring to the table when courting new business and growing existing partnerships.

Others agree that this new contrivance doesn't adequately spell out a 3PL's true capability, and to some extent, devalues its role. H.R. 4040's definition places 3PLs in the same category as carriers and forwarders, points out Clifford Lynch, executive vice president of CTSI, a Memphis-based supply chain management solutions provider.

In fact, one of the legislation's amendments specifically pairs "third-party logistics providers" with "common carriers, contract carriers, and freight forwarders." Arguably, all of the above deliver third-party logistics services in one form or another. As integrated as supply chains have become, and given

CONTINUED FROM PAGE 15

Fear Factors

Stateside companies looking to bring China sourcing activities closer to home might want to reconsider their options. The United States and China are the two regions that present manufacturers with the most supply chain risk, followed by the Middle East and Africa, according to a recent AMR study.

In addition to geographies with the highest risk, the report identifies rising transportation costs (51 percent), volatile commodity prices (43 percent), and weakening consumer spending (37 percent) as top supply chain concerns.

Survey respondents also indicate that despite rising transportation costs, aging infrastructure, and a softening economy, many companies are still sourcing and manufacturing in the United States.

Businesses more attuned to total landed logistics costs are inclined to keep manufacturing closer to home to drive better visibility and oversight into day-to-day operations. Accordingly, 34 percent of companies are planning to "near-shore" sourcing and manufacturing due to increasing cost-competitiveness, with 15 percent reporting proximity to market as their primary reason for doing so.

For manufacturers selling products in the United States, the lure of China still exists. Despite significant risks, including product quality concerns and political unrest, China makes sense because of production economies (49 percent of respondents that plan to source from China cite lower labor costs as their primary reason) and a growing consumer market.

the seamlessness of some outsourcing relationships, one might even consider whether "third-party" is appropriate taxonomy.

Still other third-party logistics companies perceive this new legislation in a different context–as a means of separating themselves from competitors and cementing their own unique niche in the outsourcing fray.

"I agree with Congress' definition that if you do not take possession of the product you are only a 3PL. If you take possession of the cargo or product, as we do, then you are more than a 3PL," observes John Knight, vice president of Knight Electronics, a Dallas-based company that provides procurement, design, manufacturing, assembly, and shipping services to OEMs.

"We consider ourselves a 5PL. We define that as completing the supply chain from design and manufacturing through order fulfillment for our customers. We can handle any portion of the supply chain, but bring the most value to those customers who use our full capabilities," he adds.

In this sense, the onus remains with the customer to define the role its third-party logistics provider assumes. But that role invariably changes as 3PLs help customers respond to shifting outsourcing dynamics, and as 3PLs evolve themselves.

Outside the Letter of the Law

A great example of this comes from the freight brokerage industry, where 3PLs today go far beyond what is required in their capacity as brokers, suggests Butts. 3PLs such as C.H. Robinson and others contractually provide specific protections in terms of financial security and performance, to help shippers and carriers manage risk. The fact is, for most outsourcers the role 3PLs play in their supply chain goes far beyond any standard definition.

"Ensuring we have the flexibility to address diverse shipper needs is very important," reports Butts. "Beyond what is required by law or legal statute, the critical question is what responsible industry members make commercially available to the marketplace. Many 3PLs provide financial stability, risk reduction, and considerable value by going above and beyond 'what the law requires.'"

Does it Matter?

So does H.R. 4040's definition really matter? For consumer product companies and intermediaries charged with securing shipments against contamination and theft, yes. In other contexts, no.

More than anything else, by exclusion, H.R. 4040 reinforces the additional value 3PLs bring to their customers beyond nuts and bolts, asset-based services. To this end, government spin has little correlation to how customers define outsourcing parameters.

> Many 3PLs provide **financial stability, risk reduction, and considerable value** by going above and beyond what the law requires.

"We advise shippers not to rely on a provider's compliance to legislation or a government standard for selecting a 3PL," says Butts. "Instead, find a financially strong and market-viable 3PL, examine the contractual protections it provides to customers, and verify its track record and ability to deliver on commitments."

Defining a 3PL, and divining the value it brings to any outsourcing partnership, are about as far removed as a supplier in Shanghai and a Wal-Mart customer. The key, as in all areas of the supply chain, is communication and continuous improvement between supply and demand. That's where 3PLs define themselves, and outsourcers divine their 3PL's true value.

Do-It-Yourself Supply Chain Renovation

The Home Depot has made "do-it-yourself" projects a popular fad for enthusiastic consumers. But in light of a deteriorating economy, severe credit crunch, and downturn in new property construction, the world's largest home improvement retailer has taken a page out of its own book by slashing prices to increase sales.

The Home Depot has made a concerted effort to reduce prices anywhere from five to 50 percent on as many as 1,200 items to encourage spontaneous spending and compete for customers with supply chain savvy players such as Lowe's Home Improvement and Wal-Mart. The retailer is also rationalizing its product mix, removing under-selling, non-core products, and eliminating multiple SKUs of like products.

The company's front-facing sales and marketing efforts reflect a major supply chain overhaul as the company looks to better manage transportation and increase inventory turns by reducing direct-to-store shipments and progressing toward a more regional DC-centric distribution model. In the past, stores stocked inventory in lieu of using distribution facilities.

The Home Depot's ongoing effort to slash prices, reconfigure store profiles, and increase inventory turns reflects a back-end overhaul of its supply chain.

To date, The Home Depot's strategy is paying off. The chain's effort shows early signs of success, increasing unit sales and causing customers to leave the store with more products, says Citigroup Analyst Deborah Weinswig in a research note published recently.

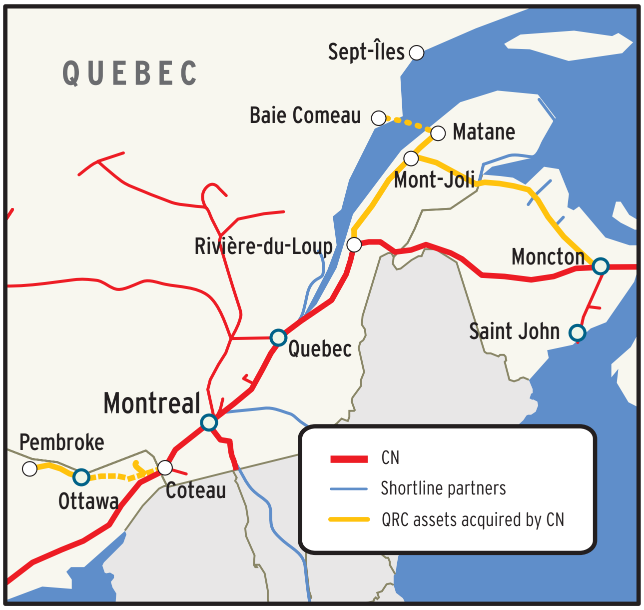
"In light of the difficult environment, The Home Depot is focused on delivering a more relevant merchandise assortment to customers and improving service levels in the store to drive sales and gain market share," she writes, saying the price cut results "exceed expectations." ■

GLOBAL LOGISTICS

by Joseph O'Reilly

CN Thinks Long Haul with Shortline

In a move that will get CN a little closer to its customers, the Montreal-based Class I is acquiring three principal railway subsidiaries of the Quebec Railway Corp. (QRC) and a QRC rail-freight ferry operation. The purchase comprises 540 track miles of rail line CN formerly owned in eastern Ontario, eastern Quebec, and northern New Brunswick, as well as a ferry service on the St. Lawrence River in eastern Quebec. CN sold the rail lines to QRC in the late 1990s and has held a minority equity interest in the ferry operation since its start-up in 1975.



CN's acquisition of Quebec Railway Corp. will bring much-needed infrastructure and equipment investment to Eastern Canada.

"The operations we're buying are important to CN because QRC is our second-largest shortline partner, serving important customers at origin and directly feeding our main-line network," says E. Hunter Harrison, president and chief executive of CN.

Bringing QRC's assets into CN's network will likely augment their role in this increasingly important intermodal market. With Canada's Atlantic Seaboard expanding container-handling capacity from Halifax and Canso on through to Montreal and the Great Lakes St. Lawrence Seaway System, CN's investment provides a direct connection to a growing customer base. But while the railroad plans to invest capital over the next three years to upgrade rail lines and replace existing locomotive fleets with more modern motive power, the question remains whether it can sustain the level of customer service a shortline brings to the equation. That's a tradeoff intermodal shippers may be forced to accept.

Your best choice for moving freight
In and Out of the South >

Simple supply chain solutions.
Customs made easy.
Sharp-dressed drivers.

Doing business here?
Visit averittexpress.com

AVERITT®
THINK RED INSTEAD
1-800-AVERITT
averittexpress.com

CONTINUED FROM PAGE 18

Hanes Heads its Own Way

Following a trend spurred by shifting sourcing currents and mandates to improve cost competitiveness, Hanesbrands is executing a new global cost-reduction strategy. Countering prevailing nearshore trends, and indicative of the apparel industry's continuing reliance on low-cost sourcing initiatives in Asia, the company is consolidating production in the West and expanding in the East.

The Winston-Salem, N.C.-based apparel manufacturer, famous for its Hanes, Outer Banks, Champion, and Wonderbra labels, expects to complete its supply chain realignment at some time during the next year.

"We are making significant progress in expanding our supply chain production capability in Asia and consolidating into fewer, larger facilities located in lower-cost countries around the world," reports Richard Noll, Hanesbrands CEO. "Globalizing our supply chain, and eventually balancing production between Asia and the Western Hemisphere, is a critical plank in our strategic efforts to reduce costs, improve product flow, and increase competitiveness."

By the end of 2008, Hanesbrands expects to close seven plants–sewing facilities in El Salvador, Honduras, and Costa Rica; and two yarn plants, a knit-fabric textile plant, and an inventory storage warehouse in the United States. By 2009, the company will also close a sewing plant in Mexico and another knit-fabric textile plant in the United States.

"In addition to improving cost competitiveness, these moves will lay the foundation for completing our Asia build-out and improve the alignment of our sewing operations with our end-state flow of textiles," adds Gerald Evans, Hanesbrands president and chief global supply chain officer.

Textile production from plant closings will be absorbed into existing plants in Central America. Hanesbrands has expanded its fabric production capabilities in the Dominican Republic and El Salvador, and plans further expansion in Central America.

Apparel maker Hanesbrands' new global cost-reduction strategy involves expanding production activities in Asia and consolidating into fewer, larger facilities in low-cost countries around the world.

The company will move most of the sewing production from the Central American plants that will close to new Asian facilities. Hanesbrands has opened or acquired four sewing plants in the past two years–two in Thailand and two in Vietnam. The company aims to increase its workforce in Asia from 4,000 to 6,000 by the end of 2008.

"Our startup of supply chain operations in Asia is progressing very well," Evans says. "Since acquiring our first sewing operation in Chonburi, Thailand, in 2006, we have doubled production at that plant with the same number of operators as we bring to bear our production and plant operations expertise. Operations in Vietnam are starting quickly, with excellent quality from a capable workforce."

The company is also constructing a textile fabric plant in Nanjing, China, which is expected to increase production in 2009 to supply fabric to the company's expanding Asian sewing network.

CONTINUED FROM PAGE 20

U.S. Economic Development Skates on Ice

To fill the gaping void left by migrating manufacturing business, U.S. regional economic development groups are endeavoring to lure global investment. Transportation infrastructure, labor, and location are the usual selling points. But some enterprising alliances are tapping cultural similarities to attract business.

Capitalizing on a relationship with Swedish telecommunications equipment provider Ericsson, and the prestige of the Pittsburgh Penguins hockey organization, representatives from the Pittsburgh Regional Alliance (PRA) and the region's business community trekked to Sweden in October to promote Pittsburgh as a center for innovation and commerce.

Against the backdrop of the Penguins' season opener in Stockholm, the alliance conducted a series of roundtable meetings with members of Swedish industry and government to discuss telecommunications, mobile broadband applications, life sciences, and biotech initiatives.

What do Stockholm (*pictured*) and Pittsburgh have in common? An affinity for ice hockey and an economic development partnership that aims to bring more Swedish business to the United States.

Outsourcing's Shame

In some parts of the world, the decision to outsource is less about breaking down functional silos and more about tearing through cultural ones. Take Saudi Arabia, for example, where public humiliation and punishment dictate social and economic mores.

Despite a shortage of skilled logisticians, Saudi Arabian companies are hesitant to partner with third-party logistics providers, according to research by Hala Supply Chain Services, a Riyadh-based service provider. Deconstructing the ego to build public conformity apparently does not translate to the enterprise.

The company recently published a Saudi Arabian Supply Chain Intelligence Report (SCIR), which suggests that a significant cultural change is necessary before companies can improve operations. Such an overhaul may give U.S. businesses pause as they consider potential ventures in The Kingdom.

"Logistics activities are characterized by low levels of outsourcing," the report notes. "This goes against international trends, where an increasing number of partnerships are being formed between companies with limited supply chain skills and 3PL firms with the experience to manage these new challenges. Such an approach has shown its value in alleviating the challenge of a skills shortage by elevating the resources available to companies and operators on both the regional and the global level."

While Saudi Arabia has followed an economic development path similar to the United Arab Emirates, diversifying beyond oil production to embrace transportation and logistics, outsourcing resistance will stifle the country's prospects.

"New approaches are required in order to revolutionize the supply chain in Saudi Arabia and meet future levels of growth," the study summarizes.

CONTINUED FROM PAGE 22

The delegation also engaged organizations in Sweden about Pittsburgh's strengths in sustainability initiatives, according to Philip Cynar, spokesperson for the Allegheny Conference on Community Development and Affiliates. Being a coal capital, Pittsburgh has a vested interest – and is making advances–in clean coal technology and carbon capture sequestration.

"These advances can benefit other countries interested in exploring alternative and renewable energy sources," says Cynar. "Likewise, the Pittsburgh region has strengths in wind, solar, and nuclear energy. Companies such as Converteam, Plextronics, Flabeg, and Westinghouse–all located in our region–have alternative energy products or components to supply to the world and to advance smarter, greener energy creation and usage."

This isn't the first time the PRA has touted the city's cultural diversity to lure global business. In 2006, the alliance traveled to Europe with the Pittsburgh Symphony Orchestra (PSO). As a result, SYCOR Americas, a Germany-headquartered information and communication technology company, chose to locate its North American headquarters in Pittsburgh instead of Minneapolis or Montreal.

The next stop for the PRA and PSO? The PRC–People's Republic of China.

Against the backdrop of the Pittsburgh Penguins' season-opening ice hockey game in Stockholm, the Pittsburgh Regional Alliance, on a trade mission to attract more business to the United States, engaged Swedish government and industry officials.

U.S. and Vietnam Air Out Differences

Reflecting a new era of political and economic harmony, the United States and Vietnam recently agreed to lift restrictions on air cargo routes between the two countries–a move that will open up more opportunities for U.S. investment in Southeast Asia.

The Open Skies pact for all-freight services, initiated during an October visit by U.S. delegates, allows airlines from both countries to carry cargo to or from third countries.

"The agreement will strengthen and expand our already strong trade and tourism links with Vietnam and provide benefits to American and Vietnamese cargo carriers and shippers, while preserving our commitments to aviation safety and security," the U.S. embassy reports.

The delegations–led by Vietnam's Civil Aviation Administration and the U.S. Bureau of Economic, Energy, and Business Affairs–agreed to discuss further trade liberalization. ■

COOL
and we know it.

ReeferPlus® GPS

Our new ReeferPlus® GPS containers in Puerto Rico are among the most advanced reefer boxes in the world.

- GPS-enabled real-time container tracking
- In-box sensors reporting temperature, atmosphere and security updates via the web
- Monitoring and even adjusting reefer conditions with one click from a thousand miles away

That's very cool.

Come learn more at **www.horizonlines.com**
Follow the penguins.
Or call (877) 678-7447

HORIZON LINES
Always There. Always Delivering.®

Jeff Bodenstab is vice president of
marketing for ToolsGroup.
617-263-0080 • *jbodenstab@toolsgroup.com*

IT MATTERS

by Jeff Bodenstab

Successfully Managing Long-Tail Inventories

The concept of the long-tail retail environment refers to the extended downward slope of a unit sales curve that, when illustrated graphically, depicts a "long tail" as demand wanes toward zero.

Introduced by *Wired* Editor in Chief Chris Anderson in 2004, the term originally described Internet-based companies, such as iTunes or Amazon.com, whose environments are less affected by physical constraints of manufacturing, production, and distribution. But today, brick-and-mortar companies also operate in long-tail environments as they deal with more SKUs and slow-moving items with unpredictable demand.

For example, among Fortune 1000 businesses, one automotive aftermarket parts company has nearly 98 percent of its SKUs in the tail, while a consumer goods company has 86 percent of SKUs in the tail. A globally branded beverage company with the shortest tail still has nearly half its SKUs in the tail.

WHAT'S DRIVING LONG TAILS?

Customer demand that is geographically scattered, occurs in smaller quantities, and requires specialized products is the main driver of long tails. But there are other trends at work, including:

- **Product proliferation.** Companies introduce more products and variants, causing SKUs to increase faster than sales, and reducing average sales per individual SKU.
- **More frequent replenishment.** More frequent deliveries allow companies to be more responsive to demand changes, but also lead to more demand variability. One SKU may look like a fast mover (stable demand) when observed in monthly buckets, a slow mover in weekly buckets, and intermittent or "lumpy" at the daily level.
- **Total supply chain focus.** Manufacturers, distributors, and retailers are collaborating more. Manufacturing companies that once focused on stocking big regional distribution warehouses now focus on minimizing out-of-stocks on retail shelves. Demand is disaggregated into individual end-node streams, increasing demand and slow-moving behaviors.

While these trends create longer tails, increased customer service expectations exacerbate the problem. Whether measured by perfect-order fill rates or retail-shelf product availability, industry standards and expectations have risen steadily. In fact, inventory levels have not dropped significantly despite advances in supply chain planning and execution achieved during the past decade.

WHY IS THIS A PROBLEM?

The long-tail environment is more challenging than a high-volume mainstream business. Demand is intermittent. Supply chain noise increases. Demand signals are harder to read.

In this environment, forecasting and inventory management become more challenging because traditional systems weren't designed for the tail. Where demand variability is high and demand distribution skewed, classic forecasting and inventory models do not perform well.

"In this scenario, traditional inventory techniques–safety stock logic based on normal demand distribution–just don't work," agrees Lora Cecere of AMR Research.

The presence of many slow-moving items often produces significant gaps between planned and actual results. Companies are inclined to overreact and

CONTINUED FROM PAGE 26

create overstocks, causing a bullwhip effect that shifts working capital from active stock to slow and even dead stock.

As a result, inventory mixes in a long-tail environment become misaligned. Some products are over-served, others under-served, and both impact the top and bottom lines. The tail consumes significant working capital, without delivering desired service levels.

In a long-tail environment, inventory mixes become misaligned. Some products are over-served, others under-served, and both impact the top and bottom lines.

THE ELEMENTS OF A SUCCESSFUL LONG-TAIL STRATEGY

It is possible to make the most of this long-tail environment–and even to succeed. Successfully managing inventories and achieving high service levels requires two simple, yet difficult to execute, elements:

- Accurate demand and inventory models to support reliable service level and inventory management.
- Highly disciplined processes that eliminate manual interventions and bullwhip behavior, which can be achieved only by gaining confidence in the underlying systems to maintain desired service levels.

These requirements apply to any company that wants to operate efficiently in a long-tail environment–even fast-moving CPG companies–and especially to retailers. They can be satisfied by applying the appropriate inventory optimization technology and techniques.

The key is to have the systems and processes in place that effectively manage the long tail. This must be done without taking convenient shortcuts, which can simplify the problem while creating inaccurate models and leading to erroneous decisions.

By taking a no-shortcuts approach and mastering the full probability distribution of both demand and inventory across a wide range of possible behaviors, you can reach unprecedented efficiency and service level excellence in an increasingly challenging long-tail world. ■

Frank Monte is senior manager,
Deloitte Consulting LLP
404-631-2144 • *fmonte@deloitte.com*

VIEWPOINT

by Frank Monte

Green Transportation: On the Road to Sustainability

In the past, transportation efficiency concerns primarily focused on areas such as route optimization, capacity planning, and partner collaboration. Today, efforts to improve service and reduce costs include an additional element: environmental impact.

As new and aggressive social, environmental, and political pressures evolve, shippers and carriers must adopt and act upon "green" opportunities. Failure to do so will make it substantially more difficult for companies to operate in this new era of environmental awareness and social responsibility.

THE CHALLENGES

Transportation companies and shippers seeking to minimize their environmental impact have no shortage of issues to address, including biofuels, noise reduction, air quality, safety, competition, efficiency, costs, and growth.

The incredible rise in fuel costs, which could increase even more as tensions between the United States and Russia grow, is already changing our behavior. New, more efficient engines are getting mixed reviews, and biofuels may not be as efficient as once hoped.

Many transportation leaders caution that the cost of modifying equipment to use biofuel is prohibitive, and that moving aggressively toward becoming green could drive operating costs sky high, reduce services, and potentially drive carriers out of business.

GETTING BEHIND GREEN

One organization that has been on top of the green initiative is UPS. The carrier operates the industry's largest private alternative fuel fleet, which includes more than 2,000 compressed natural gas, liquefied natural gas, propane, electric, and hybrid electric vehicles.

Since 2000, UPS's alternative fuel fleet has traveled more than 144 million miles in the United States, Germany, France, Canada, Mexico, and Brazil. The carrier recently ordered additional green vehicles expected to reduce emissions by 20 percent and improve fuel economy by 10 percent compared to the cleanest diesel engines available today.

While UPS proves that green initiatives are achievable, how can a company without UPS's resources, extensive budget, and established infrastructure accomplish the same goals? Smaller organizations operating their own fleets can get there, but they have to plot a progressive roadmap in order to achieve sustainable results.

HOW TO GET THERE

To get started on the road to sustainability, define short- and long-term opportunities for change. Identify "quick hits" to save money that can be fed into the pending costs of larger initiatives. View potential opportunities from a broad perspective rather than in silos to limit the chance that initiatives conflict or overlap.

Another approach is to use carriers that are part of SmartWay, an innovative program developed by the Environmental Protection Agency (EPA). A voluntary partnership between shippers, carriers, intermediaries, and the EPA, SmartWay establishes incentives for improving fuel efficiency and reducing greenhouse gas emissions.

Today, shippers and carriers affiliated with such programs prove they are responsible green citizens within the industry and their communities.

Becoming green is possible, and your company's efforts can achieve the benefits of cost savings, loyal customers, and a cleaner environment. So start today–green is here to stay. ■

At Platinum Logistics **our philosophy is simple:** build long-term relationships one customer at a time. To achieve this, we've made it our mission to provide unparalleled customer service, one-on-one freight support and competitive prices.

Just ask our clients – we make customer service an art.

"When it comes to logistics and distribution needs, there is only one call I need to make and that's to Platinum Logistics. They consistently go above and beyond our expectations every time" – *Gerald Birin,* ***CEO, MHKnitwear Inc.***

Customer Service

- Our #1 Priority
- 24/7 Award-Winning Customer Support
- A Platinum Certified Organization
- Specialty Handling Services
- Customized One-On-One Service

International

- Next Flight
- Priority 2-3 Days
- Standard 3-5 Days
- Economy 5-7 Days
- Air & Ocean (import or export)
- Door to Door/Port
- Free Domicile
- Full Documentation Coordination

Domestic

- Next Flight
- Next Day
- 2 Day Service
- 2-4 Day Service
- Deferred LTL
- Truckload Service

Special Services

- Consulting
- Hazardous Materials Certified
- Flatbed, Rigging, Blanket Wraps, Lift Gates, Inside Deliveries
- Conventions & Residential
- Biological Materials Certified
- Online Tracking & Booking System
- Letters of Credit

Distribution & Warehousing

- Pick & Pack
- Warehousing
- EDI: Electronic Data Interchange
- MIS: Inventory Management
- MIS: Information Management
- On-Demand Delivery
- Physical Inventory
- Just-In-Time Delivery
- Fulfillment
- Packaging
- Assembly
- Labeling
- Priority Services
- Records Storage

www.platinumlogistics.com | 619.661.8020

Platinum Logistics

C. Daniel Negron is vice president,
TT Club •201-557-7320
daniel.negron@thomasmiller.com

RISKS & REWARDS

ISSUES AFFECTING LIABILITY MANAGEMENT

by C. Daniel Negron

Signed, Sealed, Delivered...But to Whom?

Q: I am a warehouse operator. An insurance company recently refused to provide me with coverage for the wrongful delivery of goods stored in my warehouse, citing the Uniform Commercial Code as the reason. Can you explain the problem?

A: The Uniform Commercial Code (UCC) is a body of law that has been accepted, with some modifications, by virtually all U.S. states. It codifies certain bodies of established legal principles pertaining to the sale of goods, commercial paper, and other uniform concepts.

Your insurance company's concern probably arises from the terms of Article 7 of the UCC, which specifically address warehouse receipts, bills of lading, and other documents of title.

When goods are placed into storage at a warehouse facility, the warehouse operator typically issues a receipt that serves as proof that its holder owns the goods. This receipt is, essentially, a document of title. When the owner retrieves the goods, he surrenders the receipt, and the warehouseman releases the goods to him.

Under the UCC, a warehouseman can issue a receipt with a statement that the goods will be delivered to the bearer, to a specified person, or to a specified person or his "order." This practice is similar to the concept used in writing checks.

If a check is issued to "cash," it is a "bearer" instrument, and any person can negotiate it. If it is issued to a specific person, only that person can negotiate it. If, as is normally the case, the check is issued to the "order" of a person, then it can be negotiated to any number of successive holders until it is finally cashed.

Look at your checkbook. Your checks are pre-printed with the words "payable to the order of," with a blank to fill in. This allows you to issue your check to another person who has the liberty to have it cashed by a third party, who in turn can go to yet another party, until the check is returned to your bank for payment. Warehousemen's receipts work in a similar way.

THE ROLE OF RECEIPTS

If a warehouseman issues a receipt stating that the goods will be delivered to a specific receiver, only that receiver is entitled to the goods. If he issues the receipt to a specified person "or his order," then the receipt becomes a negotiable document that the owner can use to sell the goods.

Once the goods are purchased, the new owner can sell them to another party, or present the receipt to the warehouseman for delivery of the goods.

Problems arise when the warehouseman mistakenly releases the goods to someone other than the owner or purchaser of the goods. When this happens, the goods have been neither lost nor damaged. The warehouseman has committed a professional error. The UCC permits a warehouseman to place a limitation of liability on his receipt for lost or damaged goods. But, where no loss or damage occurs, he may be liable for the full value.

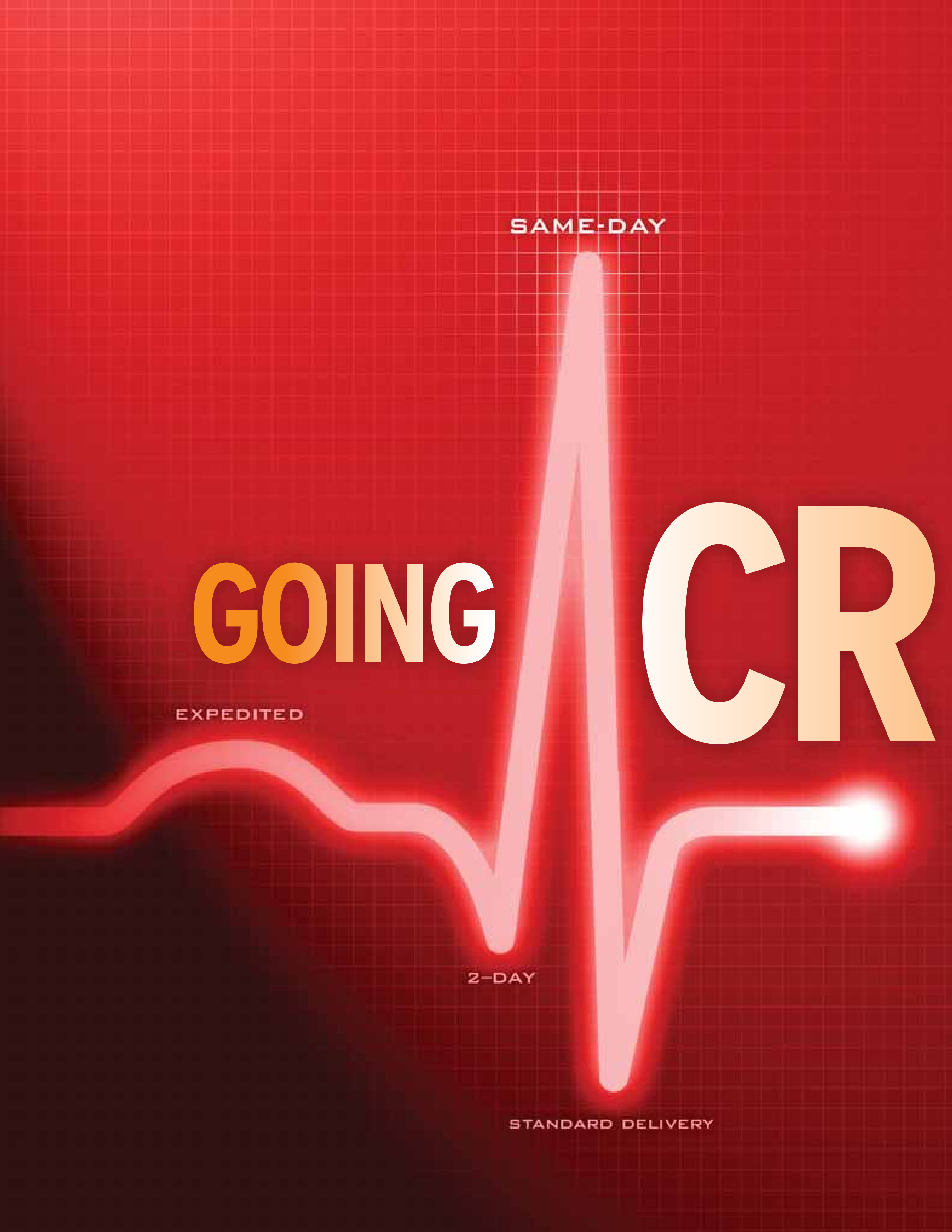
TAKE COVER

Insurance policies differ as to the cover they provide for warehoused goods. A typical warehouseman's legal liability policy insures an operator for loss or damage caused by his failure to exercise due care. A property policy (such as cargo) covers the goods directly for loss and damage, irrespective of the warehouseman's actions.

Neither policy covers a loss caused by delivering goods to the wrong party, because the goods are neither lost nor damaged. This professional liability situation must be insured through a coverage extension on your warehouseman's legal liability policy, or through a separate errors and omissions policy.

The difference between a claim for loss or damage and one for professional liability can be substantial. Protect your exposure properly. ■

GOING CR



When an item really, really, really has to get there—and fast—critical shipment service providers spring into action, STAT!

ITICAL

By John Edwards

Shipments don't get much more critical than the transport and delivery of human organs. Just ask Roger Brown, organ center manager for the United Network for Organ Sharing (UNOS), Richmond, Va. UNOS holds the federal contract to administer the Organ Procurement and Transplantation Network, which facilitates nationwide organ matching and placement via a computer system and 24/7 communications center.

One of Brown's key responsibilities is ensuring that an organ, such as a heart or kidney, is transported from the donor site to the recipient's hospital as swiftly and safely as possible. "It's precious cargo, and we need to respect that," he says.

Although Brown's needs are unique, all critical shipment customers share his concerns to some extent. Whether they are transporting human organs, automotive parts, perishables, or business documents, companies expect their critical shipments to be handled efficiently, securely, safely, and, most of all, quickly.

"Critical shipments require a balance between cost and speed. If you can't afford the service, it doesn't matter how fast or reliable it is."

–**Roger Brown,** organ center manager, United Network for Organ Sharing

"Just about every organization will require fast service, if only occasionally," notes Erik Van Baaren, logistics and express services analyst with Datamonitor, a London-based business research company. Companies operating in the automotive, maintenance, electronics, and financial industries, however, tend to be mainstays of the critical shipments market.

These industries have different needs. Automotive, maintenance, and electronics companies may have to ship a particular type of component to a manufacturing or service site, while financial industry companies often need to get contracts and other documents into the hands of clients and business partners with minimal delay. "But all industries share a common goal: they want their shipments to move both quickly and reliably," Van Baaren notes.

The critical shipments industry has evolved significantly during the past several years. Consider the example set by UPS. "When UPS introduced its Express Critical division 13 years ago, it was built mostly around the automotive industry, but the services and products have since been diversified," says Wayne Hall, manager of Atlanta-based UPS Express Critical. "The service now handles a wide range of products, from financial documents to perishables, electronics, technology, even artwork."

HUMAN ORGANS: THE HEART OF THE MATTER

For Brown, selecting the transport mode that can get a human organ to its recipient in the shortest time without wasting money is a top priority. The transplant field "prefers to fly the organs," he observes. "Air is the most efficient and cost-effective way to move human organ shipments."

While less expensive than air, ground transport costs can add up quickly. "Unless they are traveling a very short distance, moving organs via ground transport tends to be expensive," Brown notes. "A seven-hour trip by car from Richmond, Va., to New York, for example, will likely cost $1,000 or more."

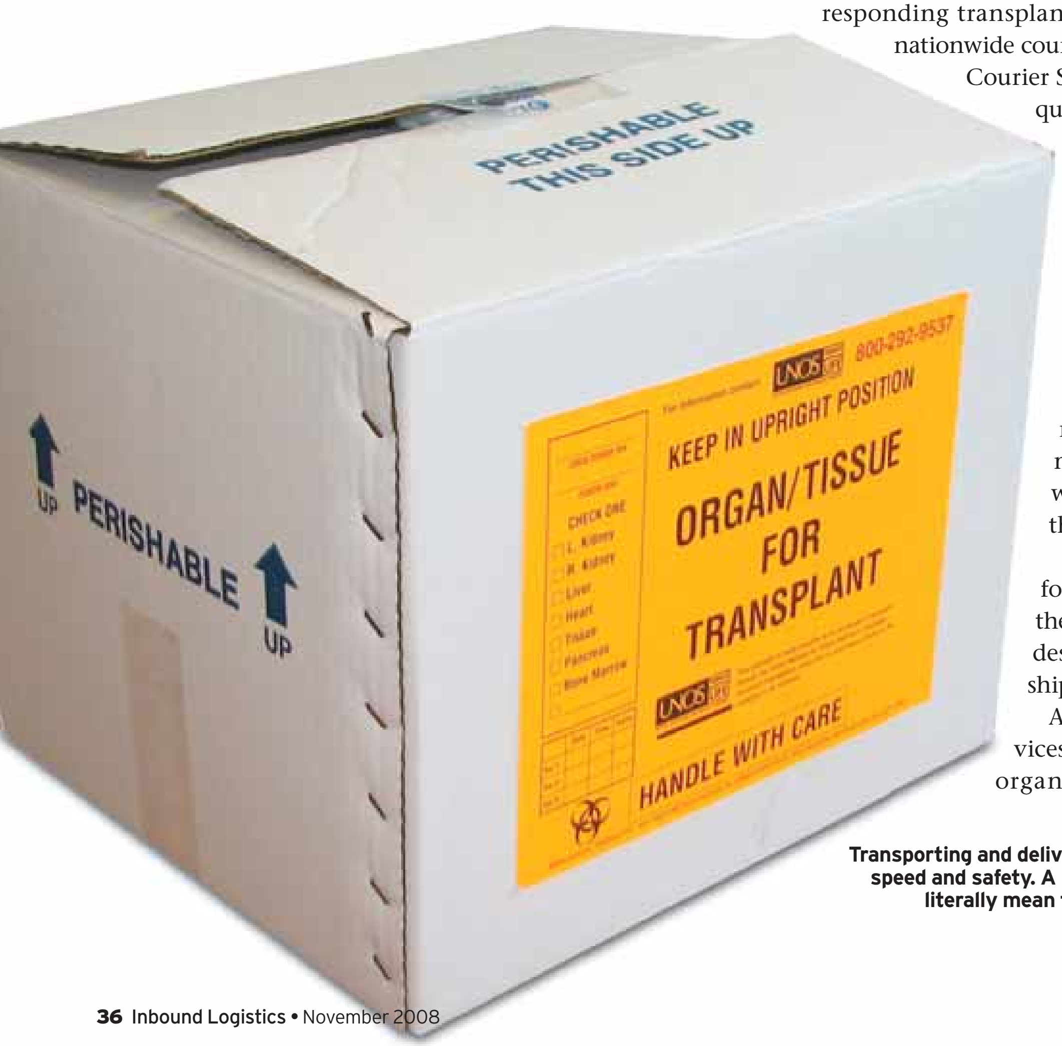
Tack on labor, vehicle, fuel, and toll costs and high-speed air transport becomes an attractive alternative.

To transport organs to and from airports, as well as for complete short-haul trips, UNOS relies on a network of ground couriers. Each organ procurement organization, and its corresponding transplant centers, can select one of two nationwide couriers: Herndon, Va.-based Sterling Courier Systems or AirNet Systems, headquartered in Columbus, Ohio.

Both courier services maintain a 24/7 call center, enabling them to spring into action at a moment's notice. "Drivers can pick up an organ from nearly anywhere in the country within 30 minutes to an hour from the request," Brown says. "The service completes all the documentation required to load an organ shipment on the plane, monitors it while in flight, and makes sure there are no delays."

The courier services also arrange for ground transportation to meet the organ and its carrier at the flight's destination and swiftly deliver the shipment to the waiting hospital.

As with just about all logistics services, particularly critical shipments, organ delivery has become a more



Transporting and delivering human organs requires unusual speed and safety. A miscue anywhere along the line could literally mean the difference between life and death.

complicated process over the past several years. "Before Sept. 11, couriers could run an organ shipment directly to the gate and load it on a plane at the last minute," Brown says. "Most airlines would put the organs in the cabin, or sometimes even in the cockpit."

Given heightened security concerns, however, this time-saving and convenient approach is no longer possible. Because couriers currently can't access the gate without a ticket, all organ shipments must now pass through airline cargo offices and are treated much like ordinary baggage, with some special handling conditions. "The packages are hand-carried, so they bypass the baggage chutes," Brown says.

Even in a field as critical as human organ shipments, mistakes and delays sometimes occur. "Shipments do get temporarily misplaced or misrouted and need to be guided back to the correct destination," Brown notes.

Human or system error, mechanical delays, or a flight crew that exceeds their allowable flying time can all cause problems. And don't forget the weather. "Blizzards, thunderstorms, and other weather conditions can alter schedules, so we're never able to get a true delivery guarantee," he adds.

While mistakes or delays can have devastating consequences–in extreme cases causing the loss of a transplantable organ–they are also rare. "Airline deliveries are extremely dependable, or we would have switched to chartered aircraft long ago," Brown says.

Scheduled flights are also much less expensive than charters. "Critical shipments require a balance between cost and speed," Brown says. "If you can't afford to pay for the service, it doesn't matter how fast or reliable it is."

AUTOMOTIVE PARTS: THE ROAD TO CRITICAL SHIPMENTS

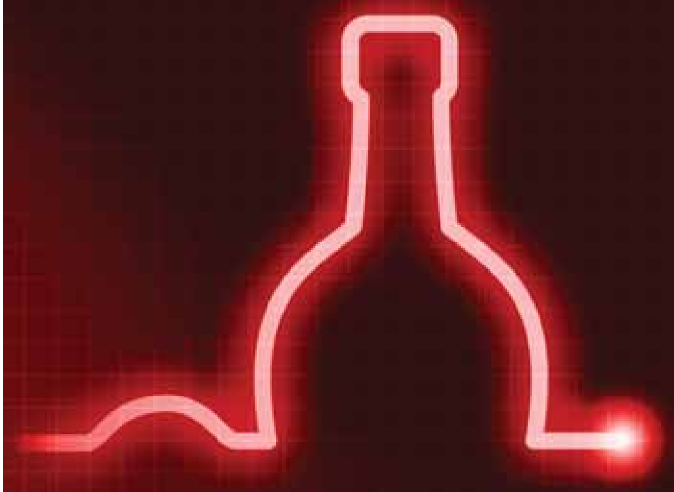
Although automotive parts don't carry the same life-and-death importance as human organs, critical shipments nonetheless play a crucial role in the long-term health and survival of manufacturers such as Troy, Mich.-based Delphi Packard, a Delphi Automotive subsidiary specializing in manufacturing components including connectors, clamps, and terminal seals. These seemingly mundane devices can suddenly transform into vital commodities when they are needed to build or repair a vehicle.

At Delphi Packard, critical shipments flow in two directions: The company receives inbound components and materials in order to create products, and ships outbound to meet customers' needs for critical assembly materials and parts.

"Inbound shipments move to our plants to create new parts," explains Yvonne Castaneda, traffic coordinator for Delphi Packard. "Outbound shipments move to a wide range of customers, including General Motors, Toyota, and Mitsubishi."

Delphi Packard uses UPS Express Critical service for its "must get there tomorrow or sooner" deliveries. These critical shipments aren't only important, they are vital to ordinary business operations. "If an automotive production line in Detroit isn't moving because it needs parts, the downtime could cost $10,000 a minute," Hall observes.

UPS offers several levels of expedited and critical shipping



CRITICAL SHIPMENTS UNCORKED

Getting a fine wine to a restaurant, resort, or other customer at a moment's notice may not sound like much of a "critical shipment." But then, wine aficionados are renowned for their demanding tastes and needs.

Tom Tunt, president of VinLux Fine Wine Transport in California's Napa Valley, strives to meet the delivery speed and service quality demands and whims of wine country connoisseurs.

"Wine requires a temperature-controlled environment, which we maintain in our warehouse and on our trucks," Tunt says. "Wine can also be high value and delivered to some unique outlets, so it requires what we call 'concierge-style' service."

Technology plays a major role in helping VinLux maintain its high service levels. "We use a warehouse management system from HighJump and a Cheetah Software Systems solution for routing and order/truck tracking," Tunt says.

Any VinLux customer with a critical order can notify the company electronically. "Customers have access to all orders through our Web portal," Tunt says. Technology also helps VinLux track and monitor both critical and routine orders. "The Cheetah system provides real-time tracking through GPS technology and customers can see what time orders were delivered, if the order was complete, exceptions, and who signed for delivery," he says.

While catering to its customers' critical needs, VinLux also wants to be respectful of the natural environment that supports the area's world-class wine production. "We recently launched Peterbilt's first medium-duty hybrid trucks," Tunt says. "This is just one of many green initiatives underway at VinLux."

UPS Express Critical international service quickly assesses urgent situations and helps companies with critical shipments reach remote locations around the globe.

services. Enhanced Secure Transit is utilized only by companies that need to move extremely valuable assets rapidly and securely. "Jewels, currency, some pharmaceuticals, and bank data tapes are some products that require this level of service," Hall says.

The service gives customers the option of having their shipment picked up by an armored car. The shipment is then loaded onto a UPS jet that flies to the company's Louisville, Ky., hub, where it is retrieved by an armed guard and brought to a secure area at the Louisville airport. It waits there until the plane headed to its destination is ready to depart. The shipment is then loaded onto the plane–once again with the assistance of an armed guard. When the shipment reaches its destination, another guard picks it up and delivers it to an armored vehicle, which then drives the shipment to its final destination.

PERISHABLES: SPECIAL TREATMENT

Highly valuable assets aren't the only critical shipments requiring special treatment. Perishable cargo such as live animals, pharmaceuticals, and flowers also demands the service of carriers with special abilities and expertise.

Moving perishables grows even more complex when shipments cross international borders. That's when shippers need to call on carriers that can cut through paperwork and provide fast and safe deliveries to and from often remote locations.

Centurion Air Cargo, Miami, Fla., is one of many niche critical shipment carriers to address this market need. Specializing in the transportation of perishables and live animals, Centurion offers services to most destinations in Latin America, operating a fleet of eight DC10-30F full freighters.

Automotive components might not look like critical shipments, until a production line goes down waiting for their delivery.


JOHN PELLIZZETTI
KINGS POINT
SR. CLASS PRESIDENT
1991
RIVER STONE FREIGHT LLC
PRESIDENT 2008

Centurion transports more than 1,500 live animals annually. "Our personnel is highly specialized and qualified in the handling and regulatory procedures involved in transporting live animals, especially horses," notes John Trutt, a company regional manager.

Flowers and seafood are also mainstays of Centurion's business. "Northbound, we handle flowers and fish from many countries," Trutt says. "Going southbound, we move a large volume of perishables, particularly vaccines and other medical products." Centurion also transports a variety of routine, yet critically needed, spare parts to factories in Mexico and Central and South America.

The type of cargo Centurion carries is seasonally dependent. For example, the company often moves produce that can't tolerate days or weeks locked up inside a trailer or container. "Peru will soon begin its asparagus season, and planeloads will be coming into the United States," Trutt notes. "The produce has to leave the plane as fresh as when it was loaded onboard."

Centurion maintains a busy schedule to meet the needs of businesses throughout the Americas. Last September, for example, the carrier operated 39 scheduled weekly flights from Miami. Yet, in the critical shipping services field, schedules are usually little more than a starting point. "We often add extra flights to the schedule," Trutt says. "We have to be ready and willing to accommodate our critical shipment customers' needs, and can't plan for everything ahead of time."

3PL GOES CRITICAL

Echo Global Logistics' customers don't particularly care how the third-party logistics provider gets their critical shipments from one place to another; all they want are accurate and on-time deliveries. This isn't an easy mission to fulfill, according to Douglas R. Waggoner, CEO of the Chicago-based company. "It requires a company that's willing to take the time to analyze all the available transportation choices and make the most appropriate selection in terms of time, cost, and any special considerations," he says.

Echo is a non-asset-based transportation management company that handles shipments in all modes. "We do business both contractually with our enterprise clients, and on a transactional basis," Waggoner says. "We maintain a database of 16,000 carriers; we track and certify them, view their insurance certificates, and monitor their performance."

Echo arranges critical shipments for customers whenever the need arises. "We regularly meet with all our carriers and determine their capabilities," Waggoner says. "We also use our buying power to negotiate favorable rates."

To find the best critical shipment prices and delivery terms for its customers, Echo uses its technology to automate transportation providers' rate structures for critical services. "It is easier for us to execute shipments if we have access to carriers' rating engines, so we don't have to call them every time we want to move a critical shipment," Waggoner says.

Echo also keeps a close eye on carrier service. "We track the service and performance of every transaction we manage," he notes. "We have robust service reporting capabilities that our customers can use, but we also use them to manage the service performance of our carriers."

The 3PL pays special attention to the various details that can make or break a critical services shipment. "We track carriers in terms of on-time pickup and delivery, damage, and overall exceptions," Waggoner says. "Then we use a variety of dashboards and scorecards to select a carrier. Whether it's for a critical shipment, or a particular mode, we can compare the price that we're paying combined with the carriers' reliability and service." At the end of the process, Echo assigns a value to any particular carrier for any specific kind of transaction.

Echo also works to match companies with extraordinary shipping needs to the most appropriate critical services carrier. "For example, we have a customer that ships large transformers to power plants," Waggoner says. In this case, Echo turns to a highly specialized carrier, one with the equipment and special permits required for handling such a demanding shipment.

"But in most other cases, we can use an LTL carrier or an air freight forwarder to move critical shipments," Waggoner says. "It's all about coming up with the right solution."

Still, when it comes to critical shipments, pricing and other transportation fine points tend to go out the window, Waggoner admits. "Some companies look at transportation as a commodity until they absolutely need to have a shipment somewhere at a specific time," he says. "Then money is no object."

LOOKING AHEAD

As global business expands, and more critical shipments begin traveling longer distances, new technologies will help both shippers and consignees better monitor shipment locations and projected delivery times.

"RFID and GPS positioning technologies will allow all parties in the supply chain to have more details and information on the location of a particular shipment," Van Baaren says.

The low cost of RFID, as compared to GPS, makes it the emerging technology most likely to enter the logistics mainstream in the near future. "Some companies in Europe are currently conducting trials of RFID use in the logistics market," Van Baaren says. "That could potentially have a big effect on same-day operations, especially for companies shipping, and attempting to track, more than just one urgent item."

While critical shipment carriers aren't afraid to take advantage of the latest transportation and technology advancements in order to give their customers faster and more efficient service, two old-fashioned technologies continue to dominate the industry: the clock and a map.

"You can be many things in the critical shipments field," says UNOS' Roger Brown, "but you can't be late or wrong." ■


35
ON TIME

All I Really Need to Know* I Learned From Rudolph

*(about logistics)

A Holiday Demand Story

by Dan McCue

It is both a holiday classic and one of the best depictions of a supply chain solution ever broadcast. The factory floor hums as a shipping deadline approaches, but a logistical disaster looms in the guise of an unexpected storm. The solution turns out to be right at the end of the hero's red nose. Yes, all you really need to know about logistics you could learn from Rudolph the Red-nosed Reindeer.

If only logistics could be that simple. In reality, the year leading into the 2008 holiday season has been anything but glowing for supply chain and logistics managers. Long before this autumn's Wall Street meltdown put a crimp in consumers' psyches and pocketbooks, the backdrop to holiday-related supply chain decisions was a case of one thing after another.

First, the worst winter storm in half a century paralyzed China's manufacturing sector just before the Chinese New Year. Then the country dealt with a major earthquake, the effects of which finally began to diminish just as discussions began on a new labor contract for Los Angeles and Long Beach dockworkers. Next came $150-a-barrel oil and rapidly accelerating transportation costs. Analysts say that the best retailers can hope for from the 2008 holiday is a 2.2-percent increase in sales over last year.

But there is light at the end of the tunnel (or nose). By embracing accurate planning, lean strategies, and transportation efficiency, retailers and suppliers can guide their supply chain sleigh through any storm.

Getting Cool Items Into Customers' Hot Hands

Does your holiday gift list include a giant microbe plush toy, LED shower light, or watch with a hidden USB drive? If so, ThinkGeek.com is your destination. The 10-year-old online retail hub for technology enthusiasts, which reports $35 million in annual revenue, operates as a large company that never lost its start-up mentality.

"Our goal is to sell the newest, coolest stuff," says Ty Liotta, senior merchandiser for ThinkGeek. "We source products both domestically and globally from China, India, the UK, Australia, France, and Germany."

Liotta selects the products, negotiates with vendors, and supervises deliveries to the company's warehouse in Edison, N.J. He also oversees ThinkGeek's custom manufacturing, such as the China-based production of the 2008 holiday season's hottest item: the drum kit t-shirt. The interactive t-shirt, which Liotta developed, allows the wearer to tap out a variety of beats on the printed drums, which emit corresponding sounds through tiny speakers built into the shirt.

"Our holiday supply chain decisions are simple because we only have one large warehouse," Liotta says. "At the same time, we'll source from anyplace that offers a product that will appeal to our audience."

As ThinkGeek has grown, its supply chain planning for the holidays has started progressively earlier. This approach creates its share of challenges.

"No matter how well you plan, or how early you get a jump on the holidays, factors constantly change and problems crop up," Liotta says. "This year, for instance, the U.S. dollar's exchange rate hurt us on pricing and hurt our suppliers in China, some of whom have gone out of business as a result."

Another complication this year has been a tightening of federal regulations pertaining to electronic imports.

"Electronics are under more scrutiny, making it more difficult to clear them through Customs," Liotta says. "The government now requires FCC clearance on items that didn't require it before—even items that don't emit a radio signal."

Consequently, ThinkGeek is increasing back-and-forth communication with vendors, requiring that manufacturers perform FCC testing as products leave the factory, and affix the required ID before shipment.

"We're having more conversations with vendors as to whether they have an FCC ID and, if not, how they are planning to secure one," Liotta says. "That's where potential logistics disasters lurk this year. If goods arrive in the United States without being properly tested and labeled, they'll hang in limbo, and we'll have to pay for their storage."

To manage its supply chain efforts, ThinkGeek employs a staff of programmers who operate a custom-built Web site that tracks sales, reorders merchandise, and makes sure hot items are always in stock on the back end.

Last year, ThinkGeek recorded about 50 percent of its total sales for the year during the holidays, shipping 8,000 orders a day at the season's peak. The company's emphasis on selling new items puts particular stress on ThinkGeek's supply chain model.

"We launched the drum kit t-shirt in early September, so we don't know what the holiday demand will be," Liotta says. "Because the shirts are light and we have a high margin on many of our items, we're able to air freight them cost effectively.

"We air-shipped some drum kit t-shirts from the manufacturer to get an early read as to how they're selling," Liotta adds. "The rest of the inventory will move by ship. It's all about mitigating our risk. We don't want to get stuck with too much or too little of any product."

Will drum kit t-shirts be the hit gift of the holiday season? ThinkGeek is trying to find out. It ordered an early batch from China via expedited air to see how they sell. The balance is on the way by ocean freight.

Despite the company's best efforts, Liotta is sure an emergency will crop up this holiday season. In logistics, he says, something is bound to happen.

"Last-minute shipments will be delivered under the wire, or products will arrived defective," he notes.

Ultimately, Liotta takes a positive view: "Each holiday season provides business experiences that help you grow and better plan for the next one."

Planning Makes Things Oh So Bright

Depending on the product, supply chain decisions related to this year's holiday season were most likely made six to 12 months ago.

"Most major retailers stayed abreast of consumer purchasing trends during the year," says Jonathan Gold, vice president of supply chain management and customs policy for the National Retail Federation, a retailer advocacy association based in Washington, D.C. "They captured the latest consumer data as they made their holiday season decisions, working with their internal buying units and outside consultants."

Ordering seasonal products can be tricky, but some retailers got it right throughout the year. Apple, for example, was able to push the release date of its iPhone3G from September to July because it stocked inventory before Chinese suppliers closed up shop for the Olympics. Apple now has ample product to meet holiday demand.

While Indonesia, the Philippines, and Taiwan were larger players in this year's holiday season planning, China is still the manufacturing giant when it comes to the goods most likely to wind up wrapped in colorful paper and tied with a bow in late December. Work stoppages there can have a marked effect on the supply chain, even months in advance.

For instance, most retailers planned for the Chinese New Year in February, when nearly 178 million people take as long as one month off from work. But a colossal snowstorm in China extended some factory and warehouse closings by up to two weeks.

"Some electronics companies stockpiled inventory in anticipation of the holiday. Epson, for example, prepared early for the New Year, then closely monitored the brewing storm and built up subcomponent inventory beforehand," says Bradley A. Feuling, chief executive officer of Kong and Allan, a supply chain consultancy based in Shanghai, China.

"Most companies, however, sweated it out through the storm and its aftermath," he adds. "In parts of China, material flow completely stopped for an extended, unanticipated period."

Supply chain planning was also affected by the Chinese government's decision last spring to amend the country's holiday schedule, shortening a week-long national holiday in May to three days, and adding single-day holidays to other parts of the year.

"Those changes might not seem significant, but the technology companies employ to manage supply chain and inventory issues doesn't automatically account for changes in a source country's holiday schedule," says Feuling. "If the necessary manual adjustments are not made, inaccurate accounting and inventory problems could occur."

Even the best-laid plans can't

EFFICIENT SHIPPING BY THE BOOK. A huge network of global fulfillment centers lets Amazon.com immediately ship a wide variety of products to customers around the world, resulting in high levels of customer satisfaction.

Checking Consumer Wish Lists

To understand Oprah Winfrey's power over consumers, just look at how she revs supply chains into overdrive after her "Favorite Things" holiday program creates demand surges for the specific products Oprah can't live without.

Richard Howells, senior director of solution marketing for system solutions provider SAP, found out firsthand the effect Oprah's endorsement can have on product demand.

Howells was not worried when his wife asked for a specific electronic facial scrubber last holiday season. True, it was early November, but Howells was sure retailers were past preparing for holiday demand by then, and that securing the item was only a matter of including it on his shopping list.

Then came Oprah's "Favorite Things" show, where the exact facial scrubber his wife had requested was featured. What followed next were some anxious moments.

PERFECT WORLD VS. REAL WORLD

"Most retailers base their purchasing on a forecast, and manufacturers produce accordingly," Howells explains. "But during the holidays, they tend to plan in the perfect world and react in the real world."

In the real world, for instance, where holiday season shipping decisions are made six to 12 months prior to the first autumnal chill in the air, no one plans for the Oprah-related surge in demand for certain items. The show is notorious for making last-minute decisions on inclusions, and nearly legendary for its ability to keep its decisions secret until airtime.

"It's critical to be able to quickly respond to changes in demand and supply during this time of year, and to rethink strategies and readjust supply chains accordingly," Howells says.

Over the years, that has resulted in greater demand for technology that's more responsive to the kind of market earthquakes an Oprah Winfrey—or a Wall Street bailout—can cause.

"But it's not just about software," Howells says. "Retailers also need the appropriate business processes in place."

If retailers have not set up their supply chains to be responsive to the marketplace, no software in the world will help them.

"And there's nothing worse than a child—or a wife—not getting the gift they want," Howells notes.

Traditional supply chain management is all about getting the right products to the right place at the right time. The next step is creating a foundation for critical responsiveness by building visibility into the supply chain.

"It's about capturing point-of-sale information in real time and being able to track shipments via GPS," Howells says. "It's about having a sense of events as they are happening, and redirecting goods to where a surge in demand is unfolding and away from areas where demand is dropping."

In that respect, the holidays are much like hurricane season, where the ultimate path of a storm is largely unknown until it actually comes ashore. Companies want to redirect shipments of ice cream from a city that will be without electricity for an extended period, just as they'd direct greater shipments of batteries and propane stoves to the area.

"The financial crisis will probably turn out to have a similar effect," says Howells. "In the wake of uncertainty and in light of consumers' fears, retailers are unlikely to stock as many $5,000 flat-screen TVs as they have in the past, choosing instead to bring in a supply of $3,000 sets."

LET'S GET FLEXIBLE

Another important factor in building flexibility into retail supply chains during the holidays is managing and maintaining good relationships with outsourced manufacturers year round.

"Once a plan is in place, there's no greater aid to bolstering flexibility than being on the same page as supply chain partners, both at the outset of the plan and when changes need to be made quickly," he says.

As for the question that's surely on your mind? Yes, Howells did manage to get that face scrubber last year. No word yet on what his wife wants this year.

guarantee supply chain success. "You can't anticipate an earthquake," Gold says. "But through appropriate day-to-day supply chain planning, most retailers this year reduced their exposure to the risks of unexpected events."

Just-in-Time Guides the Sleigh Tonight

A continuing trend in holiday season supply chain decisions is an emphasis on lean inventories and just-in-time deliveries.

"Retailers don't want inventory on hand that they'll be forced to sell at a significant discount in February," Gold says.

To accommodate just-in-time deliveries, many U.S. retailers source their holiday inventory from countries close to home, particularly Central and Latin America. This strategy has the added benefit of helping them cope with rising fuel costs worldwide and labor cost hikes in China.

The key to lean operations is keeping everyone in the loop. "Communication is critical and has to include all supply chain partners," Gold adds. "Retailers need a strategic plan to make sure they have the appropriate level of product on hand–both in-house and within the corresponding parts of the supply chain."

Technology also helps retailers manage their supply chains as the holidays approach. Best Buy, for example, has made a significant and well-publicized effort in recent years to integrate its transaction-processing system with its demand planning, transportation, and supply chain management software.

"Best Buy runs a sophisticated, full integration model that connects the point of purchase with the warehouse and distribution center," Gold notes.

The retailer keeps very few of any one model of, say, laptops, in its stores, but relies on electronically transmitted sales data to trigger deliveries when needed. This strategy has positioned Best Buy as a leading proponent of the demand-driven supply network philosophy and reduced its inventory while improving its stock positions.

"For many companies, it costs less to keep finished product on a ship than taking up space in a retail store," Feuling says. "This approach helps control inventory costs."

Efficient Shipping Has Customers Shouting Out with Glee

There's more to holiday logistics than managing inbound products. Retailers also have to ensure that merchandise gets out the door quickly and efficiently.

That's especially true of online retailers such as Amazon.com, which has been on a fulfillment center hiring binge since early summer, adding thousands of hourly picking, packing, shipping, and receiving employees in Washington, Kentucky, Indiana, and Arizona to ensure merchandise is delivered to gift recipients on time.

The Internet retailing giant relies on a huge network of fulfillment centers located in the United States as well as the United Kingdom, France, Germany, Japan, and China.

"Some of our fulfillment centers are designed to carry virtually every product line, while others handle only large items, such as big-screen TVs and stereo systems," says Amazon.com spokeswoman Stephanie Robinett.

On Amazon's peak day during the 2007 holiday season, these global fulfillment centers shipped more than 3.9 million units.

"Our supply chain is designed to be as efficient as possible so that we can have the widest variety of products available for immediate shipment to customers all over the world," Robinett says. "And technology plays a pivotal role in ensuring a great customer experience, especially during the holiday season when having products arrive on time is critical."

Amazon relies on technology to tie together the front and back ends of the operation, ensuring the right products are in stock and at the right fulfillment centers.

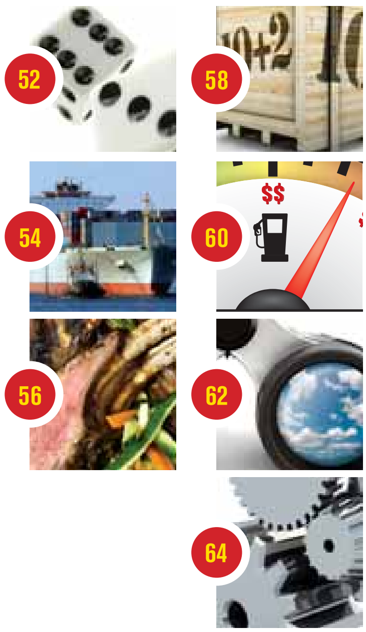
"This approach enables us to offer services such as Amazon Prime, an unlimited express two-day shipping program," Robinett says. "In addition, last year we were able to extend the overnight shipping order cutoff deadline to Dec. 23, for delivery on Dec. 24–offering last-minute shoppers a chance to get their products delivered before Christmas."

Most retailers have not enjoyed a smooth sleigh ride heading toward the holidays. But those that plan ahead, and brace for bumps in the supply chain, can hold on to precious holiday profit and help Santa deliver to his end customers this December. ■

H.O.W.
HELP ON THE WAY

Need to know the best way to manage risk? Negotiate contracts? Standardize fuel surcharges? Gain visibility? Develop infrastructure?

HELP IS ON THE WAY!



The day-to-day rigors and routines of operating in an increasingly global world bring to bear the importance of fine-tuning supply chain processes and strategies at home and abroad. To help readers take their businesses to new levels of success, *Inbound Logistics* is incrementally building a library of industry best practices that addresses logistics, transportation, supply chain management, and related technology challenges.

The next seven installments appear on the following pages:

You'll also find these articles on our Web site: **inboundlogistics.com/how** and in digital format: **inboundlogistics.com/digital**.

What specific "how-to" would you like us to cover? Let us know: **editor@inboundlogistics.com.**

How to Manage Risk Among Logistics Partners

Businesses face their own unique challenges in today's waffling economy, with credit largely frozen, consumerism measured, supply lines lengthening, and transportation-related costs reaching record thresholds. Aside from these internal and market-driven obstacles, companies also encounter considerable risk partnering with carriers, forwarders, and third-party logistics providers laying down their own odds to deliver competitive value and service in a soft market.

High fuel costs and diminishing freight volumes have forced industry contraction. Carrier bankruptcies are on the rise and players of significant size are either choosing, or being forced, to leave the business. Others will do whatever it takes to secure shipper business, even if it means taking short cuts, skimping on service, or subcontracting with less reliable companies. Market fluctuations and pricing pressures create bad behavior.

As a result, scamming activities, negligent hiring, service and security oversights, fraudulent cash advances, and general malfeasance such as holding a load "hostage" to force a shipper's hand, have become familiar occurrences. Placing customer expectations, and your respective reputations, in the hands of third-party providers forces businesses to exercise extra due diligence in all transactions to ensure partners are viable for the long term and keep your priorities in mind.

SAFEGUARDING AGAINST RISKY BUSINESS

Here are four steps to hedge your bets when vetting and contracting with logistics partners:

- **STEP 1. Review all procedures for qualifying and contracting with third-party logistics providers and carriers.** Ensure the basics are documented – obtain a copy of the applicable Motor Carrier ("MC") license, operating authority, current insurance certificate, and latest safety rating. Also evaluate practices for issuing cash advances and confirming driver identity. Some companies prohibit advances after standard business hours to mitigate the risk of fraudulent activity.

- **STEP 2. Research 3PL or carrier business viability through Dun & Bradstreet, Hoover's, or other Web-based services.** Look for company name and address modifications or changes in ownership that may indicate a high-risk business model. If the company has a Web site, make sure information is up to date. Ask for customer references to get a firsthand account of its service commitment and capabilities.

- **STEP 3. Subscribe to online services that provide ongoing monitoring of carrier safety, fraud alerts, changes in authority, and reports of incidents or questionable business activities.** The Safety and Fitness Electronic Records (SAFER) System provides public access to records maintained by the Federal Motor Carrier Safety Administration. Commercial and subscription-based options are available from companies such as Carrier411 and Internet Truckstop. These services can integrate with transportation management systems to ensure updated information is placed in the hands of those managing transactions in real time. Some services also include blog-type capabilities where scams, threats, and other questionable business practices are reported.

- **STEP 4. Pay close attention to dates.** When was authority initially granted? How long has the provider been in business? Have there been lags in insurance coverage? If an unsatisfactory safety rating was obtained, what was the time frame before a satisfactory rating was issued?

How to Negotiate Ocean Carrier Contracts

What you put into contract negotiations dictates what you get in return. So begin by putting together a prospectus of your industry and your company and where it is moving—with input from all departments and levels of management within the extended enterprise.

Assess and understand where business is growing or slowing—where supply bases are migrating and where your key consumer markets are located. Shifting U.S. demographics and consumption, and associated transportation costs, may direct where your company is locating distribution facilities, and therefore, proximity to certain ports.

At the same time, sourcing strategies may similarly impact what ports you are bringing product into. For example, pushing manufacturing further inland in China may warrant consideration of Suez Canal routings via the U.S. East Coast versus Pacific transits to the West Coast—and carriers serving those areas.

Having a firm direction of corporate growth strategies and transportation requirements will give you a better idea of what lanes you will be looking to fill.

WHEN YOU APPROACH THE TABLE

IDENTIFY YOUR NEEDS. Before you identify potential carriers, determine your requirements. Is demand consistent all year round or is it seasonal? Are you looking for basic services and port-to-port rates or will you need dedicated space and specific visibility requirements?

If corporate strategies are in flux, long-term demand is not clear, or you're looking for spot capacity, consider a single-year contract instead of a multi-year contract. If you are looking to grow a partnership with a carrier, your growth expectations are aligned, and you would like to lock in capacity long term, consider the latter. Make sure you clearly outline your expectations, in terms of service, ethics, and security, so carriers know where you're coming from.

SHARE INFORMATION. The more information you can share with potential partners, the more detailed terms and targeted rates you will receive in return. Provide a candid assessment of lane forecasts and where you see your business moving.

If you are looking to seal a partnership for the future, consider your value to the carrier. Why should they want your business? Are you a good fit? What are your required container turn times? What type of equipment will you need? What are your customer service and technology needs?

Sell your business. Prepare data on potential facility expansions, recent or pending acquisitions, and process improvements in your own ocean carrier management operations. Look to drive value rather than a bargain because ultimately you will get what you pay for.

UNDERSTAND THE CARRIER'S POSITION. Try and assess carriers' key drivers for pricing strategies. Knowing current market conditions, and how they may influence a carrier's volume cycles, will impact their willingness to negotiate and provide you with a better strategy for negotiations.

What and where are their strengths? What ports are they serving? Where are they growing their services? Do they own their own terminals? Are there labor, congestion, or capacity concerns at these ports that might be problematic for your own speed- and cost-to-market needs?

ANTICIPATE RESPONSE. Having assessed your needs and those of the carriers, role-play the negotiations and consider what your response may be. Have a plan to account for all possible objections. What terms are required and what can you do without? Bring a list of concessions to the table so that you have some wiggle room when you begin.

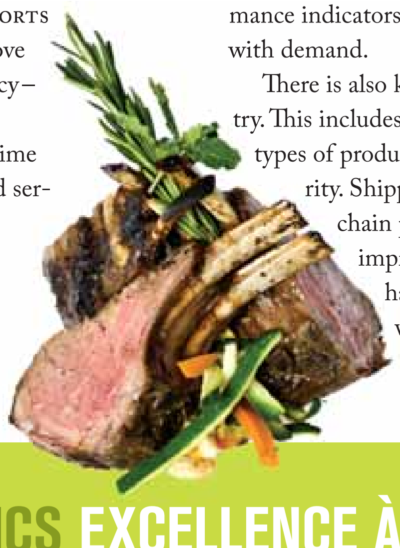
PERFORM POST CONTRACT DUE DILIGENCE. Following a successful negotiation, record what went well and what can be improved. Use this historical analysis when you begin your next negotiation.

Also, if warranted, consider opportunities where you may begin planning out long-term growth initiatives with your carrier. For example, if a carrier is investing heavily in certain lanes or ports, identify ways your business might leverage these investments.

How to Drive Excellence in Food Service

Concerns over food product safety and integrity have ramped up efforts in the food supply chain to improve service, efficiency, and transparency – despite already robust regulatory oversight.

Picking up and delivering shipments on time with no claims is the expectation among food service companies. Service is for all intents and purposes "guaranteed," given the shelf life of many products. Consignees, shippers, and service providers driven to reduce inventories and operate just in time can optimize performance by closely gathering and analyzing key performance indicators and driving visibility to better match supply with demand.



There is also knowledge capital inherent to the food industry. This includes sensitivity to handling and caring for certain types of products, as well as food chain safety and security. Shippers and consignees should make sure supply chain partners are properly maintaining equipment, improving processes, and training drivers and handlers in industry best practices. Food service companies and supply chains that excel in the marketplace pay attention to details to improve the whole.

FOOD LOGISTICS EXCELLENCE À LA CARTE

QUALITY. Food service shippers and their service providers rely on each other's standard operating procedures and input to make sure quality expectations are aligned. Given the importance, quality discussions should involve upper level management and carry through the extended enterprise.

As far as standards, industry safety and temperature guidelines are enforced at a very base level. Beyond that, food shippers need to engage all their supply chain partners – from producer to wholesaler and retailer – to set and commit to on-time delivery, as well as measure and maintain the product and equipment quality.

COST. Delivering on promise is critical to driving economy. Given the perishable nature of many foodstuffs, and time sensitivity in transport, any delay can have considerable cost impacts downstream.

Consequently, there is a premium placed on scheduling, as companies need to make sure labor is available to facilitate proper loading and unloading at key interchanges. From a consignee perspective, the greatest challenge is keeping carriers in line with expected delivery windows, and making sure they communicate when shipments will be late.

For truckload shipments (one pick up, one stop), delays are easier to manage. But tardy LTL shipments have a domino impact throughout the delivery schedule. Food service companies need to understand the premium placed on timeliness, be agile enough to respond to consignee requirements, and create contingency plans when exceptions occur.

VELOCITY. Beyond managing exceptions and expediting shipments where product perishability dictates, speed and velocity are relative to how well shippers and their service providers manage information and forecast demand. With regards to establishing shipment schedules, data is king. The more data and historical information shippers and consignees can share with their service providers, the better. There should also be a matrix to measure and communicate performance in a timely fashion.

Companies that accurately forecast and capture demand can optimize their shipping schedules, rationalize speed requirements, and reduce costs, moving from daily to weekly schedules for example. This becomes important when capacity is tight and shippers, carriers, and third-party logistics providers need to find more creative ways to utilize assets.

TECHNOLOGY. An abundance of technology – including warehouse management, labor management, and transportation management systems – is available to help food companies manage their supply chains more efficiently and economically. Often there is little need for a company to buy into all these integrated technologies when it can partner with a 3PL that has a robust IT platform to manage its supply chain.

H.O.W.
HELP ON THE WAY

How to Capitalize on Importer Security Filing (10+2)

Sometimes opportunities present themselves in the unlikeliest places—in the bureaucracy of Customs compliance, for example. When U.S. Customs and Border Protection (CBP) introduced the idea of Importer Security Filing (10+2) early in 2008, many global shippers and consignees greeted the proposal with reservations.

The mandate requires importers to electronically submit a security filing specifying 10 data elements plus an additional two carrier requirements before cargo is permitted entry into the United States by vessel. The filing tasks consignees and carriers with collecting and conveying necessary shipment information to CBP 24 hours prior to loading at a foreign port.

Unlike other CBP directives such as Customs-Trade Partnership Against Terrorism (C-TPAT), shippers don't have a choice whether or not to comply with 10+2. They do have a choice in how they embrace change.

Security regulations are increasing the complexity of supply chain management. Much of this enforcement is driven by perceived or real threats, and efforts to improve cargo security abroad and at home continue to grow in importance.

Businesses that resist change and continue to look at increased regulation as a challenge will struggle with integration and compliance. For others, 10+2 is an opportunity to drive business process improvement.

MAKE 10+2 WORK FOR YOU

Here are five ways you can leverage 10+2 to improve the way you do business.

- **GAIN BETTER INSIGHT INTO YOUR SUPPLY CHAIN.** Before companies commit to any strategic undertaking, they should review supplier networks. A proactive approach allows businesses to align upstream processes and reconsider offshore business models with the new security filing in mind. If nothing else, businesses should embrace 10+2 as a mandatory opportunity to reconnect the dots at the point of origin.
- **IMPROVE SUPPLY CHAIN VELOCITY.** To properly gather and communicate shipment data to CBP 24 hours prior to loading, shippers and consignees have to be more diligent in holding vendors and carriers to cut-off times. The threat of demurrage charges, penalties, and costly shipment delays warrants better processes for capturing demand signals, linking them to suppliers, and holding all parties accountable. 10+2 requires information speed, which can have a ripple impact downstream.
- **INTEGRATE IT SYSTEMS, DRIVE VISIBILITY.** Technology is critical to gathering and communicating shipment data among intermediaries, carriers, vendors, and CBP. Many third-party companies offer electronic solutions tailored to 10+2 and can merge, manage, and convey proprietary information quickly and securely. This centralized data empowers shippers and consignees to drive visibility elsewhere in the supply chain.
- **STRENGTHEN SUPPLY CHAIN PARTNERSHIPS.** 10+2 is all about communication. Once processes and technology are in place, businesses will have much better connectivity to their extended supply chain partners. Tearing down functional and cultural silos invites opportunities to find synergies, drive greater transparency, and create better partnerships.
- **REDUCE COSTS, INCREASE REVENUE.** While there will be upfront costs in driving compliance, businesses that meet CBP's requirements in the most effective manner will improve supply chain velocity, visibility, and capacity utilization. This creates competitive advantage in speeding inventory cycles, reducing static inventory, and transporting product to market.

How to Standardize Fuel Surcharges

A wise person once stated that if you have two watches, you never know what time it is. When considering the effects of fuel surcharges on line-haul rates, this analogy is appropriate. If both are allowed to fluctuate, making sense of total freight spend and the intrinsic value of carrier relationships can be nearly impossible.

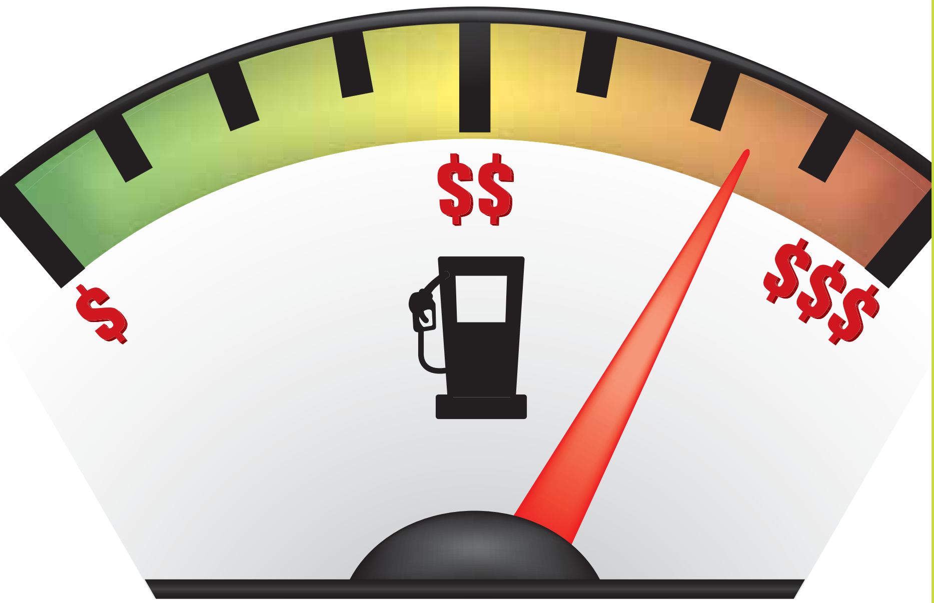
Leveraging freight spend in the carrier market is a common practice. Carriers that perform well want additional opportunities with desirable shippers to expand their fleets and improve operating models.

Over time, changes in both shipper and carrier flows improve procurement opportunities because carriers are looking for efficient freight. Visibility into an entire network creates better alignment opportunities.

Disparate fuel surcharges buried in contracts, however, are often difficult to manage for a few reasons:

- Freight rates are hard to compare internally because line-haul rates are not apples to apples.
- Freight rates are almost impossible to benchmark externally because there is no standard way to separate the influence of a fuel surcharge.
- Automated auditing ability is nearly impossible.

Shippers that have annual freight spend categories greater than $10 million may significantly benefit from standardized fuel surcharges. But they need a centralized procurement event and execution monitoring to level the playing field. This can be a daunting task if the overlying assumption is that fuel surcharges are individually negotiated to their lowest levels.



DRILLING DOWN FREIGHT SPEND

Here are four steps to help standardize fuel surcharges.

STEP 1. Determine if freight spend warrants standardization: 1. What is the concentration ratio of freight spend relative to carriers used within your network? 2. Differentiate freight hauled by primary and non-primary carriers. 3. Are national versus regional carriers considered as a focused strategy? 4. Do carriers reject freight in periods of tight/abundant capacity? 5. Do carriers always accept freight?

STEP 2. Determine the range of fuel surcharges and the impact on line-haul: 1. How much variation exists? 2. Can fuel surcharges be adapted to show differences in line-haul rates? 3. How does total cost measure against carrier performance and acceptance ratios? 4. Attempt to audit a subset of lanes for total costs against internal and external benchmark sources.

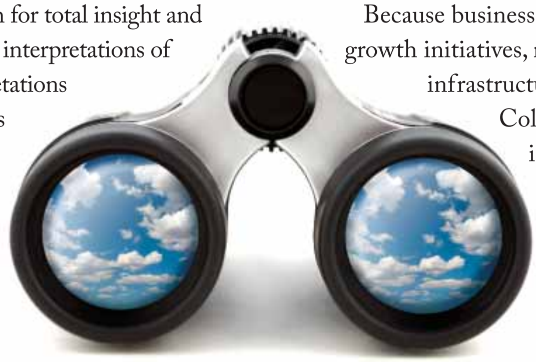
STEP 3. Run a standardized procurement event with a shipper-mandated fuel surcharge program: 1. Put in place a reasonable market fuel surcharge program – third parties are excellent sources for this information because they typically deploy many programs. 2. Ensure that other areas on non-standard rates are fixed, including accessorials. 3. Make sure incumbents understand the business reasons for standardization. 4. Demonstrate to incumbents strong discipline in the procurement process by limiting communication that devalues competitive environment. 5. Don't allow incumbents to respond with old line-haul rates and make adjustments to the new fuel surcharge program. 6. Ensure non-incumbents understand all cost and service elements of the new business. 7. Meet face-to-face with key respondents. 8. Provide information to all parties and allow sufficient time for a competitive response.

STEP 4. Establish awards and measure performance: 1. Be ready for post-implementation adjustments with good negotiating and "Plan B" carriers. 2. Reward performing carriers with more freight as appropriate. 3. Perform all the tests in Step 1 to measure degree of success. 4. Establish carrier scorecarding with semi-annual reviews.

How to Gain Supply Chain Visibility

If there is one buzzword that continues to define supply chain management, it's visibility. Everyone wants it but few seem to ever approach true nirvana. Part of the difficulty in this endless search for total insight and control is that companies have different interpretations of what visibility means, and these interpretations continue to evolve with varying business demands and globalization trends.

Visibility is knowing where inventory is at any moment. But it is also actionable information that can help support customers and be applied to myriad touch points along the supply chain—from supplier to service provider to end customer—to remove redundancies and improve processes.



Because businesses often focus on capitalizing core growth initiatives, many do not have the internal IT infrastructure to support dynamic supply chains. Collecting and identifying data that is important, validating this information, and communicating it in a way that lets others leverage this visibility remains a critical challenge for companies large and small.

6 STEPS TO SUPPLY CHAIN ENLIGHTENMENT

STEP 1. Open lines of communication among all parties involved. Visibility means different things to different companies. So you have to define what your enterprise is looking for, as well as what visibility, and how much, is important to the customer.

Is it visibility into freight capacity? Is it mode-specific, domestic, or international? Is it exception-based or 24/7/365?

Companies often don't know where they need to be, or where they can go, so it is important to work collaboratively with supply chain partners to set expectations and progress accordingly. All stakeholders, including different levels of operations and executive management, and silo functions within the company and throughout the extended enterprise must be involved.

STEP 2. Trust your partners. Visibility is built on sharing information and trusting service providers with that information. Identify the role a 3PL, forwarder, or carrier will play, and trust it knows what it's doing. If you have built a relationship, established benchmarks, and aligned expectations, everyone knows what they are accountable for. Misaligned goals, or a failure to trust supply chain partners with vital data, planning, and execution, will ultimately leave all parties disappointed.

STEP 3. Invest in technology. The only way to drive better visibility is to invest in the technology infrastructure and resources to gather and act on necessary information. End users can either partner with a service provider that has the technology and resources to execute, or find a stable of partners—and build relationships with each one—to ensure expectations are paired.

STEP 4. Set your key performance indicators. If you need 90 percent international tracking online by next quarter, set that as your goal. Be clear and concise in defining your expectations, then diligent in setting measurable benchmarks to ensure you progress toward those goals.

STEP 5. Know your customers. Enhanced visibility penetrates supply chains in many ways, so it is important to identify all stakeholders in any business process improvement effort. Be sure the decisions you make and the partners you work with understand the impact on all parties involved and that they are working to support these respective interests.

STEP 6. Identify cost savings and business process improvements. As stated in Step 1, understanding each supply chain stakeholder's visibility needs will help optimize processes, reduce inefficiencies, and drive out costs on the back end. Again, it is important to open up avenues of communication among all parties to discuss how better managed information and insight into inventory management can be optimized individually to improve the whole. Identify how much time different partners are spending to gather necessary visibility without getting what they need. Then consider where gaps exist and explore synergies.

How to Develop Infrastructure to Support Mission-Critical Logistics

There are critical logistics requirements and then there are mission-critical demands. The difference is end-user impact: a lost customer because of a late shipment, or a lost product line—and countless lost customers—because a critical part can't be replaced in time.

When companies move high-value shipments critical to business process continuity, time is money and service is golden. Whether it's a machine replacement for an automotive assembly line or a network router for a brokerage house, the immediacy and unexpectedness of demand warrants a reliable strategy for placing "just-in-case" parts inventory in various locations around the world, then seamless execution in delivering shipments to support end-user replenishment needs.

It makes no difference whether it's business-to-business or business-to-customer, working within a one-hour delivery window or next-day defined service, replenishing a critical component or routine after-midnight maintenance. Mission critical logistics is a 24/7/365 commitment.

Having resources, infrastructure, and inventory in place are key factors to mission-critical success.

STEPS TO ACHIEVING MISSION CONTROL

ASSESS CRITICAL NEEDS. Analyze the installation base and explore where strategic stocking locations (SSLs) exist and where parts need to be. At the same time, understand your service level agreements, as well as the pre-determined/contracted delivery times and performance metrics. Can you fulfill expected time-to-market demands from these current SSLs or do you need to put parts in additional locations?

When looking to locate a new SSL, consider these questions:

- Is there sufficient demand to warrant another SSL given the demand and failure history of the installed base you are servicing?
- Do you have a field engineering force or are you outsourcing that function?
- How are you placing demand? Do you have a central call center to place demand or do you rely on field engineers, third-party logistics providers, or suppliers?
- Do you need IT integration?

ENSURE CONSISTENCY AND DEVELOP SOLUTIONS ACROSS MULTIPLE REGIONS. Perform a hard analysis of consistency across operating regions, looking specifically at local limitations or anomalies. Go through a needs analysis for each region and assess issues such as local stocking facilities, transportation and delivery services, inventory dispatch services, and real-time inventory management control. Operate globally, but think locally.

STREAMLINE PROCESSES ACROSS GLOBAL IT PLATFORMS. Having an established IT backbone to support data-sharing is the glue that holds mission-critical processes in place. A single platform provides seamlessness in plugging in new locations and expanding SSL networks. Without an integrated technology platform, varying service levels and communication disconnects invite critical failures.

A seamless technology platform enables real-time inventory visibility. Because mission-critical logistics goes beyond simple shipment delivery, this comprehensive data and feedback facilitates inventory tracking, ensures accurate replenishment, and reduces capital expenditures. Historical reporting also helps companies benchmark service performance.

THINK IN REVERSE. While much attention is placed on the immediate goal of meeting customers' replenishment needs, there are internal savings to be achieved in quickly recouping used parts as well. There are considerable cash-plus opportunities and cost savings attached to bringing defective products back into the pipeline to be recycled, fixed, or scrapped. If infrastructure and processes are in place to capture demand signals and push product out, consider leveraging this same control to pull high-value materials back into the supply chain.

CONSIDER OUTSOURCING. Given the IT sophistication and breadth of resources required to manage mission-critical moves, partnering with a third-party logistics provider that has global SSLs in place, and necessary connectivity, can be a critical success factor.

CHOICELOGISTICS
ONE WORLD • ONE CHOICE

Mission Critical Is Our Focus

Choice Logistics manages outsourced logistics solutions for high-tech companies like Avaya, Cisco and Dell. Choice's proprietary systems and processes help clients optimize their inventories while supporting global, two-hour service parts delivery commitments.

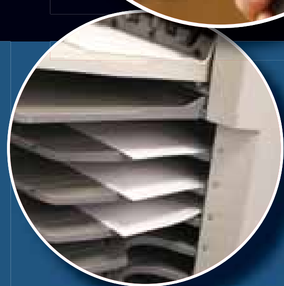
Bottom Line Results

Clients partner with Choice for:

- Improved internal operating effectiveness
- Increased operating efficiency through systemic tools and process development
- Cost savings, avoidance and reduction initiatives
- Proactive, on-going process development and improvement

800.691.6900
1 Whitehall Street, 12th Floor
New York, NY 10004
www.choicelogistics.com
info@choicelogistics.com

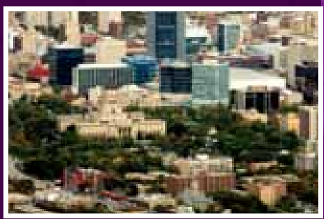
Find out how Choice can improve your bottom line.



CHOICELOGISTICS
ONE WORLD • ONE CHOICE


GET IN GEAR
With Inbound Logistics' FREE online RFP service.
Create a database of prospective motor carrier partners.
Build your knowledge base.
Prepare your RFP list.
The Trucking RFP is your opportunity to have motor carrier experts look at your specific over-the-road challenges and needs, and give you free, no-obligation advice, solutions, and information specific to your request.
To get started, go to inboundlogistics.com/rfp
inbound logistics

SPECIAL ADVERTISING SUPPLEMENT



North America's SuperCorridor Coalition

NASCO

NASCO, the multimodal transportation network running through the heart of trade in the United States, Canada, and Mexico, is all about sustainable, secure, and efficient economic development. See why its future looks so bright.

North America's SuperCorridor Coalition, Inc.–known as NASCO–represents a 2,500-mile-long, existing multimodal transportation network running through the heart of trade in Mexico, the United States, and Canada, connecting more than 71 million people in commerce and trade.

The NASCO Corridor directly impacts North America's continental trade flow, supporting $1 trillion in business among the three countries.

Trade within the NASCO Corridor has exploded since passage of the North American Free Trade Agreement (NAFTA) in 1994. In 1993, U.S.-Mexico trade totaled $82 billion. By the end of 2007, that figure hit $350 billion. Pre-NAFTA U.S.-Canada trade was $350 billion, rising to $590 billion in 2007.

"NAFTA trade represents more than one-third of the United States' total trade with the world," reports Francisco Conde, director of communications and special projects for NASCO. "It is the fastest-growing part of the United States' trade with the world, and we have not yet begun to take full advantage of what we can do with our Mexican and Canadian trading partners."

TAPPING GROWTH POTENTIAL

Recognizing not only the potential for growth, but also the need for improvements and coordination along the NASCO corridor early on, a group of transportation industry players – both government and private sector – formed North America's SuperCorridor Coalition, Inc. in 1994. Today, the tri-national Coalition promotes research, collaboration, investment, and other activities along the entire corridor. Its membership includes departments of transportation from various states and provincial authorities; business development groups; inland port developers; universities; and other public and private sector entities related to transportation and trade in the United States, Canada, and Mexico.

"NASCO's strength lies in unifying the public and private sector to take action on the many transportation and trade challenges facing the corridor – principally focusing on how to advance economic development and security through the North American heartland," says Tiffany Melvin, executive director of the trade partnership.

"NASCO is not just about Interstate 35," Melvin adds. "NASCO is all about sustainable, secure, and efficient economic development along the existing multimodal transportation system. We represent a great mix of tri-national government and private sector entities working together toward common goals."

After 14 years of hard work, NASCO has created an environment in which members feel free to share ideas. "We have done a good job of bringing together state and local government agencies, grass roots organizations, and the private sector, and providing an environment where people are comfortable throwing ideas on the table," says Melvin. "We all recognize that we're working toward a common purpose. We understand that our countries and our continent must collaborate and cooperate to compete in this global economy."

To this end, NASCO is concentrating on five major focus areas:

1. Economic development – to support funding, maintenance, and improvements to the infrastructure underpinnings needed to support trade flows.

2. Technology – to improve transportation efficiency and supply chain security.

3. Sustainability – to promote "green" environmental initiatives that improve air quality.

4. Knowledge – to link educational institutions along the corridor for collaborative research and development.

5. Job creation – to promote a workforce training program in the supply chain and logistics fields.

PROMOTING INFRASTRUCTURE IMPROVEMENTS

While NASCO promotes a commitment to transportation infrastructure improvements on many fronts, one of its most recent efforts is encouraging development of intermodal inland ports.

As coastal seaports become more congested, inland ports have taken on increasing importance in enabling the efficient flow of imports and exports through the mid-continent corridor. To encourage and capitalize on this trend, NASCO established the North American Inland Port Network (NAIPN), a committee tasked with developing an active inland port network along the NASCO corridor to alleviate congestion at maritime ports and U.S. borders.

Currently, the NAIPN committee includes developments at Alliance Texas in Fort Worth; Dallas Logistics Hub; International Inland Port of Dallas; KC Logistics Hub; Port San Antonio; Des Moines, Iowa; CentrePort Canada in Winnipeg, Manitoba; Puerto Interior Guanajuato; Bajio Central Mexico; Interpuerto Monterrey; Proyecto Distrito Multimodal Villa XXI; Durango, Mexico; and Meridian 100° Free Trade Zone at Port Laredo.

NAIPN envisions an integrated, efficient, and secure network of inland ports specializing in the transportation of containerized cargo in North America. It acts to spur job creation and raise public awareness of inland ports' growing, integral role in economic development and trade.

On the technology front, NASCO is collaborating with the U.S. Department of Transportation and Lockheed Martin Co., SAVR Communications Inc., and GeoDecisions to test advanced freight tracking technologies along the 2,480-mile corridor. The aim of the pilot is to improve supply chain and freight mobility, security, and efficiency while reducing congestion and cost of trade.

Participants and advisors in the pilot project include trucking companies, third-party logistics companies, brokers/freight forwarders, railroad operators, emergency responders, and local, state, and federal governments.

"The program combines RFID readers/scanners, GPS technology, and other software and information networks to enable shippers and authorities to track the flow of containerized cargo along the NASCO corridor," reports Melvin. "We are looking at the feasibility of a trade corridor management system that places sensors inside containers to monitor temperature change, light, shock, and other condition variables via the Internet.

"The system could tell us, for example, whether a container was opened or tampered with, whether it was dropped and if so, by whom and when," she adds. "This kind of accountability, visibility, and improved security could save companies a lot of money."

NASCO is also supporting another pilot project: the Cross-Town Improvement Program (C-TIP) in Kansas City. C-TIP is an effort by the Federal Highway Administration working with industry to reduce unnecessary short-haul truck trips across urban areas.

The project does this by collecting and disseminating information on short-haul freight movements via an Internet portal. Specifically, the portal indicates whether trailers are empty or partially loaded, and serves as a matching service. C-TIP's first pilot program is taking place in Kansas City, Mo.

Researchers working on C-TIP believe they can reduce unnecessary trips by 38 percent, thereby cutting freight traffic congestion, expanding the capacity of existing transportation infrastructure, and reducing negative fuel emissions from freight movements. NASCO is working with C-TIP to promote the program in other urban areas along its corridor.

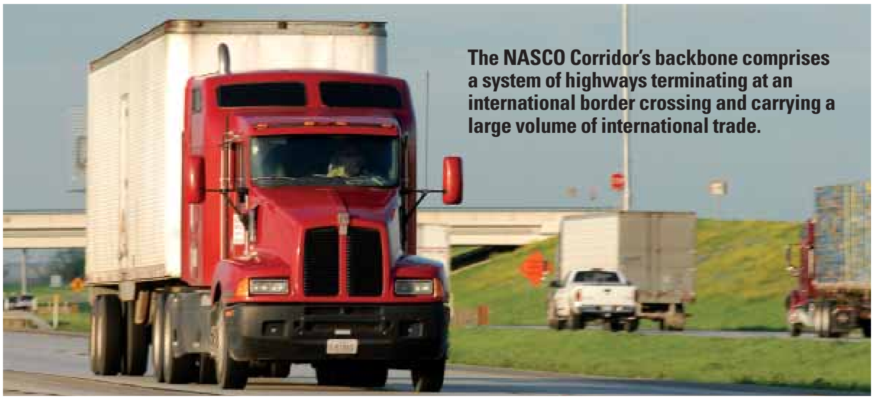
NASCO members and staff are collaborating with the U.S. Environmental Protection Agency's (EPA) Blue Skyways Collaborative (BSC) on voluntary programs targeting improved air quality along the corridor. The Blue Skyways Collaborative was created to encourage voluntary air emissions reduction in North America's heartland.

NASCO is engaged with BSC leaders along the corridor to develop a new voluntary prototype Environmental Management System (EMS) program specific to inland port operations. The program's goal is to reduce the environmental impact of inland port operations in the corridor similar in scope to EMS programs the EPA has developed for cities and seaports. NAIPN members also are

The NASCO Corridor encompasses multimodal transportation infrastructure on or in close proximity to U.S. Interstate Highways 35, 29, and 94, and the significant connectors to those highways in Canada and Mexico. The effectiveness of cargo movements along the NASCO Corridor directly impacts North America's continental trade flow, the largest in the world.

actively working with the EPA and BSC to develop an environmental best practices checklist for inland ports.

NASCO's efforts in promoting environmental best practices has attracted the support and backing of the Commission for Environmental Cooperation (CEC) of North America, the Montreal, Canada-based tri-national institution formed by NAFTA partners in an environmental side agreement on NASCO.



The NASCO Corridor's backbone comprises a system of highways terminating at an international border crossing and carrying a large volume of international trade.

Photo Courtesy of Alliance Texas

A GREEN VISION

The CEC points to NASCO as a leading example of its "Greening the Trade Corridors of North America" vision. NASCO and NAIPN also support the moves by their members and others along the NASCO corridor to adopt emission-reducing certified "green buildings" that meet the highest standards for energy-efficient and environmental design.

"Areas that cannot sustain business or secure investment because they're not in compliance with air quality standards will be less attractive as a potential site," observes Melvin. "NASCO views environmental best practices as essential. We have moved way beyond doing something good for the environment just because it's a good thing to do.

"Our members understand that if we do

not pay attention to this issue proactively, we may have a hard time in the future," she continues. NAIPN, for example, is helping members share environmental improvement efforts and successes to shape national models of best practices.

NASCO'S "KNOWLEDGE CORRIDOR"

The NASCO corridor boasts a rich population of higher learning institutions – universities and research centers that focus on a host of study areas ranging from transportation to life sciences. These institutions include the Kansas City Area Life Science Institute, the Centre for Sustainable Transportation at the University of Winnipeg, the University of Manitoba, the International Institute of the Americas at Laredo Community College, the Instituto Tecnológico de Estudios Superiores de Monterrey, the Center for Transportation Research and Education at Iowa State University, the Center for Transportation Research at the University of Texas, and more.

These research centers have grown into engines for development as they spawn ideas for new products, technologies, and processes.

"As we looked at these resources across the NASCO corridor, we came to the conclusion that we have some extraordinary educational institutes focusing on transportation technology, and that it would be of enormous benefit if we could knit them together," says Greg Dandewich, vice president and director of economic development for Destination Winnipeg, a NASCO member. "We want to link these programs to eliminate duplication of effort, and to stretch the vision of these centers to cover a larger scope."

For example, research centers within the NASCO corridor have undertaken a tri-national food project that aims to develop types of food that, with the right combination of ingredients, can positively impact type II diabetes.

"We would not have been in a position to do this kind of collaborative research if we didn't build it around the mid-continent trade corridor," Dandewich acknowledges.

Dandewich believes there are many more opportunities like the nutriceuticals project to explore as NASCO develops its knowledge corridor.

"We won't lose sight of our primary focus – transportation and distribution – but it opens up the doors for a variety of ideas," he notes. "The goal of our cooperative knowledge efforts is to have our corridor learn things at the same time – to create systematic comprehensive learning."

Photo Courtesy of Port of Lazaro Cardenas

More than eight states of Mexico, many private sector companies, and the busy West Coast container ports of Manzanillo, Colima, and Lázaro Cárdenas *(pictured)* are members of NASCO.

At the northern end of the corridor, Canada has been aggressively building its capabilities to support trade. Local, provincial, and national support for a unified transport strategy – particularly as it relates to NASCO trade – has grown tremendously, a fact that pleases Darryl Gershman, vice president and owner of G2 Logistics, a Winnipeg-based third-party logistics provider. This transport strategy aims to strengthen Canada's participation in both the north-south and east-west flows of trade into and out of the country.

"We need the government to push for and support trade, create incentives, then inspire private sector investment," says Gershman. "NASCO supports what NAFTA is supposed to be – free and secure trade between Mexico, the United States, and Canada."

The City of Winnipeg and Province of Manitoba have been particularly active supporters of NASCO. "Manitoba, Winnipeg, and Canada recognize that as a nation we need to develop trade capabilities to meet global supply chain requirements," Dandewich notes.

THE CENTER OF THE CONTINENT

"Manitoba is at the heart of North America – the geographic center of the continent," says Andrew Swan, minister of competitiveness, training, and trade for the Province of Manitoba. "We have easy transportation access, and great east-west trade routes. The Canadian National and Canadian Pacific railroads converge in Winnipeg, so the city has long been a major logistics and trading center for east and west flows."

Manitoba does significant annual trade with the 11 U.S. states along the NASCO corridor. Two-way trade in 2006 totaled $8.9 billion, up 42 percent from $6.2

billion in 1997, the year the province joined NASCO.

"With the passage of NAFTA we find ourselves at the crossroads of growing north-south trade into the United States and on to Mexico," Swan continues.

Manitoba recently formulated a comprehensive strategy to position the province as a distribution gateway for North America, servicing the mid-continent. Called the Manitoba International Gateway Strategy, the policy capitalizes on the fact that Winnipeg is the only city in Canada that has three major railroads – CN Rail, CP Rail, and BNSF – running through it.

"We're excited about the Manitoba International Gateway Strategy and NASCO's promotion of transportation and trade along the corridor," says Gershman.

Another significant project under development in Manitoba is CentrePort Canada. In September, the Manitoba government introduced legislation – the CentrePort Canada Act – to create CentrePort Canada, a private-sector focused corporation that would develop and promote Manitoba's inland port. The inland port is a 20,000-acre parcel of land adjacent to Winnipeg's international airport, and will capitalize on Manitoba's well-established air, rail, maritime, and road infrastructure.

"CentrePort Canada is an exciting vision we share with Manitoba's business community, municipal leaders, and others who want to build our province," says Manitoba Premier Gary Doer. "Its development will allow us to create jobs, attract investment, and take advantage of our prime location in North America."

"We are pleased the inland port is being developed in conjunction with airport lands," adds Barry Rempel, president and chief executive officer of the Winnipeg Airports Authority. "Shovel-ready land is available immediately, as is a plan for future phases of fully serviced land. With enhanced roads, rail access, and cargo shipping, we have the assets to move goods to market. And we have access to markets in all directions, from the port of Churchill to Mexico, through Thunder Bay to the east, to the Asia Pacific Gateway via Prince Rupert."

SUPPORTING THE PORT

Work is underway on a number of initiatives designed to support Manitoba's inland port, including significant funding for highway upgrades, expansion of

Richardson International Airport, and upgrades to the Hudson Bay rail line and the port of Churchill including $48 million from the federal and provincial governments and $20 million from the Hudson Bay Rail Company, reports Transportation and Infrastructure Minister Ron Lemieux.

"We expect the Manitoba inland port to accelerate the flow of goods," says Gershman. "Many goods coming into ports are destined for mid-continent markets. But port congestion means goods often are delayed. If a container comes into Vancouver full of merchandise for the mid-continent, there's no sense in it sitting at the port waiting to be destuffed.

"Instead, we will be able to ship the box to the Winnipeg inland port, destuff it there, and move the goods into the market. Companies can save on transportation because they're using rail versus truck to move inland," he says.

"We are starting to see a rebound effect on sourcing in Asia," Gershman observes. "Companies are finding out that it is not always beneficial to move production overseas. The cost to ship a 40-foot container to points in North America has almost tripled in the past five years, and companies have experienced quality problems and delays. Some manufacturing is starting to come back to North America."

THE FTZ FACTOR

One factor that will draw businesses to the NASCO corridor is a new Free Trade Zone on the Mexico-U.S. border.

Meridian 100°, a privately owned Free Trade Zone (FTZ) developer, will invest $120 million in the first stage of a major FTZ with state-of-the-art logistics infrastructure located at Mexico's Port Laredo border. The Meridian 100° Free Trade Zone at Port Laredo will be of significant benefit to 3PLs, manufacturers, global traders, and distributors interested in improving operations in the Mexican and U.S. East Coast markets.

The Port Laredo region undoubtedly represents North America's "logistics heart" for both Mexico and the United States. It constitutes their most important land port and one of the world's most dynamic borders for goods exchange – almost five million TEUs (equivalent to 45 percent of the trade between the two countries) cross through this region every year.

Robust growth – in the range of 200 to 400 percent by 2020 – is forecast for the movement of goods between North America and Asia. This increase in trade will require a competitive infrastructure to allow goods to flow faster and more economically into North America.

SPECIALIZED LOGISTICS TRAINING IN TEXAS

North Texas is recognized as one of the leading intermodal distribution centers in the Southwest and one of the top distribution centers in the North American trading bloc. The region acts as a staging area for truck, rail, and air cargo into the United States, and sits along two central trade corridors. These corridors carry goods from West Coast and Mexican deep-water ports through the Dallas-Fort Worth region and into eastern U.S. and Canadian markets.

Recently, the North Central Texas Supply Chain and Advanced Manufacturing Cluster identified a shortage of qualified logistics workers at both the entry level and more technical intermediate level. To address the problem, the cluster – including Greater Dallas-Fort Worth government and business interests – applied for and won a $1.5-million Department of Labor grant to develop training and certification programs for these two levels of logistics workers.

The training curriculum will be delivered through local community colleges, according to Francisco Conde, director of communications and special projects, NASCO. The two curriculums will be rolled out through the end of 2009.

"NASCO will take the lead in promoting these programs or influencing existing programs tri-nationally along our corridor," says Conde. "The program fits nicely within our larger knowledge corridor development efforts."

LAREDO: A PERFECT FIT

Port Laredo is perfectly suited to handle future trade coming through Mexico from Asia. Through the years, the region has become the primary point of access to the United States. Its multimodal infrastructure network allows global companies' operations to be more efficient thanks to connectivity with the most important cities in Mexico and the United States.

Conscious about global trends, and aware of value drivers available in Port Laredo, Meridian 100° has decided to invest in the region with a clear objective: to deliver a positive impact in enhancing the region's competitiveness.

The 2,500-acre Meridian 100° development, located next to the Solidarity International Bridge, will be the first Free Trade Zone on northern Mexico's border and the only one with 24/7 direct access to the international bridge. The infrastructure will allow global companies to carry out their business in a secure, high-tech environment. Their supply chains will be faster and more predictable, and they will positively benefit from the cost-saving logistics operations and tax procedures that the FTZ offers.

For companies in the retail, consumer products, electronics, technology, automotive, and aerospace fields, and those currently evaluating new site locations, Meridian 100° has brought together a world-class advisory team and is working with them to identify and deliver the benefits of Port Laredo´s Free Trade Zone value proposition, which will improve supply chain operations while delivering cost savings and tax advantages. Companies will also be able to benefit

from Mexico's competitive labor costs.

Meridian 100° will start operations in 2009 and offer land and state-of-the-art facilities available both on a lease basis and as turnkey, built-to-suit designs. The entire Free Trade Zone infrastructure will adhere to energy-saving and environmental sustainability practices.

NASCO has a number of collaborative efforts underway with Mexico. NASCO's Mexico Committee, established in 2006, consists of public and private sector stakeholders in transportation infrastructure planning and development across Mexico. The committee works to further the NASCO multimodal corridor transportation system's vision in Mexico.

The NASCO Mexico Committee recently held important planning and policy meetings in Tampico, Tamaulipas, Pachuca, and Hidalgo, with the latter hosting a joint Mexican House of Representatives Transportation Committee National Forum on International Transportation and Logistics. Representatives from all the national multimodal transportation industry companies and public sector agencies making presentations on the status of Mexico's 2007-2012 National Transportation Infrastructure Development Plan attended the meeting.

NASCO has signed Memorandums of Understanding (MOUs) to serve as an advisory body on the Mexican Ministry of Transportation and Communications' Inter-Institutional Advisory Committee overseeing the Mexican National Multimodal Corridor Study. The study's purpose is to determine the nation's key multimodal corridors for future state and federal investment.

The Mexican Ministry of Trade also has called upon the NASCO Mexico Committee to advise it regarding identification and reduction of key national logistics and supply chain bottlenecks. And in November 2007, the Mexican House's Transportation Committee and NASCO signed an MOU committing both sides to information exchange and consulting on Mexico's National Multimodal Corridor Study now underway.

THE ARDMORE ADVANTAGE

Situated midway between Oklahoma City and Dallas on Interstate 35, Ardmore, Okla., is an ideal location for manufacturing and distribution facilities. I-35, which runs through the west side of Ardmore, provides easy north-south access for travel and shipment of goods to the central section of the United States, as well as to Canada and Mexico.

"Within a 350-mile radius of Ardmore, you can reach more than 12 million people," says Wes Stucky, president and CEO of the Ardmore Development Authority.

The Ardmore Development Authority is an economic development public trust authority appointed by the City of Ardmore. In addition to marketing and promoting the area, the authority is a major land developer, with four industrial parks, 3,000 acres of land, and about three million square feet of buildings under lease to tenants.

"We are located about 90 minutes from Dallas to the south and Oklahoma City to the north," Stucky says. "We provide significant cost advantages over those metropolitan areas, further enhanced by the value we offer as a tax-exempt development authority to build, own, and lease facilities to logistics companies."

Today, some very big-name companies have set up manufacturing and distribution operations within Ardmore Development Authority projects. These include:

- **Dollar General Corp.**, which operates a distribution center that employs 750 associates and serves 1,225 Dollar General retail stores. In 2005, Dollar General completed a $23-million expansion of the facility, its third expansion since opening in 1994.
- **Dot Foods Inc.**, which began operations in February 2005 in its Ardmore Distribution Center. The company purchased the former Best Buy Product Return Center in the New Horizons Industrial Park, and added 60,000 square feet to the 121,000-square-foot building. The Ardmore facility represents a $12-million investment for Dot Foods.
- **Best Buy** opened its new 750,000-square-foot DC in May, 2004 in the Westport Industrial Park. The building slab is one million square feet and allows for future expansion. The new facility, which replaces a 450,000-square-foot DC, is one of a network of seven large distribution centers within the company.

These and other companies, including Michelin and Circuit City, chose Ardmore because of its transportation access and favorable cost structures.

"With ratification of the NAFTA agreement, we've seen significantly increased interest in logistics and distribution capacity in our area," observes Stucky. "It makes sense to work cooperatively with groups along the NASCO corridor to capitalize on the growth of north-south trade."

CONTINUING COLLABORATION

Transportation companies, government officials, developers, and shippers agree that the NASCO corridor has a bright economic future. Collaboration among the three countries has, and will continue to, accelerate growth at levels that far exceed other regions of the world.

"From our perspective as a transportation company, the more we focus on trying to make the entire NASCO north-south corridor flow more smoothly, the better off we will all be," says Derek Leathers, chief operating officer of Werner Enterprises, Omaha, Neb., one of the largest motor carriers in the United States. "We're positive on the corridor concept itself, and we believe trade will continue to accelerate on that axis.

"It is encouraging to see the investment in inland logistics parks and transportation infrastructure along the NASCO

The smooth flow of trade along the NASCO north-south corridor benefits transportation companies such as Werner Enterprises, which provides truck, rail, and air solutions throughout the United States, Mexico, and Canada.

corridor," he adds. "Inland intermodal ports such as those being developed in Dallas, Kansas City, and Joliet, Ill., are attracting shipper business."

Big box retailers, in particular, have embraced the inland port concept. Companies are locating large facilities near these rail hubs to take advantage of more efficient movement of goods. "They like the cost savings and efficiencies associated with being located near an intermodal ramp," Leathers adds.

With today's volatile fuel prices, Leathers believes more U.S. companies will look at bringing production closer to home. This makes Mexico more attractive as a manufacturing base. "And as Mexico becomes more attractive, we believe our business will prosper," he says.

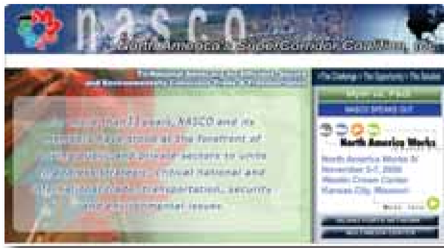
To accommodate this growth, "we must continue to push for reinvestment in our nation's highway infrastructure," Leathers says. "Our current highway footprint has existed for more than 50 years."

Organizations such as NASCO can help make the case for this investment. ■

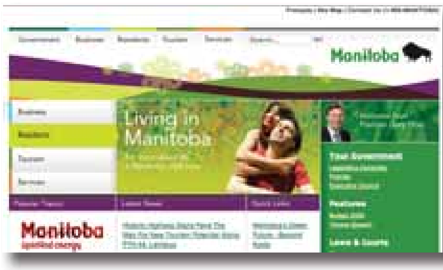
Ardmore Development Authority • www.ardmore.org
Ardmore, Okla., is located on Interstate 35, exactly halfway between Dallas, Texas, and Oklahoma City, Okla. – 97 miles from each. Ardmore serves a regional market of 7.2 million people within an hour-and-a-half radius. For more information, contact Wes Stucky at 580-223-6162, or by e-mail at wstucky@ardmore.org.

G2 Logistics Inc. • www.g2logistics.com
Want more time to concentrate on your core competencies while day-to-day activities are managed successfully? Then turn to the experience and technology of G2 Logistics Inc., a third-party logistics provider and multimodal freight management company. G2 Logistics does it all: from contract carrier and short-notice irregular route provider to specializing in cross-border transportation to and from Canada. G2 Logistics' goal is to build lasting relationships with its customers so you gain service flexibility with your clients.

Meridian 100° • www.meridian100.com
Meridian 100°'s Free Trade Zone at Port Laredo will start operations in 2009. This state-of-the-art development will connect companies moving goods between Mexico and the U.S. East Coast. The Free Trade Zone will provide logistics cost savings and tax benefits, as well as a secure and high-tech environment. For more information, visit www.meridian100.com or email benefits@meridian100.com.



North America's SuperCorridor Coalition Inc. • www.nascocorridor.com
NASCO is a tri-national, nonprofit trade and transportation coalition committed to maximizing the efficient and secure movement of goods along the existing network of transportation systems running north-south through the central United States, Canada, and Mexico.



Province of Manitoba • www.gov.mb.ca
Manitoba means Business. The province has made a $4-billion, 10-year commitment to its road system. Manitoba's position at the top of the Mid-Continent Trade Corridor connects the province to a central North American market of 100 million people.

Werner Enterprises • www.werner.com
Werner Enterprises, Inc. is a premier transportation and logistics company, with coverage throughout the United States, Canada, Mexico and China. Werner maintains its global headquarters in Omaha, Neb., offering 24/7 service 365 days a year. Werner is among the five largest truckload carriers in the United States, with a portfolio of services that includes long-haul, regional and local van capacity, temperature-controlled, flatbed, dedicated and expedited. Werner's value-added services portfolio includes import and export freight management, PO and vendor management, truck brokerage, intermodal, load/mode and network optimization, and global visibility. Internationally Werner provides freight forwarding and customs brokerage services, and is a licensed NVOCC.

[SNAPSHOT PHARMACEUTICALS]

[OVERVIEW]

Pharma Logistics: Prognosis Positive

Pharmaceutical manufacturers, drug distributors, and health care providers are taking a double dose of technology and business process improvement to keep consumers safe and competition one step behind. BY LISA TERRY

Transformation in the pharmaceutical marketplace is challenging traditional approaches to manufacturing and distribution.

"Pharmaceutical, medical, and medical device margins are collapsing quickly," says Daniel Carbery, senior vice president of operations and generics for Endo Pharmaceuticals, a Chadds Ford, Pa., pain medication manufacturer. Greater price transparency means products are increasingly sold below cost, with others marked up to compensate.

"Pharma has staggeringly high inventory levels. As margins shrink, inefficiency becomes a problem. Entire segments of this industry are built around holding a lot of product," he adds.

As pharmaceutical companies outsource production globally, product moves through even more layers of distribution before landing at a pharmacy or health care facility. Expanding market and clinical trial activities offshore also present infrastructure and regulatory challenges.

Financial and business model changes aside, compliance requirements, industry consolidation, competition, and rising costs are forcing pharma companies to address pipeline velocity, visibility, and demand-driven value networks to become more responsive to shifting market conditions.

[HOT TOPICS] Pharma Feels the Pain

Standardizing Safety One of every 100 doses of pharmaceutical and biotechnology products manufactured in developed countries is counterfeit, according to World Health Organization estimates. Every pharma company benefits from securing its supply chain and proactively eliminating counterfeit drugs before they enter the system. At the same time, the industry is being tested to determine how much security supply chains can afford without impacting service and budget constraints.

At the center of this struggle is e-pedigree—the use of electronic data to track and trace pharmaceutical products through the supply chain; and serialization requirements that assign individual codes to each item. Where the Food and Drug Administration (FDA) hesitates to tread in establishing e-pedigree regulations, states have stepped in to fill the void. The most aggressive, California, continues to modify its requirements and deadline schedule for e-pedigree compliance.

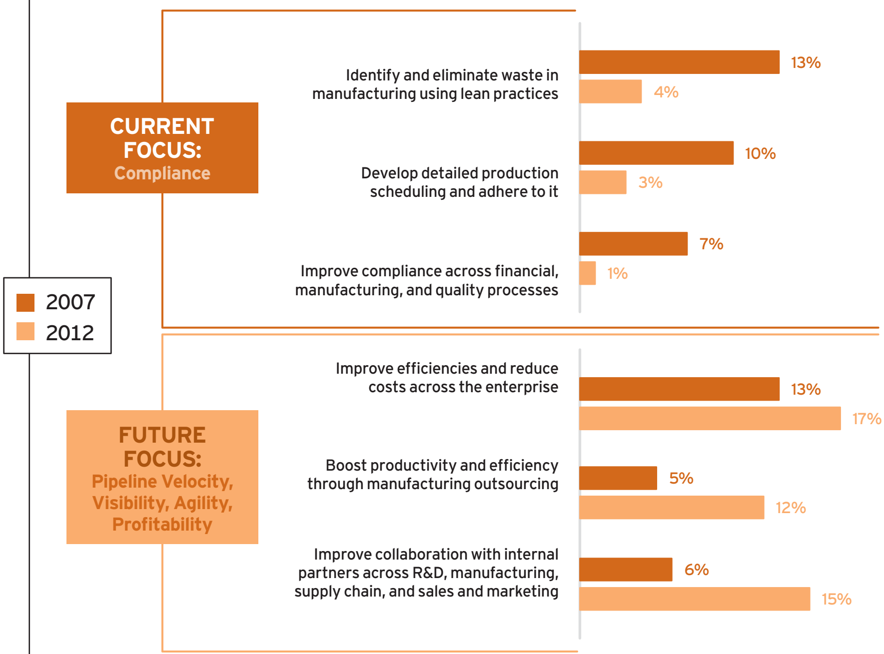
Many manufacturers, distributors, and pharmacists have objected to aggressive regulatory mandate deadlines and high compliance costs, while acknowledging the ultimate benefits. Pharma giant Pfizer, for example, has been a leader in e-pedigree use for its Viagra product line, but told the California Board of Pharmacy that it would take five to seven years to implement serialization for all its products.

"Regulations aren't in alignment with standards," notes Mike Crawford, vice president of integrated supply chain for AstraZeneca, Wilmington, Del., a top-10 pharmaceutical manufacturer. "In response to the call from legislators, we're out ahead by ourselves."

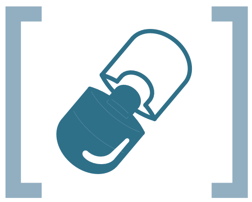
Radio-frequency identification (RFID) is regarded as an excellent would-be enabler to capture and deliver chain of custody data through the

Compliance Today, Profitability Tomorrow

While their primary product supply business strategies focused on compliance during the past few years, life sciences supply chain executives responding to a recent AMR survey plan to shift their attention to pipeline velocity, visibility, agility, and profitability in the coming years.



Source: AMR Research, Life Sciences Survey, November 2007 pharmacy supply chain–if it works for every product. Among adoption issues is the difficulty in getting good RFID reads on item-level packages, particularly for liquids and semi-solids. In one pilot, OxyContin maker Purdue Pharma is adding a customized antenna to Gen2 tags so that it can use both high-frequency and ultra high-frequency bands. But the cost of equipment to read these tags is still prohibitive. As an alternative, many companies are using 2-D symbologies for e-pedigree data to avoid interference issues.



Integrating Integrity

An increasing number of pharmaceutical products are temperature-sensitive–particularly in the biologics category–a factor that introduces additional safety requirements in a lengthening supply chain.

"Manufacturing used to happen closer to market, but now there are more international cold chain

[CASE STUDY] Endo Pharmaceuticals: Collaboration Cures Inefficiency

For Endo Pharmaceuticals, the smart route to an effective, efficient, and secure supply chain is close collaboration with its partners.

Perhaps surprisingly, one of these partners is the U.S. government. As a manufacturer specializing in pain medication, many of Endo's products are controlled substances. For years, it had to endure cumbersome, paper-intensive processes for tracking orders to the end customer, then reporting to the Drug Enforcement Administration (DEA), which archived the paperwork. Delays led to excess inventory and the process was burdened by high costs and lack of visibility and control.

In January, Endo will publish the results of a five-year collaboration with the DEA and other pharma companies to replace those multi-part forms and processes with the Controlled Substance Ordering System (CSOS). CSOS swaps paperwork for public key infrastructure (PKI), digital certificates, and e-commerce to speed orders and give companies and the DEA more visibility into the location and movement of controlled substance drugs, and significantly boosting security and enabling less inventory.

"In theory, the DEA can track quantities by ZIP code for every opiate," says Daniel Carbery, senior vice president of operations and generics for Endo Pharmaceuticals.

It's a voluntary program, but "is becoming a defacto requirement because the current system is so painful," Carbery says. CSOS is a great example of successful industry-government collaboration, he adds.

UPS Supply Chain Solutions, Endo's fourth-party logistics partner (4PL), is also party to CSOS' successful implementation. UPS SCS monitors the movement of orders to detect micro patterns in shipments: complaints, damages, or changes in ordering habits. If a micro pattern develops over two to three months, the routing is changed to avoid the possibility that a diversion or other problem is occurring, even though in most cases this step is merely precautionary.

When Endo Pharmaceuticals formed in 1997, executives made a strategic decision to outsource the bulk of its logistics and distribution to avoid costly investment in internal infrastructure. UPS operates a semi-fixed system for Endo–the manufacturer rents dedicated space and UPS picks, packs, and ships its orders. The 4PL provides domestic and international transportation services, as well as customer service and security. Endo employees are tasked with quality control.

The two companies work closely together, and this flexible partnership allows Endo to scale its operations quickly. Carbery provides one example: "In 30 days, we acquired a drug. On the day the deal closed, we moved products from the previous owner's warehouse to ours and started to ship under the new name, a pace rarely achieved in the pharma industry."

The arrangement provides a competitive advantage for Endo that exceeds questions of lowest cost. "Using a 4PL can be incredibly expensive without the right internal talent," observes Carbery.

Endo's approach, he adds, is an effective strategy in an industry where margins are no longer enough to compensate for supply chain inefficiencies.

"My goal is for product to move from the factory, through the UPS DC, to the store," says Carbery, minimizing additional touches that increase cost, time, and risk.

requirements," says Bill Hook, vice president, global strategy, healthcare logistics, for UPS Supply Chain Solutions, a third-party/fourth-party logistics provider. Regulations dictate how and at what temperatures product must be transported.

"Distribution outsourcing is more widely accepted by big pharma to address such challenges," Hook adds.

Advances in passive and active handling/packaging processes also help contain the higher cost of storing and moving goods with stringent temperature parameters.

U.S. Special Forces, for example, equips medics with a specialized thermal container that maintains its payload temperature for several days. It uses this to transport emergency doses of Coagulation Factor VIIa, an injectable clotting drug, to seriously wounded soldiers in the field without benefit of active refrigeration.

Some companies use RFID tags imbedded with sensors, particularly in international lanes, to maintain temperatures throughout the supply chain. These sensors are programmed to "sleep" on planes so their signals don't interfere with flight controls.

Other companies employ 24/7 monitoring services for temperature-sensitive shipments, with intervention and contingency plans to prevent product spoilage.

Ensuring Compliance

Pharma has long been a heavily regulated industry, with compliance costs a key focus for executives. "We're really keeping an eye on legislation," says AstraZeneca's Crawford. "It has great potential to change how we do business."

However, "leaders are no longer looking at compliance for the sake of compliance," reports Hussain Mooraj, research director, healthcare and life sciences, for research analyst firm AMR Research. "They're looking at incorporating compliance into excellence initiatives–how to improve processes and develop operational effectiveness.

CASE STUDY

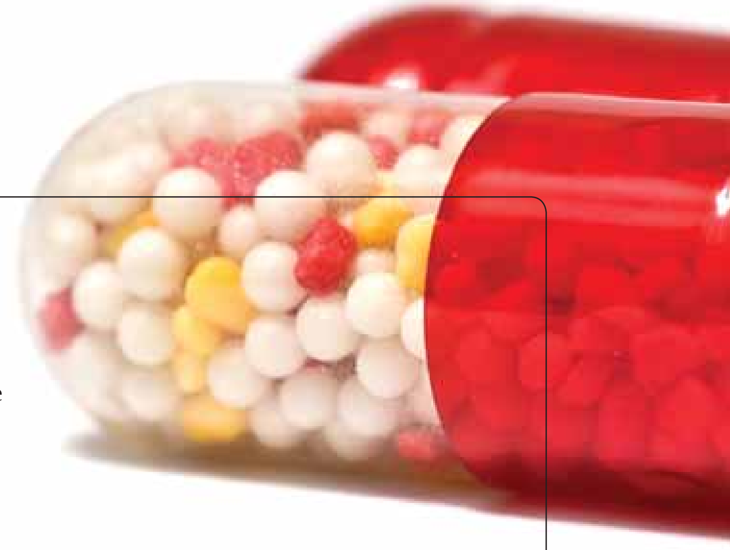
Stiefel Laboratories: Prescribing E-Pedigree Compliance

Despite the many issues the pharma industry has raised in protest of e-pedigree law, it is, at its heart, a business process that adds much-needed security to the supply chain.

That's a sentiment embraced by Stiefel Laboratories, a privately held Coral Gables, Fla., manufacturer of dermatological products such as Duac topical gel, Soriatane capsules, Brevoxyl acne wash kit, and REVALÉSKIN skin care products. The company is one step ahead of California's pending e-pedigree regulations, expecting to obtain full compliance for its U.S. business by Dec. 1, 2009, and for serialization to be in place by July 1, 2010.

"It's a competitive advantage to have the

Stiefel Laboratories is considering extension of e-pedigree processes to over-the-counter products such as its new REVALÉSKIN Skin Care Products.



Compliance comes along for the ride."

While there will always be areas where compliance seems to add little value, in a surprising number of cases it can be part of overall business process improvement *(see sidebar below for an example).*

Introducing New Products Pharma companies invest heavily in research and development, then must attain FDA sanctions before releasing a product to market. The time required for approvals, a highly competitive sales environment, and a substantial tier of generic drug companies poised to jump into the market upon patent expiration, all combine to magnify speed-to-market demands.

The *Wall Street Journal* reports that generic competition will likely eliminate $67 billion in U.S. pharma sales each year between 2007 and 2012, as more than three dozen drugs lose patent protection. So as new drugs near market-readiness, pharma companies must hit on all cylinders to market and deliver those products quickly.

Companies are increasingly using contract manufacturing sites across the globe to quickly and economically meet market expectations–but globalization adds complexity. Consequently, pharma manufacturing executives' number-one future concern is leveraging contract manufacturers to facilitate new product launches and agile

Pharma 3PLs: Curing Supply Chain Ills

AIT Worldwide Logistics
Itasca, IL
www.aitworldwide.com

Aspen Alliance Group
Temecula, CA
www.aspenlogistics.com

CLS
Winston-Salem, NC
www.cls.inmar.com

Kuehne + Nagel
Jersey City, NJ
www.kn-portal.com

McKesson Logistics
Oakville, ON, Canada
www.logistics.ca

NLM
Detroit, MI
www.nlmi.com

Priority Solutions International
Swedesboro, NJ
www.prioritysolutions.com

SQS
Puerto Rico
www.sqswarehouse.com

TMSi
Fernandina Beach, FL
www.tmsilog.com

Tucker Company
Cherry Hill, NJ
www.tuckerco.com

UPS Supply Chain Solutions
Alpharetta, GA
www.ups-scs.com

UTi
Los Angeles, CA
www.us.go2uti.com

business process in place so wholesalers have little doubt we can run the business," says Vincent Colicchio, manufacturing and product supply chain manager at Stiefel, which projects $1 billion in sales this year.

But the real evidence of Stiefel's belief in e-pedigree's ability to reduce risk and deliver efficiency lies in the manufacturer's plans to apply this business process to its expanding over-the-counter aesthetics line. Unveiled this year, REVALÉSKIN skin care products are sold directly to aesthetic physicians and medical spas via online orders. Stiefel is partnering with a third party to distribute pick-and-pack orders because its own distribution network is designed for truckload and less-than-truckload delivery to wholesalers.

"Ultimately we will look toward placing this brand under e-pedigree even though it is more of an over-the-counter product," says Colicchio. "This will protect our supply chain stream and ensure the integrity of the product."

Eventually, serialization is also in the cards, if the cost/benefit is there. E-pedigree "is a business process for security," says Colicchio. "It ensures our revenue chain." It also provides Stiefel with greater control if new products become targets of counterfeiting, diversion, or other security threats.

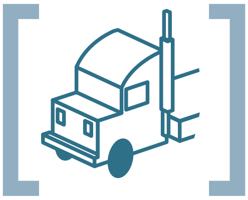
Item-level RFID use to carry e-pedigree data remains a challenge for Stiefel because many of its 4,000-plus SKUs–2,500 of them active–are semi-solids that distort radio signals. So the company, which manufactures in six countries to serve its global market, is using 2-D bar codes on product and carton containers. RFID may eventually be used for pallets.

Electronically scanning pharmaceuticals can protect against counterfeiting and product tampering.

response to demand, according to AMR Research's 2007 Life Sciences survey.

"It takes a cross-functional team to be successful in introducing new products," says Vincent Colicchio, manufacturing and product supply chain manager at dermatological pharma manufacturer Stiefel Laboratories, Coral Gables, Fla.

Enterprises must tap operations, distribution, manufacturing, quality control, financial, regulatory, and sales functions to execute new product introductions quickly. "You've got to be nimble and flexible to meet all the product requirements," he says.



Optimizing Transportation and Distribution Periodically re-evaluating logistics networks is a best practice in any economy, but rapidly rising fuel and materials costs make now a smart time to rethink transportation and distribution.

For example, AstraZeneca once moved most of its inbound pharma products by air, but has shifted one-third of that volume to ocean to satisfy economical and environmental concerns. Accordingly, the company expects to reduce freight costs by at least $20 million in 2008.

"We manage transportation closely to keep lead times in line with demand," says AstraZeneca's Crawford. "We're trying to adjust at both ends to keep inventory at the right levels. You can't recapture time, but you can accelerate in other areas to compensate."

As a result of a network optimization initiative, Stiefel Laboratories will shave close to $250,000 a year in fuel costs. The company closed a distribution facility in Duluth, Ga., and consolidated U.S. distribution in its Oak Hill, N.Y., operation.

Stiefel is also working with its carriers to reassess and prioritize routes, thereby shortening lead times to customers for both in-house and contract-manufactured goods. "We expect to see improvement in finished goods inventory, freight costs, speed to market, and efficiency," says Colicchio.

Prescribing Supply Chain Success The pharmaceutical industry is just beginning to embrace the supply chain as a competitive differentiator.

"Supply chain teams at leading companies are focused on synchronizing demand and designing the most profitable response, which means focusing holistically on each interaction," reports AMR Research.

"This is a significant shift from existing thinking. Imbuing this point of view within the business and inspiring the traditional life sciences supply chain organization is a major challenge and needs to be led from the top down to be successful," the report notes.

With healthcare in the national spotlight, pharma companies are under pressure to refocus processes around the patient. Supply chain executives play a role in delivering efficiencies that contain costs while enabling their companies to be innovative and profitable.

[CASE STUDY]

AstraZeneca Unlocks Safety Cap

Government authorities and the public want assurance that the products they use are legitimate and safe, so pharmaceutical supply chains are under pressure to boost safety beyond even today's standards.

At the same time, pharma companies are subject to the same pressures as any other industry–rising fuel costs, mounting regulation, globalization, and sustainability, among others.

For Mike Crawford, vice president of integrated supply chain for $29.6 billion AstraZeneca, this means tackling security on multiple fronts.

AstraZeneca is one of the world's largest pharmaceutical companies, producing well-known brands including Crestor, Nexium, Seroquel, and Symbicort.

Moving those drugs from point of manufacture all the way to the patient requires a multi-pronged and continually evolving approach to supply chain security. In packaging, the company employs several overt and covert product authentication techniques to easily identify counterfeit drugs.

One challenge is crafting solutions that are visible to the patient without being easy to replicate. For example, AstraZeneca uses color-shifting inks and holograms in its packaging. Other markings and design features are concealed and known only to those charged with ensuring authentication at other stages of distribution, including Customs.

SNAPSHOT
PHARMACEUTICALS

AstraZeneca recently began tackling e-pedigree and serialization requirements. The company intends to extend e-pedigree to all its products by the end of 2008.

"E-pedigree will enhance supply chain security for patients," says Crawford. "It will provide greater assurance at the point of use that patients are getting a legitimate product."

AstraZeneca builds multiple security measures into packaging for drugs such as Seroquel, an atypical antipsychotic, to ensure safe delivery to patients.

AstraZeneca is taking a system-wide approach, using e-pedigree across all its product lines to address security needs globally. While the United States' closed loop pharmaceutical system already affords some protection, the more open, global system offers even greater opportunity to improve security and safety, Crawford says.

As AstraZeneca's supply chain initiatives move ahead, the supply chain is becoming an increasingly critical factor in decision making. "Over the past few years we have leveraged supply chain, packaging, and manufacturing capabilities to stay competitive in terms of delivering value to the business and improving working capital," Crawford says. ■

[CASE STUDY] H.D. Smith's Extra Dose of IT

Thin margins and hefty demands for track-and-trace capabilities are among the many factors forcing companies to leverage information technology to deliver efficiency and visibility. But transitioning from legacy systems to state-of-the-art IT infrastructure remains a challenge for the healthcare and pharma industries.

That's certainly the case for H.D. Smith, a privately held, full-service wholesale distributor that delivers pharmaceuticals and other merchandise to retail, hospital, and institutional pharmacies. To keep pace with marketplace demands, it is upgrading its legacy IT infrastructure with packaged applications.

"Our legacy systems do not handle the level of detail we need," says Brian Landry, senior vice president of information technology, who joined the Springfield, Ill., company one year ago to lead the IT transition. To improve distribution operations, provide more discrete data, and drive new automation, H.D. Smith has selected a new warehouse management system (WMS) from Manhattan Associates, Atlanta, Ga.

"The WMS has provided both internal and external visibility," says Landry. "We're not required to track our date-sensitive products, but we will be ready to track by manufacturing lot if that becomes a requirement." For example, H.D. Smith will have the capacity to manage e-pedigree data as it passes through distribution.

To date, the distributor has deployed the WMS to the first of eight warehouses. The implementation has already boosted throughput and accuracy in warehouse operations, enhancing customer satisfaction—a must-have in the pharma industry.

But transitioning from legacy to packaged applications has proven more challenging than anticipated. "We initially implemented the WMS to do things the way we've always done them, rather than doing them better," Landry says. "Now we're modeling process improvements."

H.D. Smith is also considering additional packaged applications, including procurement and forecasting functionality. These business process changes, along with a potential ERP implementation, will impact how and when the WMS is deployed to remaining warehouses.

While the path remains uncertain, the destination is clear: an IT infrastructure that better supports the needs of a 21st-century pharmaceutical supply chain.

DCSOLUTIONS

by Amanda Loudin

New software keeps a small start-up company's head above water.

Inventory Software Goes With the Flow

Many people hit a point in their careers when they dream about quitting their jobs and striking out on their own. Most, however, never take that brave step and venture out of the comfort and security of steady employment. But that's just the step brothers Thomas and Scott Bennett took this year–and they haven't looked back.

Thomas and Scott spent years working for HD Supply Waterworks, a Texas-based water and wastewater utility supply house, and both hold degrees in industrial distribution, with business minors. They learned their industry inside and out, becoming experts in serving the needs of contractors and municipalities in all aspects of water and wastewater systems.

With more than 50 combined years in the water and wastewater systems industry, Thomas and Scott decided it was time to pursue the American dream and begin a start-up company. Aguaworks Pipe & Supply, based in Brownsville, Texas, is the result of that dream.

"We were both tired of being bought and sold by bigger companies," says Thomas. "We felt confident that our experience would allow us to launch a successful company."

Aguaworks is a distributor of all types of water and wastewater pipes and supplies. While new buildings are being constructed, Aguaworks is at work behind the scenes estimating and pricing the materials needed for the storm-water retention systems and sewer, water, and wastewater utility lines.

SMALL COMPANY, LARGE NEEDS

Even though Aguaworks started out small, as most new companies do, it has put sophisticated tools in place to ensure its service is on par with much larger companies. One key to maintaining that service level is the implementation of *MSS/HD Hardgoods Distribution* from Mincron, a Houston, Texas-based supplier of distribution and warehouse software solutions. *MSS/HD Hardgoods Distribution* serves as the foundation software for managing inventory,

CONTINUED FROM PAGE 91

MUDDY WATERS. Brothers Thomas and Scott Bennett joined forces on startup company Aguaworks, a water and wastewater supplies distributor. Mincron software handles inventory management, purchasing, and forecasting.

purchasing, forecasting, and other enterprise functions.

Aguaworks' 5,000-square-foot distribution center and an additional 2,000 square feet of office space are located on three acres of land. The Bennetts decided that a solid software backbone would be necessary to launch their company successfully.

"We were familiar with the Mincron system from our years at HD Supply," explains Thomas. "We knew implementing a sophisticated software system would be a financial stretch for us, but we also knew it would be worth it."

Because Thomas Bennett had worked with the Mincron system for 16 years, it was a natural choice for the new venture.

"We knew we wanted inventory management, accounting, and bidding features," he explains. "From our experience with Mincron, we knew we could get all those functions in one package. The software is designed to meet the needs of our type of business."

The software's features specifically apply to the hard goods industry and help transform data into knowledge that companies such as Aguaworks can use to make critical strategic decisions. The software provides flexibility and visibility, enabling users to provide top-notch customer service.

THE SYSTEM AT WORK

The Mincron system sends purchase orders received from Aguaworks customers directly to the vendor.

"Vendors create their order and tie a purchase order number to it," explains Thomas. "As we receive the material, we date the packing slip and it is instantly updated in our inventory."

The software includes a unique structure that uses customer profiles for pricing products. This allows Aguaworks to maximize margins while meeting a competitor's price or a customer's individual demand.

Another feature that has helped Aguaworks get off the ground is inventory analysis. The system analyzes inventory by factors such as item velocity, turn/earn ratios, and product movement. Aguaworks can use this information to identify fast- and slow-moving items or dead stock.

As orders are processed, they move on to shipping, where the software allows Aguaworks to check delivery dates with customers. The system immediately confirms the delivery date and updates inventory based on that information. It then automatically generates an invoice and sends it to the customer.

While Aguaworks doesn't use bar-coding at this stage, the system does assign product locations, which are printed on the pick tickets. "Once the information appears on the pick ticket, the products are reserved for that customer," says Thomas. "When the product is delivered to the customer, our inventory is updated."

The system allows Aguaworks to turn orders around the same day they are placed, if the inventory is in stock. And it's in stock most of the time because the system allows Aguaworks to set reorder points–once an item runs low, the system alerts the company to order more.

"Having the Mincron system in place played a major role in giving our business a running start," says Thomas. "Because we were already familiar with the system, we didn't need to spend time training. We've been able to spend more time with our customers from the get-go."

"Hard and durable goods distribution is Mincron's expertise," notes Jeff Allen, vice president of sales and marketing at Mincron. "Aguaworks had experience with the software; it was just a matter of making it fit correctly."

KEY BENEFITS

The Bennetts fully expect the system to deliver increased inventory turns, boost return-on-investment, and allow Aguaworks to provide the highest quality customer service–key to growing a new business.

"Customers benefit because when they call, we can let them know instantly if we have the product they want in inventory," Thomas says. "We can process the order immediately and deliver either the same or the next day, depending on the need. That also benefits customers because they don't have to carry a lot of inventory either."

Aguaworks is the first start-up application Mincron has been involved with. "This software was a good fit because Aguaworks doesn't have the resources that a large company has," says Allen. "We were able to implement the software quickly."

GROWTH SPURT

Aguaworks doesn't currently need all the features that the software can provide. But as the company grows, the software will allow operations to expand seamlessly. Eventually, Aguaworks will be able to support more than 500 users on the system.

"The software currently provides Aguaworks inventory visibility with true cost of goods sold, including freight costs and rebates down to the item level so it can manage its margins," says Allen. "The software will grow as the company grows."

The system has been a boon for a start-up like Aguaworks. "Many companies don't have inventory visibility when they get started," says Allen. "That can drag down profit, which slows growth."

For Aguaworks, there was no other option. "The system will grow with us," says Thomas Bennett. "It has been a great asset." ■

L.I.T. TOOLKIT

by Amy Roach Partridge

Good Chemistry Yields Better Inventory Management

Chemical manufacturer Celanese experiments with a formula for solving its inventory woes.

If you've ever been in a car accident and were protected by the windows' safety glass, you can thank Celanese, a global manufacturer of specialty chemicals. The company is a leading producer of polyvinyl alcohol, which is a main component of polyvinyl butyrate, the material used to hold safety glass together and keep it from shattering.

But while the company's chemicals boast indestructible qualities, Celanese's inventory management process was hardly shatterproof–until it began using an inventory optimization solution from Optiant a few years ago.

In addition to polyvinyl alcohol, Celanese manufactures a number of basic chemicals used in colorants, paints, adhesives, coatings, and medicines. Its end users comprise businesses within a wide range of industries such as paper, building and construction, and textiles.

The company's supply chain hits all points on the map, with headquarters for its three main business units in Dallas, Shanghai, and Germany; manufacturing operations in the United States, Europe, Singapore, China, and Mexico; storage terminals located near major ports such as Houston, Singapore, Antwerp, and Nanjing; and customers evenly distributed across the globe. In addition, Celanese ships inventory internally among facilities–and the locations can be on opposite corners of the world.

COMPLEX JOB, SIMPLE TOOL

Keeping track of inventory within such a large global footprint is a complex job, but one that Celanese previously managed with a surprisingly un-complex tool.

"Most of our inventory optimization efforts were done with unsophisticated spreadsheets," says Jeff Kirkpatrick, director of supply chain for Celanese's acetyl intermediates business.

Because of this system's limitations, the company could only optimize inventory on a location-by-location basis, an approach that worked from a functional perspective but didn't provide strategic planning capabilities.

"We could only do single-stage calculations, which didn't allow us to obtain all the synergies or understand all the overlap we had throughout our large network," Kirkpatrick notes.

In addition, setting and changing inventory targets was a difficult manual process, leading Celanese to carry more than the optimal amount of inventory.

MASTERING SUPPLY CHAIN COMPLEXITY

This unsophisticated approach to inventory management is common, even among large international firms such as Celanese, because companies often overlook strategic inventory theory in their quest to meet the everyday demands of global operation. And many companies struggle to balance the costs of holding substantial inventory against the threat of stock-outs, which require expensive expediting and other last-minute arrangements to meet customer needs.

But companies that make inventory optimization a supply chain goal often gain the strategic advantage that is so crucial in today's volatile business environment.

Celanese's Hostaform plastic resins serve a variety of applications, from car parts to cookware.

"Supply chain complexity continues to increase," says Fred Lizza, CEO of Optiant, the Burlington, Mass.-based inventory management software provider that Celanese partnered with. "Companies face demand volatility–what customers want, and how and why that changes. They also face many other issues, such as fuel costs whipping up and down, that make supply chains difficult to manage."

For the chemical industry, managing commodity costs presents another huge supply chain challenge. Raw material prices that were once stable are now subject to speculation and the financial markets' whims as well as the underlying forces of supply and demand. And because the industry depends on bulk rail and ocean transportation, it faces another source of variability, and is

CONTINUED FROM PAGE 95

particularly susceptible to high energy costs.

"Companies such as Celanese are now faced with managing these changes," says Lizza. "These companies need analytical tools that can help them make more effective inventory decisions, properly manage business risk, and reduce volatility. They also need tools that provide modeling capabilities so they can play out different inventory scenarios and determine their options."

LEARNING TO LOOK FORWARD

These inventory management challenges, and the capabilities needed to manage them, prompted Celanese to implement Optiant's *PowerChain* suite.

"We were managing inventory in a disjointed and on-demand way rather than strategically in a forward-looking manner, and we realized that approach wasn't good enough," recalls Kirkpatrick.

Additionally, because the company did not have ample control over, or understanding of, its inventory at each location, it wasn't satisfied with the service it provided customers. "We needed to determine how to carry the right amount of inventory to meet our commitments and provide the right level of service," he explains.

During the selection process, Kirkpatrick and executives from Celanese's acetyl intermediates business listened to presentations from several software companies and spoke with existing customers before deciding that Optiant's products were the best fit for its needs. Both companies shared the belief that Celanese should trade its location-by-location approach for a holistic, end-to-end view of inventory management.

"Optiant's solution gave us what we needed from a multi-echelon standpoint," explains Kirkpatrick. "Rather than optimizing inventory around single stages, we could optimize it across our entire network–something we could never build on our own or manage properly with Excel."

Also key to Optiant's selection was the breadth of its offerings, which "start at the strategy level and go all the way down to the workbench for the person managing inventory each day," Lizza explains.

To implement Optiant's *PowerChain* solution, Celanese began with a test drive of the software in June 2004 within its acetyl intermediates business. "This pilot allowed us to build three product models and get our hands in the software, acquaint ourselves with the data requirements, and see the model outputs, including inventory targets and the analytical tools capability," notes Kirkpatrick.

> **"We were managing inventory in a disjointed and on-demand way rather than strategically in a forward-looking manner, and we realized that approach wasn't good enough."**
>
> –**Jeff Kirkpatrick**, Celanese

MODELING SUCCESS

With favorable results from the pilot, in 2005, Optiant embarked on the process of bringing the remaining products and business groups on board, and training Celanese users.

The heart of the implementation process centered on building supply chain models for each Celanese product that would be managed through the *PowerChain* application.

"Optiant modeled the total supply chain cost for all products within Celanese, then ran a sophisticated optimization process for each one," explains Gokhan Usanmaz, the Optiant project manager who oversaw the Celanese implementation.

The models map out each aspect of the supply chain so users can see how a product flows from origin to destination, and shows how each stage–manufacturing, production, shipping, distribution–is connected.

For Celanese, the models helped to calculate actual lead-time variabilities across manufacturing locations and transportation legs/modes, and took into consideration operational limitations such as tank capacity, service time commitments, inventory holding locations, and replenishment frequencies that impact inventory levels. It was all done with the objective of minimizing total supply chain costs without sacrificing service levels.

INVENTORY AND SERVICE

That inventory-capacity-to-service-level ratio was the subject of many discussions during implementation. "We looked at what we call 'fill-rate sensitivity curves'," says Kirkpatrick. "If the goal is to be at 'X' service level but with our current inventory level we are at a 'Y' level, how much do we need to invest to get the right amount of inventory needed to most efficiently please our customers?"

By looking at those curves within the Optiant models, Kirkpatrick and his team could determine for each location whether they needed to increase inventory to attain desired service levels, or if they could reduce inventory without sacrificing customer service quality. Unlike the spreadsheet method, Optiant's solution allows users to run a scenario and determine what will actually happen if they increase demand in one location or move inventory to another location.

"We went through many of those sensitivity curves and were able to see what our business looks like and how changing inventory levels would affect it," Kirkpatrick says.

Though the model-building and sensitivity curve-analyzing phase is largely behind them, Kirkpatrick and his team still use the models whenever they want to tweak the inventory network.

"Every year at budget time, we re-analyze the entire network and reset inventory targets for the next year," he explains. "We continue to use the tool to pull inventory dollars out of the supply chain."

Those cost savings are one main benefit Celanese has reaped by optimizing its inventory through Optiant's solution. Though Kirkpatrick does not cite a specific dollar figure, he notes that, "we've saved substantial dollars by utilizing the tool to better understand our networks and make changes."

Overall, Celanese's inventory optimization efforts have made a significant impact on its business. Positive results include reduced inventory levels, improved fill rates and customer service levels, more control over lead-time and demand variability, and a more comprehensive understanding of how inventory management impacts the entire supply chain.

"Going through the Optiant training, using the tool, and reassessing my assumptions and understanding of inventory theory made me more knowledgeable about my own supply chain," Kirkpatrick says.

Celanese's revamped inventory management approach has also provided the ability to better communicate supply chain and inventory issues to other departments within the company, thanks to Optiant's graphical interface.

The tool allows users to build models with pictorial icons representing each aspect of the supply chain–a picture of a plant or manufacturing facility; a truck, ship or plane icon for the shipping method–and shows how each stage is connected.

The result is an end-to-end diagram of a particular product's supply chain that is quick and easy to understand.

"The tool's graphical views help people who aren't usually involved in supply chain details to quickly understand what we are talking about," explains Kirkpatrick.

Today, Celanese's inventory and supply chain decision-making is a more streamlined, data-driven, and holistic exercise than it had been in the past. Overall, the manufacturer has found good chemistry with a strategic partner and achieved the desired results from its inventory optimization experiment. ■

TECHUPDATE

THE LATEST | IN LOGISTICS TECHNOLOGY

Motorola

WHAT'S NEW: A fixed-mount, in-vehicle mobile computer.

THE VALUE: The VC6096 collects data such as mileage, location, driver performance, hours of service, and arrival and departure times. Automatic monitoring and engine operation data collection provides dispatchers with visibility into engine error codes to improve overall maintenance, driver productivity, and vehicle utilization. The tool also provides information on driving patterns of mobile workers to identify safety issues, eliminate unnecessary wear and tear on vehicles, and minimize fuel consumption. Users can reduce paperwork and increase efficiency by automating driver logs, time cards, and highway fuel tax reports.

www.motorola.com
800-638-5119

hardware

Citizen Systems

WHAT'S NEW: The addition of a label-printing function to existing printers.

THE VALUE: Citizen's CT-S4000L and CT-2000L printer lines can now handle label media up to three inches by 11 inches, making them suitable for shipping and warehousing applications.

www.citizen-systems.com
800-421-6516

Honeywell

WHAT'S NEW: A linear bar-code scanner.

THE VALUE: Designed for use in manufacturing, warehousing, and distribution applications, Honeywell's 3820i industrial cordless linear imager operates in extreme temperatures, is water- and dust-resistant, and withstands drops onto concrete from 6.5 feet. The battery works for 50,000 scans or more than 16 hours before requiring a charge.

www.honeywell.com
800-582-4263

rfid/wireless

Mojix

WHAT'S NEW: Wireless and muli-port RFID transmitters.

THE VALUE: Mojix eNodes provide energy to all passive RFID tags within their specified interrogation spaces. The new multi-port and wireless eNodes join with Mojix's previously launched wired eNodes to enable ubiquitous passive RFID coverage of large distribution centers, yards, warehouses, and retail facilities across multiple business processes at a low cost per square foot of coverage.

www.mojix.com
877-886-6549

web

Cat Lift Trucks

WHAT'S NEW: An improved Web site.

THE VALUE: Visitors to Cat Lift Trucks' new Web site can access detailed product specifications, download product brochures, and browse tips on boosting lift truck efficiency and reducing costs.

www.cat-lift.com
800-CAT-LIFT

EPCglobal North America

WHAT'S NEW: An online tool offering guidance on adopting the Electronic Product Code (EPC).

THE VALUE: MyEPCAdvisor.com supports organizations implementing the EPC, the next generation of product identification – a simple, compact "license plate" that can identify

CONTINUED FROM PAGE 99

ThomasNet

WHAT'S NEW: Enhanced sourcing tools.

THE VALUE: ThomasNet's latest additions to its supplier-selection Web site include a feature for designating preferred suppliers in RFP Manager, a tool for negotiating contract renewals, and an online forum where purchasing professionals can network with their peers.

www.thomasnet.com ✆ 800-699-9822

individual objects such as cases, pallets, products, and locations. Users of the new forum can access educational information, get questions answered by experts, and read what other users are experiencing during implementation.

www.myepcadvisor.com ✆ 937-291-3300

YRC Worldwide

WHAT'S NEW: A Web portal connecting shippers to YRC companies and divisions.

THE VALUE: At YRC Worldwide BizConnect, shippers can obtain and compare quotes from the different YRC companies, which include Yellow Transportation, Roadway, and USF Holland. Visitors to the site can also choose the provider and services they want, schedule a pickup, track the shipment, and pay online.

www.yrcw.com ✆ 800-846-4300

partnerships

JobsInLogistics.com and Warehousing Education & Research Council (WERC)

WHAT'S NEW: A logistics and supply chain job board.

THE VALUE: The partnership allows WERC to share job opening information from JobsInLogistics.com with its members and other users of the association's Web site.

http://werc.topusajobs.com
✆ 877-562-7678

REZ-1 and CN

WHAT'S NEW: An automated chassis tracking, billing, and collections program.

THE VALUE: Chassis pools at CN's Brampton, Ont., and Vancouver, B.C., intermodal terminals increase the fluidity of operations, improve service, and reduce costs by applying RFID tags to help manage rail equipment. REZ-1 developed a real-time tracking, billing, and collections tool for chassis used for over-the-road delivery and container pickup.

www.rez1.com ✆ 617-928-5000
www.cn.ca ✆ 888-MOVIN CN

software

Robocom Systems International

WHAT'S NEW: Enhanced labor management software.

THE VALUE: The new release of *R-Labor* software (formerly known as *Warehouse PLUS*) features work reporting tools that deliver labor cost savings in warehouses and distribution centers with fewer than 50 employees.

www.robocom.com ✆ 631-753-2180

FastPic Systems

WHAT'S NEW: Enhanced inventory management software.

THE VALUE: Designed to manage virtually all manual and automated storage and retrieval systems, *FastPic5 Order Processing* inventory management software includes features for multiple work zones, shelving and racks, pick-to-light, carousels, and vertical lift modules.

www.fastpicsystems.com
✆ 207-854-8663

NLM

WHAT'S NEW: A chargeback automation software tool.

THE VALUE: NLM's process compliance tool helps original equipment manufacturers efficiently calculate and collect shipping expenses that should be charged back to their suppliers. Using their own business rules, shippers set responsibility codes that determine factors such as the conditions that will trigger a chargeback and the point at which the supplier should be notified. The tool tracks premium

To learn more, contact these companies directly. Remember to mention this issue date and page to get the right information.

shipment activity, noting estimated costs and listing reasons to reduce payment to the supplier, who can then use the tool to accept or dispute each chargeback.

www.nlmi.com ✆ 313-736-8000

Minerva Associates

WHAT'S NEW: Warehouse management software for mid-sized to Fortune 500 companies.

THE VALUE: New features in *AIMS v10* include graphical reports to provide at-a-glance status of multiple key inventory and order statistics, a streamlined user interface, drill-down menus, tabbed browsing, and increased database manager support.

www.minerva-associates.com ✆ 858-792-8626

J.J. Keller

WHAT'S NEW: A dispatching and load tracking application.

THE VALUE: *Dispatch Manager* software coordinates and tracks the assignment of drivers, vehicles, and the status of loads to give dispatchers the information they need to make informed fleet decisions.

www.jjkeller.com ✆ 877-564-2333

CipherLab

WHAT'S NEW: Automatic container space calculation software.

THE VALUE: The *Intelligent Order Entry* application enables users of CipherLab's handheld scanners to calculate the cubic footage and weight of bulk goods, and use the data to maximize container space. The program also alerts users to discontinued items, converts UPC codes to warehouse codes, and displays backroom inventory.

www.cipher-lab.com ✆ 888-300-9779

Next Generation Logistics

WHAT'S NEW: The addition of SmartWay functions to transportation management software.

THE VALUE: The new version of *FreightMaster* tracks and reports metrics required by the SmartWay Transport Partnership, allowing users to measure their environmental performance. *FreightMaster*'s features and tools can improve operating efficiencies and reduce emissions by scheduling pickups and deliveries to reduce idle time and improve truckload consolidations.

www.nextgeneration.com ✆ 847-963-0007

3PLs

3PLfinder.com • www.3plfinder.com

3PLfinder.com is a free online directory of third-party warehouses that offers the most comprehensive and easy-to-find listings that include every major warehouse in North America as well as facilities worldwide. The site enables you to search by city and state, and includes enhanced listings with advanced search features that allow you to find the closest warehouse that provides the services you need.

LUMPER SERVICES

Unloading Services Co. • www.unloadingservices.com

Our goal is to give customers a quality, professional unloading service. Benefits include increased throughput, uniform pricing, and removal of liability. Our company uses the latest technology in handheld computer devices to provide you with weekly reports showing pallets in and out, PO numbers, invoice numbers, and start and stop times for each load. These reports also provide a complete overview of the entire week's work. For more information please visit us at www.unloadingservices.com.

MULTIMODAL

Werner Enterprises • www.werner.com

Werner Enterprises, Inc. is a premier transportation and logistics company, with coverage throughout the United States, Canada, Mexico and China. Werner maintains its global headquarters in Omaha, Neb., offering 24/7 service 365 days a year. Werner is among the five largest truckload carriers in the United States, with a portfolio of services that includes long-haul, regional and local van capacity, temperature-controlled, flatbed, dedicated and expedited. Werner's value-added services portfolio includes import and export freight management, PO and vendor management, truck brokerage, intermodal, load/mode and network optimization, and global visibility. Internationally Werner provides freight forwarding and customs brokerage services, and is a licensed NVOCC.

OCEAN

Horizon Lines • www.horizonlines.com

Horizon Lines is the nation's leading domestic ocean shipping and integrated logistics company comprised of two primary operating subsidiaries. Horizon Lines LLC owns or leases a fleet of 21 U.S.-flag containerships and five port terminals linking the continental United States with Alaska, Hawaii, Guam, Micronesia and Puerto Rico. Horizon Logistics offers customized logistics solutions to shippers from a suite of transportation and distribution management services designed by Aero Logistics, information technology developed by Horizon Services Group, and intermodal trucking and warehousing services provided by Sea-Logix. For more information, visit the Web site.

SITE SELECTION

Regional Growth Partnership • www.rgp.org

The Regional Growth Partnership (RGP), serving northwest Ohio and southeast Michigan, is a private economic development corporation focused on meeting the needs of clients in a confidential, innovative, and time-sensitive manner. Through private sector funding, the RGP provides business development services to facilitate the attraction, expansion, and retention of companies.

TRANSPORTATION

New Penn • www.newpenn.com

New Penn is a regional less-than-truckload transportation company providing reliable next-day service through a network of 24 service centers located in the Northeastern United States, Quebec, Canada, and Puerto Rico. The official New Penn site, www.newpenn.com, provides service and capability information. Online tools, such as shipment tracking and rate quotes, are offered to provide users with a seamless shipping experience.

TRUCKING

New Penn • www.newpenn.com

New Penn is a regional less-than-truckload transportation company providing reliable next-day service through a network of 24 service centers located in the Northeastern United States, Quebec, Canada, and Puerto Rico. The official New Penn site, www.newpenn.com, provides service and capability information. Online tools, such as shipment tracking and rate quotes, are offered to provide users with a seamless shipping experience.

TRUCKING-LTL

New Penn • www.newpenn.com

New Penn is a regional less-than-truckload transportation company providing reliable next-day service through a network of 24 service centers located in the Northeastern United States, Quebec, Canada, and Puerto Rico. The official New Penn site, www.newpenn.com, provides service and capability information. Online tools, such as shipment tracking and rate quotes, are offered to provide users with a seamless shipping experience.


They’ve done their part.
Can you do yours?
Hire a Veteran.
Sponsored by Inbound Logistics

NEWSERVICES

YOUR BUSINESS LOGISTICS RESOURCE

Toyota Material Handling

WHAT'S NEW: A reach truck series with an AC-powered system.

THE VALUE: Designed for distribution centers, retail operations, refrigerated warehouses, and third-party logistics applications, the 8-Series AC reach lift trucks are available in three models, including a single-reach lift truck in 3,500- and 4,500-pound lifting capacities, and a 3,000-pound capacity double-reach model.

www.toyotaforklift.com
800-226-0009

Avery Weigh-Tronix

WHAT'S NEW: Two forklift scale systems.

THE VALUE: Both models deliver comprehensive weight data with high visibility and simple operation. The FLI 425 features a seven-inch color LCD touchscreen display that shows up to 19 data fields simultaneously. The compact FLI 225 uses minimal cab space but offers nine hard keys with a touchpad for alphanumeric data entry as needed. Both models are available with an optional instrument-mounted bar-code scanner to expedite product data input, and optional wi-fi capability to facilitate real-time communications for improved efficiency.

www.wtxweb.com 800-368-2039

Jungheinrich Lift Truck Corp.

WHAT'S NEW: Two series of lift trucks.

THE VALUE: With capacities ranging from 2,500 to 4,000 pounds, the AC-controlled electric counterbalanced EFG 213-220 and EFD 316-320 series trucks provide long run times on a single battery charge. Both series allow operators to charge and change the battery via simple access from the side of the truck using several battery extraction methods, including the use of a hand pallet truck, forklift, or crane. The 2 Series offers six 3-wheel chassis variations and works well in restricted spaces and outdoor applications; the 3 Series offers five 4-wheel chassis variations and is suited to applications involving longer runs.

www.jungheinrich-us.com 804-737-7400

Pentalift Equipment Corp.

WHAT'S NEW: An elevating loading dock lift.

THE VALUE: The Series LDL Low Dock Lift fits into an eight-inch-deep pit, allowing shippers to replace a loading dock unit without redesigning their pit. Maintenance-free bearings, a variety of deck sizes, and capacity from 5,000 to 6,000 pounds make the LDL suitable for a range of cargo-loading applications.

www.pentalift.com 519-763-3625

A-B-C Packaging Machine Corporation

WHAT'S NEW: A flap memory relaxer for packed cases.

THE VALUE: Designed to ensure trouble-free palletizing with no flap pop-up,

NEWSERVICES

CONTINUED FROM PAGE 105

Entropy Solutions

WHAT'S NEW: A temperature-sensitive, single-dose pharmaceutical mailer.

THE VALUE: The GREENBOX inflater pack keeps medications at controlled room temperatures (68–77 degrees F) for up to 48 hours or at refrigerated temperatures (36-46 degrees F) for up to 24 hours. Shippers choose from three grades of non-toxic, reusable, and recyclable phase-change materials to regulate the temperature of the inflatable envelope.

www.greenboxsystems.com
877-4GRNBOX

the Model 36C uses cool water for flap conditioning, eliminating the risks and high energy costs associated with steam-operated flap conditioners. The machine's heavy steel frame minimizes vibration and cuts maintenance costs. The 36C is compact and easily adjustable for a full range of case sizes.

www.abcpackaging.com 800-237-5975

CEVA Logistics

WHAT'S NEW: A combined air-ocean service from the United States to Australia.

THE VALUE: Three times a week, freight flies from the United States to Singapore, where it is linked with CEVA's ocean service to Australia. Designed to provide an economic, quick mode for shipments from the United States to Australia, CEVA's Aussie Super Saver Service reduces transit time for shipments originating in the U.S. Midwest and East Coast from 25-35 days to 10-20 days. Global information systems provide shippers tracking and transit visibility throughout the distribution process.

www.cevalogistics.com 800-888-4949

Enviromodal

WHAT'S NEW: A financial- and environment-focused transportation initiative.

THE VALUE: Enviromodal manages, markets, and sells domestic surplus transportation capacity from members of the EPA's SmartWay Program and offers it to shippers through real-time, Web-based technology. The service provides intermodal, railcar, and marine-shared assets to fulfill transportation needs utilizing either Enviromodal's negotiated rate contracts or the shipper's. Enviromodal currently offers capacity in the market lane from Jacksonville, Fla., to Secaucus, N.J., providing shippers moving product out of North Florida and South Georgia access to the country's largest consumer market, the metropolitan New York area. Other lanes will open during the fourth quarter of 2008.

www.enviromodal.com 888-301-6862

Hyster Company

WHAT'S NEW: Two reach truck attachments.

THE VALUE: Designed to increase operator productivity when used with the Hyster ZR Reach truck, the fork laser and camera limit product and rack damage and improve warehouse safety. The fork laser's beam guides lift truck operators to correct fork placement when retrieving product. Offering visibility at elevated heights, the fork camera provides operators accurate fork placement when retrieving or replacing product.

www.hyster.com 800-HYSTER-1

Old Dominion Freight Line

WHAT'S NEW: A container drayage operation in Huntsville, Ala.

THE VALUE: The new operation, located at the Port of Huntsville, moves ocean-going shipments to and from the Huntsville Intermodal Center.

www.odfl.com 800-432-6335

Lufthansa Cargo

WHAT'S NEW: Expanded airfreight capacity.

THE VALUE: Additions to Lufthansa Cargo's offerings from Frankfurt include an MD-11 freighter connection every Friday to New York (JFK); a Wednesday flight to Chicago; and direct freighter connections to Seoul on Thursday and Mumbai and Hong Kong on Saturday. Cargo capacity additions to passenger flights include a twice-weekly Airbus A340-600 service from Frankfurt to Orlando, Fla.; six flights weekly from Dusseldorf to Miami; a flight from Frankfurt to Buenos Aires; and two connections weekly from Munich to Mumbai.

www.lufthansa-cargo.com ✆ **800-542-2746**

New England Motor Freight (NEMF)

WHAT'S NEW: Two terminals in Virginia.
THE VALUE: NEMF's 18-door terminal in Roanoke and 54-door terminal in Richmond expand the LTL carrier's capabilities in the mid-Atlantic region.

www.nemf.com ✆ **908-965-0100**

Port of Vancouver

WHAT'S NEW: A mobile harbor crane.
THE VALUE: The mobile harbor crane, the port's second, can lift 154 tons, making it the largest of its type in North America. The cranes allow for more versatility and efficiency in moving and handling heavy cargo, particularly the wind-energy cargo moved through the port. Some wind components require two cranes to eliminate the possibility of damage. The second crane also enables the port to unload vessels with one crane while simultaneously loading cargo to trucks or railcars with the other.

www.portvanusa.com ✆ **360-693-3611**

SEKO

WHAT'S NEW: An office in Romania.
THE VALUE: Headquartered in Bucharest, with an additional operation in Constanta, SEKO Romania provides customs brokerage services, flexible contract warehouse management services, and both import and export trade to the entire Central European region. The office serves the intra-European and U.S. trade routes via transportation hubs in Budapest, Hungary, and Vienna, Austria. It is in close proximity to the Henri Coanda International Airport, Baneasa Airport, and the Constanta Seaport, the largest harbor on the Black Sea and fourth-largest port in Europe.

www.sekoworldwide.com ✆ **800-228-2711**

TNT

WHAT'S NEW: A gateway at Japan's Osaka Kansai International Airport.
THE VALUE: The gateway strengthens the express service capability of TNT's Northeast Asian International Express Network and shortens the transit time for deliveries into Osaka from China by one day.

www.tnt.com ✆ **800-558-5555**

BDP Project Logistics

WHAT'S NEW: An office in Beijing.
THE VALUE: Along with BDP's Shanghai office, the Beijing location offers Chinese firms end-to-end materials management and tracking, freight negotiation and carrier cost maintenance, logistics process analysis and optimization, documentation, coordination of cargo inspections, inland transportation and scheduling, and supervision of heavy lifts, outsized and hazardous cargo, port operations, and jobsite unloading and checking.

www.bdpinternational.com ✆ **215-629-8493**

Ports America

WHAT'S NEW: A packaging operation in Baltimore.
THE VALUE: Located at Dundalk Marine Terminal facility in the Port of Baltimore, Md., and accessed directly by rail and motor carriers, this facility provides a full range of specialized on-dock packing and shipping services for ocean-going international breakbulk, containerized, or project freight between any world destination and manufacturers or assembly plants throughout the United States. Its services include packaging, crating, transportation coordination, warehousing, storage, and container operations.

www.portsamerica.com ✆ **732-635-3899**

INBOUNDCLASSIFIED

RESOURCE CENTER 11.08

INBOUND LOGISTICS WORKS FOR YOU!

For a specific response, contact these advertisers directly. Please tell them you saw their ad in *Inbound Logistics.*

For general questions about particular industry segments, use the card between pages 32-33.

For faster service, go online: inboundlogistics.com/rfp

3PLs

- **Arvato Digital Services** pg. 29
Arvato Digital Services is a leading provider of integrated solutions that include every step of the value chain, from post-production, replication, fulfillment and distribution/supply chain management, to financial services, and electronic software distribution.
www.arvatodigitalservices.com 800-223-1478

- **Averitt** pg. 19
You need customized solutions that will reduce costs and increase the velocity of your network. Averitt offers fully integrated, built-to-fit programs for effective sourcing, manufacturing, order fulfillment, and transportation services.
www.averittexpress.com 800-AVERITT

- **BNSF Logistics** pg. 53
BNSF Logistics puts your logistics pieces in place so you can focus on business. Combining expansive knowledge with integrated technology systems, BNSF streamlines your organization.
www.bnsflogistics.com 877-853-4756

- **Choice Logistics** pg. 65
Choice Logistics' comprehensive infrastructure of systems, processes, and secured sites provides end-to-end inventory management for direct parts deployment 24/7. Choice understands the challenges and opportunities imposed by stringent client requirements.
www.choicelogistics.com 212-370-1999

- **CN WorldWide** pg. 28
CN WorldWide North America delivers CN's precision transportation performance door-to-door. A complete portfolio of services offered on a single-source or standalone/bundled basis meets specific needs.
www.cnworldwide.com 888-426-9962

- **DB Schenker** pg. 15, 17
DB Schenker paves the way for customers to access markets – with innovative logistics solutions and transportation concepts tailored to the needs of specific sectors.
www.dbschenker.com 800-225-5229

- **Dupré Logistics** pg. 11
Dupré Logistics looks for better ways of doing things at every turn and can significantly improve the predictability and cost of your supply chain. Its customized plans deliver measurable value that can help you beat your competition.
www.duprelogistics.com 800-356-3659

- **FAC Logistics** pg. 24, 57
If you ship or receive food products, you need to know FAC. Food service logistics is FAC's business... its only business. Contact FAC for a review that will demonstrate all the benefits of dealing with a food service logistics specialist.
www.faclogistics.com 800-285-7004

- **Geodis Wilson** pg. 8
Geodis Wilson provides its clients with integrated solutions and unrivaled customer service. For a freight management solution that will ensure your company's success, contact Geodis Wilson.
www.geodiswilson.com 732-632-0600

- **Jacobson Companies** pg. 50
Jacobson Companies has your supply chain needs covered, with warehousing, transportation, and freight management services across the nation.
www.jacobsonco.com 800-636-6171

- **Lynden** pg. 21
When it comes to moving your shipments to, from, or within Alaska, all transportation companies are not alike. Lynden provides the most extensive coverage with integrated air, marine, and truck services.
www.shiplynden.com 888-596-3361

- **National Retail Systems (NRS)** pg. 47
NRS delivers the West Coast cost advantage with a compliant Clean Truck fleet and 1.2 million square feet of distribution facilities 10 miles from the Port of Los Angeles.
www.nrsonline.com 877-345-4-NRS

- **Platinum Logistics** pg. 31
Platinum Logistics strives to build long-term relationships one customer at a time by providing unparalleled customer service, one-on-one freight support, and competitive prices.
www.platinumlogistics.com 619-661-8020

- **Priority Solutions International** pg. 13
Priority Solutions International offers services in domestic and international transportation; warehouse and distribution; and reverse logistics. Anytime, anywhere, they'll get it there.
www.prioritysolutions.com 800-257-4777

- **Regal Logistics** pg. 27
Regal Logistics delivers faster replenishment cycles, higher sales, better store shelf stock rates, lower logistics costs, and superior customer service. Choose Regal to improve supply chain efficiency, reduce costs, and increase profitability.
www.regallogistics.com 253-922-2250

- **River Stone Freight** pg. 39
River Stone Freight is a non-asset-based logistical provider dedicated to fully supporting clients through the identification and pursuit of the greatest supply chain value available for each individual shipment at every point in time.
www.riverstonefreight.com 877-5RIVER3

Use our Resource Center and let the information you need find you.

- **Ryder** pg. 5
  Name your product, and Ryder will customize a supply chain for it. Unmatched experience, flexibility, and expertise make Ryder the one to turn to all over the globe.
  www.ryder.com 888-88-RYDER

- **SDV International Logistics** pg. 42
  Thanks to efficient control over transport and logistics operations in an ever-changing environment, the SDV International Logistics group is the reliable partner not only for multinational groups but also for small and medium-sized companies.
  www.sdv.com 718-525-8100

- **Transplace** pg. 61
  Transplace is committed to delivering supply chain excellence through an optimal network of industry-leading services and technology. With Transplace, you get more – more speed, more technology, more connectivity, and more smarts.
  www.transplace.com 973-731-4500

- **Unyson Logistics** pg. 63
  When your supply chain works in unison you reap strategic benefits. Unyson Logistics helps you drive out supply chain costs by creating solutions that offer unity, visibility, and stability.
  www.unysonlogistics.com 888-581-1019

- **Werner Enterprises** pg. 71
  Werner Enterprises, a logistics provider backed by global connectivity, assets, experience, and financial stability, offers local logistics knowledge applied worldwide.
  www.werner.com 800-228-2240

Air Cargo

- **Lufthansa Cargo** pg. 20
  Network the world with Lufthansa Cargo. Lufthansa offers cargo services tailored to meet your needs.
  www.lufthansa-cargo.com 800-LHCARGO

- **National Air Cargo** pg. 49
  Need to ship anything, anywhere, anytime? National Air Cargo delivers.
  www.nationalaircargo.com 800-635-0022

Air/Expedited

- **Pilot Freight Services** Cover 2
  Pilot Freight Services offers shipping to 190 countries, customs clearance and import/export capabilities, plus convenient online service that lets you get quick quotes, book, ship, and track cargo 24/7.
  www.pilotdelivers.com 800-HI-PILOT

Career Development/Education

- **Institute of Logistical Management** pg. 101
  Become a part of the oldest logistics distance learning school in the world that has helped more than 84,000 alumni navigate their careers in supply chain and logistics since 1923. The Institute of Logistical Management offers distance learning in many areas of logistics and supply chain management.
  www.logisticseducation.edu 609-747-1515

- **Lion Technology** pg. 107
  For more than a quarter century, Lion Technology has been the leader in regulatory compliance training. Lion's unique multimodal dangerous goods training brings your team up to speed.
  www.lion.com 888-546-6511

Chemical Logistics

- **Rinchem Company** pg. 93
  Rinchem has 30 years of chemical management experience and handles more than one billion pounds of chemicals annually.
  www.rinchem.com 800-3PL-CHEM

Environmental Partnerships

- **SmartWay Transport** pg. 89
  The EPA's SmartWay Transport program helps shippers reduce emissions, while giving the average truck a fuel savings of $2,000 per year.
  www.epa.gov/smartway 734-214-4767

Events

- **Logistics 2009** pg. 109
  Presented by the Retail Industry Leaders Association, Logistics 2009 will be held Feb. 8-11, 2009, in Dallas, Texas. At this event, you'll develop strategies to drive supply chain performance in a volatile economic environment and a rapidly changing world.
  www.rila.org/logistics 703-841-2300

Freight Payment Services

- **CT Logistics** pg. 80
  CT Logistics believes there is always room for improvement - a philosophy that has made the company a leader in freight payment for more than 83 years.
  www.ctlogistics.com 216-267-2000

Logistics IT

- **IES Ltd.** pg. 59
  To cut through the complexities of supply chain management you need the right software. IES has a customized solution for you.
  www.iesltd.com 201-639-5000

For a specific response, contact these advertisers directly. Please tell them you saw their ad in *Inbound Logistics*.

For general questions about particular industry segments, use the card between pages 32-33.

For faster service, go online: inboundlogistics.com/rfp

RESOURCE CENTER 11.08

INBOUND LOGISTICS WORKS FOR YOU!

For a specific response, contact these advertisers directly. Please tell them you saw their ad in *Inbound Logistics.*

For general questions about particular industry segments, use the card between pages 32-33.

For faster service, go online: inboundlogistics.com/rfp

- **TransCore** Cover 4
  With installations in 46 countries, more than 100 patents and pioneering applications of RFID, GPS, and satellite communications technologies, TransCore's technical expertise is unparalleled in the markets it serves.
  www.transcore.com 717-561-2400

Materials Handling

- **Diamond Phoenix** pg. 7
  From analysis to design to implementation and beyond, Diamond Phoenix Integrated Solutions help you achieve business goals that boost your competitive edge. Highly productive facilities keep items moving through at faster rates, with higher accuracy and lower costs.
  www.diamondphoenix.com 888-233-6796

Mobile Communications

- **Verizon Wireless** Cover 1
  Verizon Wireless works with you and your existing systems to make your company more effective.
  www.verizonwireless.com/distribution 800-VZW-4BIZ

NASCO

- **Ardmore Development Authority** pg. 78
  The International Trade Center at Oklahoma's Ardmore Industrial Airpark offers an international air cargo hub, intermodal facilities, and industrial developments. You'll see why Ardmore is Oklahoma's Gateway to the World.
  www.ardmoredevelopment.com 580-223-6162

- **G2 Logistics** pg. 73
  G2 Logistics is the leading intermodal alternative in North America, specializing in short notice and cross-border shipments. G2 enthusiastically supports NASCO's efforts to improve security and visibility in the supply chain.
  www.g2logistics.com 877-675-8989

- **Meridian 100°** pg. 77
  Meridian 100° is committed to enhancing Mexico's and North America's logistics competitiveness. It is currently developing a logistics platform and free trade zone on Northern Mexico's border at Port Laredo, with direct access to the International Bridge.
  www.meridian100.com 52 (55) 5545 9459

- **NASCO** pg. 70
  NASCO's mission is to increase economic development along the North American SuperCorridor through promotion of a sustainable, secure, and efficient trade and transportation system. To become a part of NASCO's efforts, please visit the Web site.
  www.nascocorridor.com 214-744-1042

- **Province of Manitoba** pg. 75
  CentrePort Canada, Manitoba's new 20,000-acre inland port, comprises transportation, manufacturing, distribution, and logistics assets. Contact CentrePort Canada to discover how your path to success runs through Manitoba.
  www.winnipeg-chamber.com 204-944-3309

Ocean

- **Atlantic Container Lines (ACL)** pg. 33
  For more than 30 years, ACL's pioneering spirit has made it a leader in North Atlantic Trade and one of the most respected names in ocean transportation.
  www.aclcargo.com 800-ACL-1235

- **COSCO Container Lines Americas** pg. 55
  With the congestion-free port of Prince Rupert, COSCO will help your ROI by expediting the transportation of goods in your supply chain.
  www.cosco-usa.com 800-242-7354

- **Horizon Lines** pg. 25
  Horizon Lines' new ReeferPlus GPS containers in Puerto Rico offer GPS-enabled container tracking, in-box temperature sensors, and the ability to monitor and adjust reefer conditions from 1,000 miles away.
  www.horizonlines.com 877-678-7447

Real Estate Logistics/Site Selection

- **Binswanger** pg. 22
  Binswanger delivers global real estate solutions, including its newest facility in Gardner, Mass.–an outstanding 131,003-square-foot space with a 10-ton bridge crane, five dock doors, and one drive-in door.
  www.binswanger.com/gardner 508-647-0159

- **Netherlands Foreign Investment Agency (NFIA)** Insert (8–9)
  The NFIA facilitates North American companies' direct investments in the Netherlands. Companies can obtain information, strategic perspective, and practical assistance from NFIA's business consultants.
  www.nfia.com 212-246-1434

Reverse Logistics

- **Pelican Products** pg. 97
  Crushproof and waterproof to protect your assets from shipping damage, Pelican Protector cases give you an endless number of shipping legs and significantly reduce your packaging cost-per-use.
  www.pelican.com 800-473-5422

Trucking

- **CRST Van Expedited** Cover 3
  CRST Van Expedited provides for all your truckload shipping needs, with long haul, short-haul regional, air cargo shipping, and dedicated fleets.
  www.crstvanex.com 800-736-CRST

Use our Resource Center and let the information you need find you.

- **FedEx** pg. 3
  Providing reliable regional and long-haul LTL shipping solutions throughout the United States, FedEx Freight and FedEx National LTL also team with FedEx Freight Canada to offer a seamless cross-border solution.
  www.fedex.com 866-393-4685

- **Roadway** pg. 40, 41
  When a company becomes an expert in delivering personal solutions, your goals are always in focus. Things get done faster, better, and more efficiently. And as a member of the YRC Worldwide family, Roadway's personal solutions expertise is unmatched.
  www.roadway.com 888-550-9800

Trucks

- **Dodge** pg. 23
  Dodge RAM 4500 and 5500 Chassis Cabs shed light on a whole new way to work.
  www.dodge.com/chassis_cab 800-4ADODGE

Warehousing

- **SQS** pg. 87
  SQS provides the highest level in healthcare logistics with two GMP compliance warehouses, strategically located near ports, airports, and main Puerto Rico roads.
  www.sqswarehouse.com 787-275-2424

INDEX

For a specific response, contact these advertisers directly. Please tell them you saw their ad in *Inbound Logistics.*

For general questions about particular industry segments, use the card between pages 32-33.

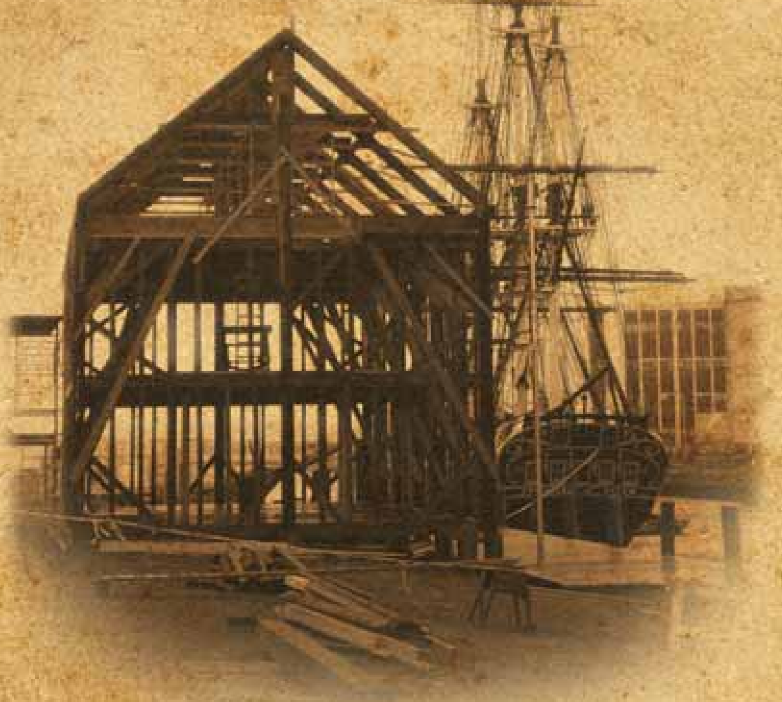
For faster service, go online: inboundlogistics.com/rfp

Inbound Logistics (ISSN 0888-8493, USPS 703990) is published monthly for approximately 60,000 business professionals who buy, specify, or recommend logistics technology, transportation, and related services, by Thomas Publishing Company LLC, 5 Penn Plaza, NY, NY 10001. José E. Andrade, chairman; Carl T. Holst-Knudsen, president. Periodicals postage paid at New York, NY, and additional mailing offices.

POSTMASTER SEND ADDRESS CHANGES TO: Inbound Logistics, 5 Penn Plaza, New York, NY 10001

THE LAST MILE

Ye Olde Trading Spaces



In the 18th century, more than 50 wharves studded the Salem, Mass., waterfront, each lined with trading company offices and storehouses. Merchant ships bound for Europe, the Far East, and South America set out full of cod and other commodities, to return with their holds bearing iron, brass, and exotic luxury goods. During Salem's international shipping heyday, import taxes collected at the port's Customs House made up more than five percent of the nation's budget.

Today, the Salem Maritime National Historic Site (NHS) welcomes 750,000 annual visitors to explore three remaining wharves, the Customs House, and the 171-foot *Friendship*, a replica of a 1797 merchant ship that sailed from Salem.

The final element of the 18th century waterfront re-creation fell into place five years ago, when the Salem Maritime NHS purchased a dilapidated former storehouse from the town of Marblehead, Mass. Built in 1770 by Capt. Thomas Pedrick of Marblehead, the two-and-a-half-story structure was a storehouse for merchant ships and Revolutionary War vessels.

A preservation team deconstructed the warehouse, carefully documenting each of the 70 oak timbers and collecting the numerous artifacts, such as floor planking and window fragments, found on the premises.

Now, workers join 238-year-old beams and posts with mortise-and-tenon joints to rebuild the last 18th-century waterfront warehouse in Massachusetts. Upon its completion, scheduled for 2010, the warehouse will likely serve as a museum for exhibits about the area's vital role in establishing 18th century world trade.


STAYING ON TRACK
AND ON TIME
DOESN'T FLY SOLO
AT PILOT.
PILOT
FREIGHT SERVICES
2007 Ground Carrier of the Year
CRST Van Expedited

THE SAFEST LARGEST MOST RELIABLE SPOT FREIGHT MARKETPLACE

3sixty™ Freight Match is the gateway to the **DAT® Network**, the most trusted spot freight marketplace in North America, where you'll find a 1.2 million truck network with the safest, most reliable carriers.

We know firsthand that rising fuel prices and declining freight tonnage have forced some carriers to cut corners. Our **Freight Match Business Bundle** provides you with free CarrierWatch® tools to mitigate risk and reduce overhead.

Our Freight Match Business Bundle also gives you Rate Index Pro, a proprietary web tool delivering bulk lane rate services in minutes, **so you can negotiate rates based on the** most up-to-date information.

A new 3sixty Freight Match Business Bundle subscription includes **$355 worth of time-saving, risk-reducing tools.**

"If I were covering $35 loads, any loadboard might do. But I'm not. For years I've used the DAT Network to find quality carriers."

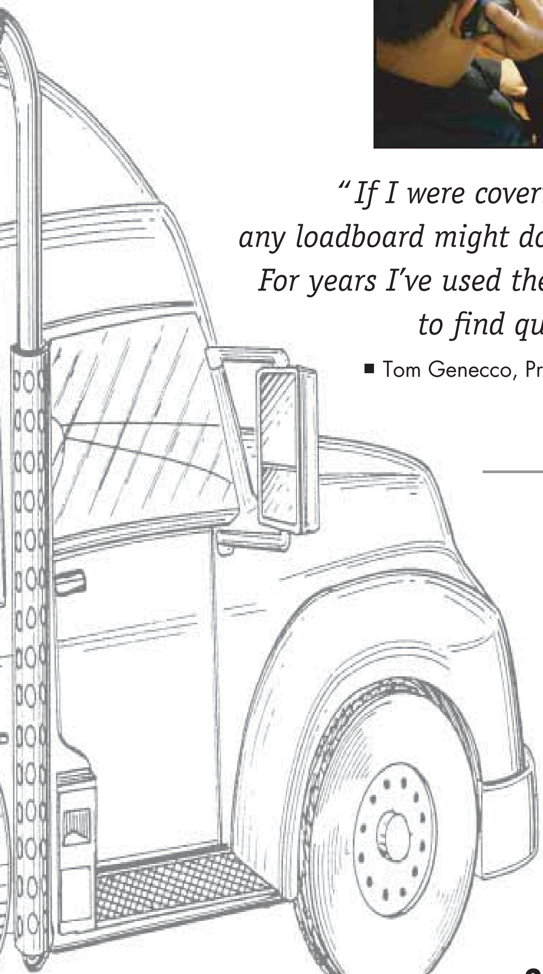
▪ Tom Genecco, Principal, TFG Logistics

3sixty Freight Match
Unlimited access to the trusted DAT Network for a single monthly fee

CarrierWatch Premium
Validate carriers in seconds with up-to-the-minute FMCSA ratings and SAFERSYS scores. Receive actual certificates of insurance for 250 carriers and daily updates covering any changes. The only TIA-endorsed carrier monitoring service **– a $225 value FREE**

Rate Index Pro
Get rates for 1,000 lanes in minutes - and point-to-point rates in seconds **– a $30 value. FREE!**

North American Carrier Database
Access to carriers in the U.S. and Canada
– a $100 value. FREE!



NO PAYMENT UNTIL JANUARY!

TRANSCORE®
3sixty™ Freight Match
Powered by DAT®

Call **866-307-5335** or go to
3sixty.transcore.com/businessbundle
to learn more about the **Freight Match Business Bundle**