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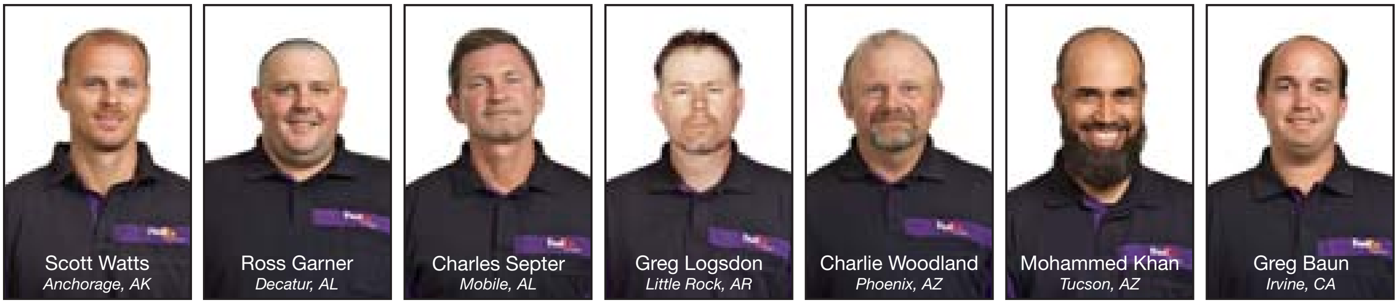

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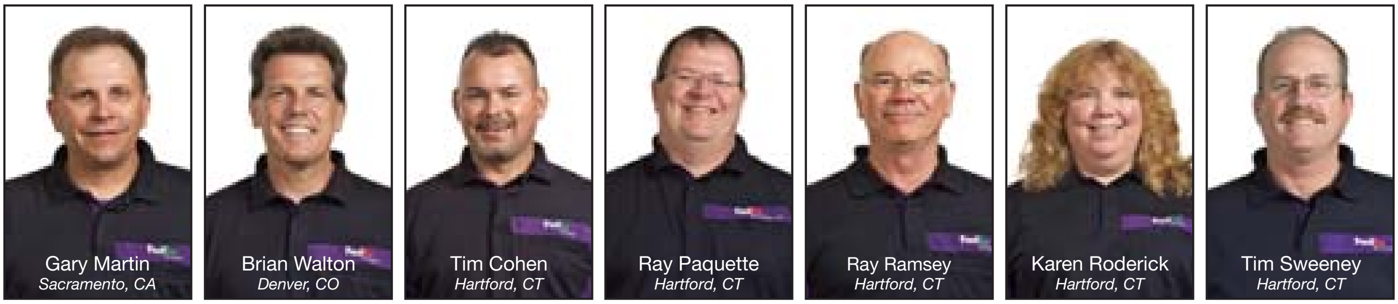

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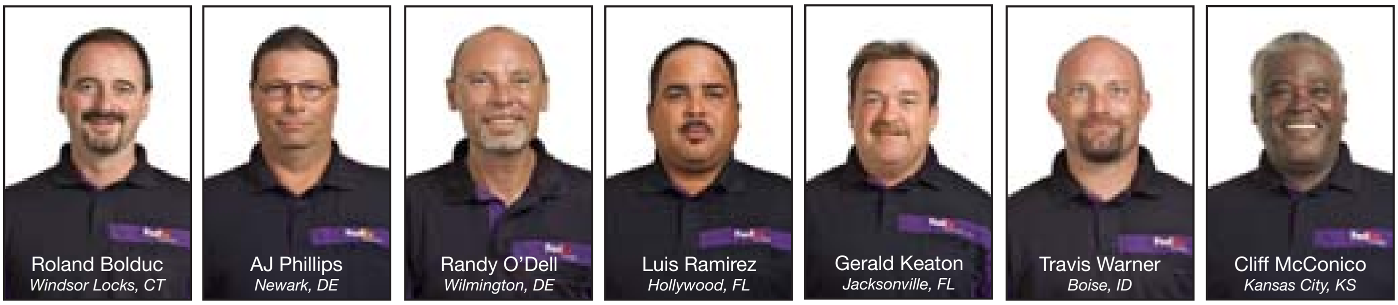

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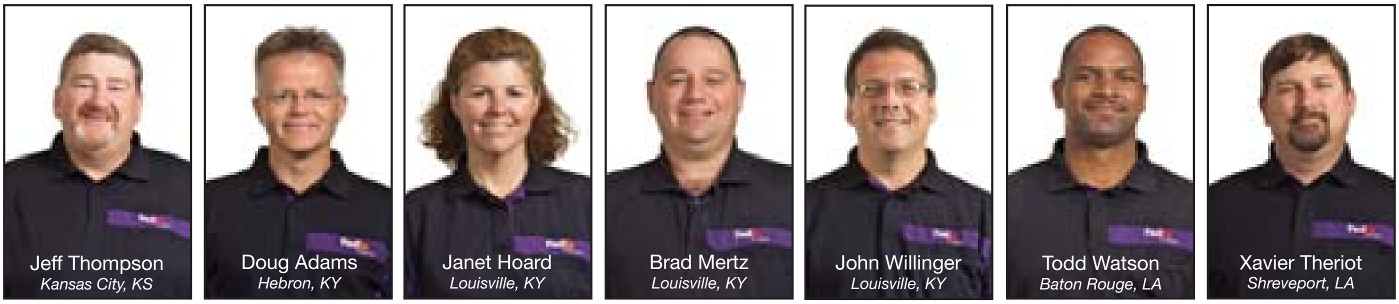

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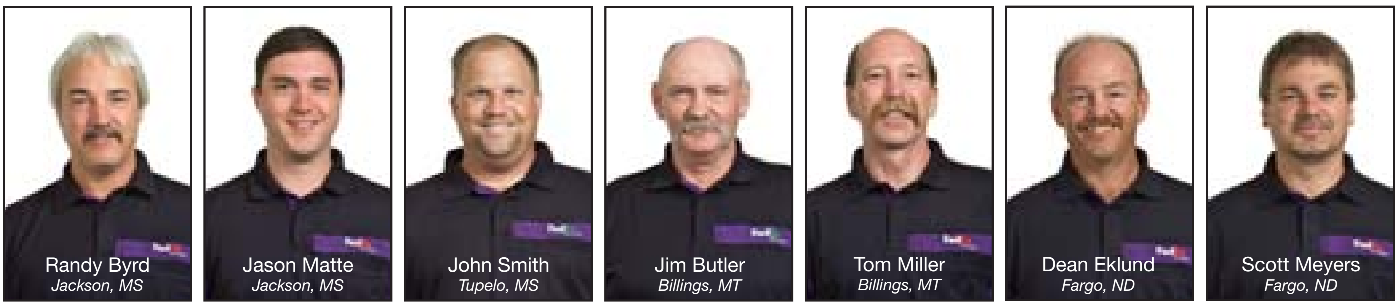

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Randy Johnson
Las Vegas, NV

78 FedEx drivers. All in the driver's seat.

This year, a record 78 drivers from FedEx Express, FedEx Ground, FedEx Freight, FedEx Custom Critical and FedEx Global Supply Chain Services are going to the National Truck Driving Championships after winning first-place honors in their states. To all the drivers who've shown superior driving skills, we just want to say congratulations. When it comes to "safety first," we're glad you're in the driver's seat.


Bob Workman
Las Vegas, NV


Craig Poupeney
Reno, NV


Gragg Wilson
Reno, NV


Jake Wallenbeck
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Jim Fisher
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page 38

August 2007 • Vol. 27 • No. 8

INPRACTICE

INSIGHT

INFO

August 2007 • Vol. 27 • No. 8

DOMESTIC SUPPLY CHAINS
page 32

INBRIEF

INDEPTH

CHECKINGIN

by Keith Biondo | **Publisher**

Hitting the Infrastructure Snooze Button

Folks in our business didn't need the Minneapolis I-35 bridge collapse to serve as a wake-up call; we talk about maintaining infrastructure constantly. Just one morning before the collapse, I exchanged e-mails with Doug Grane, president of Central States Trucking, who, in a recent guest editorial, wrote: "Most trucking company owners would agree that as long as taxes and fees continue to rise, earmarking those dollars specifically for infrastructure improvements is critical to their future well-being. Unfortunately, transportation funds are too often diverted by politicians eager to support other initiatives and pet projects." (*Squeaky Wheel Gets the Political Oil*, July 2007).

Grane recently testified before Congress about how infrastructure relates to our economic well-being. DOT estimates show the United States loses $168 billion annually from highway congestion, and the nation's trucking system in 2004 lost 243,032,000 man hours due to traffic delays. Grane and I agreed that certain state and local governments, such as Nebraska, understand the economic and job creation impact of maintaining and expanding our transport infrastructure. But many do not.

Later, at lunch, I had a spirited discussion with some Maersk executives about the reasons government pays so little attention to transportation infrastructure. The Maersk crew and I agreed that many federal, state, and local-level leaders seem to suffer from a special type of attention deficit disorder–their focus is one mile wide and one millimeter deep on the evening news' topic du jour.

The next day, we all watched the news coverage of the bridge collapse. Reports focused first on the personal tragedies, but soon shifted to asking, "why did it happen?" and "what do we do now?" The cause of the collapse may have been design-related, neglect-related, or a little of both. But the question of what to do next is limited to putting rebuilding on the fast track, and trying to diagram alternative routes. (*Go to www.inboundlogistics.com/35bridge for an aerial view of I-35, showing workarounds are limited.*)

This latest wake-up call has focused attention on the infrastructure issue. "U.S. Transportation Secretary Mary Peters and several governors ordered safety reviews for thousands of bridges, especially those similar to the steel-deck truss span that collapsed in Minneapolis," reported *USA Today*. "New Jersey Governor Jon Corzine went further, promising evaluations of all 6,400 local, state, and federal bridges in his state, regardless of owner."

Some politicians are apparent converts to the transport infrastructure issue. But why did we have to pay a price as high as the I-35 bridge failure to attract their attention? I can't help but wonder if our leaders will treat this wake-up call the same way they treated past reminders. Will they hit the snooze button, resume their infrastructure somnambulism, and wake only when the next alarm sounds?

You can take action. Continually remind your representatives and local media of the importance of infrastructure. Make sure no one dozes off again. ■

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by Merrill Douglas

IRON ORE

NAME: Norbert Ore

TITLE: Group director of strategic sourcing since 2001

COMPANY: Georgia-Pacific LLC, Atlanta

PREVIOUS EXPERIENCE: Contract administrator, U.S. Air Force; purchasing manager, J.A. Jones Construction Co.; purchasing manager, director of purchasing, Sonoco Products Co.; director of corporate procurement, vice president of purchasing and strategic alliances, Chesapeake Corp.

EDUCATION: BBA, Marshall University; graduate of Air Force Procurement School; MA, organizational management, University of Phoenix

RECENT HONOR: Winner of the 2007 J. Shipman Gold Medal Award from the Institute of Supply Management

The Creative Touch

When Norbert Ore looks back at his career, he recalls with special satisfaction a phase that started in 2001, when a job switch took him from Chesapeake Corp. to Georgia-Pacific (GP) LLC, Atlanta. His new position, the one he still holds today, was group director, strategic sourcing and procurement.

Even for a supply chain veteran like Ore, Georgia-Pacific, a major producer of consumer and forest products, was a new world. Because its spend is 10 times as large as Chesapeake's, GP has a much easier time getting price concessions from vendors.

That can make a procurement executive lazy. "There's a temptation to rely just on leverage," Ore says.

But in his many years working for companies that were not large buyers, Ore learned the importance of creativity in sourcing. To gain better prices, buyers develop solid, long-term relationships, and look for ways to help suppliers get more efficient at what they do. Or else, "you try to get concessions with regard to product development," he says. "You're more focused on trying to help the supplier create value."

At GP, Ore takes a blended approach. "The true challenge is not to rely on leverage, but to use both leverage and creativity together," he says. "That gives you the strongest of all combinations."

His strategy has paid off. Ore's first project at GP, helping to integrate recently acquired Fort James Corp. into the enterprise, yielded $100 million in supply chain savings.

Reporting to GP's chief procurement officer, Ore wears three hats: he's in charge of procurement for the company's chemicals unit, for procurement of chemicals across the whole company,

The Big Questions

What do you do when you're not at work?
I have played tennis competitively for 35 years; it's very relaxing. I've always had an interest in photography, and I love to serve as the unpaid photographer at family events. I've been active for many years in the Institute for Supply Management (ISM). And, as part of my work as chair of ISM's Manufacturing Business Survey Committee, I recently helped the People's Republic of China develop a business survey to measure the growth of its economy.

Ideal dinner companion?
Thomas Jefferson.

What's in your briefcase?
Pens, Blackberry charger, required and elective reading materials, a Sudoku book, and a camera.

First Web site you look at in the morning?
Yahoo! Finance. I scan today's headlines and the results of yesterday's financial news.

Business motto?
He never failed to ask!

and for GP's Procurement Excellence activities.

Like any firm with a global supply chain, GP must stay nimble to meet the challenge of a world economy that's always in flux. Although companies can buy materials and services from multiple sources around the globe, U.S. companies compete with emerging markets in Asia, Europe, the Middle East, and Latin America.

"Whether we're buying from China, Europe, or another country, we need to be well aware of the supply-demand balance in those markets, because it can have a large effect on our business," Ore says. If demand spikes in one corner of the globe, companies elsewhere might suddenly face shortages.

Luckily, Ore says, buyers now can use the Internet to help keep up with rapid changes in the marketplace. "A buyer can find a tremendous amount of information in a short time," he says. That gives buyers the kinds of advantages that sellers have had all along.

Along with the challenges posed by the global economy, Ore also deals with a challenge much closer to home: giving sufficient autonomy to his diverse team at GP. Or, as he calls it, "keeping my mouth shut."

"I am surrounded by bright and capable people who are on the front of the knowledge curve in supply chain activities," Ore explains. "During my career, I have solved many of the problems they face. My challenge is to avoid giving them the answers."

Instead, Ore solicits input from team members, asks questions to stretch their thinking, and encourages them to develop their own solutions – even if they're not the same solutions he would have reached on his own.

"When they make a decision," he says, "they're much more committed to it than when it's my decision." ■

by Deborah Catalano Ruriani

Securing Your Loading Dock

Securing your warehouse starts at the loading dock. A secure loading dock protects your warehouse, and expedites the flow of incoming and outgoing trailers. Walt Swietlik, customer relations manager for Rite-Hite Products Corporation, Milwaukee, Wis., offers these tips to help button up your loading dock.

1 **Realize the loading dock is more than a dock.** The loading dock is an entry point into a facility. Many decision-makers also view it as a Material Transfer Zone (MTZ) and a critical part of the supply chain. The MTZ is where critical exchanges of raw materials and finished goods take place. It reaches from a company's drive approach well into the shipping/receiving/staging area, where raw materials and products are exposed to terrorist acts and theft.

2 **Get familiar with government initiatives.** Pay close attention to federal government initiatives from agencies such as the Department of Homeland Security; Food and Drug Administration; U.S. Department of Agriculture's Food Safety and Inspection Service; and the Federal Motor Carrier Safety Administration. These agencies' guidelines and programs impact the supply chain, and drive the need to tighten up areas of materials handling–including the MTZ–that are susceptible to security threats.

3 **Conduct a security audit.** Examine points of entry to see how easy–or difficult–it is to gain access to your facility via the loading dock. Remember, you can easily connect overhead doors and vehicle restraints to your facility's security system. An alarm will sound when a door is breached or a trailer is released without authorization. Security systems manufacturers offer plenty of information–and many provide free dock inspections.

4 **Secure dock doors.** Standard locking mechanisms on most manually operated, exterior overhead dock doors can be easily broken, allowing unauthorized entry into the plant. Conventional slide locks also wear over time, and become ineffective if not repaired or replaced. Additionally, these same locks are often improperly used and security problems can result. Think about installing automatic lock-down security systems that keep manual sectional doors secure.

5 **Keep doors closed, employees comfortable.** Keeping dock doors open on hot days is not always a sound practice. Yet keeping doors closed creates an uncomfortable and unproductive environment during hot summer months. To remedy the situation, retrofit doors with stainless steel ventilation panels that are strong enough to provide security, but at the same time allow outside air and light into the plant. Another idea is to better circulate air using technically advanced High-Volume/Low-Speed (HV/LS) industrial fans.

6 **Lock landing gear.** Often, a truck driver pulls a trailer up against an open dock door, sets the trailer on its landing gear, and drives away. Doing so creates a security risk at an unattended dock because the nose of the trailer can be raised or lowered to create a space between the trailer and the open door. To avoid this unwanted access point, equip the trailer landing gear with dependable locks that prevent the trailer from being raised or lowered.

10TIPS

CONTINUED FROM PAGE 10

7 **Protect trailer contents during unloading.** Use vertical storing hydraulic dock levelers to protect against product tampering during the unloading process. The levelers store in a vertical or upright position inside the facility behind the dock door.

As such, a semi-trailer can back against the facility with the doors of the trailer closed to form a "seal" around the back of the trailer. Employees can then open the dock door and subsequently open the trailer doors to gain access to trailer contents. The truck driver doesn't need to stop 80 feet away from the dock, open the trailer doors, then back the rig up to the dock for unloading. Instead, the semi-trailer doors remain closed until a secure unloading environment is established.

8 **Protect the trailer.** Use vehicle restraints to guard against trailer theft. Vehicle restraints, also referred to as trailer restraints, latch onto trailers to keep them from separating from the dock during loading/unloading. Some also provide a smooth transition between the trailer and warehouse floor. Yet the safety devices also prevent trailer hijacking – especially because they can be connected to building alarm systems. When connected, the facility's alarm system sounds when a trailer is released without authorization.

9 **Choose the right seal and shelter enclosure.** The primary role of dock seal and shelter enclosures is to protect the inside of a facility from the outside elements and guard against energy loss when a truck backs up against a dock. Technically advanced seals also provide protection against the potential for dock fires. It's important, however, that the specified seals and shelters also provide the maximum level of security required.

10 **Ensure proper sequencing.** Many dock systems use electronic controls to operate various dock components, including the dock leveler, vehicle restraint, dock door, and dock shelter. For security purposes, it's important to ensure the system is designed to properly sequence interlocked and interconnected components. A mishap in sequencing could lead to a damaged component, and, in turn, create a gap that serves as an unwanted entry point into a facility. ■

by Amy Roach Partridge

Year in Review: U.S. Air Freight/Express Industry

Despite stagnant traffic growth, the U.S. domestic air freight and express industry continues to register gains in revenue, shows *U.S. Domestic Air Freight and Express Industry Performance Analysis 2007*, an annual report from Seattle-based aviation consulting firm Air Cargo Management Group (ACMG). "U.S. domestic air freight and express industry revenues reached $32.49 billion in 2006, a 3.8-percent increase over 2005 and a new record for the industry," reports Robert Dahl, ACMG project director.

"Gains in 2006, split about equally between the express and non-express segments of the industry, resulted from rate increases implemented by express carriers and from fuel surcharge impacts," he adds.

U.S. Domestic Air Freight/Express Companies Post Revenue Gains in 2006

As a group, integrated express companies generated nearly 90 percent of the industry's total revenue in 2006.

		Revenue ($ millions)	% of Industry's Total Revenue
EXPRESS	**FedEx** (FY07 including USPS)	$13,770	42.4%
	UPS	$10,702	32.9%
	DHL	$2,950	9.1%
	USPS Express Mail	$918	2.8%
	BAX Global	$750	2.3%
	Express Subtotal	**$29,090**	**89.5%**
FREIGHT	**Combination Carrier Freight**	$1,248	3.8%
	All-Cargo Carrier Freight	$852	2.6%
	Freight Forwarders	$900	2.8%
	Freight Subtotal	**$3,000**	**9.2%**
MAIL	**Combination Carrier Mail**	$317	1.0%
	All-Cargo Carrier Mail	$83	0.3%
	Mail Subtotal	**$399**	**1.3%**
	GRAND TOTAL	**$32,489**	**100.0%**

SOURCE: Air Cargo Management Group, *U.S. Domestic Air Freight and Express Industry Performance Analysis 2007*

Traffic volume for the industry totaled 15.21 billion ton-miles, up only 0.5 percent year-over-year from 2005, while the number of domestic shipments moving through the major express networks–6.7 million per day–decreased 1.3 percent versus 2005, the report finds.

Many of the changes that have taken place recently in the domestic market can be traced to consolidation in the express area, according to ACMG. Airborne Express, for example, was acquired by DHL in 2003; UPS snatched up Menlo Worldwide Forwarding in 2004; and BAX Global became part of Deutsche Bahn/Schenker in 2005. Last year, however, was void of major acquisition deals in this sector.

"No major developments of this type took place in 2006," Dahl notes, "but in the first half of 2007, DHL announced it is buying a stake in ASTAR Air Cargo, and ASTAR is attempting to acquire ABX Air. It remains to be seen how these moves, if consummated, will impact the industry."

One element of the industry that has not been impacted is FedEx's position as the leader in the express market–in 2006, FedEx retained a 42.2-percent share of daily shipments. UPS came in a close second, with 37.5 percent of shipments, while DHL, which does not provide shipment count reports, is estimated to hold a 16.3-percent share.

The integrated express companies as a group generated $29.09 billion, or 89.5 percent, of the industry's total revenue in 2006. Domestic freight handled by combination carriers and freight forwarders amounted to $3 billion–9.2 percent of the total revenue amount–and domestic mail (exclusive of the major USPS-FedEx contract) represented $399 million, a mere 1.3 percent of the total.

Partial-year results for 2007 indicate that this year is following the same pattern as 2005 and 2006, with positive financial results despite flat traffic levels. "High fuel prices, and the surcharges that result, continue to inhibit air cargo growth, and encourage shippers to look at less-expensive transportation alternatives now available in the form of expedited trucking services," notes Dahl. The U.S. market, however, remains the largest single air freight/express market in the world.

New Rules May Have Shippers Seeing STARS

On Aug. 1, 2007, a sweeping national security bill was cleared by a Senate-House conference committee and sent to the White House for the President's signature. The bill, H.R. 1, combines several pieces of legislation, including the Surface Transportation and Rail Security Act (STARS). When it becomes law, moving hazardous materials via highway and rail will be more complicated and expensive.

The new rules require carriers to define the routes hazmat shipments would take, track those shipments more closely, and work with shippers and all levels of government to develop security and emergency response plans.

Few object to the intent of the program, but carriers warn that compliance will be laborious and expensive, and that those costs will be passed back to shippers. Another criticism is that the bill's terms regarding what commodities it covers are too vague.

"The bill does not contain a clear definition of what is considered hazardous material," says Tom Walker, director of chemical markets and compliance at LTL carrier A. Duie Pyle, West Chester, Pa. The bill makes several references to "flammable," but vanilla extract, for example, is a flammable commodity, Walker points out.

The bill also includes provisions for the Federal Motor Carrier Safety Administration (FMCSA) to review the hazmat plans of every shipper and carrier, but does not say what FMCSA is supposed to be looking for.

"This is a well-intended bill, but the devil is in the details. On what criteria are shippers supposed to review truck security? There are no specifics and no thresholds," Walker explains.

Another concern for both carriers and shippers are the costs–such as those from record-keeping or additional equipment and electronics–associated with the bill's new compliance requirements.

"The LTL sector has not invested as heavily in tracking equipment and software as bulk carriers. Security may be better served with a uniform route structure and complete dashboard to desktop tracking, but it will be restrictive and expensive," notes Walker.

Part I of the STARS bill covers railroads. Rail carriers handling "high hazardous" materials will have to develop risk mitigation plans including alternative routing and temporary shipment suspension options. Railroads would have to use those options when security levels are high or severe, or when specific threats are detected.

Part II addresses highway haulers. Under the bill, the U.S. Department of Transportation (DOT) will be responsible for documenting existing and proposed routes for radioactive and non-radioactive hazardous materials,

> Few object to the intent of the program, but **carriers warn that compliance will be laborious and expensive,** and that those costs will be passed back to shippers.

SOUNDBITE

"This rail security pact takes a great step toward providing greater protection to the citizens of the bi-state region. **CSXT deserves credit for stepping up and serving as a model for a collaborative public-private security initiative.** We hope it is one that other private sector companies will emulate."

– **JON S. CORZINE, New Jersey Governor,** discussing a new rail security partnership between New York, New Jersey, and intermodal transportation company CSXT that allows local law enforcement officials to track CSXT trains and the contents of its rail cars in a nearly real-time environment.

CONTINUED FROM PAGE 17

and developing a framework for using a Geographic Information System-based approach to characterize routes in the National Hazardous Materials Route Registry. The agency would need to consider the concerns of the public; motor carriers; and state, local, territorial, and tribal governments about the highway routing of hazardous materials.

Under STARS, DOT will also have to develop a tool that allows state officials to examine potential routes to assess security risks and explore alternatives.

In addition, it will be required to assess the safety and national security benefits of existing requirements for route plans for explosives and radioactive materials. DOT also will require motor carriers hauling hazardous materials to maintain written or electronic route plans.

– Gregory DL Morris

Hours-of-Service Rules Back in Court

Nearly two years after the Federal Motor Carrier Safety Administration (FMCSA) issued the controversial hours-of-service (HOS) regulations, two key provisions were voided by the U.S. Court of Appeals of the D.C. Circuit. In July, the court agreed to overturn the 11-hour limit on driver time per day, reverting truck drivers' maximum allowable driving time to 10 hours. In addition, it ruled that the 34-hour restart should be abandoned.

According to the three-judge panel, the FMCSA "failed to give interested parties an opportunity to comment on the methodology of the crash-risk model the agency used to justify an increase in the maximum number of daily and weekly hours that truck drivers may drive and work." The court's rationale in rejecting these provisions was similar to a dismissal of an earlier version of the HOS regulations in 2004.

In addition, the same court denied a petition filed by the Owner-Operator Independent Drivers Association asking that a split sleeper provision be eliminated or altered because it was inflexible and would lead to reduced driver safety.

The FMCSA now has 45 days to petition for reconsideration. This is the second ruling taken by the courts against the FMCSA since it initially tried to rewrite the HOS rules back in 2003.

UP THE CHAIN
PEOPLE ON THE MOVE

Specialty chemicals firm **The E.T. Horn Company**, LaMirada, Calif., has promoted **Bob Ahn** to vice president of its coatings and building materials group. Ahn is tasked with bolstering the company's diversification efforts and strengthening relationships with partner suppliers. Since joining E.T. Horn in 1996, Ahn has helped the company engineer unique supply chain/distributor affiliations between key principals and customers. ■ **Dean Arneson** has been named vice president, operations, at **Behr America**, a Troy, Mich.-based manufacturer of original equipment for passenger and commercial vehicles. In his new position, Arneson is responsible for all manufacturing locations, corporate logistics, and corporate facilities management, as well as the implementation of the Behr production system. ■ Healthy beverage chain **Jamba Juice** has named **Greg Schwartz** to the newly created position of vice president, supply chain management. Schwartz's chief role is to help the fast-growing, Emeryville, Calif.-based company develop and execute a global supply chain strategy. He most recently served as vice president, global procurement for Wal-Mart. ■ **VHA Inc.**, a national health care alliance based in Irving, Texas, has hired **Jeff McLaren** as senior vice president for national supply chain services. As part of the company's effort to implement logistics management and analytics tools that help members reduce supply chain costs, McLaren is responsible for developing and guiding the VHA field team members on supply chain improvement. ■ **Marcie Peters** has been appointed vice president, supply chain for Houston-based international chemical and pharmaceutical company **Solvay Chemicals**. Peters, who joined Solvay in 1995 as a marketing analyst, now heads the company's logistics and customer service efforts. She most recently held the position of business director, soda ash for Solvay.

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SUPPLY CHAIN TECHNOLOGY

by Amy Roach Partridge

Complex Technology Optimizes Basic Concepts

When basic business functions and advanced technology meet, everybody wins.

As supply chains continue to increase in scope and complexity, the technology powering those supply chains likewise becomes more complex, specific, and compartmentalized. Some companies, however, are realizing that in the quest for ultimate technology sophistication, they may be overlooking some very basic business concepts.

Take working capital, for instance. A business can boast cutting-edge technologies, an amazing product, and state-of-the-art distribution capabilities, but if its working capital is not in order, it is unlikely to succeed for long.

This may sound like Business 101, but as a recent Aberdeen Group report shows, many companies using advanced technology go back to basics and determine how to optimize working capital. Indeed, two-thirds of survey participants place a "high priority" on working capital optimization.

"The shortage of working capital to support our business expansion is the main reason our company has increased its focus on working capital. We are evaluating different ways of reducing net working capital including inventory optimization, reverse auctions, and lead-time reduction possibilities," says one respondent to the study, *Working Capital Optimization,* which surveyed 400 companies.

PHYSICAL MEETS FINANCIAL

Though supply chain activities have a huge impact on working capital, supply chain and finance matters have traditionally been managed separately, a philosophy that is detrimental to maximizing cash flow. This has begun to change.

"An evolution is occurring in terms of companies wanting to merge their physical supply chain and their financial supply chain to boost working capital optimization. This idea is not mainstream yet, but best-in-class companies are focused on bridging a collaborative approach between the two," says Nari Viswanathan, Aberdeen's research director, supply chain management, and co-author of the report.

Why this current focus on such a seemingly basic business idea? Many factors are spurring this emphasis on supply chain finance: pressure from financial executives to improve key working capital metrics (cited by 66 percent of respondents); a need to meet customer service requirements through better inventory management (30 percent); and the sense that current inventory management strategies are too risky (29 percent).

Not surprisingly, companies doing the best job managing working capital are more likely to be using inventory optimization and collaboration, supply chain visibility, and cash management tools, the report shows. Many companies, however, are still struggling to adapt to current technology systems.

Most enterprise resource planning tools, for instance, don't offer the advanced capabilities necessary to manage multiple levels in the supply chain so companies can perform inventory optimization with an eye toward maximizing cash flow.

BEYOND TRADITIONAL SOLUTIONS

"Traditional solutions do not offer a good way of representing a company's working capital. Companies need technologies that can show imports in terms of volumes or cash flow," says Viswanathan.

For many, the solution is a bolt-on approach, adding niche technologies that help them better view inventory levels and strategically determine how much inventory to hold, for how long, and where in the supply chain it should sit. Merely reducing inventory to take cost off the balance sheet is not sufficient, says Viswanathan, because that can negatively impact customer service levels.

Technology providers such as SmartOps, Optiant, i2, and Logic Tools have developed multi-echelon inventory optimization solutions that offer the ability to calculate safety stock inventory to ensure companies have the right amount of inventory at the right place. Adopting these types of capabilities is often a first step on the road to working capital optimization.

Traditional advanced planning and scheduling tools–offered by vendors including Logility, Manhattan Associates, and JDA–are also a good choice. These solutions are not strictly multi-echelon, but they also offer good capabilities for computing safety stocks, explains Viswanathan.

Supply chain analytics tools are also useful for combating working capital inefficiencies. Survey respondent Akzo Nobel, for example, uses a customized reporting tool from technology firm Supply Chain Consultants, Wilmington, Del., to help it identify obsolete or aged inventory. The chemical company then makes an effort to move this inventory off the balance sheet by either selling or remanufacturing the goods so they again hold market value. Using this approach, the company has improved working capital flow substantially.

Strategies such as Akzo Nobel's are usually the result of a cross-functional team working together, analyzing how best to optimize working capital. And, as with all technology projects, getting buy-in from the finance side is key.

"One common characteristic among companies that have been successful implementing these types of technologies is that the CFO is well engaged in the project," Viswanathan adds.

While it is not realistic to assume that every company can convince its CFO to invest in supply chain technologies aimed at improving working capital, companies can take baby steps toward that goal. And technology is not always the holy grail, Viswanathan admits.

"Working capital optimization is process-focused. Because so many touchpoints exist in the supply chain, companies need a cross-functional approach and they need to prepare to handle change management challenges," he says.

THREE AREAS TO WATCH

Companies seeking to use technology to improve working capital should carefully examine and incrementally improve upon three areas, Viswanathan advises:

■ **Inventory optimization:** Best practices include using inventory optimization tools, inventory visibility and collaboration technology, and multi-echelon inventory optimization.

■ **Supply chain finance:** Third-party inventory financing, working capital/cash management tools, supply chain network design tools, and platform upgrades are all helpful.

■ **Cross-functional metrics and management:** Take a cue from best-in-class companies, and measure and manage working capital via a cross-functional approach.

"It won't catch on overnight, but working capital optimization is the next step toward creating a more holistic picture of how to optimize cash flow and bring the disparate parts of the supply chain together," says Viswanathan. ■

GLOBAL LOGISTICS

by Amy Roach Partridge

C-TPAT, European-Style

As the United States did by launching the Customs-Trade Partnership Against Terrorism (C-TPAT) in 2001, Europe is combating supply chain security issues with a similar program. European companies can now apply to receive an Authorized Economic Operator (AEO) certificate from the EU Commission, signifying that they and their supply chain partners operate in a customs-controlled, financially responsible, physically secure manner.

Going live in January 2008, the AEO assessment and authorization initiative extends customs authorizations to the financial and security areas of corporate global supply chains, explains Dave Merritt, vice president, JPMorgan Global Trade Services EMEA.

Traders can currently seek three types of certification: Customs Simplification, which requires compliance with financial and customs regulations; Security and Safety, which expects companies to comply with facility and cargo transportation security requirements; and "Full" AEO, which combines elements of both. Companies seeking AEO certification must demonstrate, among other things, a record of compliance with customs requirements, proven financial solvency, and appropriate security and safety standards.

As with C-TPAT, European traders tend to believe that the costs of implementing AEO will be greater than the financial benefits, reports Merritt.

"But the prospect of being viewed as a 'preferred trader,' reducing customs delays, and gaining the ability to work confidently with other AEO-certified partners will undoubtedly appeal to the trading community," he says, noting that a large number of companies are already formalizing assessment and application plans.

"Assuming the discussions regarding the alignment of AEO and C-TPAT result in cooperation, companies conducting a significant amount of U.S./EU trade volume will have an additional incentive to join AEO," Merritt adds.

GLOBAL SPIN

Shanghai Surprise: As part of its quest to become an important Asian shipping hub, Shanghai is pushing the logistics industry to be one of its key economic sectors. It plans to develop port transfer, manufacturing, international transfer, purchasing, distribution, and third-party logistics capabilities, according to the city's latest five-year plan. Shanghai is also building logistics zones including the Yangshan Deep-Water Logistic zone, Waigaoqiao Bonded Logistics Park, Pudong Airport Logistics Park, and Shanghai Northwest Logistics Park. ● **Smoother Sailing in Panama:** The Panama Canal's recently approved 2008 budget includes funding for ongoing investments in technology, new equipment, and capital improvements. Projects include widening the Gaillard Cut, deepening the navigational channel in Gatun Lake, and constructing a new set of locks, which will double capacity and allow more traffic and wider ships. ● **Hong Kong Lends Helping Hand:** Hong Kong is the latest country to cooperate with the U.S. Secure Freight Initiative, a program that uses radiation detection and imaging equipment to scan maritime cargo containers destined for the United States. The U.S.-Hong Kong pilot encompasses U.S.-bound containers leaving Hong Kong through the in-gate of a designated terminal in Kwai Chung, and will be scanned on a voluntary basis. ● **Romania's Growth Spurt:** Strong GDP growth and increasing demand for high-quality industrial warehouse and logistics facilities across Romania have peaked logistics developers' interests. GE Real Estate Central & Eastern Europe and Helios Phoenix are developing seven Class-A logistics and distribution warehouses – totalling 315,000 square meters – in key Romanian cities such as Bucharest, Timisoara, Constanta, Brasov and Cluj. The locations boast access to highways, major roads, and airports.

How Global is Global?

Are global supply chains as global as they appear? More than half are not, according to a recent study conducted by BDP International's Centrix consulting unit and St. Joseph's University in Philadelphia.

Of the 220 supply chain executives surveyed, 60 percent of those from multi-national companies say they do not actually operate their supply chains on a global level. In addition, 37 percent of respondents make supply chain procurement decisions regionally, while 23 percent determine procurement strategies on a domestic basis.

When it comes to global transportation management, the landscape is similar. Asked how they manage their supply chain transportation networks, only 35 percent of respondents answered "globally," while 49 percent manage their networks from a regional perspective.

These global companies list various reasons for managing supply chain operations on a regional or local level, such as faster decision-making for improved control of service and costs, and the need to adapt to new source points, finds the study, which surveyed supply chain professionals from the chemical, consumer goods, industrial, and retail industries.

The study also examines the top challenges global supply chain executives face. Sixty-four percent of respondents report on-time delivery is their biggest concern, while total landed cost and supply chain costs tied as the second-greatest challenge at 39 percent.

How are the companies addressing these challenges? Most say they have increased inventory and embraced multiple-country sourcing to protect against global supply chain risks, the survey shows.

Technology also plays a role in overcoming global supply chain obstacles. In the past two years, nearly half–42 percent–of respondents implemented a warehouse management system. Most participants list increased productivity, improved service, and decreased lead-time as their reasons for selecting the technology.

– Mark Rowan

A Dallas-Mexico Connection

With the aim of improving the flow of goods between Mexico and the United States, a Mexican inland port developer and U.S. real estate development firm have partnered to promote a new trade corridor. The agreement links Interpuerto, a Monterrey-Saltillo, Mexico-based logistics hub, and the Dallas Logistics Hub, a 6,000-acre logistics park currently being developed by San Diego-based The Allen Group.

The connection of the two hubs is part of a larger movement to improve cross-border trade by expanding infrastructure to boost supply chain efficiency. The partners expect the new corridor to improve efficiency, speed, and security, as well as the ability for the two hubs to compete on an international level. Previously, ineffective transportation between the two countries prevented the hubs from serving companies importing products from around the world.

By adding a customs pre-clearance zone, imports can be cleared before leaving the port of origin, which should expedite shipment flow and provide additional security for companies operating within the two hubs, says Ambassador Francisco Javier-Aleko, executive coordinator for INVITE, the developer behind Interpuerto.

Dan McAuliffe, president of The Allen Group, believes the partnership will provide faster delivery times, which may result in a new competitive advantage for companies in both Mexico and the United States.

– Mark Rowan

India Expresses Its Growth

As India continues its ascent as a high-ranking source for global manufacturing and distribution, its express and parcel shipping market is reaping the benefits. **The Indian express market is set to grow at more than 20 percent annually over the next few years**, finds a new report from global consultancy Triangle Management Services.

This growth potential has caught the attention of global express integrators who are making investments in Indian companies. DHL, for example, now maintains Indian subsidiary Blue Dart Express; TNT recently purchased road express company Speedage; and FedEx bought out its global service partner Prakash Air Freight. This influx of experienced companies is good news for shippers in the region, as they will have more reliable options for moving goods, notes the Triangle study, *Indian Express Distribution Survey 2007.*

The survey, which is based on 1,230 face-to-face interviews with both international and domestic shippers in India, also investigates factors that differentiate carriers in shippers' eyes. Respondents report key distinguishing issues including customer care; problem resolution; the flow of information between carrier and customer; and the importance of a wide range of services–both domestic and international. Shippers seek improvements from their service providers concerning loss and damage to parcels, the study shows. They also report receiving better pricing from local carriers than from the major integrators.

Shipping Spree

Since May 2007, container lines in the Transpacific Stabilization Agreement (TSA) have reported consistently high ship utilization numbers, high monthly volume and utilization totals, and increased congestion at Asian ports–notably Shanghai, Hong Kong, Singapore, and Colombo–thanks to busy summer trade.

Despite a slower than expected first quarter, global shipments have rebounded to healthy levels this summer. June liftings by TSA carriers, for example, totaled more than 370,000 40-foot containers (FEU), up 16.4 percent from the 318,000 FEU carried in June 2006. In addition, TSA lines currently average 95-percent vessel utilization or higher from Asia on all route segments.

As a result, TSA carriers are expecting a potentially difficult peak season through October, with spillover effects likely heading into 2008. "There isn't a lot of margin for error in the system," says TSA Chairman Ron Widdows. ■

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RISKS & REWARDS

ISSUES AFFECTING LIABILITY MANAGEMENT

by C. Daniel Negron

Seeing the Value in 'Seaworthy' Packaging

Q: My company is a logistics service provider. We recently shipped a container of machine parts to Brazil under an arrangement that included the packing and stuffing of six crates. We received instructions from the customer that the packaging needed to be "seaworthy," and we hired a subcontractor to perform the packaging and stuffing. When complete, the subcontractor inspected the shipment and determined that the packing was sufficient for transport.

When the container arrived in Brazil, however, the machinery had suffered corrosion. The shipper is now holding us responsible for the damage, claiming it resulted from "unseaworthy" packing. I believe that we and our partners acted properly. What can we do to prove this? Do standards exist for this type of incident?

A: The general court rule governing ocean shipments is that goods must be packed to "withstand the normal rigors of ocean transit." Because this is a very general standard, and because each case can differ substantially, courts examine various factors to determine whether shipment packaging is adequate in each particular case.

Courts typically begin by considering the generally accepted industry standards for packaging the type of commodity that is the subject of the claim; they examine the packaging of the damaged goods in light of those standards. Courts also examine the custom and usage among operators in that particular trade, being especially mindful of any prior dealings between the parties on similar shipments.

YOU SAID, THEY SAID

In this case, your customer claims the shipment was delivered to your subcontractor free of corrosion, but was not packed in a manner sufficient to withstand the normal rigors of ocean transit. Interestingly, your customer provided instructions that the packaging be "seaworthy," which suggests the company may have been concerned about moisture damage to the machinery. If the machinery possesses particular attributes that make it especially vulnerable to corrosion, your customer has a duty to inform you of that fact.

Because manufacturers maintain specialized knowledge of their products, courts pay special attention to the care they take in preparing their goods for transport.

In one case, a European confectionery company shipped chocolate products to the United States in non-refrigerated dry containers during an unusually warm autumn season. On arrival, the goods had suffered significant melting damage. The court denied the confectioner's claim against the steamship line because it could not determine with any certainty whether the damage occurred before or after the containers were delivered to the steamship line.

Because your customer's shipment was booked through your office, you are primarily responsible to your customer for the damage in question. But your subcontractor is in the best position to address the sufficiency of the packaging. For this reason, I recommend asserting a corresponding claim against the subcontractor– its actions will be judged in line with the standards adopted by the courts.

AVOID CONFUSION IN ADVANCE

It is also wise to consider placing your ocean carrier on notice in case your subcontractor can demonstrate that it did, in fact, deliver the goods to the carrier in good order and condition.

You can avoid cases such as this by agreeing on detailed procedures with your customer and your subcontractor regarding the handling, packing, and transportation of your customer's goods before they are shipped. ■

VIEWPOINT

by Gregory Mathy &
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Creating an Agile Transportation Enterprise

Due to an increasing number of enterprises involved in global logistics, and a growing number of logistics processing points, supply chains have become less agile. In response, manufacturers and retailers are developing demand-driven supply chains, in which suppliers manufacture products in the shortest possible time using the least amount of inventory.

To achieve this goal for their shipper customers, transportation service providers need to improve order visibility in the supply chain, reduce inventories, improve demand response up and down the supply chain, and improve the command and control structure within the enterprise to handle supply chain exceptions.

MULTIPLE OBSTACLES

Achieving these objectives may be difficult for transportation service providers who, because of growth through acquisitions, now maintain multiple operating processes, multiple IT platforms, and predominantly manual processes.

These legacy platforms are difficult to enhance, and don't always interface with other internal enterprise applications and partner systems, resulting in added costs and waste in the supply chain. These systems restrict providers' ability to develop the support infrastructure required to serve shipper needs in today's competitive transport marketplace.

To meet these challenges and achieve a streamlined future operational state, logistics providers and carriers must transform themselves into agile transportation enterprises. They must acquire communications and information systems capable of capturing and processing large amounts of near real-time data to plan and execute their services.

Providers need a flexible operational environment that interfaces smoothly with "edge" devices to monitor orders, shipments, and moving assets. They should also be able to integrate seamlessly with business gateways that support real-time interfaces with shippers and carriers, and command and control centers that provide visibility to operational and financial exceptions.

Perhaps the hardest part of the journey to becoming an agile enterprise is the transformation. To manage this process effectively, organizations must develop an enterprise transformation plan that encompasses both business and IT transformation.

The business transformation plan is used to manage the process, organizational, and technology changes businesses must make to achieve the global process template. The IT transformation plan supports the business transformation plan and lays out the initiatives and programs needed to transform applications and IT infrastructure.

DATA AND ANALYSIS

Real-time data is critical, but the ability to analyze data, identify responses to exceptions, and execute actions with supply chain partners is even more critical. To do that, enterprises need to develop collaborative platforms that enable them to quickly communicate actions to partners.

Edge computing devices can now be used to capture and forward detailed information about shipment locations, estimated delivery times, resource status, and other supply chain details. By more efficiently capturing and managing information on every aspect of transport operations – and by making that data easily and instantly available to shippers, suppliers, and partners – providers can pull the world toward their data chain and gain a keen advantage over competitors.

Another step in establishing an agile

transportation enterprise is creating a stable, integrated, and flexible technology, applications, and business process infrastructure. This agile enterprise platform is based on an applications and technology infrastructure using Service-Oriented Architecture (SOA), which combines best-of-breed applications development, methods, and tools; business insight; systems integration expertise; and composite solutions to deliver a proven, leveraged environment for transportation providers.

Transportation service providers can leverage the agile enterprise approach to achieve true end-to-end supply chain capabilities for their customers. Agility translates directly into a faster, more competitive transportation organization capable of responding effectively to customer needs and market changes.

The agile enterprise enables transportation providers to align their IT services more closely to their underlying business goals. It also provides a flexible yet stable infrastructure capable of anticipating and responding to a dynamic transportation environment.

This approach enables transportation companies to address compressed product life cycles and the challenges caused by international shipping congestion. In fact, organizations in virtually any segment of the transportation sector can leverage these strategies to provide superior, accountable service and delivery performance.

Today's transportation industry is faster, and more global and competitive than ever before. Shippers increasingly seek out transportation providers who can do more than just deliver efficient service at a competitive cost–they now demand supply chains that are responsive, visible, and intelligent.

To compete in this environment, transportation service providers must retool their organizations to be flexible and transparent. They need a comprehensive, transformational approach that links IT to business objectives, automates operations, accelerates the supply chain, and streamlines their business. ■

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ITMATTERS

by Jeff Cashman

Bouncing Back When Disaster Strikes

When natural disasters strike, businesses often must frantically search for essential items to deliver to beseeching customers. Adept use of sophisticated information tools can help retailers and suppliers "weatherproof" their supply chains. Diverting shipments, moving inventory to forward locations, and anticipating potential spikes in demand, can help moderate the effects of natural disasters.

The following tips can help you establish supply chain technologies and procedures to operate effectively when a crisis occurs.

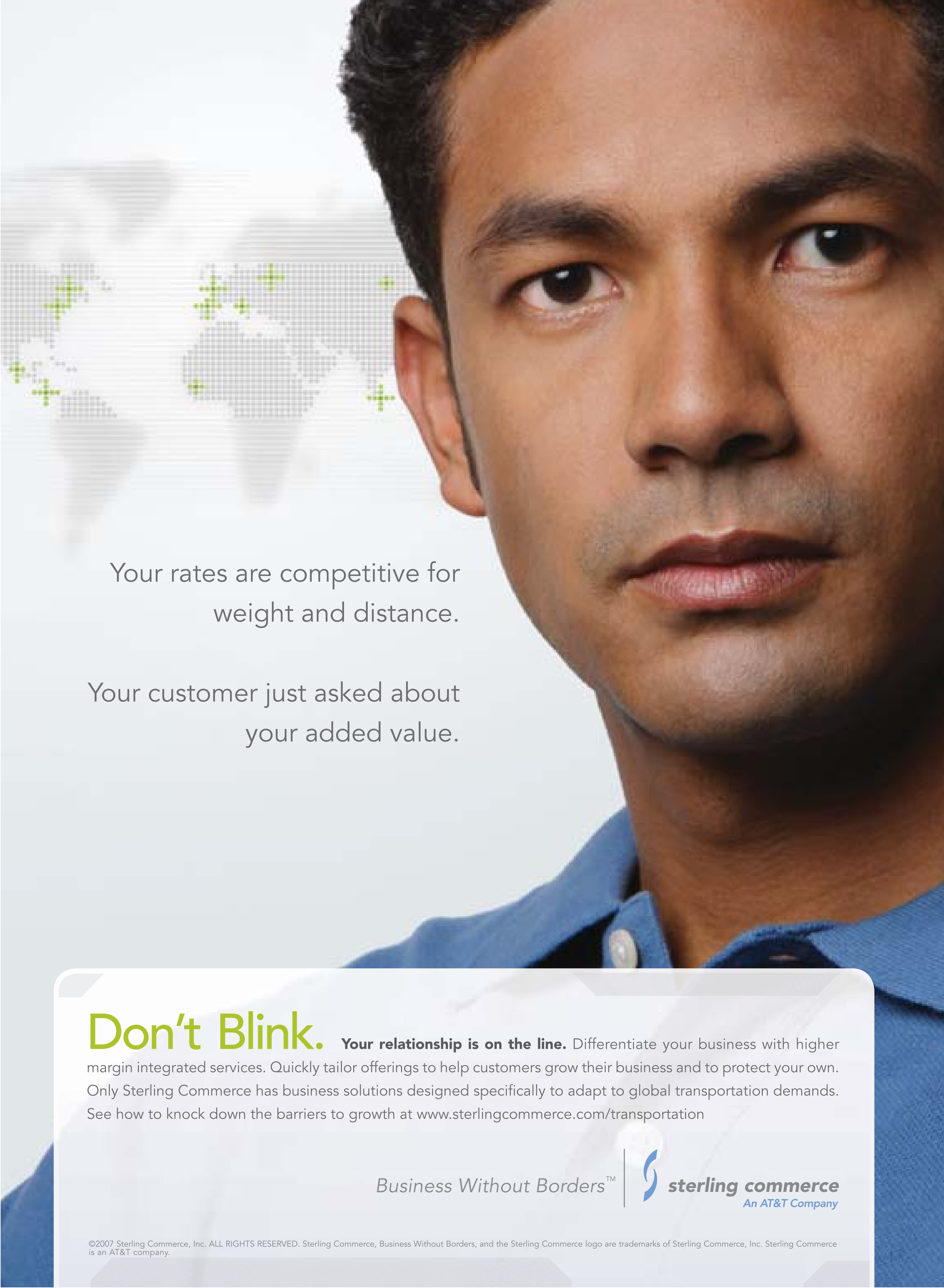
1. Ensure real-time information sharing. Businesses can achieve the flexibility needed during a crisis by sharing key supply chain data with business partners. Information transparency is critical to providing visibility into product movement and understanding operational impact. In a weather-related emergency, a retailer is likely to face disruptions in receiving products allocated to, from, or through affected areas. Accurate product tracking and visibility enhances the ability to locate products in the supply chain at any time. The ability for retailers, carriers, and suppliers to access the same real-time tracking information helps ensure product is rerouted to a nearby facility or forward location.

2. Implement intelligence and responsiveness tools to anticipate and quickly react to changing demand. Retailers and shippers need true responsiveness to sense and react to customer demand. Product movement intelligence tools, such as RFID, let retailers reallocate product out of harm's way, and help maintain top-line profits even during an emergency. These tools also provide visibility into product shipments and cost structures. Visibility to the exact location of products on individual trucks is vital. If a truck is rerouted, it will need to arrive at multiple destinations in the right order to facilitate efficient unloading. Responsiveness tools help companies anticipate demand changes and intelligently react in emergencies.

3. Drive the supply chain through a single point of demand. Responsiveness means accurately anticipating demand changes. In a natural disaster, demand can spike and shift unpredictably. Time to react is razor-thin. Establishing a single point of demand, instead of forecasting from several sources, can increase demand visibility. Time is not wasted reconciling information from different divisions. Companies can respond quickly, scheduling necessary labor resources based on expected volume increases and planning for asset replenishment back through the supply chain.

4. Develop programs that allow for demand-shaping scenarios. Demand shaping is essential to weatherproofing the supply chain. If a major storm is predicted in one area, retailers need the ability to increase sales at other locations to protect top-line profits. That may include developing an unscheduled promotion and diverting certain non-essential products from storm-affected areas to the promotion. To shape this scenario, retailers must know the true cost and delivery times of products. They can then "shape" demand based on the supply chain's capacity constraints, which differ for each company.

5. Establish careful disaster planning in advance. Solid planning and a responsive supply chain can mitigate the devastating effects of natural disasters. Advanced planning and information tools can help retailers and suppliers withstand the supply chain dislocations these events cause, and maintain top-line performance. ■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The story of the Oneida factory in Sherrill, N.Y., is reminiscent of many other U.S. plants: the company had been manufacturing flatware there since the late 1880s, but by the 21st century faced stiff competition from importers, changing market conditions, and labor policies that retained the most senior, expensive workers longest. Oneida Ltd. ceased North American manufacturing operations in 2005.

Up from the ashes rose Sherrill Manufacturing, a $10-million independent contractor to Oneida that fulfills niche, fast-turn, and difficult-to-forecast orders. The company currently accounts for 6 percent to 7 percent of Oneida's total demand, serving as a hedge to its international production sources.

"We can produce here faster than Oneida can manufacture and ship goods by air from overseas," says Gregory Owens, co-founder with Matthew Roberts of Sherrill, a two-year-old, privately held small firm, which also makes products Oneida otherwise would have discontinued. "Our production is very automated, and we can manufacture cost-effectively."

Sherrill is just one example of a cohort of consumer goods manufacturers hidden behind headline-grabbing statistics on the tide of U.S. manufacturing shifting overseas. Fully 90 percent of brand owners outsource some manufacturing, and more than half expect to increase their use of con-

Managing Domestic Supply Chains

How consumer goods manufacturers leverage domestic supply chains for fast cycle times that global outsourcing can't match.

by Lisa Terry

tract manufacturing over the next two years, according to *Strategic Manufacturing Outsourcing: How to Achieve a Return on Relationship Investment*, an October 2006 report from AMR Research, Boston. It's a fair bet the lion's share of that outsourcing will be to low-cost countries.

Companies maintaining a notable portion of domestic production fall into a narrow niche of markets where the need for extremely tight cycle times, specialized skills, or local control means it makes sense to maintain at least some U.S. manufacturing operations, sometimes called on-shoring. These consumer goods manufacturers are capitalizing on close proximity to their U.S. customers by leveraging their supply chains to add value.

The lower logistics costs associated with domestic operations help these manufacturers balance out higher operations costs. Without brokers, freight forwarders, ocean/air carriers, and customs concerns to worry about, many factories rely on long-standing relationships with a variety of domestic transportation providers, often a combination of parcel, LTL, fleet, and customer-provided transportation, to move goods from the distribution center to the recipient.

Many are also migrating to direct-ship services on behalf of retail customers. A related trend is postponement, in which product components are manufactured elsewhere, then shipped into the United States, where the final manufacturing process occurs. This strategy, made popular by

Dell, enables a high degree of control and customization.

New Balance Athletic Shoe is depending upon strategies such as these with its New Balance Executional Excellence program (NBEE), launched in late 2006. Underpinning the program is the strong commitment of owners Jim and Ann Davis to U.S. manufacturing; while New Balance also produces in Asia, many competitors source entirely offshore. The company has spent years honing an approach that offsets the considerable disparity in labor, regulatory, and other factors between the United States and low-cost countries.

"We had to adopt a business philosophy that combines the benefits of U.S. manufacturing with an approach that allows us to compete successfully, even though our costs are higher," says Herb Spivak, executive vice president of distribution, quality and sustainability for Boston-based New Balance.

The NBEE initiative dramatically reduces production time on the athletic shoe styles it covers–about 15 percent of New Balance's line. The company guarantees dealers that it will always have NBEE products on hand to replenish inventory–a capability unavailable from fully offshore manufacturers with six-month lead times.

To deliver on that promise, New Balance creates initial assortments in Asian factories, then replenishes retailer inventory through domestic production. To accomplish that without building up safety stock, New Balance cut U.S. cycle times on one pair of sneakers from three weeks to one day using lean manufacturing techniques, including streamlining processes to eliminate delays. Now, instead of manufacturing to forecast, the company checks warehouse inventory daily and plans the day's manufacturing for its five U.S. plants to replace missing SKUs.

Oneida Ltd. is one of the world's largest marketers of stainless steel silverware and flatware. Although it ended North American manufacturing operations in 2005, it still relies on independent U.S. contractors to make products it would otherwise have discontinued.

That's a key capability for a company whose competitive edge is offering three to five widths in every size, compared to most competitors' one. A single style of shoe may spawn as many as 75 SKUs, making it a challenge for retailers to stay fully stocked.

It's also important to satisfy New Balance's target demographic: elite athletes and everyday baby boomers who value performance over trendiness. Retailers can place an order today and receive it tomorrow, via parcel shipments sent out from the New Balance warehouse–currently 40,000 to 50,000 pairs move under NBEE weekly.

"This program allows us to maintain our loyal customer base," says Spivak. "We don't advertise the way Nike or Adidas does, and we're not a fashion brand like Skechers or Puma. We need to compete on other criteria, including NBEE and the performance and quality of our product."

The Right Ingredients

It takes a confluence of specific conditions to make domestic manufacturing the right choice for a particular company. Although higher margins allow room for increased production costs, it's not automatically high-end products that make the most sense to produce domestically, particularly because high-end can also mean high labor input.

Markets where companies can operate successful domestic plants share common traits: fast cycle times are highly valued, the market seeks a large amount of variety and customization, and longer cycles mean too-costly risk.

"It doesn't make sense for markets with high demand error to go offshore," says Lora Cecere, research director, consumer products at AMR Research.

The kitchen cabinet and furniture industries provide a textbook lesson in the do's and don'ts of creating and exploiting fast-cycle expectations, according to Conrad Winkler, vice president of the operations strategy practice at consulting firm Booz Allen Hamilton, McLean, Va.

The furniture industry stood by as 30 percent to 40 percent of production quickly shifted offshore, he says. By contrast, domestic kitchen cabinet makers responded to the looming threat of global production by sharply reducing cycle times to as short as two weeks.

"Speed and reliability is very valuable to builders and contractors. Companies stuck with four-month lead times are vulnerable," says Winkler.

Promotion cycles are another factor. "If packaging or promotions change frequently, companies are often left with a large amount of throw-away or discounted goods. That provides good local producers a big advantage over those manufacturing farther away," he adds.

New Era Cap is another consumer goods manufacturer playing the proximity card to competitive advantage. The 87-year-old, Buffalo, N.Y.-based baseball cap manufacturer began outsourcing production to factories in China in 2001, but it maintains three U.S. plants for two key product categories: the authentic 59FIFTY hats worn by major league baseball players, and custom-designed hats.

The custom hats business grew as baseball caps transformed from souvenir to fashion icon over the past decade. Rappers, entertainers, and other icons lend cache to the idea of trendy, unique caps.

New Era's custom program allows retailers to design their own styles in small runs that help them stand out from competitors, and enables New Era to replenish Asian-made large-run hats with local manufacturing. The company sometimes needs to modify the design to reduce the number of production steps–a key strategy for operating in higher-cost locales.

The custom hat process takes New Era's U.S. plants four to six weeks from order to delivery, a cycle the manufacturer is seeking to trim through lean manufacturing techniques and reliance on parcel and LTL providers to speed shipments.

Keeping Raw Materials Flowing

One significant hurdle for many domestic manufacturers is ensuring a stream of raw materials to fully capitalize on their proximity advantage. In the food business, for example, a plentiful supply of raw material exists in their backyards–though as the farm belt becomes the fuel belt, even food manufacturers are seeking offshore sources.

Other domestic makers, however, must devise nimble inbound supply chains to ensure the right flow of offshore components. New Balance, for example, cut its procurement cycle for Asian components and materials from 12 weeks to three. Those goods are delivered to a U.S. "supermarket," where they are picked and cut to size and spec as needed.

"We still deal with four to five weeks' transit time for orders from Asia, but managing the supermarkets intelligently creates a shock absorber," says Spivak. "Although on any given day consumption may vary from forecasts, over time it tends to modulate and meet expectations."

But challenges remain. In apparel and textiles, "companies producing in this country get squeezed out on volume orders, but in order to gain collaboration with suppliers they need volume," says Geoff Krasnov, co-president of Style Source Inc., Allentown, Pa., which provides apparel and textile sourcing and manufacturing services. The challenges of sourcing raw materials leave these businesses searching for smaller domestic suppliers for whom short runs have meaning.

Prioritizing raw materials sourcing in the larger context of production is crucial for domestic manufacturers. Mary Kay Inc., for instance, places its cosmetics plants directly in its markets across the globe. This helps the company minimize cycle times; market proximity is a bigger deal than being near suppliers, says Lane Burtz, vice president of purchasing, package engineering, and transportation for Mary Kay, which operates a plant in Dallas as well as Hangzhou, China.

"Raw materials are becoming truly global," Burtz says. "Serving our markets well is more important than the location of materials, so we usually choose regional production and transport the materials from wherever the source may be."

Committed to U.S. manufacturing, athletic shoe company New Balance adopted a business philosophy that allows it to compete successfully even though production costs are higher.

New Era Cap plays the proximity card to competitive advantage. It maintains three U.S. plants to quickly supply two key product categories: custom hats and the authentic caps worn by major league baseball players.

Another important consideration is the chemical and energy consumption required for manufacturing. Fifty-five percent of manufacturers in a recent AMR Research study, *The Hidden Backbone of U.S. Manufacturing*, say they have "significant, direct dependence" on chemicals for production. A full 90 percent of respondents expect chemical costs to rise, with 62 percent calling the increase "substantial." In addition, 43 percent believe domestic chemical capacity will decrease, as compared to 20 percent who see it increasing.

"On average, manufacturers will shift 25 percent of production abroad if pricing and supply issues are not solved," the study notes. These issues, particularly the price of natural gas, put the resilience and competitiveness of U.S. manufacturing at risk, according to AMR.

In addition, one presumed domestic advantage that is falling away is the sophistication of manufacturing technology and equipment. As manufacturers began eyeing offshore locations, technology investments in local facilities often waned just as low-cost countries ramped up to offer better quality. Those seeking to revive shuttered plants now face the additional hurdle of upgrading the infrastructure.

Making it Pay

Labor costs fueled much of the initial push to outsourcing, but savvy companies are now starting to evaluate total costs when making domestic vs. offshore manufacturing decisions.

"Companies now are thinking more holistically about the supply chain," says AMR's Cecere. "Instead of thinking in isolation, they're analyzing tradeoffs in total costs," though discrete manufacturers are further along in this evolution than process manufacturers.

But that's not to say labor isn't a looming issue. U.S. manufacturing businesses paid an average hourly wage of $17.17 in May 2007, according to the Bureau of Labor Statistics. A 2002 Bureau report estimates an average Chinese manufacturing wage of 57 cents per hour.

Those attaining domestic production success combine investment in automation and lean manufacturing with a frank explanation to workers of the financial hardship of producing domestically. At New Era, the need to boost production capacity came just as hundreds of union workers at its Derby, N.Y., plant undertook a nearly year-long strike, pushing the wage issue to the forefront.

But by the strike's close, the resulting clear-eyed, open discussion of the company's economic realities lifted the veil of distrust in the management-union relationship. Today, that "allows open and honest dialog about our challenges," says Jim Patterson, vice president, global operations for New Era.

The company evaluates its manufacturing costs from a global perspective. While there is some room for give and take, "we aim for each business unit to be profitable, not to subsidize one operation with another," he says.

At Sherrill, the majority of workers came from Oneida. They presumably reckoned that conceding on pay was preferable to losing their jobs completely. Government credits and subsidies also help soften the blow.

Sherrill's additional cost-cutting strategies include vertical integration–the plant also makes its own buffs and compounds, and operates a machine shop to create and maintain equipment. It also leverages excess warehouse capacity by offering 3PL services.

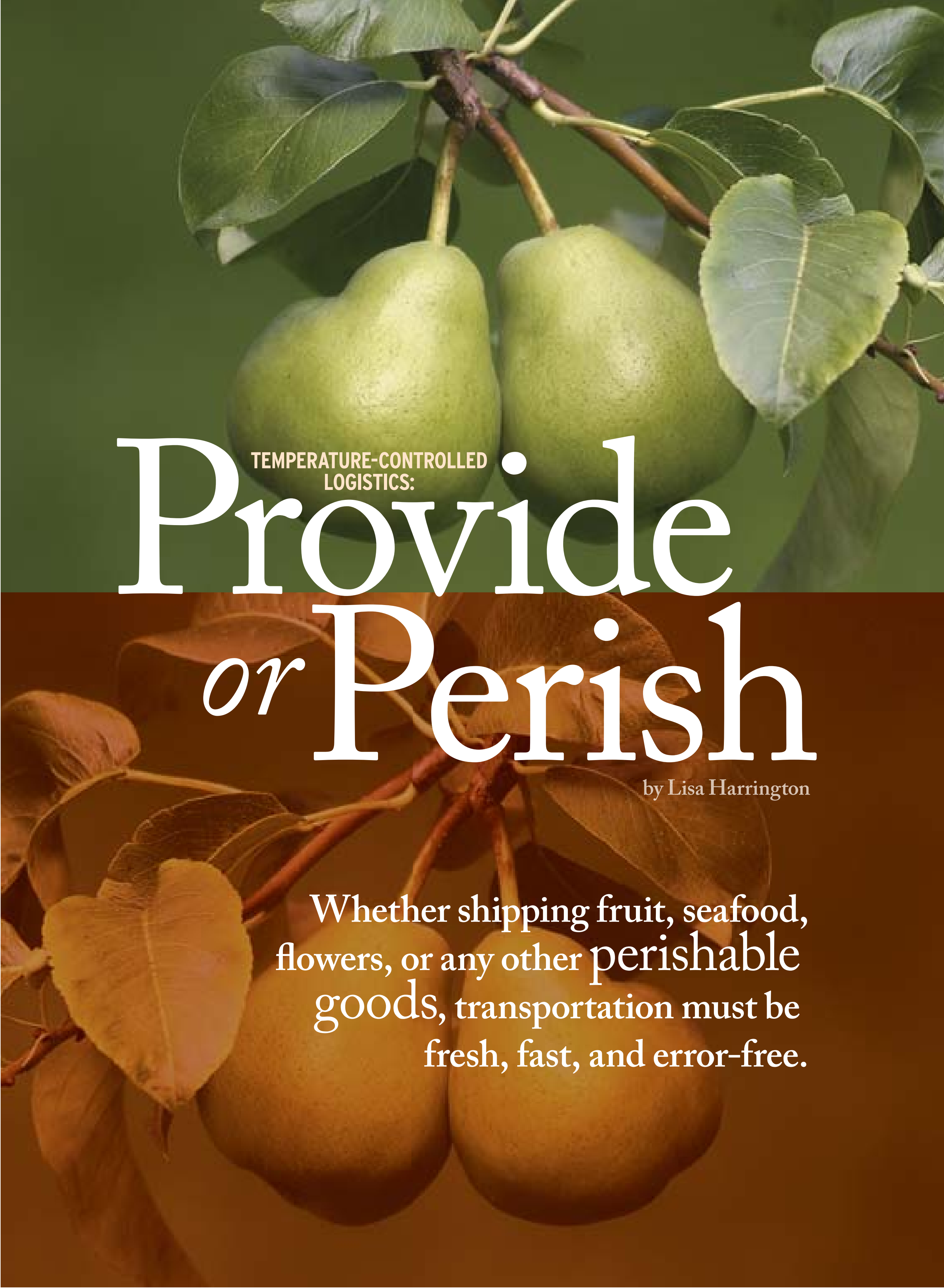
Overlooking an Opportunity

Despite the hidden opportunities domestic production offers companies such as Sherrill, New Era, New Balance, and Mary Kay, not all manufacturers fully exploit the proximity advantage.

"Even though a domestic factory is capable of extremely fast lead times, many companies do not segment U.S. factories from overseas factories," says Booz Allen's Winkler. "So they end up with the same lead time."

For many companies, the information technology to enable a more holistic, strategic allocation of production capacity already exists; the failure occurs in management policy. "Enacting domestic production takes sophisticated supply chain, sales, and operations planning processes," says Winkler.

Companies committed to doing whatever it takes to enable domestic manufacturing are seeing the impact in their supply chains – and on the bottom line. ■



TEMPERATURE-CONTROLLED LOGISTICS:

Provide *or* Perish

by Lisa Harrington

Whether shipping fruit, seafood, flowers, or any other perishable goods, transportation must be fresh, fast, and error-free.

> "Consumer confidence in our products is as fragile as the tender leaves of the freshest salads. We never have and we never will take that confidence for granted."

That passion, as expressed by Terry Humfield, vice president of volunteer leadership relations for the Produce Marketing Association, Newark, Del., is shared by all companies in the increasingly complex perishables industry. In today's world of global sourcing – with perishables supply chains growing ever more geographically diverse–the task of maintaining quality, security, freshness, and economy has never been more difficult.

One overriding business constraint hampers the perishables industry: expiration dates.

"The most important issue in perishable foods management is the 'sell-by' date. Once it has passed, we cannot sell the product," says Stuart Yowell, director of demand planning for U.S. meat processor Smithfield, a subsidiary of Smithfield Foods. "The concept of overstock is very expensive because expired goods aren't just downgraded, they're worthless."

Smithfield and other leading food companies are adopting a multi-pronged approach to managing their perishables supply chains. The basic tenets of this approach include:

■ Forging closer-than-ever ties to, and communication with, suppliers and customers.

■ Relying more heavily on the expanded capabilities of third-party transportation and logistics providers.

Getting fresh fish from the sea to the table is increasingly complex, given the large distances between the demand and the supply. Services such as American Airlines' AACool Perishables play a pivotal role in allowing fish to pass the 'sniff test' by even the most discriminating chefs.

■ Adopting leading-edge technologies such as RFID and real-time visibility tools.

■ Improving the overall process of perishables supply chain management.

Companies using this approach are having a positive impact, ensuring that perishables supply chains preserve and protect the products that traverse them, and do so economically while meeting customer service demands.

A Need for Planning

Smithfield Foods, for example, has grown rapidly through expansion and acquisitions. With headquarters in Smithfield, Va., it is the leading hog grower and one of the largest meat processors in the United States.

To manage its perishables chain as effectively as possible while adapting to this growth, Smithfield realized it had to start at the beginning and improve its forecasting processes.

"We needed to consolidate production forecasting and scheduling for all our trade channels under one organization," Yowell explains. "So about one year ago, we established a centralized demand planning group for processed meats.

"Smithfield maintains extremely high standards for order fulfillment–more than 99.5 percent," he continues. "Our president–and our customers–expect us to perform to that level. We had to manage demand planning so we could deliver that service goal, while holding the line on costs."

The shelf life of Smithfield's products varies among product lines, but is generally about 100 days. Carrying more than five or six weeks of inventory can be costly: the company is forced to sell "distressed" products to secondary markets for 50 percent or less of the direct cost.

"Not maintaining enough inventory, or holding too much, carries a huge penalty," Yowell says. "It is an extremely fine balance. That's where forecasting comes into play. In the past, Smithfield never had a tool–other than spreadsheets and experience–for professionally developing forecasts."

That changed several months ago, however, when Smithfield invested in a demand planning/forecasting system from John Galt Solutions, Chicago.

"The Atlas Planning Suite drives data through 25 different statistical models, so we get the best forecasting information we can," Yowell says. "In the food business, forecasts can never be 100-percent accurate. Sometimes patterns just don't fit, so the system can't be used blindly. But it does provide a comfort level."

The new system centralizes the forecasting information flows for Smithfield's various product categories.

For example, three different business managers handle bacon: one sells retail for the Smithfield brand name, a second sells retail under the Gwaltney brand name, and a third sells to the food-service industry. All three managers are responsible for their area's profit center. Hitting their profit goals greatly depends on new sales, but it takes time for the processing plant to generate those new orders.

High on the Hog

That's why it is critical that Smithfield have just one central location where each business manager feeds demand information, which impacts production planning and monitoring raw materials availability.


You know why.
But, how did it happen?

"Hogs are our raw materials," Yowell notes. "So a big part of our forecasting challenge is determining how many hogs we need to produce.

"If, for example, we forecast how many ham muscles we need for the coming year, we'll know how many hogs to raise to produce those hams. If we need an estimated volume of ham in July, we work backward to determine when we have to have the hogs ready – allowing time for the sow to be bred and give birth, and for the pigs to grow.

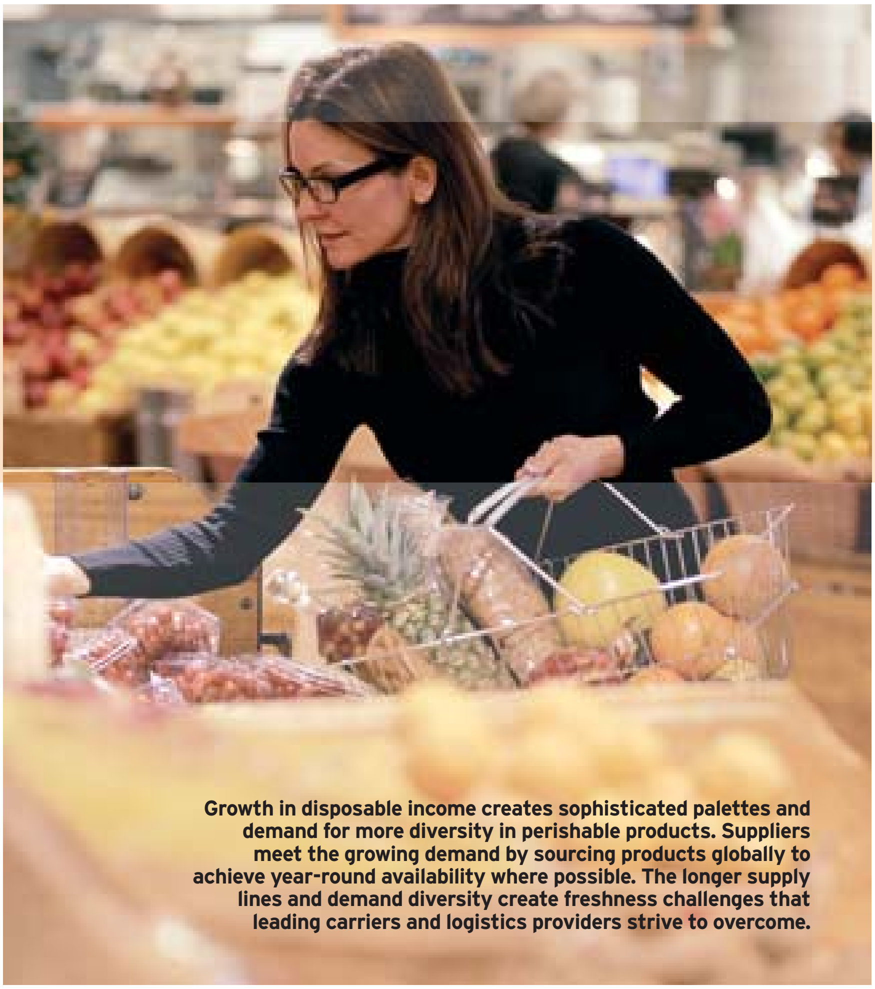
"In addition," he says, "hogs can weigh anywhere from 240 to 280 pounds, so they generate different sizes of raw materials. Forecasts have to take all that into account."

Centralizing demand information from business managers also provides a consistent contact point, with visibility through all sales channels, so Smithfield can plan for both cyclical and random sales surges.

"Hot dog volume shoots way up in the summer, for example," Yowell notes. "The new system helps us recognize those demand patterns, and send the appropriate signals back to the production planning group to build or deplete inventory seasonally."

The planning system also recognizes demand anomalies. Last December, for example, several major grocery chains ran special discounts on bacon, boosting Smithfield's volumes higher than usual for that month. The Galt system has the ability to recognize this anomaly. It will smooth the forecast out so the company doesn't overproduce bacon next December.

"The new forecasting system will have a tremendous impact on customer service–on our ability to maintain appropriate inventory stocks and increase order fill rates," Yowell states. "We'll do a better job managing our business."



Growth in disposable income creates sophisticated palettes and demand for more diversity in perishable products. Suppliers meet the growing demand by sourcing products globally to achieve year-round availability where possible. The longer supply lines and demand diversity create freshness challenges that leading carriers and logistics providers strive to overcome.

Managing Speed

Getting products to market quickly is a critical aspect of controlling any perishables supply chain operation. But that speed often comes with a price – higher transportation costs.

"Managing cost trade-offs is part of moving perishables," notes Larry Landry of American Airlines. "If a computer is delivered one day late, it retains its effective useful life. Flowers, however, have a shelf life of only 10 days. Lose one day in delivery and you've lost 10 percent of the effective shelf life, limiting the opportunity for the customer on the transaction's back end to sell the product."

Perishables are also extremely sensitive to transportation price increases. "Freight charges on perishables represent a greater percentage of the shipment's value than dry cargo," Landry notes. "Any price increase is an issue for shippers."

American Airlines Cargo recently introduced a value-added program designed to extend product shelf life. AA Cool Perishables provides pre-cooling and expedited USDA and in-house customs clearance for fresh shipments on site at the carrier's Miami hub facility. AA Cool Perishables helps maintain product quality by utilizing pre-cooling services to restore proper temperatures before delivery in Miami, or transit to another final destination throughout the world.

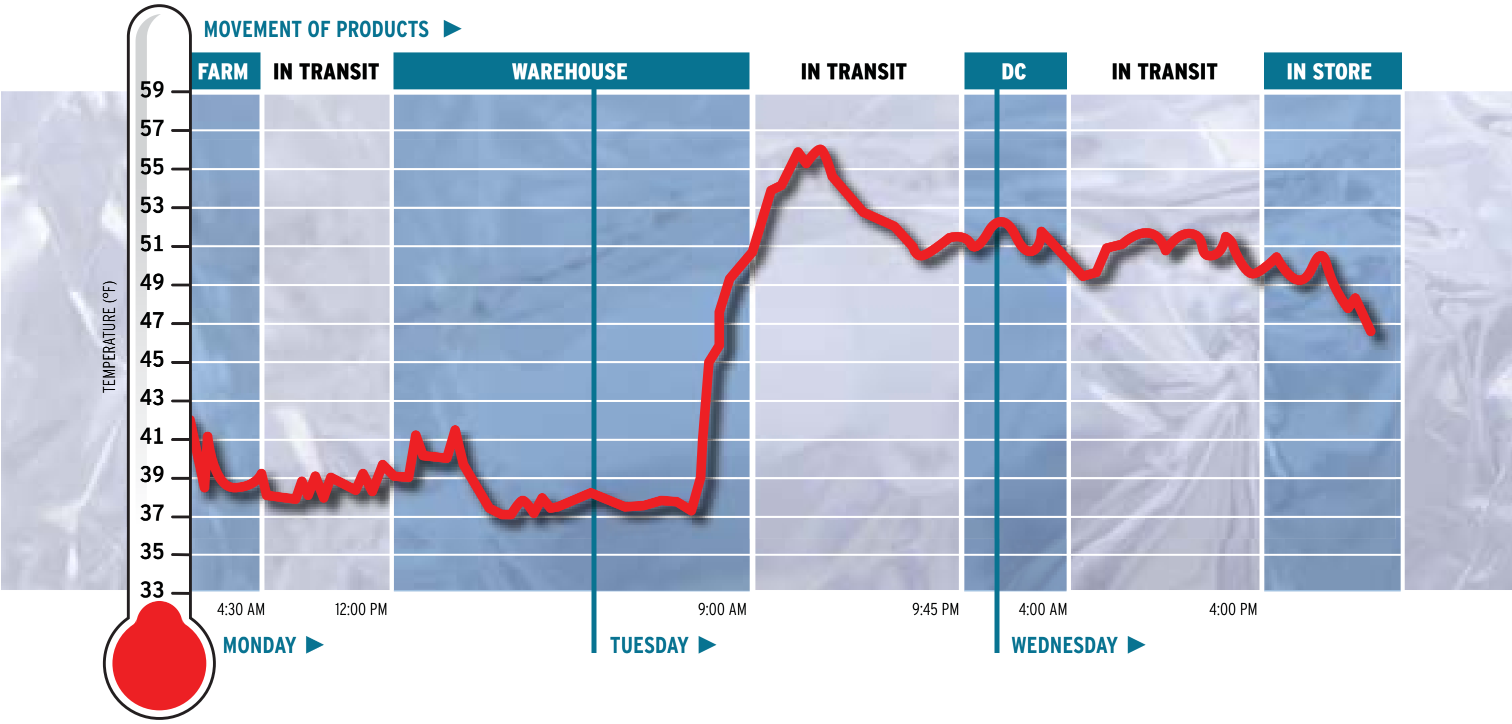
The air carrier started this service on an experimental basis a few years ago, pre-cooling asparagus moving from Lima, Peru to Europe. "The product traditionally was shipped to Miami, then sat 12 hours waiting for its connecting flight," Landry recalls. "So we put the asparagus in front of forced air coolers to remove the heat."

The Miami-based program has grown so much that last fall American added new evaporators to its facility and began providing the service in-house, rather than using an off-site cooler facility.

End-to-End Cold Chain Visibility

Giving flowers with that wilted look can do more harm than good. That's why flower wholesaler VistaFlora strives to maintain 36 degrees F/2-4 degrees Celsius for the entire three-day journey from harvest to retailer. But you never know what can go wrong in transit. Here's a typical temperature fluctuation range at each step in the supply chain. Preventing readings that go off the chart is what every partner in the cold chain strives to achieve.

SOURCE: CSPTS



Miami is also a major fresh flowers and produce transit hub for DHL Global Forwarding.

DHL customer VistaFlora Corp., a fresh flower wholesaler based in Bogota, Colombia, ships 5,000 boxes of flowers per week through Miami; each box contains multiple arrangements. But for major holidays such as Valentine's Day and Mother's Day, that volume soars to as many as 53,000 boxes.

"We receive customer orders via EDI," says Angela Cardona, VistaFlora's planning and logistics manager. "We ship orders the next day from Bogota; two days later they arrive in Miami."

VistaFlora's shipments must be maintained at 36 degrees F/2-4 degrees Celsius. DHL handles the shipment documentation, freight brokerage, customs paperwork, and clearance processes.

"Every day is different when you ship flowers," Cardona notes. "You never know what to expect. Sometimes a flight is delayed; sometimes capacity is not available. By maintaining relationships with multiple airlines, DHL can help resolve these issues quickly."

Security Matters

Because its origin location is a major drug-smuggling country, VistaFlora must manage its freight very closely when it comes to security.

"We have to work diligently to ensure that our cold chain is unbroken, accurate, and fully documented," Cardona notes. "For example, we seal our packages at the farm, not at the broker's facility. We double-check that the paperwork matches the number of boxes we are dropping – if the paperwork says 542 boxes, we have to drop exactly 542 boxes or our shipment will be stopped." DHL Global Forwarding helps VistaFlora manage these types of security matters.

Finally, DHL works with the flower wholesaler to closely track shipments as they move to customers in the United States. "We guarantee customers that every order will be delivered on time," Cardona says. "So shipment tracking information is critical for us."

DHL is working on an upgrade of VistaFlora's Web site to enable the tracking of every shipment and box.

In addition to major service providers such as American and DHL, some smaller, niche third-party logistics service providers specialize in handling perishables. PeriShip LLC, located in Branford, Conn., is one such provider.

PeriShip works exclusively with FedEx to manage the shipment of seafood, cakes, meat, cheeses, and other perishable products from across the United States.

"We provide shippers a high level of customer support by monitoring those shipments and immediately resolving any issues or problems that arise," says Luciano Morra, president and CEO of PeriShip.

"Until a few years ago, the large airlines and integrators treated perishables much the same way as other express freight, particularly in issue resolution," Morra notes. "If a shipment of expensive Pacific salmon to an upscale restaurant was delayed, the recourse level and issue resolution was the same as if you were shipping books or clothing. The problem would get handled later that day, or the next day.

"But that's not good enough for the chef who is counting on serving the salmon that evening in his restaurant only to find out at 5 p.m. that it won't be there," Morra says.

Detailed Shipment Scans

That's where PeriShip comes in. It has built a system that is strategically aligned with FedEx so it can monitor the progress of all its shipments moving through the FedEx system.

PeriShip also maintains high visibility levels; its shipment scans are much more detailed than general tracking-level data. An XML application program interfaces with FedEx's systems to receive real-time snapshots of shipments as they pass the origin ramp, destination ramp, and other points in their progress. PeriShip's monitoring also includes weather and flight status at all major FedEx hubs, allowing it to anticipate problems.

This level of status detail means peace of mind for shippers. "If a customer shipped 20 boxes the night before, he gets an e-mail from us the next morning notifying him that all the boxes are moving according to plan," says Morra. "And, because we fix address problems en route in about 23 minutes, a mislabeled box never wastes hours being returned to the station. Most of the time, customers never even know there was an issue."

PeriShip provides weekly or monthly reports that help customers optimize shipping costs. "A report may point out, for example, that while we recommend using 20 percent coolant during winter, we noticed that 10 boxes used 35 percent coolant," Morra says. "The shipper can go back to the packaging department and find out why they're using so much coolant when it's not necessary. That saves money."

It's hard to know what to expect when shipping flowers – flight delays and lack of capacity are common. That's why many flower wholesalers turn to 3PLs for help.

Clearly, information is a critical element in managing the perishables supply chain. But the perishables industry requires more than just the transaction and location shipment information common with general freight supply chains. Perishables shippers also require information regarding the condition of their freight as it moves through the supply chain.

"Different categories of perishables degrade at different rates," says Elizabeth Darragh, director of food strategic marketing at Sensitech Inc., Beverly, Mass., a provider of cold chain visibility information solutions.

Consider a truckload of fresh produce that is subjected to high temperatures while in transit. Product that was once fresh and valuable is worth less at the point of delivery, measured as a reduction in available selling price and grade, weight, and/or shelf life. Perishables not transported correctly also carry a greater risk of microbiological contamination, and outbreak of food-borne illness.

"If pharmaceutical products are exposed to temperatures outside the acceptable range, they might be rendered unsafe or non-effective," Darragh adds. "Products must be withdrawn from sale; they are worth nothing. A containerload of biologically derived drug products can be valued at more than $10 million. But, if drug products are in limited supply, not having that medicine available because it was mishandled may result in serious social cost, as well."

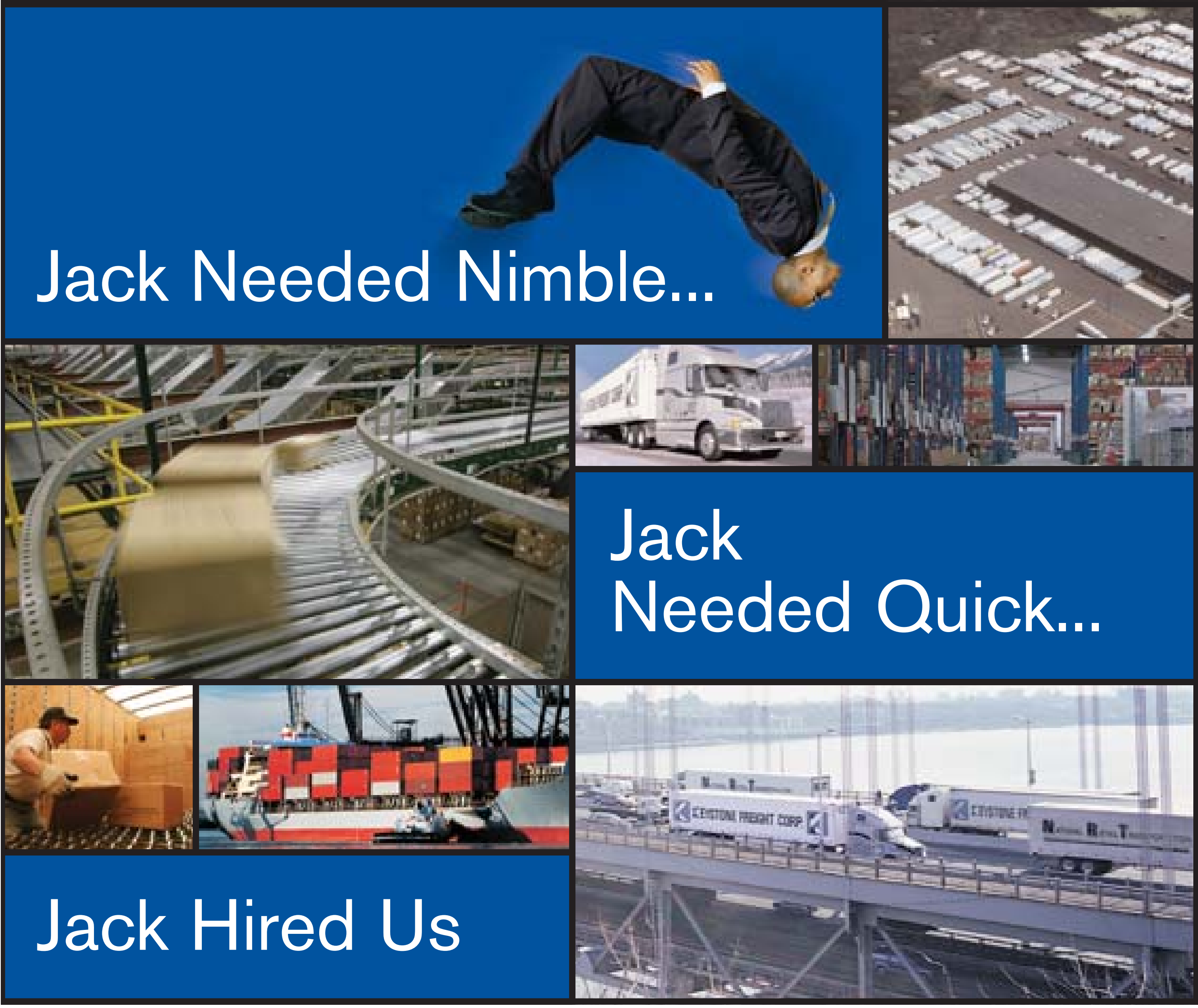
Better condition information provides a higher level of control, allowing supply chain partners to know that incoming products are out-of-spec and must be replaced, or rerouted to a closer location and promoted for quick sale because of reduced shelf life.

The Old-Fashioned Way

Many perishables companies, however, still rely on 80-year-old technology – paper-based strip chart recorders – to monitor product temperature in transit.

"When the shipment is delivered," Darragh explains, "someone opens the recorder box, pulls out the temperature strip chart paper, looks at the report, makes an 'accept' or 'reject' decision, and staples the paper to the box." The company has to keep those paper records for up to 12 months.

In contrast, Sensitech's electronic and RF data collection technology and analytics provide the ability for users to bank the data and learn from it. "Is this shipment a good one? Was it well-maintained? Perishables shippers can look back across their shipment history and analyze the last 50 shipments, pin-



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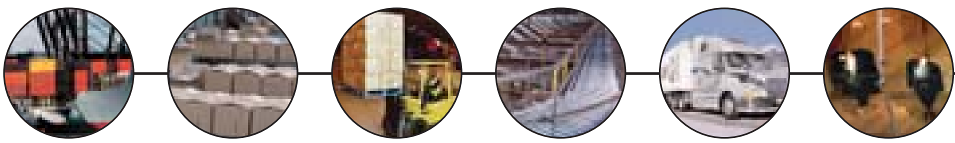

POWER FOR SUPPLY CHAINS

NRS

National Retail Systems, Inc.

pointing any problems," Darragh says.

The data also can help managers decide how quickly to move products to market. If a shipment of bananas is delivered, for example, and the data shows they have three days of salability left, the manager can expedite the shipment to the retail level.

"Without cold chain visibility, the same shipment would still make it through to retail, but because it was not put on 'rush', the bananas may be unsalable by the time they arrive," Darragh notes.

Starbucks is using Sensitech's RF technology to monitor third-party distribution of perishables to its stores.

"Sensitech monitors log the delivery time and temperature, the software and data hosting collects all the data, and we send Starbucks daily compliance reports," Darragh says. "Then we do a monthly review of what's happening at each Starbucks distribution center, as well as across its entire DC network."

Making Perishables Attractive

We take it for granted that perishables will be able to move in the supply chain–that transportation is always available. But what happens if it is not?

In 2003, members of the Produce Marketing Association (PMA) began to report that transportation access and availability was becoming a problem. "A growing number of members were experiencing a shortage of trucks," says the Association's Terry Humfield.

"When we investigated the issue, we discovered that the problem was not so much a shortage of trucks as a shortage of drivers," Humfield recalls. "So, in late 2005, we established a task force to study this issue. We began to hear repeated stories of loading dock appointment times not being honored, long wait times at docks, frequent use of 'lumpers' to load and unload trucks, and related problems."

The task force came to the conclusion that, in order to secure the transportation services the produce industry needed, the products had to be made more desirable to haul than other products. To that end, PMA developed a set of best practices for working with motor carriers. It published those guidelines in October 2006.

"Some of our best practices are pretty simple," Humfield says. "For instance, treat drivers with respect and dignity. That sounds like a no-brainer, but it often doesn't happen. Drivers are not given the respect shown to other business partners. So we recommend that receivers and shippers put in place practices that treat drivers fairly and appropriately, and allow them to do what they do best–drive.

"Drivers make their money on the road, not waiting in parking lots," Humfield adds. "So our best practices are aimed at enabling drivers to make money. They include establishing advance loading schedules so trucks can get loaded and on their way as quickly as possible."

The concept of overstock is very expensive because expired perishables aren't just downgraded, they're worthless.

The best-practice guidelines also include suggestions on handling rejected products. "One issue carriers have to deal with is arriving at the receiver's dock with a load of products that don't meet specs, through no fault of the driver," says Humfield. "What steps do the shipper and receiver take to dispense with the product?"

The PMA suggests companies develop formal processes to address this issue.

Wegmans Foods Markets Inc., based in Rochester, N.Y., has done just that. When unacceptable product arrives at its two produce warehouses in Rochester and Pottsville, Pa.–and the carrier is not at fault–the grocer works directly with its vendor to resolve the matter.

If the carrier is at fault, it has two options. First, the product can be reloaded on the trailer and the carrier can attempt to sell it for some salvage value in a secondary market. Or, Wegmans will hold the rejected load in its warehouse for 48 hours while efforts are made to find a secondary market.

Wegmans assists the carrier in this endeavor. The carrier and wholesaler can either make direct arrangements, or Wegmans can contact the wholesaler on the carrier's behalf. Because Wegmans' overall approach is to view carriers as business partners, it understands that a rejected load is never a good situation. Helping the trucker in these instances eases the carriers' overall burden.

Wegmans works to avoid shipment rejections from either suppliers or carriers by carefully communicating optimal shipping temperatures and pickup times. The retailer provides carriers with training videos and pocket guides on details such as how to distribute the perishables load within the trailer, and how to maintain proper trailer temperature to ensure product quality.

Finally, Wegmans has completely discontinued lumping practices – where the driver hires outside loaders/unloaders – at its distribution facilities. "We believe the driver does not want to be in the lumping business and should not be. We want drivers to be drivers," says Roy Winters, Wegmans' manager of transportation services. "Lumpers are not allowed on our docks, and only Wegmans employees can unload trucks."

Ensuring Success

The processes and services embraced by companies such as Smithfield, Wegmans, Starbucks, and VistaFlora–and supplied by their transport and technology service providers–mean the difference between a profitable and safe perishables supply chain and one that is not. They enable manufacturers, growers, and wholesalers to deliver not only fresh products, but confidence and trust to their customers. ■


lily

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Whether you are looking for electric, gas, LPG, or dual fuel models, you'll find the lift trucks on the following pages are leaner, meaner, and greener. The companies featured in this special supplement offer the safest, best engineered, most ergonomic, efficient, reliable forklifts available. (They look hot, too!)

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TCM 866-216-7840 www.tcmusa.com

TCM PRO Class 5 Pneumatic Lift Truck

- **CAPACITY:** 3,000 to 6,000 lbs.
- **POWER SOURCE:** Internal combustion, LPG, gas, and diesel
- **HORSEPOWER:** 51.9 hp to 67 hp
- **FREE LIFT:** 6.1 inches to 6.3 inches
- **OVERALL LENGTH:** 88.4 inches to 106.5 inches
- **OVERALL WIDTH:** 42.1 inches to 48.2 inches
- **OVERALL HEIGHT (FORKS LOWERED):** 81.5 inches to 82.5 inches
- **APPLICATION/ENVIRONMENT:** Ideal for heavy-duty use on multiple surfaces, including gravel

The all-new TCM PRO Class 5 pneumatic lift truck's design incorporates more than 58 years of materials handling innovation and experience. Every aspect of these 100-percent clean-sheet pneumatic fork trucks was evaluated and optimized for reliability, power, and productivity. The Tier 3 compliant engines are fuel efficient and produce very low emissions, while running cooler due to an improved engine compartment airflow. The automatic transmission has cast iron cases; bigger shafts, gears, and torque converters; and clutch packs for reliability and quiet operation.

TCM PRO-CB 4 Wheel Electric Lift Truck

- **CAPACITY:** 3,000 to 6,000 lbs.
- **POWER SOURCE:** Electric
- **FREE LIFT:** 4.1 inches to 4.5 inches
- **OVERALL LENGTH:** 118.3 inches to 129.9 inches
- **OVERALL WIDTH:** 37.8 inches to 43.5 inches
- **OVERALL HEIGHT (FORKS LOWERED):** 85 inches
- **APPLICATION/ENVIRONMENT:** Designed for close-quarters load handling in warehouses and trailers

These 100-percent AC-powered lift trucks are clean sheet with features to increase their operating efficiency and productivity. The AC motors replenish the battery during braking or whenever travel direction is reversed to deliver eight hours run time on a single charge. The truck's state-of-the-art controller manages operating current draw and power regeneration. The four controller settings – travel speed, tilting speed, attachment speed, and power output – can all be adjusted. The lift truck's instrument panel carries on-board self diagnostics to simplify troubleshooting and maintenance at the job location without handheld meters.

TCM PRO Class 4 Cushion Tire Lift Truck

- **CAPACITY:** 3,000 to 6,000 lbs.
- **POWER SOURCE:** Internal combustion, LPG, gas, and diesel
- **FREE LIFT:** 4.1 inches to 4.5 inches
- **OVERALL LENGTH:** 83.9 inches to 96.9 inches
- **OVERALL WIDTH:** 38 inches to 43.5 inches
- **OVERALL HEIGHT (FORKS LOWERED):** 83.1 inches
- **APPLICATION/ENVIRONMENT:** Designed for close-quarters load handling in warehouses and trailers

TCM's 100-percent clean-sheet cushion tire fork truck comes standard with Tier 3 compliant engines, TCM-designed and built automatic transmissions, and TCM-designed and built masts. Operator comfort has improved with wider floors and steps to make entering and exiting the vehicle easy. Safety has also improved, with a restraint system built into the operator seat; a complete system of interlocks including weight sensing driver's seat, neutral safety, tilt cylinder lock, and parking brake alarm; and high-mount brake lights with vibration-resistant bulbs.

RAYMOND

800-235-7200
www.raymondcorp.com

Model 4100/4200 Standup Counterbalanced Lift Trucks

- **CAPACITY:** 3,000 to 5,000 lbs.
- **POWER SOURCE:** Electric; 36 volt
- **DRIVE/LIFT:** 4100 AC/DC; 4200 AC/AC
- **LENGTH:** 67.4/68.2 inches
- **WIDTH:** 41 inches
- **OVERHEAD GUARD:** 88 inches (standard)
- **MAXIMUM SPEED:** 6.8/7.2 mph (loaded)
- **CONTROLS:** Single-axis, multi-function control handle
- **APPLICATION/ENVIRONMENT:** Warehouse systems and dock applications

These models tap the *Raymond ACR System™* to provide more uptime, lower costs, and optimal performance. The proven reliability of these trucks improves your bottom line. Benefits include quick, clean attachment changes, and quick disconnect couplings, as well as tighter turns, greater control – stand-up profile, and reduced turning radius. Operators enjoy exceptional comfort, with wide, roomy compartments, and a low 8-inch step height. The Model 4200's unique open view mast offers excellent visibility.

Model 4400 3-Wheel Sit-Down Lift Truck

- **CAPACITY:** 3,000 to 4,000 lbs.
- **POWER SOURCE:** Electric; 36 volt/48 volt
- **DRIVE/LIFT:** AC/AC
- **BRAKES:** Oil-cooled disc brakes
- **LENGTH:** 75.1 inches
- **WIDTH:** 39 inches
- **OVERHEAD GUARD:** 76.8 (standard)
- **MAXIMUM SPEED:** 9 mph (loaded)
- **APPLICATION/ENVIRONMENT:** Multi-purpose truck for loading and unloading, heavy-duty dock operations, or high-speed transport

Less maintenance and lower costs through the *Raymond® ACR System* (drive and lift) are the main advantages of the Model 4400. The truck keeps operators comfortable and efficient, with standard, fully adjustable seats and steering; and natural, tactile, and intuitive controls. AC drive and lift leads to powerful, programmable performance. The lift truck's effortless agility translates to shorter cycle time from dock to stock. Users also save money with longer brake life; oil cooled, these brakes last up to twice as long as dry friction brakes. A unique open view mast offers exceptional visibility and multiple height/stage options.

Model 4700 Series 3-Wheel Sit-Down Lift Truck

- **CAPACITY:** 3,000 to 5,000 lbs. HM; 5,000 to 6,000 lbs.
- **POWER SOURCE:** Electric 36 volt/48 volt
- **DRIVE/LIFT:** AC/AC
- **BRAKES:** Oil-cooled disc brakes (most capacities)
- **LENGTH:** 75.9 inches
- **WIDTH:** 39.4 inches
- **OVERHEAD GUARD:** 88.9 (standard)
- **MAXIMUM SPEED:** 9 mph (loaded)
- **APPLICATION/ENVIRONMENT:** A multi-purpose truck for heavy-duty dock operations, high-speed transport for supplying rack systems and moving orders to packing and shipping

Designed with the operator in mind, the Model 4700 lift truck features semi-suspension, and standard adjustable seats and tilt steering. Operation is faster, smoother, and more agile, as a result of the *Raymond ACR System* (drive and lift). Thanks to oil-cooled disc brakes (most capacities), users enjoy more uptime and lower costs. This model offers the highest maneuverability for the tightest turning radius, with dual, independent traction control. Programmable performance suits almost any application, with up to six pre-programmed performance speeds. A unique open view mast improves visibility and offers multiple height/stage options.

KALMAR

609-860-0150
www.kalmarind-northamerica.com

Kalmar 11,000-20,000 lb. Lift Trucks

▶ **CAPACITY:** 11,000 to 20,000 lbs.

▶ **POWER SOURCE:** Diesel, LPG, or electric

The Kalmar 11,000-20,000 lbs. is a unique series of forklift trucks where power and precision come together for the best of both worlds, delivering a safe, yet fast truck. Get more out of your operators by making their jobs more efficient. A whole series of selectable functions and integrated intelligence allows for more work while minimizing the risk of damaging goods. You can customize your forklift with a wide range of options, so finding the right truck is easy.

Kalmar 20,000-40,000 lb. Lift Trucks

▶ **CAPACITY:** 20,000 to 40,000 lbs.

▶ **POWER SOURCE:** Diesel, LPG

▶ **LIFT HEIGHT (WITH FULL CAPACITY):** 197 inches

With 13 models and a host of unique available features, it is no wonder that Kalmar's series of 20,000 to 40,000 lbs. lift trucks makes you feel in control. Smart handling and a new standard for visibility make for a safe and productive work environment. Kalmar made unique design decisions – such as repositioning the hoses and chains; placing the exhaust behind the rear, right-side pillar; and concealing the air filter under the cab – in order to give the operator a clean view of the work area.

Kalmar 44,000-110,000 lbs. Forklift Trucks

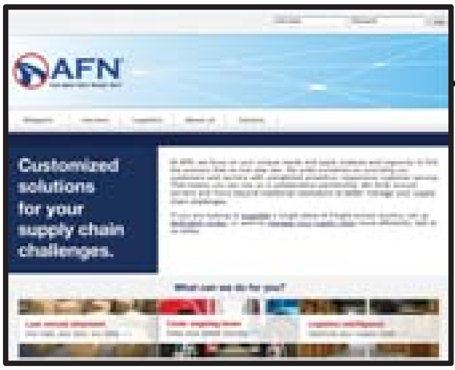
▶ **CAPACITY:** 44,000 to 110,000 lbs.

▶ **POWER SOURCE:** Diesel

▶ **APPLICATION/ENVIRONMENT:** Ports, stone, and concrete handling, terminals, and steel mills

The newest generation of heavy forklift trucks from Kalmar is specifically made for the most demanding labor. Kalmar has been making heavy things easier to handle for years, and these models are no different. Your operators will also be happy with the research Kalmar put into its driver environment. Operators can proficiently perform throughout the work day without being held back by the lack of comfort or control. Kalmar trucks are easy to service, too. From accessible service points and inspection covers to easy access to the driveline, Kalmar knows the basis of an economical operation is the driver's daily service.

3PLS



AFN-Advantage Freight Network • www.afnww.com

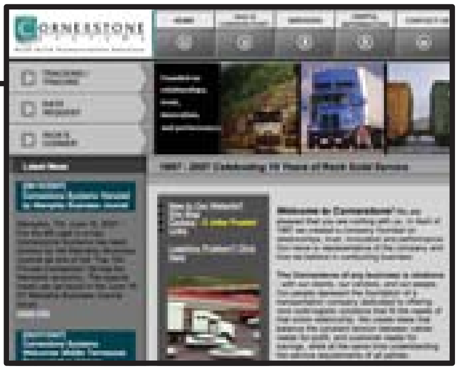
Advantage Freight Network focuses on customer needs, and applies analysis and ingenuity to find the answers that no one else can. AFN takes pride in providing customers and carriers with unmatched proactive and responsive customer service. That means you can rely on a collaborative partnership. AFN thinks around corners and moves beyond traditional resolutions to better manage your supply chain challenges. If you are looking to expedite a single piece of freight cross-country, set up dedicated routes, or just want to manage your supply chain more efficiently, talk to AFN today.

Atlas Cold Storage • www.atlascold.com

Atlas Cold Storage delivers public refrigerated warehousing, transportation, distribution, and third-party logistics solutions to customers in major consumer markets. With more than 50 operational facilities located strategically across North America, every day Atlas' dedicated professionals provide quality services to support the refrigerated and frozen food supply chain. As a member of the Eimskip group of companies, Atlas can connect customers to the world's largest temperature-controlled logistics network.

BAX Global • www.baxglobal.com

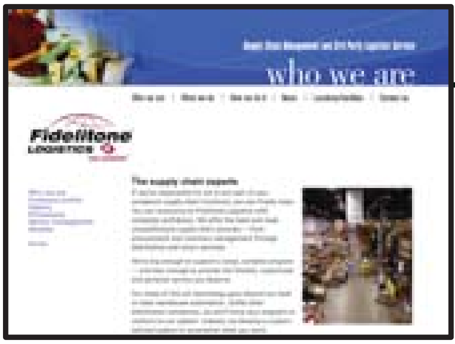
The integration of Schenker AG and BAX Global has created a new global logistics and transportation solutions powerhouse. Enviable rankings in strategic industry mobility and logistics service sectors include: No. 1 in European land transport, No. 2 in worldwide air freight, and No. 3 in worldwide ocean freight, and No. 3 in integrated heavyweight freight in North America.



Cornerstone Systems • www.cornerstone-systems.com

Cornerstone's business is its people. The company's proven professionals provide customers with the best transportation solutions available, backed up by the latest in technological services. Cornerstone's rock-solid transportation solutions include: intermodal, truck, rail car, dedicated drayage/spotting, on-site logistics, warehousing/transloading, and special projects. Cornerstone maintains alliances with more than 5,000 over-the-road carriers and draymen, as well as all North American railroads and stack train operators. You'll find that dealing with Cornerstone is a pleasant experience, as well as a rewarding one.

IN THIS SECTION:
3PLs



Fidelitone Logistics • www.fidelitone.com

If you're responsible for all or any part of your company's supply chain functions, you can finally relax, and outsource to Fidelitone Logistics with complete confidence. Fidelitone offers the best and most comprehensive supply chain services–from procurement and inventory management through distribution and return services. Fidelitone is big enough to support a large, complex program, and lean enough to provide the flexible, customized, and personal service you deserve.

LeSaint Logistics • www.lesaint.com

Visit our newly revised web site designed to better serve your needs. Learn how to put LeSaint Logistics' 3PL KnowHow™ to work for your business. As a Top 100 3PL provider, LeSaint Logistics has the expertise, experience, flexibility and service performance to power your supply chain. LeSaint delivers intelligent warehousing, fulfillment and transportation solutions–supported by advanced logistics technology–to manage your supply chain, streamline efficiencies, and boost your bottom line. At LeSaint, we make it our business to know your business. We deliver high-performance logistics solutions designed to meet your unique needs, measuring key performance indicators for continuous improvement of our processes. Log on today.

Megatrux Inc. • www.megatrux.com

Full-service freight delivery by any mode of transport. Professionals choose the best routes, negotiate the best rates, and arrange the best handling, upon your service preference. We can ship by truck, rail, air, intermodal, or container. Truckload, expedited, LTL, van, air ride, blanket wrap, dedicated lanes, e-track, trade shows, short-haul lanes, hazardous materials, deferred air freight, complete logistics management.

Roadlink USA • www.roadlink.com

RoadLink USA holds a network of operating companies focused on intermodal trucking, dedicated operations, and related logistics services. RoadLink USA also maintains a network of convenient service locations from coast-to-coast, and the combined capacity of more than 2,200 trucks nationwide, making it the largest company of its kind in North America. Expansion plans are in place to increase capacity and become a dominant player in every key intermodal market in North America.

IN THIS SECTION:
3PLs - Forklifts

SMART Management Group • www.smartmanagementgroup.com

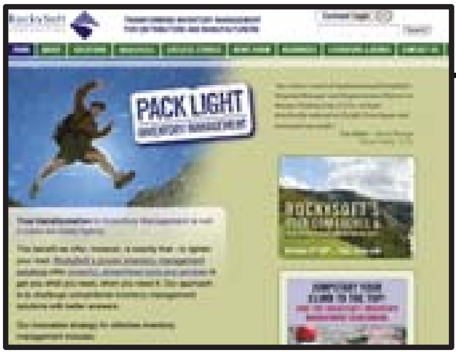
Let SMART Management, part of the CTX Group, become your logistics partner and a vital part of your transportation and distribution network. SMART Management's skills in operational logistics can help fulfill your supply chain demands. We have the systems, procedures, technology, and people to manage inventory, products, and vehicles to their destinations. Our track record of success stems from continuous collaboration and streamlined communication with partners, customers, drivers, and vendors.

CHEMICAL LOGISTICS

Canadian National (CN) • www.cn.ca

CN, a North American rail industry leader, provides shippers with greater reach in the rapidly expanding market for north-south trade. CN ships a variety of chemical products; moving your goods safely is its number-one priority. Shippers can leverage CN's scheduled railway and route/gateway agreements with other railroads to reach North American markets faster.

FORECASTING



RockySoft Corporation • www.rockysoft.com

RockySoft provides the leading inventory management solution for mid-market distributors. RockySoft provides a powerful exception-based planning system to streamline collaborative forecasting, demand planning, automated inventory management, advanced replenishment planning, supplier management, sales and operations planning, and EDI-deployed Vendor Managed Inventory (VMI/EDI). Clients experience an increase in productivity and customer service levels, while reducing inventory an average of 25 percent.

FORKLIFTS

Kalmar Industries Corp. • www.kalmarind-northamerica.com

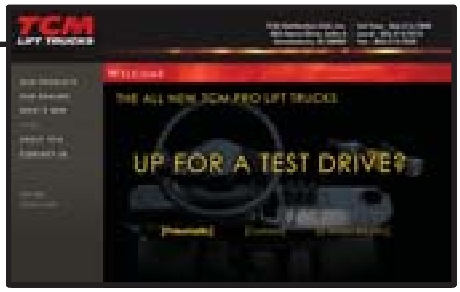
Worldwide Reach – World-Class Moves. Kalmar is a global provider of heavy-duty materials handling equipment and services to ports, terminals and industrial customers. With its market-leading lines of Ottawa terminal tractors and industrial forklift trucks, Kalmar helps customers operate with a higher level of efficiency. For more information, call 1-888-229-6300 or visit www.kalmarind-northamerica.com.

IN THIS SECTION:
Forklifts – Logistics IT

The Raymond Corporation • www.raymondcorp.com

The Raymond Corporation is the North American leader in the design and manufacture of the best-built, best-performing, and most reliable electric lift trucks. Behind all Raymond products is its wealth of expertise and deep commitment to electric lift truck research and development. Raymond continuously focuses on improving customer operations and is dedicated to understanding your requirements. What features are important to your operation? How can we make your job easier? How can we make you more productive and efficient? This philosophy positions Raymond at the forefront of the lift truck industry, pioneering leading-edge concepts.

TCM Distribution USA • www.tcmusa.com



Whether you need electric motor sit-down rider trucks; IC engine trucks; fork, counterbalanced, cushion or pneumatic tire trucks; TCM Distribution USA has the lift truck for you. The trucks feature powerful AC motors that deliver superior regeneration with less maintenance; onboard diagnostics and full instrumentation; extended run times with controllers that provide twice the battery life, and precise handling and load control. TCM has also introduced the FTB VII series of electric three-wheel forklift trucks. Need more information? Log on to www.tcmusa.com today.

FREIGHT MATCHING

Courierboard.com • www.courierboard.com

Courierboard.com is the company-to-company online exchange, designed specifically for the messenger and courier industry. Looking for a car, van, sprinter, or small truck (up to 24 foot)? Courierboard.com is the place to find a courier company, anywhere in the nation, to move your freight. Posting freight is always free on Courierboard.com. Register for our free Premium Account trial membership and enjoy all features including unlimited freight postings, vehicle searches, and e-mail alerts when available vehicles are posted in your area. Find a courier company meeting your delivery requirements on www.courierboard.com.

LOGISTICS IT

CDM Software Solutions Inc. • www.cdmsoft.com

CDM WinFrt is a comprehensive, efficient trade management system that includes quotes, bookings, air freight, ocean freight, imports, AES, billing and job costing, operational and management reports with integrated accounting. Options include Internet tracking and tracing, Sea AMS, and EDI with customers and air and ocean carriers (eSI). CDM Software Solutions Inc. is a certified U.S. Customs (CBP) vendor and certified on Inttra, Cargosmart, and directly with certain ocean carriers. Contact us at 312-428-4876 for more details and to schedule a software presentation.

WEB_CITE CITY

www.inboundlogistics.com/web_cite

IN THIS SECTION:
Site Selection – Warehousing

SITE SELECTION

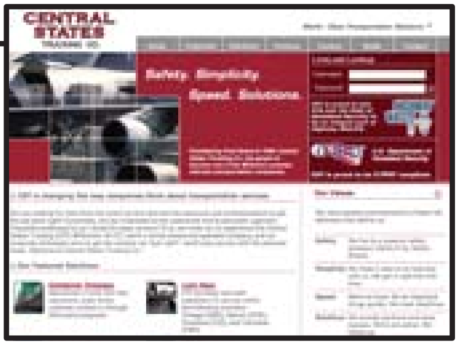
Columbus Chamber of Commerce • www.columbus.org

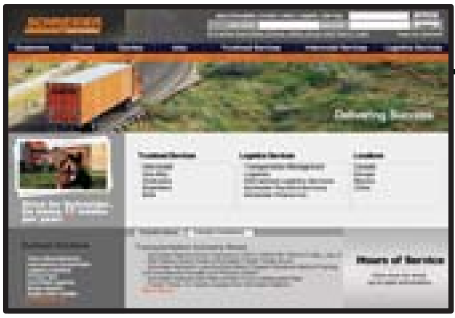
Go ahead: locate and expand your business in Columbus. The Columbus Chamber offers full, no-cost site selection services that include labor market analysis, operating cost comparisons, tailored research, and site tours. Columbus has the people, the culture, the technology, the growth, and the location to bring value to your business.

TRUCKING

Central States Trucking Co. • www.cstruck.com

Are you looking for more from small carriers who lack the resources and professionalism to get the job done right? Conversely, are you frustrated by the impersonal and bureaucratic approach frequently evidenced by the industry's larger carriers? If so, experience the Central States Trucking (CST) difference. CST is a family-owned-and-operated company, with the corporate philosophy to get the product mix "just right" – world-class service with the personal touch. CST specializes in container drayage, dedicated contract carriage, line-haul, and warehousing. Visit the web site to see how CST is changing the way companies think about transportation services.





Schneider National • www.schneider.com

Schneider National is more than just truckload services, it's the leading provider of premium truckload and intermodal services. Schneider National creates transportation solutions for customers using the broadest portfolio of services in the industry. Schneider National has several divisions that provide transportation and transportation related services: One-way Truckload, Dedicated, TruckRail, OptiModal, Brokerage, and Expedited. Visit Schneider's site to find out more about the company and the services it provides.

WAREHOUSING

Atlas Cold Storage • www.atlascold.com

Atlas Cold Storage delivers public refrigerated warehousing, transportation, distribution, and third-party logistics solutions to customers in major consumer markets. With more than 50 operational facilities located strategically across North America, every day Atlas' dedicated professionals provide quality services to support the refrigerated and frozen food supply chain. As a member of the Eimskip group of companies, Atlas can connect its customers to the world's largest temperature-controlled logistics network.

L.I.T. TOOLKIT

by Merrill Douglas

Rock Around the Stock

Taking its cue from the *Q* system, Guitar Center's forecasts and inventory allocation now make beautiful music together.

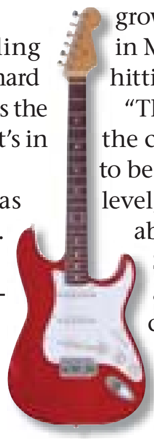
Blues, rock, country, hip-hop, salsa–American tastes in popular music run the gamut. And the sounds that are big in El Paso this year might be totally different from the sounds that are hot in Brooklyn, or Nashville, or Spokane.

So when your business is selling musical equipment, imagine how hard it is to keep each of 200 stores across the country stocked with the mix that's in tune with the local music scene.

That's what Guitar Center was wrestling with three years ago. Part of its challenge stemmed from the fact that its stores differ greatly in size, ranging from 5,000-square-foot shops to 30,000-square-foot big box locations.

"Also, the types of customers we deal with vary widely depending on demographic and geographical regions," says Bret Hayden, director of business process design at Guitar Center, Westlake Village, Calif.

The products that Guitar Center carries–guitars, amplifiers, percussion instruments, keyboards, and professional audio and recording equipment–amount to 7,000 SKUs. To serve customers and keep profits high, the company must understand how each SKU performs in each store. A homegrown forecasting system, developed in Microsoft Excel and Access, wasn't hitting the right notes.



"The forecasting system operated at the chain level, but we really needed to be looking at inventory at the store level," Hayden says. "We needed the ability to look at each one of our SKUs, and each one of our stores, and understand how they perform differently from one another."

In addition to a system that provided insufficient detail, Guitar Center faced another challenge when trying to understand the store/SKU relationship. The company's forecasting team used one set of business rules to determine the volume and mix of products to send to its distribution centers, while the allocation team used a different set to create the product mix for stores.

CONTINUED FROM PAGE 65

"We would end up with a serious disconnect between what forecasting thought was needed and what allocation thought was needed," says Steve Johnson, Guitar Center's director of forecast, allocation and replenishment.

Today, however, Guitar Center integrates forecasting and allocation in a single process, and is much better able to tailor each store's product mix to local demand. These changes came about through the company's work with Quantum Retail Technologies.

Guitar Center has served as a beta customer for Quantum, helping the Carlsbad, Calif., software firm develop its inventory optimization solution, Q. The retailer ran a pilot implementation of Q in late 2005 and early 2006; then entered a detailed design and implementation phase to address its long-range forecasting and product allocation needs. That version went live in the third quarter of 2006. A third phase of the implementation – adding commodity products such as guitar strings and drumsticks – was due to go live in late June 2007.

TOO MUCH DATA

Quantum developed Q to meet the needs of retailers who, over the last few decades, have increasingly moved decision-making responsibilities from store managers to home-office executives. Those executives base many decisions on sales data pulled from the stores.

But their enterprise resource planning (ERP) systems can't analyze such a vast volume of information in great detail, says Mike Hrabe, Quantum's vice president of sales and marketing. Instead, they aggregate the data and look at average performance for categories of stores and items.

"Through that smoothing, averaging, and aggregating process, retailers have effectively eliminated much of the detail associated with how items behave at the store level," Hrabe says.

Ignoring the store-by-store detail obscures important information, such as whether a store is stocking the right product quantity, notes Chris Allan, Quantum's founder and head of product strategy.

"A 98-percent in-stock of a certain product across the chain doesn't really show a complete picture," he says. "Some locations may be out of stock for several weeks; others may be overstocked."

Q uses data from point-of-sale systems, ERP systems, and warehouse management systems to track exactly how much inventory each store has, how fast it's selling, and how much new stock is flowing through the pipeline. In making forecast and allocation decisions, Q also considers the role each product plays in the company's merchandising strategy.

A popular product at a marked-down price plays the role of traffic driver, Hrabe explains. The margin is low, but it draws in shoppers who might make other purchases while they're in the store. Another product, with a higher profit margin, is a money-maker. Still another serves as an image item, bolstering the store's prestige by its presence even though few people actually buy it. Think of a giant screen TV in a consumer electronics store, he says.

Products play different roles in different stores. "An image item at the Best Buy in suburban Minneapolis might be a money-maker at the Beverly Hills Best Buy," Hrabe says.

Demand for products also changes over time. As Q recommends inventory allocations for different stores, it considers the roles the company assigns to different products at those stores; then it tracks the products' behavior to see how well they play their parts.

More precise information about product demand and performance creates greater efficiency. "Retailers hold too much inventory for fear of losing sales, but over-inventory means lost profits," Hrabe says.

"Retailers have unbalanced inventory because they use grade group averages and lose much of the detail. They end up with too much inventory at one store, too little at another. Q directly addresses these issues," he adds.

At Guitar Center, the point-of-sale system feeds data into a JDA Software ERP system, which passes it along to Q. Then, Q's recommendations and alerts pass back to JDA and to the company's Arthur Allocation system.

"As part of Phase 3, we will integrate Q with our warehouse management system, so we'll have information regarding shipment delivery times," Hayden says.

Each time Guitar Center adds a new product to its assortment, the buyer and planner assign it a role and a strategy.

"They can also set up other types of parameters," Hayden explains. "For example, they can plan for a display in the store for that product, or set a 'max stock' if the item is big and bulky."

The company could assign those rules to each product on a store-by-store basis, but executives have decided to move one level higher, dividing stores into several "grades" based on their characteristics. Stores get different grades for different product categories.

"One store could be an 'A' store for drums, but a 'C' store for guitars," Hayden says. "We have the ability to manage inventory using those grades."

Besides helping Guitar Center planners determine what stock to order and how to allocate it to stores, Q monitors product performance in real time and tells planners when product performance doesn't match the forecast.

For example, Q notifies planners if an item is selling better than expected. The planners can then arrange to order larger quantities in the future.

THE MISSING PIECE

Company officials are contemplating a possible fourth phase to the Q implementation, which would focus on assortment planning.

"That's the piece we're currently missing in our suite of applications," Hayden says. "We're able to create strategies for these items, but we don't have good visibility to how that item fits in the whole assortment."

Quantum representatives also have been talking to executives in Guitar Center's Music and Arts Center division, which serves the school band market through more than 90 stores.

Since Guitar Center started using Q, service levels and in-stock rates have increased, with a better inventory balance across the chain. "We don't have as many over- and under-stocks as we had in the past," Hayden says.

Also, now that it's monitoring performance at the store and SKU levels, the company can generate more exception reports, and can measure forecast error. Those exception reports are important because they alert planners to problems or anomalies in parts of the operation that weren't receiving enough attention.

"Q helps maximize users' time and makes sure they spend their work hours where they can add the most value," Allan says. And that's music to Guitar Center's ears. ■

TECHUPDATE

THE LATEST IN LOGISTICS TECHNOLOGY

Intermec

WHAT'S NEW: A handheld computer certified to meet most global hazardous environmental standards.

THE VALUE: The CK32IS provides the chemical, oil, gas, pharmaceuticals, grain, textile, and mining industries a safe and rugged handheld computer option. The computer carries an extensive list of global hazardous environmental ratings, and meets requirements for flammable gases, vapors, liquids, dust, fibers, and flyings. The Windows Mobile 5.0-based handheld computer features an Intel XScale PXA270 processor, 128 megabytes of DRAM memory, and 64 megabytes of non-volatile flash memory.

www.intermec.com
✆ 800-755-5505

software

Glacier Computer

WHAT'S NEW: A customized and integrated solution for the Everest series of harsh-environment computers.

THE VALUE: *Glacier Commander* allows IT administrators to access vital forklift-mounted computer information from their office PC using readily available remote management programs. Users can monitor system activity, program function buttons, and view detailed reporting on current and past temperature and voltage readings.

www.glaciercomputer.com ✆ 603-882-1560

Accellos

WHAT'S NEW: An integrated suite of supply chain execution solutions for small to mid-sized businesses.

THE VALUE: The *Accellos One* software solution is available in five solution areas: *Warehouse*, which increases warehouse productivity, efficiency, and visibility; *Logistics*, to help logistics providers cost-effectively meet customer requirements; *Transport*, which helps carriers, brokers, and shippers maximize planning, execution, and reporting effectiveness; the *Anywhere* series, focusing on mobile, services-based, and collaborative solutions; and the *Intelligence* area, which reports on key business trends and metrics.

www.accellos.com ✆ 719-433-7000

CDC Software

WHAT'S NEW: A warehouse management solution.

THE VALUE: The *IMI Supply Chain Execution* software helps users control distribution channels and logistics operations by capturing, sourcing, pricing, tracking, and settling sales and purchase orders with real-time visibility. The warehouse management module helps users stay one step ahead of demand by ensuring inventory levels and delivery capabilities are aligned with service goals.

www.cdcsoftware.com ✆ 770-351-9600

MOL

WHAT'S NEW: An automated dispatch solution that connects ocean carrier MOL and its house trucking line, in real time.

THE VALUE: The integration streamlines truck dispatch operations and enables container pickup and delivery information to be automatically updated in MOL's in-house equipment management system, all with the truck driver pushing a single button on a GPS-enabled mobile phone. This solution was created by IAS-Trinium, a joint venture between International Asset Systems and Trinium Technologies.

www.molpower.com

rfid/wireless

Tharo Systems

WHAT'S NEW: A solution for printing bar-code and RFID labels using XML-enabled enterprise systems.

THE VALUE: Through the use of the *Easylabel XML Generator* and *XML Monitor*, users can design label formats, then print them by sending XML files to a monitored folder or TCP/IP port. The *XML Monitor* software automatically prints RFID and bar-code labels as XML files are received, making the labeling process seamless. *XML Generator* identifies how many labels to print and which printer to use.

www.tharo.com ✆ 800-878-6833

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

Cactus Commerce

WHAT'S NEW: End-to-end RFID track-and-trace solution.

THE VALUE: Cactus' *RFID Track & Trace Solution* allows companies to extend the benefits of RFID to manufacturers of retail and consumer packaged goods. The solution improves workflow efficiency and inventory tracking by showing users exactly where their products are at any given time.

www.biztalkrfid.cactuscommerce.com
✆ 888-222-8870

Maersk Line

WHAT'S NEW: A wireless reefer container monitoring system.

THE VALUE: Maersk now offers real-time container tracking to customers moving time-sensitive, high-value refrigerated shipments. Using StarTrak Systems' GenTrack monitoring devices, the system provides real-time visibility into the location and temperature settings of containers in North America. The tracking device allows Maersk to immediately identify equipment malfunctions or transport delays.

www.maerskline.com **✆ 800-854-6553**

web

American Airlines Cargo

WHAT'S NEW: An online booking enhancement, EZBook.

THE VALUE: EZBook offers greater access to premium flight capacity for shipments weighing 200 pounds and measuring 75 cubic feet or less. The new functionality provides automatic booking confirmation and electronic shipment notification to customers using AA Cargo's Expeditefs express freight service.

www.aacargo.com **✆ 800-CARGO-AA**

ALK Technologies

WHAT'S NEW: A Web application providing industry-standard map data and functionality.

THE VALUE: PC*MILER Web Services now shares PC*MILER information through the Web – making it easier to connect to the components of PC*MILER necessary to enhance application or system interface. The data sent online is processed as either mileage, precise toll costs, route maps, or as dock-to-dock, street-level direction.

www.alk.com **✆ 800-377-6453**

Getloaded.com

WHAT'S NEW: Core services of the Web site are now available via cell phone.

THE VALUE: Getloaded.com, an Internet load board for the transportation industry, now offers service to Web-enabled cell phones. The mobile version of the site allows members to search and post for loads by city, as well as save searches for future reference and quick access.

www.getloaded.com

Ultra Logistics

WHAT'S NEW: An online demo of the *UltraShip TMS* software.

THE VALUE: Ultra Logistics' new Web-based TMS solution provides users with complete transportation visibility, allowing for a high level of customer service. Features include easy-to-use, customizable screens; EDI integration; load tendering capabilities; appointment scheduling; load tracking; and overflow load management.

www.ultrashiptms.com **✆ 888-794-6642**

NEWSERVICES

YOUR BUSINESS LOGISTICS RESOURCE

Estes Express Lines

WHAT'S NEW: A terminal in Atoka, Okla.

THE VALUE: Regional and long-haul motor freight carrier Estes Express Lines now operates a new terminal in Atoka, Okla. This full-service terminal is the third Estes terminal in Oklahoma and replaces a driver-only location in McAlester, Okla. The Atoka facility allows Estes to provide enhanced next-day service solutions for shippers in eastern Oklahoma and the surrounding states.

www.estes-express.com ✆ 804-353-1900

Con-way Freight

WHAT'S NEW: The expansion of a Freight Assembly Center in Montgomery, N.Y.

THE VALUE: Con-way Freight has opened its expanded freight assembly center (FAC) in Montgomery, N.Y. Completed in June 2007, the 67,000-square-foot facility features 63 new dock doors and increases freight handling capacity to 3.6 million pounds per day – an addition of two million pounds daily. Con-way FACs are strategically located, high-volume freight handling facilities in the company's network of more than 440 service centers nationwide.

www.con-way.com/freight ✆ 650-378-5335

Epes Logistics Services

WHAT'S NEW: The opening of a Laredo, Texas, office.

THE VALUE: Epes Logistics Services, based in Greensboro, N.C., has opened an office in Laredo, Texas. The facility serves the border area, Northern Mexico including Monterrey and San Luis Potosi, and Mexico City. From this new office, Epes provides LTL, truckload, and warehousing services, and handles Mexico and U.S. border crossings.

www.epeslogistics.com ✆ 800-659-1117

Ryder

WHAT'S NEW: Service facilities in the Greater Toronto area and Ottawa.

THE VALUE: These new Canadian service facilities provide a combined fleet of more than 500 full-service lease and rental units, as well as maintenance and logistics services. The Canadian locations include fully equipped truck repair shops to service Ryder's commercial fleet leasing and rental customers.

www.ryder.com ✆ 1-800-BY-RYDER

DHL

WHAT'S NEW: A regional sort center facility in Minnesota.

THE VALUE: The new 79,049-square-foot facility doubles the size of DHL's sort center operations in the region. The regional sort center provides one-day ground service for letters and parcels across Minnesota and

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

into parts of Wisconsin, Iowa, and North and South Dakota. The new facility is also located closer to the Minneapolis/St. Paul International Airport than the previous, smaller facility.

www.dhl.com ✆ 800-CALL-DHL

Focus South Logistics

WHAT'S NEW: The opening of a 200,000-square-foot, full-service facility in Atlanta.

THE VALUE: This new facility is located less than 20 minutes from Hartsfield-Jackson International Airport, CSX and Norfolk Southern rail terminals, and all of Atlanta's interstate highways. Combined with its short-haul capabilities, this facility enables Focus South, a certified MBE, to provide an array of logistics services.

www.focussouth.com ✆ 877-362-8756

Ridge Property Trust and BNSF Railway

WHAT'S NEW: A planned 2,000-acre business park in Illinois.

THE VALUE: Ridge Property Trust and BNSF Railway Company have signed a Memorandum of Understanding for Ridge to develop a 2,000-acre, master-planned business park in Will County, Ill. The project, RidgePort Logistics Center-Chicago, will ultimately consist of more than 20 million square feet of industrial distribution space and rail-served industrial buildings.

www.rptrust.com ✆ 773-695-1250

University of Houston

WHAT'S NEW: The Center for Logistics and Transportation Policy.

THE VALUE: As an outgrowth of its Supply Chain and Logistics Technology degree, the University of Houston's College of Technology has established a Center for Logistics and Transportation Policy. The Center works with carriers, shippers, and regulators to develop solutions to transportation problems. Its close proximity to the Port of Houston allows the Center to play a role in international trade.

www.tech.uh.edu ✆ 713-743-4114

Grand Alliance

WHAT'S NEW: An upgrade to the Central China Express Service.

THE VALUE: Grand Alliance members Hapag-Lloyd, NYK Line, and OOCL have restructured and upgraded the Central China Express Service (CCX). Beginning in August 2007, Grand Alliance will adjust CCX's port rotation to Ningbo/Shanghai/Los Angeles/Ningbo. Four 5,500-TEU vessels will be deployed in the service, an upgrade in capacity from four 4,000-TEU vessels. With these changes, the CCX service offers a direct call from Shanghai to Los Angeles, with a 10-day transit time.

www.nykline.com ✆ 201-330-3091

Viastore Systems

WHAT'S NEW: A high-performance picking system.

THE VALUE: An automated storage retrieval system for high-speed picking is now available from Viastore Systems. The High Performance Picking System (HPPS) can be integrated into virtually any system design. Through the intelligent guidance of the picker, and combined use of WMS software and a pick-to-light system, the HPPS picks customer orders quickly, efficiently, and ergonomically.

www.viastore.com ✆ 585-421-8562

CALENDAR

YOUR LOGISTICS DATEBOOK

Sept. 10-13, 2007, Military Logistics Summit, Adelphi, Md. IDGA's Military Logistics Summit brings together logistics thought leaders and decision-makers to discuss the latest implementation strategies and program initiatives to ensure the flexibility and preparedness of the U.S. military's future.

800-882-8684
www.militarylogisticssummit.com

Sept. 17-19, 2007, LogiPharma 2007, Philadelphia, Pa. LogiPharma presents three days of useful knowledge-sharing and ideas exchange on the challenges and issues surrounding pharmaceutical supply chain management. LogiPharma 2007 kicks off with the Distribution and Transportation Management Forum on Sept. 17, followed by the Pharmaceutical Supply Chain Summit on Sept. 18-19.

888-482-6012
www.logipharma.com

Sept. 18-19, 2007, IDTechEx RFID Europe, Cambridge, UK. IDTechEx RFID Europe, now in its eighth year, covers fast-growth RFID sectors, and offers full technology analysis and unrivaled market insight. Leading RFID users such as Sony, Ahold, Manchester Airports Group, CityLink, BP, Marks & Spencer, Hong Kong Airport, and many others share their insight and experience. Explore the full range of technologies – from smart tickets and cards to real-time locating systems and sensor networks.

+44(0)1223-813703
www.idtechex.com/rfideurope

Sept. 20-21, 2007, Supply Chain & Logistics Conference and Exposition, Dubai, United Arab Emirates. Hosted by the International Supply Chain Education Alliance, this year's exposition takes place in the fast-growing logistics and transportation hub of Dubai. Managers from major multinational organizations can attend the conference to network with and learn from global supply chain leaders. More than 100 logistics vendors will also be on hand to demonstrate their products and services in the "demo alley."

800-817-9083
www.iscea.com

Sept. 24-27, 2007, LogiChem 2007, Scottsdale, Ariz. LogiChem, the leading chemical logistics and supply chain conference, shows you how to structure efficient end-to-end supply chains to achieve excellence and exploit global opportunities; effectively streamline and connect your global inventory management systems; develop data-rich and highly visible supply chains for adaptability to unforeseen events; and collaborate with suppliers and customers for increased forecasting accuracy and responsiveness to changes in demand.

888-482-6012
www.wbresearch.com/logichemusa

Oct. 3-4, 2007, Benchmark NOW!, Chicago. Attend this unique two-day session geared toward distribution executives and you'll walk away with a strategic performance plan for your company based on benchmark comparisons. This fast-paced course teaches the "how" and "what" of benchmarking. Either bring your company data so you can actively apply a real benchmarking effort for your company, or mock data will be provided if you prefer to learn the process to apply later.

630-990-0001
www.werc.org

Oct. 2-4, 2007, Reverse Logistics Association Conference & Expo, Singapore. What better way to network in the reverse logistics and aftermarket supply chain than with a community of worldwide professionals? This conference provides an inside look at topics relevant to service logistics and warranty management. Sit in on in-depth panel discussions and presentations by reverse logistics professionals from OEMs, ODMs, branded companies, retailers, and academia.

510-440-8565
www.rltshows.com

Oct. 21-23, 2007, APICS International Conference & Expo, Denver, Colo. This year's conference focuses on the importance of vision as it pertains to individuals, organizations, and the industry. Attendees can choose from more than 100 educational sessions covering a variety of topics that are relevant to the issues facing professionals today and in the future. From industry standards to new advancements, there's something for everyone, regardless of career level or industry.

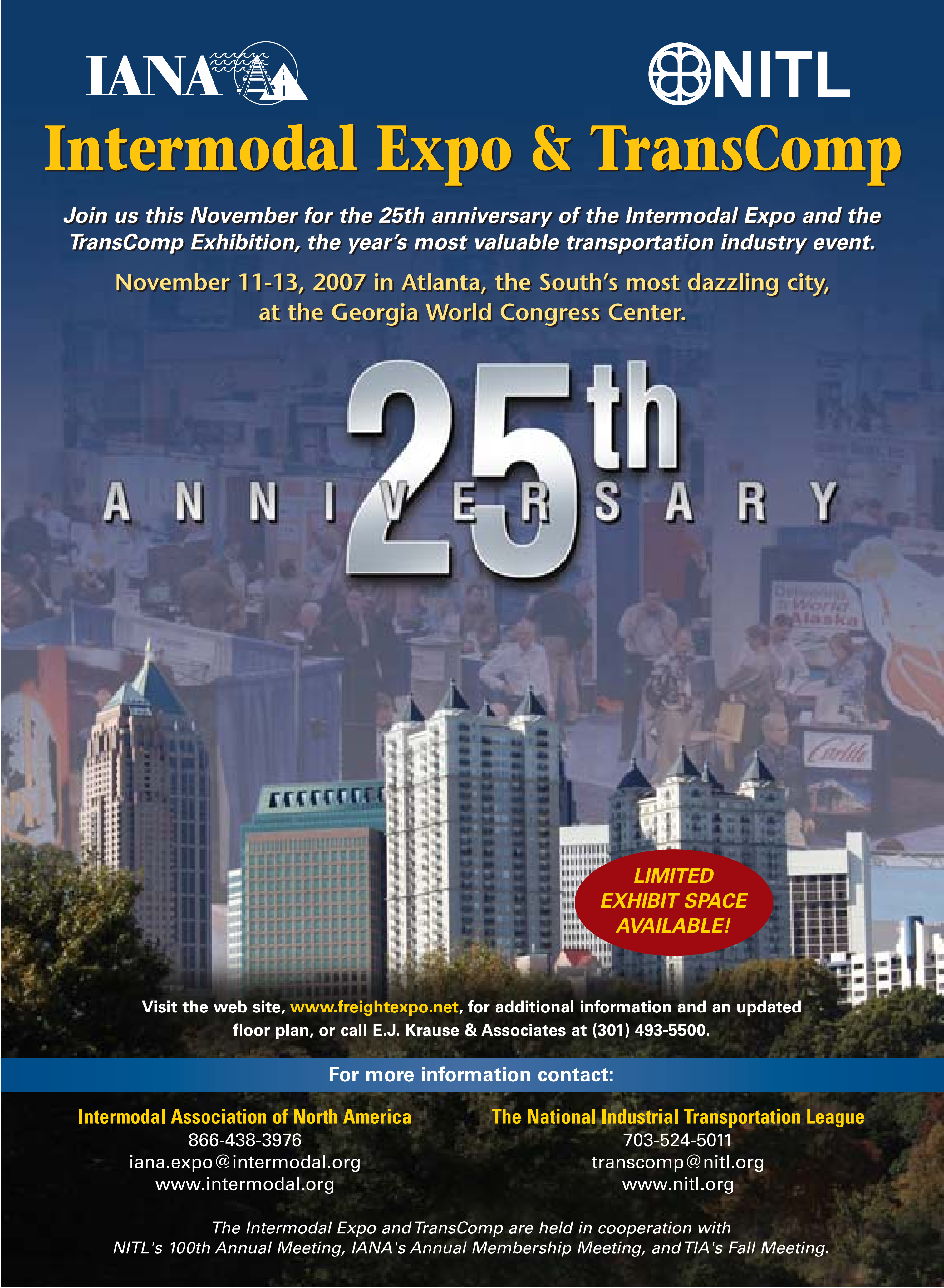
888-889-4674
www.apics.org

Oct. 21-24, 2007, CSCMP 2007, Philadelphia, Pa. This year's event features new speakers, fresh topics, and all the latest information every supply chain professional needs to know. And don't miss keynote speaker Carly Fiorina, former Hewlett-Packard CEO.

630-574-0985
http://cscmp.org

Oct. 29-31, 2007, Parcel Forum, Rosemont, Ill. The 5th Annual Parcel Forum is the only event focused on covering the entire small-shipment supply chain and the one place where professionals who share a common bond can come together and get a firsthand look at where the industry is going, and more importantly, how to get there first. Attendees will get the unique opportunity to look "under the hood" of leading companies to learn the secrets of their successful small-shipment strategies.

203-378-4991
www.parcelforum.com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iana.expo@intermodal.org
www.intermodal.org
The National Industrial Transportation League
703-524-5011
transcomp@nitl.org
www.nitl.org
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CSCMP 2007
PHILADELPHIA
OCTOBER 21-24
SUPPLY CHAIN'S PREMIER EVENT

OCTOBER 21-24

PHILADELPHIA

Join us for supply chain's premier event!™

NO REGISTRATION RATE INCREASE!
You pay 2006 rates in 2007!

Things To Do:

Register today!

The 2007 CSCMP Annual Conference kicks off on October 21st in Philadelphia. Join your colleagues in this historic city and take advantage of all that CSCMP 2007 has to offer! See what's new this year—new speakers, fresh topics, and all the latest information every supply chain professional needs to know. And, with no registration rate increase from 2006, it's that much easier for you to attend!

Don't miss keynote speaker
Carly Fiorina
Former Hewlett-Packard CEO

What did last year's conference attendees have to say about their experiences?

"It would be difficult to find a more cost-effective way to interact with so many clients and colleagues, not to mention the educational value of the various tracks."

"This conference was well beyond my expectations. With the constantly changing business environment, it's important to hear new ideas regularly."

CSCMP™ Council of Supply Chain Management Professionals

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  Con-way Truckload Services provides shippers exactly the right equipment to the right location at the right time: 53-foot dry vans, flatbeds, reefers, specialized equipment, intermodal service – whatever it takes to get the job done. For regional, inter-regional, transcontinental, and intermodal services tailored to your needs, call Con-way.
  www.con-way.com/il1 800-763-2222

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INDEX

THE LAST MILE

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If your overseas cargo has wheels–trailers, forklifts, cars–it likely moves on a Roll-on/Roll-off (or Ro/Ro) ship.

Built-in ramps allow cargo to efficiently roll on and roll off the vessel when it's docked in port.

Overseas, Belgium's port of Zeebrugge leads in total number of Ro/Ro vessel calls, according to the U.S. Department of Transportation's Maritime Administration.

The Port of Baltimore is tops in the United States, handling 717 Ro/Ro vessels in 2005. The port takes its Ro/Ro leadership role seriously. Every year, it hosts a Ro/Ro Rodeo, which offers training in the operation of the newest Ro/Ro cargo types moving through the port.

Top 20 US Ports of Call, 2005

Port	Calls	% of Total
Baltimore	**717**	**13**
New York	573	10
Jacksonville	437	8
LA/Long Beach	345	6
Miami	318	6
Tacoma	283	5
Brunswick	219	4
Port Hueneme	218	4
San Juan (PRI)	214	4
Columbia River	199	4
Savannah	195	3
Charleston	194	3
San Francisco	191	3
Philadelphia	189	3
Houston	183	3
San Diego	178	3
Honolulu	167	3
Virginia Ports	160	3
Port Everglades	105	2
Anchorage	94	2
Top 20 Ports	**5,179**	**91**

Top 20 World Ports of Call, 2005

Port	Calls	% of Total
Zeebrugge	**1,915**	**3.5**
Rotterdam	1,234	2.3
Singapore	1,204	2.2
Yokohama	1,152	2.1
Antwerp	992	1.8
Nagoya	950	1.8
Immingham	898	1.7
Bremerhaven	882	1.6
Leghorn	860	1.6
Southampton	849	1.6
Lubeck	834	1.5
Gothenburg	776	1.4
London	756	1.4
Baltimore	717	1.3
Toyohashi	599	1.1
Ulsan	597	1.1
New York	573	1.1
Tees	552	1.0
Piraeus	502	0.9
Barcelona	501	0.9
Top 20 Ports	**17,343**	**32.1**