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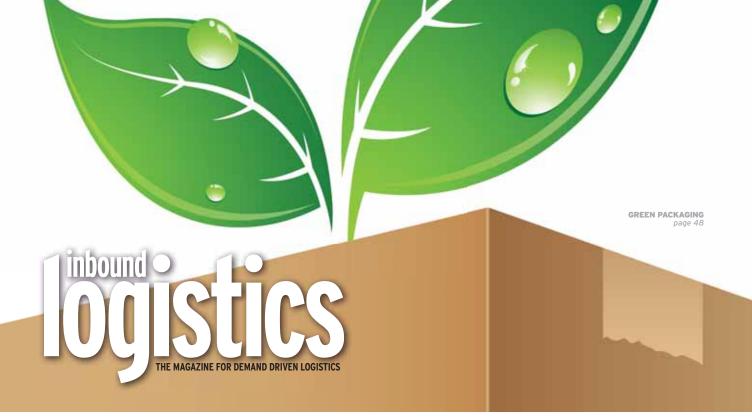
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company's new, fully automated distribution center in Middletown, Pa.



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Why are companies sticking with green packaging initiatives in the midst of an economic recession? Because reusing materials, reducing waste, and improving transportation efficiency is not only good for the planet, it's good for business.



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CHECKINGIN

Lath Baude

by Keith Biondo | Publisher



From Sow's Ear to Silk Purse

urning adversity into opportunity is standard practice for logistics professionals, but it seems everyone is taking that approach in today's economic climate.

Like most businesses, warehouses and third-party logistics providers (3PLs) are feeling the pinch. The part of their business based on creating value for customers, and sharing in that, is doing OK. But for many, the transaction part of the business model is hurting. When shipments are down, inventory moves haltingly or is non-existent, and cash doesn't flow. Even those companies doing well are troubled by projections such as this: "Warehouse vacancy is up sharply and is poised to move into the double digits for the first time since the mid 1990s," according to CoStar Group, which tracks industrial real estate trends.

That adversity creates an opportunity for you to put your logistics partner to work making your logistics network more efficient. You'll gain solutions flexibility, expert bandwidth, and lower warehouse space costs, which can enable you to hold more inventory if needed. Here are some examples of 3PLs working to make a silk purse from a sow's ear:

- Warehouse Specialists Inc. (WSI), a 3PL based in Appleton, Wisc., serves an industrial manufacturer customer that wanted to streamline its entire network. WSI went the distance, eliminating a warehouse location and replacing it with a cross-dock. Naturally, WSI passed those savings back to the customer, but that win was augmented by better load optimization. Trucks that previously left the dock with 32,000-pound loads now topped out at 42,000 pounds—for a monthly transport cost reduction of \$8,000.
- Kenco Logistic Services, Chattanooga, Tenn., recently launched an efficiency improvement program across more than 1.5 million square feet of space. Its goal was to get back to basics and wring out every bit of warehouse operations costs to keep the edge in this tight economy. Part of Kenco's initiative included compensating employees with up to \$500 each for site improvements. That internal drive for efficiency benefited customers because Kenco was happy to pass along savings it gained by reducing non-value-added activities and increasing performance by five percent.
- Los Angeles-based 3PL Weber Distribution ventured into a new solutions area—product assembly—for one customer. Weber's supply chain expertise got the customer's attention for its new product assembly project, and the net result included assembly cost savings, a cut in inbound transport costs, and even a reduction in expedited outbound transport costs.

There are many more examples of turning economic adversity into economic opportunity, and you will find them in this and future issues of *Inbound Logistics*. If you can provide an example from your operation, we'd like to hear about it. Please e-mail: publisher@inboundlogistics.com.

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THE MAGAZINE FOR DEMAND-DRIVEN LOGISTICS

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DIALOG

LETTERS TO THE EDITO



Growing Together

I've just managed to catch up on reading *Inbound Logistics*' January 2009 report on the NAFTA summit it hosted last year. It provided an insightful and interesting viewpoint from both a public and industry perspective on a crucial regional issue.

Purolator moves several thousand surface and air line hauls, carrying millions of small package and freight shipments across the border every year, and as such plays a key role in ensuring safe and free trade between the United States and Canada.

We work directly with and through various associations such as the Express Delivery and Logistics Association (XLA), the Canadian Courier and Logistics Association (CCLA), and the Canadian Embassy and its consulate staff around the country to educate and inform U.S. and Canadian legislators on the impact of security and infrastructure issues related to cross-border trade.

In addition to my role as president of Purolator's U.S. subsidiary, I also currently serve as president of the XLA, an organization that represents approximately 60 firms engaged in supporting North American Free Trade through the express transport and delivery industry. One of our primary missions is to inform the legislative arm of govern-

ment of the impact of the laws and regulatory policies they establish to govern private industry and trade.

It's a constant struggle, and I agree with the view expressed by Hugo Gonzales in your report that the public sector often doesn't understand the importance and value of transportation and logistics. As he so perceptively points out, if its importance in facilitating trade was better understood or appreciated by the public sector it would help to drive the global competitiveness of not only a company, but an entire region such as North America.

John T. Costanzo, President, Purolator USA

Cargo In-security

I have a question regarding Bill Anderson's article, *How Secure is your Cargo?*, which appeared in the March 2009 issue. How can shippers or carriers prevent their trailer doors from being compromised even with the use of a seal?

As an international manufacturer, ODL imports ocean containers from around the world in addition to some export activity. We often import and export between Mexico and Canada with vantype trailers. While there is no dispute that cargo theft is a big problem, the concern I have is preventing smugglers from

putting contraband in our trailers coming back into the United States.

With the drug wars in Mexico escalating, we have seen more attempts by criminals to put contraband on trucks headed north from the border. I do not believe *all* of this is happening in Mexico; a large percentage is occurring in the United States as well.

What we have seen and heard, however, is that smugglers are taking the doors off trailers, thereby leaving seals intact. What measures can be used to make sure doors cannot be removed by another party to gain access to the trailer?

Tim Wendt, ODL

Bill Anderson Responds: You raise a valid issue that many companies involved in cross-border movements have been forced to deal with. There are a number of options on the market that can effectively deal with seal tampering. However, I am not familiar with any that prevent the removal of trailer doors while leaving the seal intact.

Finding an appropriate solution is complicated by the nature of cargo transportation. Any fix would likely involve the physical modification of the conveyance, which is difficult because these assets are rarely dedicated to a supply chain. I feel the best solution for those involved in cross-border shipments is to focus on detection.



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Reducing Damaged Deliveries

t doesn't matter if you get your customers' shipments delivered on time if they arrive at the dock unusable. Selecting a carrier that trains its employees to prevent damages is the first step, but shippers should also take a proactive approach to preparing freight for safe, secure delivery to the end user. Paul Lorensen, central area vice president of operations for Con-way Freight, offers this advice for shippers moving bags, crates, drums, totes, or cartons.

Label, label, label. Freight comes in different shapes and sizes with varying levels of fragility. If a package cannot be tipped, double-stacked, or laid on its side, it should be accurately labeled as such. For example, some "long" shipments require the use of extended forklift blades. Carriers can supply labels to the shipper, or shippers can purchase pre-stamped packaging materials.

Use four-way pallets made of sound lumber. A pallet is not sound if there is a knot in the wood that measures more than one-third the width of a piece of lumber, according to National Motor Freight Classification (NMFC) standards. A knot can break or weaken the slat

enough so that the pallet can break apart or the product dips below the slat, where it is susceptible to damage by the fork-lift blades. Shippers should inspect pallet slats for knots and use four-way pallets to ease maneuvering. Because freight is likely palletized for carriers, they cannot assess a pallet's condition—this is the shipper's responsibility.

Protect exposed valves. Valves affixed and extending from a drum or tote must be protected. Some large totes can contain up to 3,000 pounds of liquid, which in some instances may involve hazardous material. In the event that a valve is bumped, this liquid can spill and lead to costly cleanup and disposal fees. Using caps to prevent leaks is another small step that shippers can take to ensure that this type of freight is properly secured and prepared for carrier pickup, and transported safely.

Use new packaging materials unless otherwise specified. Shippers must use a carton with an appropriate burst weight. Reusing cartons that are not made for multiple use can weaken them, rendering the burst weight invalid. The eventual transition to plastic will

help alleviate this issue, but in the meantime the rule is simple: If the packaging does not indicate that it can be reused, use it only once.

Verify that the bill of lading lists all freight being transported. This tip is similar to the need for precautionary markings. By making sure that the contents of the shipment are described on the bill of lading, carriers can help identify whether or not the packaging is appropriate and the freight is transported safely. Descriptions such as "one skid" or "one carton" are not sufficient and could lead to damaged or lost freight. Shippers can further streamline this process by using standardized bills of lading provided by the carrier.

Cover the ends of threaded pipe or steel tubing. Failure to cap or cover the end of stainless steel or threaded pipe could render it unusable by the customer. For example, forklift blades could enter a steel pipe and nick the end, causing damage that prevents the pipe from sealing correctly. It may also gouge the inside, causing lasting damage and making it unusable for the customer. Similarly, threaded pipe flexes

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in the middle and can scrape the dock when not packaged properly. If threads are damaged in any way, the pipe cannot be used.

Pack cartons carefully. Following a carton's burst weight is important, but it is also crucial to fill the carton and position its contents correctly. Failure to distribute product correctly leaves the carton susceptible to compression, which may cause it to split or rupture.

Use crates constructed with three-way locking corners. Three-way locking corners prevent crates from falling apart during transport. More structurally sound crates feature slats that are joined with nails or staples driven into the side grain of joining members. Without three-way locking corners, crates tend to break under the vibration and G-force of travel over the road.

Shrink-wrap the freight and the pallet. There is a specific process for palletizing and shrink-wrapping freight to ensure safe transport. Shippers often put cardboard underneath cartons on a pallet, then shrink-wrap only the cartons. Because the shrink-wrap does not surround the bottom of the pallet itself, the entire bundle of shrink-wrapped cartons can slide off the pallet. This simple tip can prevent major damage.

The NMFC provides valuable information to help shippers move freight safely and securely—including commodity descriptions, transportation rules, bill of lading formats, and requirements for the proper packaging of goods moving by motor carrier. The packaging provisions in the NMFC fall into three basic categories: general packaging definitions and specifications; specifications for packages that have been approved expressly for the transportation of certain commodities; and performance-based packaging criteria.

* The July 2008 issue was a Jesse H. Neal Award Finalist for Best Single Issue * The January 2007 issue won a Bronze Award for Best Single Issue from Trade

^{*} The January 2007 issue won a Bronze Award for Best Single Issue from Trade and Business Publications International



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READER PROFILE

by Merrill Douglas

Phoenix Rising

t took three months of intense work last fall for Phoenix Contact to shake the bugs from a new, fully automated distribution center in Middletown, Pa. The transition wasn't easy, says Lou Paioletti, director of logistics at Phoenix Contact USA. But according to the company's distributors, adjusting to new technologies and processes can take a good deal longer.

"Our implementation experience was easy compared with what other companies go through," Paioletti says.

Phoenix Contact, based in Blomberg, Germany, manufactures electrical connections, electronic interfaces, and industrial automation technologies. The U.S. business sells mainly to distributors, but also to equipment manufacturers and end users-firms that use process controls in their production lines.

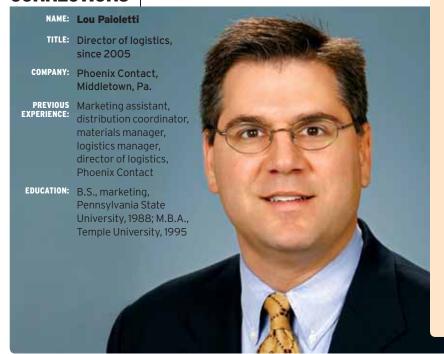
The new Logistics Center for the Americas in

Middletown is the company's distribution hub for North and South America. There, Paioletti's department brings in finished goods from production sites in Germany, China, and the United States. It re-ships them to U.S. customers and to Phoenix Contact subsidiaries in Canada, Mexico, and Argentina.

His team also inventories components for use by the Phoenix Contact Manufacturing Group in Middletown. In addition to running the warehouse and managing transportation, the logistics department handles inventory planning and purchasing.

The move several years ago to a hub-and-spoke system for the Americas cut lead times for the Canadian business and lightened the workload

MAKING CONNECTIONS



The Big Questions

What do you do when you're not at work?

I'm married, and our two children keep my wife and I busy. I teach marketing and other business courses as an adjunct instructor at Penn State University, York. This fall, I'm running for re-election as tax collector for Derry Township, Pa.

What's in your briefcase?

A stack of exams I graded for my marketing class at PSU.

First Web site you look at in the morning?

I check our intranet to see how much we booked and billed the previous day and to get a pulse on the order lines shipped.

If you didn't work in supply chain management, what would be your dream job?

Saxophone player in the E Street Band or moderator on Meet the Press.

in Germany. That change, along with growth in the company's U.S. market, prompted the need for a bigger warehouse. The new facility features entirely new processes, with automated materials handling equipment provided by Viastore Systems, Grand Rapids, Mich.

Advanced technology, including a robotic palletizer and robotic storage-retrieval machines, has sped up the operation and reduced reliance on temporary workers. "Prior to moving to this new automation center, it took a seven-person crew three days to put away a 40-foot sea container," Paioletti says. "Now it takes two people no more than

six hours to put it away."

As they implemented the new systems, everyone expected they would have to work out some glitches. The area that gave them the most trouble was the pick/pack operation.

While Phoenix Contact and its vendor implemented and adjusted the pick/pack software, the company still needed to fill customer orders. So workers continued making manual picks. Later, the company combined manual and automated picking.

"We threw extra bodies at the situation and worked as many hours as it took," Paioletti says. "Our goal was to get shipments out the door. If that meant putting three people to work on one order, that's what we did."

Although the implementation posed some challenges, that was to be expected. "We were happy with the implementation experience overall, especially considering that we had both a full software change and a complete physical operation change," Paioletti says.

With the new Logistics Center humming along nicely now, the logistics team continues to explore and refine its capabilities. "We're now looking forward to post-implementation optimizing," Paioletti says.



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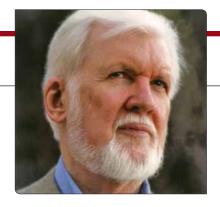


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SCPERSPECTIVES

BY ROBERT A. MALONE

Contributing Editor, Inbound Logistics RMalone@inboundlogistics.com

Making Supply Chain Data Dynamic

Global supply chain management requires a commitment to thinking big and having the means to receive, process, and use complex, costly data.

oday's supply chain managers are hot for more data and greater integration. Their motive is simple. They recognize that they can wring profit by reducing complexity or isolating actions. It is hard to argue against this point of view, especially when companies integrate data with the goals of cutting costs, reducing working capital by holding less inventory, keeping service levels up while achieving the first two goals, and gaining systems flexibility in a global business environment.

But global business is not conducted on an even playing field. Companies require varied details and degrees of data to manage logistics parts or the supply chain as a whole. Channeling mass amounts of information to appropriate decison-makers warrants a funnel, not a cylinder, for aggregating, integrating, and digesting data that enables companies to be more responsive to both internal and external pressures.

The world recession has inflicted levels of pain on many internal parts of the supply chain. The global warehouse management systems market, for example, is feeling only minor pain; it shrank one percent in 2008, according to ARC Advisory Group. Given the times, that one percent looks good.

In other areas, however, the economic impact is far from moderate. Gross Domestic Product figures for the fourth quarter of 2008 were less-thanadmirable around the world (*see chart*) and essentially a response to spikes in global oil prices, says Alan Reynolds, senior fellow in the Cato Institute. Think things are bad in the United States? Take a look at Taiwan.

Here's some more evidence of the uneven playing field. Dennis Lockhart of the Federal Bank reports that since January 2009 there has been a 31-percent decline in trade globally compared to last year. As a consequence, shipping rates have dropped in a tight credit period. As major exporters, China, Japan, and South Korea have been particularly hard hit, Lockhart adds.

These differing market and economic forces, internal and external, shape how logisticians and supply chain managers leverage the power of information and integration.

While transportation management and warehouse management systems can heal some economic pain by helping companies more efficiently manage their truck fleets or distribution centers, expecting to conquer

GLOBAL GDP DROPS

Growing U.S. exports kept real GDP increasing through the second quarter of 2008, but this could not be sustained as the economies of major U.S. trading partners fell sharply. By 2008's fourth quarter, real GDP was just 0.8 percent lower than Q4 2007 in the United States, but 1.7 percent lower in Germany, 4.3 percent lower in Japan, and 4.9 percent lower in Sweden.

Canada	-0.7	Germany -	1.7	S. Korea	-3.4	Sweden	-4.9
U.S.	-0.8	Britain -	·2.0	Denmark	-3.7	Turkey	-6.2
France	-1.1	Hong Kong -	·2.5	Singapore	-4.2	Taiwan	-8.4
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Source: Alan Reynolds, Cato Institute



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SCPERSPECTIVES

global supply chain management is a matter of different scale. It challenges companies to gather the right information and make it accessible for both function specific and end-toend optimization. But without proper integration even the best data can be detrimental.

When data appears in silos—in different parts of the supply chain, for example—its integration can create quality issues over a product or service's entire life cycle in a global marketplace. Identifying the relevance of data from world sources involves reconciliation, discovery, and profiling; in the right hands, these steps can lead to data quality improvement.

Integrating the operational systems used by manufacturing, distribution, and retail partners can lead to better

supply chain efficiency. Higher-quality data further improves the efficiency and effectiveness of various processes. Poor data quality, for instance, results in extraneous costs when goods are manufactured or shipped incorrectly.

Informatica, based in Redwood City, Calif., specializes in the integration and quality control of business data. Its system comprises five steps in the data life cycle:

- **1. Access:** The system enables access to almost all forms of data stored in a broad array of systems.
- **2. Discover:** In the discover stage, the system helps to quickly identify the most relevant information.
- **3. Cleanse:** Informatica puts data through a cleansing process to measure and improve quality.
 - 4. Integrate: Through automation,

the system reconciles and integrates structured and unstructured data.

5. Deliver: The system delivers data at the right time in the right format.

By automating the entire life cycle, Informatica addresses data integration needs at any scale, quickly and cost effectively.

Data quality improvement requires a continuous closed-loop process, which means working at it constantly. But the dividends are great. Better data can lead to better decision-making and better supply chain efficiency and customer service.

To tame the global supply chain, we will have to live in a world of giant volumes of data and data processing costs. We will pay for every byte we use. It had better lead to data integration.

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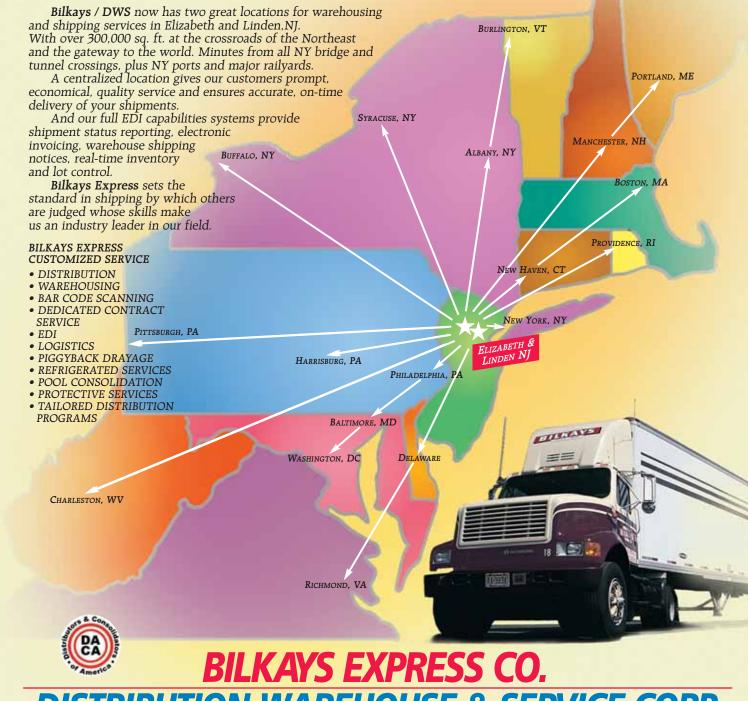
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knowledgebase

By Jovan Jovanovski Vice President Marketing and Operations, myFreightWorld 913-905-5267 • jjovanovski@myfreightworld.com

Make Sure TMS Stands for 'Time-to-Market Savings'

road agreement exists nowadays among logistics managers that Transportation Management Systems (TMS) are a useful—many would say powerful—addition to their arsenal of tools. After all, a good TMS will automate quoting, tendering, billing, and a host of other shipping activities. It will optimize modes, routings, and costs while providing unprecedented visibility to shipment status and exceptions. The technology is there to standardize processes and facilitate collaboration among multiple locations and entities while still allowing a high degree of customization in terms of user access levels and views.

But should you develop your own TMS in house or "rent" one of the many "on-demand" systems available in the marketplace? Our analysis suggests that on-demand systems (sometimes called SaaS for "Software as a Service") tend to be a better choice for most logistics managers, primarily because they allow for much quicker implementation, providing what we call Time-to-Market Savings.

In-house development requires a large staff of expensive programmers, or outside contractors, and, done properly starting with solid user specification, a relatively long development time measured in months, if not years. Outsourcing the programming to China or India can reduce costs dramatically but it doesn't solve underlying issues like obsolescence of the code, not to mention communication and coordination issues. The fact is that the ever-accelerating velocity of change in the I.T. world makes custom-built systems quickly obsolete, or at least very expensive to maintain and upgrade. Consider for example how social networks (Web 2.0), which only arrived couple of years ago, have become a key model for web application design universally . What is the next such revolution and what will it mean for your in-house TMS?

Meanwhile, companies who are purely in the business of developing on-demand systems are constantly upgrading their applications and benchmarking each other's best practices, resulting in ever-increasing TMS functionality and adaptability. Why would you want to pay for this expertise yourself when it already exists and is in effect funded by the entire universe of on-demand TMS customers?

And why would you not want to retain your ability to make decisions about changes or upgrades to your enterprise system without worrying about their impact on your TMS? (Incidentally, all our points and arguments here are generally the same for on-demand Warehouse Management Systems as well.)

Integrating an on-demand TMS has become much easier with the advent of widely-used web programming standards like .NET and Java. This development has been as revolutionary for programmers today as the WYSIWYG applications like Windows were for users in the 1990s. This is clearly illustrated by the fact that users can now easily build professional looking websites with virtually no involvement by programmers. Now, it is true that these standards have also sped up time-to-market for systems developed in house. However, our experience is that time-to-market is still much faster with ondemand systems. At myFreightWorld, we have achieved several integrations with large clients in six weeks or less—a reduction in time-to-market of at least 75 percent versus in-house development, in their estimation. Clients like 3PL, OHL have told us that being able to complete implementations quickly and efficiently allows them to deliver a significant ROI to their customers.

Our conclusion is that in-house TMS development is neither costeffective nor necessary for most logistics managers. On-demand systems are preferable primarily because they dramatically reduce time to market. They achieve that by virtually eliminating the need for programming costs, local installation, additional hardware, inhouse maintenance, and upgrade costs. The on-demand/SaaS applications easily integrate into your existing system due to the use of standards like web services and other XML base systems. Features like user account access and management and data exchange with partners like carriers come as standard built-in functions. New features and capabilities arrive on a continuous basis and are available to you quickly and cheaply. And you're not locked in to either your own system or even to a particular on-demand TMS, because it is not that difficult or expensive to make a switch. So when making your own choice, we advise that you ensure TMS also stands for "Time-to-Market Savings."

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CRST THE TRANSPORTATION SOLUTION





by Joseph O'Reilly

GM Pulls Inventory to Pace Demand

ean times call for equal measures. The U.S. automotive industry has been decimated by a slumping domestic economy and increasing global competition. While some cash-strapped manufacturers join government "bread" lines, still others are turning to their assembly lines.

In what amounts to a corporate mandate to level production and lean out its supply chain, General Motors Corporation (GM) recently announced it would schedule multiple down weeks at 13 assembly operations in North America later this year. Under this

plan, approximately 190,000 vehicles will be removed from the manufacturer's North American production schedule in the second and early third quarters.

The strategy comes as dealer vehicle inventories remain high and the

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TRENDS

《 CONTINUED FROM PAGE 24

A Matter of Degrees

here are tomorrow's brightest logistics leaders now? According to U.S. News and World Report, they're at the Massachusetts Institute of Technology. In its annual list of top supply chain graduate programs, the magazine gave top honors to MIT's Sloan School of Management. Here are the other schools that made the grade:

- Massachusetts Institute of Technology (Sloan School of Management) Cambridge, Mass.
- 2. Michigan State University (Eli Broad Graduate School of Management) East Lansing, Mich.
- 3. Carnegie Mellon University (Tepper School of Business) Pittsburgh, Pa.
- 4. Stanford University (Graduate School of Business) Stanford, Calif.
- Arizona State University (W.P. Carey School of Business) Tempe, Ariz.
- 6. Pennsylvania State University – University Park (Mary Jean and Frank P. Smeal College of Business) University Park, Pa.
- 7. Ohio State University
 (Max M. Fisher College of
 Business) Columbus, Ohio
- 8. University of Pennsylvania (Wharton School) Philadelphia. Pa.
- 9. University of Tennessee– Knoxville (Graduate School of Business) Knoxville, Tenn.
- 10. Northwestern University (Kellogg School of Management) Evanston, III.

opportunity to bring production in line with current market demand warrants action. Essentially, the company is streamlining its planned and existing pipeline inventory to become more responsive to actual demand.

"We're taking aggressive steps to accelerate our inventory initiatives that have worked well since the first of the year," says Troy Clarke, GM North America president. "While sales have been performing at or close to our plan estimates, and dealer inventories have been reduced accordingly, we want to more closely align

inventories with more conservative market assumptions.

"Reducing our inventories aggressively reduces pressure on GM and our dealers, and sets us up for a clean 2010 model year start-up," he adds.

The plant down weeks will be staggered and vary in duration, based on current inventory levels and expected product demand. Corresponding down weeks are also scheduled at GM's stamping and powertrain facilities. The scheduling actions do not impact operations that are in the process of



By temporarily halting 13 North American assembly operations, GM hopes to match current inventory levels to expected demand.

launching products, including the allnew Chevrolet Camaro built at Oshawa, Ontario, Canada, and the Buick LaCrosse launching soon at the Fairfax, Kansas, assembly plant.

At the end of March, approximately 767,000 vehicles were in U.S. dealer stock, down about 108,000 vehicles (or 12 percent) compared with the same period last year, and down 105,000 vehicles from year-end 2008. These new scheduling actions will help reduce U.S. dealer inventories to approximately 525,000 vehicles by the end of July.

↑ UP THE CHAIN

PEOPLE ON THE MOVE

Papa John's International recently promoted Tony Thompson ► to senior vice president. He will oversee PJ Food Service, the company's wholly owned food service production and distribution company, leading all aspects of dough production and distribution activities, including quality control operations and strategic supply chain



management. He has served as vice president, quality control center operations, for Papa John's since 2006. Prior to that he held positions at the Scotts Company and ConAgra Grocery Products Company. Seattle Genetics, a Bothell, Wash.-based clinical stage biotechnology company recently appointed Vaughn B. Himes as executive vice president, technical operations. Himes brings more than 20 years of experience in manufacturing, technical operations, process development, and scale-up activities. In this post he will oversee Seattle Genetics' manufacturing, supply chain, and quality assurance and control functions. James G. Conroy has been promoted to president of Claire's Stores, a specialty retailer offering value-priced fashion accessories and jewelry. In his expanded role, Conroy will supervise the management of the corporate merchandise function, which has responsibility for global merchandise concept, product development, and supply chain.

Avon's Extreme Makeover

The Avon lady knows a thing or two about how to sell customers on door-to-door makeovers. Apparently, Avon's supply chain strategists have taken a page out of its own catalog—and the changes are anything but cosmetic.

The New York-headquartered cosmetics company, which flaunts products in more than 140 countries worldwide, recently announced a two-phase global restructuring program expected to achieve savings approaching \$900 million.

"Over the past three years, we have been dramatically transforming our cost structure and exceeding our original savings estimates as we fix the fundamentals of our business," says Charles Cramb, Avon's vice chairman, chief finance and strategy officer.

Based on this progress, Avon expects the original restructuring program, initiated in 2005, to deliver total savings of approximately \$430 million by 2012. It also projects annualized benefits from product line simplification and strategic sourcing initiatives in excess of \$200 million and \$250 million, respectively, in 2010.

Encouraged by this return, the cosmetics company is

launching a new restructuring program to target increasing efficiency and organizational effectiveness across its global operations.

"This initiative reflects both our constant turnaround mentality and our determination to aggressively manage our cost structure as we address the current macro-economic challenges," adds Cramb.

The new program focuses on the company's global supply chain operations, realigning certain local business support functions to a more regional basis to drive increased efficiencies and streamline transaction-related services, including selective outsourcing.

Over the past decade, Avon has sought an appropriate balance between decentralized country-specific supply chains and a more integrated and aggregated approach.

By forecasting future demand pockets, and locally positioning manufacturing to best serve these markets, the company is taking cost out of the supply chain while continuing an aggressive global strategy in a recessive global economy.

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GLOBAL LOGISTICS

by Joseph O'Reilly





ot in my backyard" posturing has become a familiar obstacle to economic development interests wrestling with local citizenry over infrastructure projects.

Recently, Canadian National's nationally publicized and locally ostracized acquisition of the Elgin, Joliet, and Eastern Railroad, and intention to reroute rail traffic around Chicago to alleviate congestion, drew criticism and legal action from affected communities.

Farther afield in Germany, Frankfurt's

night skies have become another contentious battleground, pitting national interests against local politics. German airline Lufthansa and mail and logistics group Deutsche Post have filed lawsuits over restrictions to night flights linked to the future expansion of Frankfurt airport.

The litigation comes as Fraport, the operator of Frankfurt Airport, begins a (US) \$5.2-billion project to expand Europe's third-largest airport, adding a fourth runway and a third terminal.

Development is necessary as aircraft takeoffs and landings are expected to approach 700,000 by 2020, up from 489,000 in 2006, and cargo and mail tonnage is forecast to eclipse 3.5 million tons during the same period.

Environmental groups, local councils, and residents had sued to halt the expansion project over concerns that night flights would impact quality of life in the area. The Hesse state government recently stepped in, after an initial all-out ban on night flights, to allow 17 flights per day between 11 p.m. and 5 a.m. Still, they would be prohibited on the new runway.

"Without night flights, our business model, which is dependent on the Frankfurt hub, will not work," explains Carsten Spohr, CEO, Lufthansa Cargo, in exclusive comments to *Inbound Logistics*. "A ban on night flights would jeopardize our existence. The overnight transport—with takeoffs and landings during night hours—is the major advantage of air freight.

"Huge parts of the manufacturing industry rely on the fact that shipments arrive in the United States the next morning, ready for further processing—or, in the case of Asia, the day after," he adds. "We live by goods being

Wagner means sustainable growth.



GLOBALLOGISTICS

CONTINUED FROM PAGE 28

produced during the day and transported at night."

The ramifications for Lufthansa Cargo and its global customers are considerable. The airline has established a second airfreight base in Leipzig, but 90 percent of its freight takes off, lands, or transits

on a passenger flight from Delhi bound for Chicago would have to be trucked to Hahn or Leipzig, then flown to the United States. That means longer transshipment and transport times, higher costs, and, above all, appreciably more heavy-truck traffic on the roads." global connectivity," notes IATA Director General and CEO Giovanni Bisignani. "Severe restrictions on night flights constrain international cargo operations and will hurt economic growth."

The aviation industry takes its environmental and social responsibilities seriously, he adds, with aircraft now 70 percent more fuel-efficient and 75 percent quieter than 40 years ago.

Restricting night flights could have unforeseen social consequences beyond concerns raised by antagonists, Spohr cautions. Cargo activity spread out over fewer hours will increase congestion and throughput concerns, which will inevitably force businesses, carriers, forwarders, and other transportation and logistics intermediaries to take their jobs elsewhere. An independent study suggests 2,100 jobs would be threatened at Lufthansa Cargo alone, and that number would be far greater taking into account the loss of future job growth.

"We're not talking about the percentage of cargo flown at night, we're talking about the very existence of Frankfurt as a logistics base. In the future, freight would then be flown from Amsterdam, Luxembourg, or Paris. That would weaken Frankfurt—to the delight of Lufthansa's competitors," concludes Spohr.



"Huge parts of the manufacturing industry rely on the fact that cargo shipments arrive in the United States the next

morning. We live by goods being produced during the day and transported at night."

-Carsten Spohr, CEO, Lufthansa Cargo

through the Frankfurt hub.

Equally important, an essential element of Lufthansa's business model is transporting freight in the belly holds of passenger aircraft, which, in turn, depends on an international hub where passenger and cargo flights are synchronized.

"Talk about moving to airports such as Hahn or Leipzig, which are open for night flights, is nothing but a laymen's discussion," adds Spohr. "In the future, freight that arrives in Frankfurt Lufthansa is currently caught in the middle of this fray and has tabled capital investments until it secures a suitable resolution.

The International Air Transport Association (IATA) has also weighed in on the legal brouhaha. While the trade association welcomes approvals for adding a fourth runway and a new terminal at Frankfurt Airport, it's also aggrieved by the proposed restriction on night flights.

"Frankfurt is a global hub that needs

Canal Turns Tables

hile the timetable for completing the Panama Canal expansion project is years away, the turntable for the Gatun Locks rail system is in place. The Panama Canal Authority's (ACP) track and turntable system continuously transports locomotives through the locks to assist transiting vessels. Previously, vessels stopped midway through the locks to exchange locomotives, increasing the time it takes a ship to navigate the Canal.

The new system enables additional Panamax vessels to transit the waterway every day. Vessels can now pass through the Gatun Locks with the set of locomotives, saving significant time. The ACP has undertaken a number of renovations to enhance efficiency during the expansion project including the rebuilding of the entire return track, replacing both turntables, and creating additional locomotive parking space.



TNT Primes Asia Network

espite global economic doldrums and cause for capital discretion, TNT is marching to the beat of its own drum as it parades a new \$20-million regional hub in Singapore. Southeast Asia remains a ripe market for expansion as consumption in the region's developing countries drives demand for time-sensitive service. TNT's new facility serves as an important terminus and feeder into its Asia Road Network.

The Netherlands-based global mail and express delivery company has been heavily investing in its Asia Road Network over the past few years. The integrated road network, which debuted in 2005, links China with more than 125 cities across 3,100 miles in Vietnam, Thailand, Singapore, Malaysia, and Laos. TNT's door-to-door and day-definite distribution services are less expensive than air and three times faster than ocean.

The Singapore hub will enable faster turnaround times, and process higher volumes of time-sensitive road and air cargo passing through Singapore. A new materials handling system, more loading and unloading bays, and increased warehouse space will facilitate sorting, storage, and transfer of express freight from aircraft directly to the road, and vice versa.

The timing of TNT's new opening is not without reason. The pending China-ASEAN Free Trade Area could drive bilateral trade between China and ASEAN countries to (US) \$250 billion, up from (US) \$160 billion in 2006. TNT's Asia Road Network and Singapore hub are well-positioned to offer global shippers more secure and cost-effective delivery services.





May 2009 • Inbound Logistics 31

3PLLINE

by Gary Allen



Offshoring vs. Right-shoring: How to Decide

or more than a decade, companies have used offshoring as a primary strategy for maximizing value in the global manufacturing supply chain. The advantages of offshoring are eroding, however, due to rising wages in overseas locations, volatile fuel costs, global security concerns, and the worldwide economic crisis. In response, some U.S. manufacturers and parts suppliers are exploring "right-shoring"-bringing operations back to, or near, the United States-to claim a competitive advantage.

In considering a right-shoring strategy, manufacturers must evaluate how supply chain adjustments affect their ability to serve customers and remain competitive. To make an informed decision between offshoring and right-shoring, companies must capture, analyze, and manage all supply chain costs to establish a total landed cost analysis.

In addition to straightforward expenses such as labor, raw materials, property, transportation, warehousing, and customs fees, companies must consider indirect logistics costs. For instance, every country has hidden costs related to the maze of legal, cultural, and logistical details essential to operations.

The analysis must also include inventory costs, which are perhaps the most significant hidden logistics expense. With offshore production, companies carry high levels of inventory near target markets to guard against supply chain disruptions such as storms or port strikes. Indirect costs such as obsolescence and lost sales represent a significant portion of diverse products such as clothing, cars, and personal electronic devices.

LESS IS MORE

In a challenging economy, reducing inventory costs is a primary benefit of right-shoring. Lower inventories also help companies adjust more efficiently to changes in customer demand. Products best suited for this type of supply chain strategy are ones that have the following traits:

- Complex design that requires closer collaboration with the manufacturer or company headquarters.
- High-value intellectual property. Pirating has been one unfortunate by-product of offshoring. Closer proximity of right-shoring can increase management oversight and help protect intellectual property.
 - Large size and weight. A product's

size and weight is a major factor in shipping costs, so right-shoring can be a good option for larger products such as copiers, televisions, and auto parts.

- Proximity of raw materials. Given unpredictable transportation costs, it may be cost-effective to bring production closer to the source of raw materials rather than continuing to ship overseas.
- Short lead times. Closer proximity to the manufacturer can speed delivery times and responsiveness enough to offset the offshore operation's cost advantage.

THE OUTSOURCING OPTION

Because global offshoring and rightshoring programs can be complex, manufacturers may use third-party logistics providers (3PLs) to help navigate a supply chain strategy that derives the greatest value to the business and provide existing infrastructure that reduces capital investment and distribution costs.

Evaluating the right-shoring approach requires in-depth expertise and global resources. The right 3PL may help manufacturers claim a competitive advantage by managing complexity amid the changing global supply chain.



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CARRIERS CORNER

by Rao Panchalavarapu



Is Dedicated Fleet Service Right for Your Company?

mplementing a dedicated fleetassigning a group of tractors, trailers, drivers, and other resources exclusively to carry out operations for a chosen set of facilities or lanes in any transportation network-offers a number of potential advantages.

Among the benefits shippers may derive are improved on-time delivery performance, guaranteed capacity, and reduced freight transportation costs. Relying on dedicated carriers' transportation management expertise also frees shippers to focus personnel and financial resources on business operations, such as manufacturing.

IF THE FLEET FITS

To determine whether a dedicated fleet program is appropriate for its business, a shipper should consider the following factors:

- **Freight flow seasonality.** Shippers serving networks where seasonality is an issue could face significant under-utilization of dedicated fleet resources during the slack period, especially if all the network's lanes are affected.
- Direction of freight flows. Networks with significant inbound and outbound

flows typically benefit more from a dedicated fleet than those with exclusively inbound or outbound flows.

- Local, regional, or long-haul deliveries. Dedicated fleets can pay off when a shipper's local transportation requirements are fewer than 100 miles, because common carriers often apply minimum charges. Depending on the haul length, some regional deliveries could also benefit from using a dedicated fleet, but both regional and long-haul deliveries are suitable for dedicated fleets only when there is backhaul opportunity.
- Network characteristics. A dedicated fleet is most beneficial when the shipper sends a large number of loads through a large number of lanes. Networks with short hauls (local deliveries) should have at least one load per day. Networks with regional deliveries averaging 500 miles may benefit from using a dedicated fleet even if they have only one load per week as long as sufficient backhaul opportunities exist.
- Transportation mode. Dedicated fleet operations are typically used for truckload and multi-stop deliveries. It is possible to find pooling opportunities in any LTL and small package network

and employ dedicated carriers to execute line-haul and local deliveries in the pooling network. But if there are no backhaul opportunities in the network on the line-haul portion, using dedicated carriers could be cost-prohibitive. Intermodal shipments involving rail and truck carriers present a good opportunity for adopting dedicated carriers. Typically, the rail portion of the network is long, and the dray portion executed by truckload carriers is short. Employing dedicated carriers on the dray portion can provide network cost and service improvements.

- Freight transportation rates available through common carriers. These tend to be very expensive on some lanes and geographies. Implementing a dedicated fleet presents an opportunity to reduce costs in those markets.
- Specialized equipment. Using a dedicated fleet can make it easier to acquire specialized capacity such as flatbed or refrigerated trailers.

After evaluating these factors in relation to their needs, shippers will be well equipped to decide whether implementing a dedicated fleet program is in their best interest.





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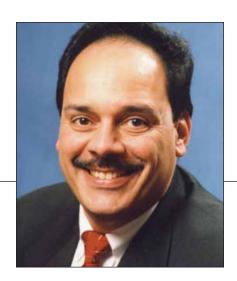
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RISKS REWARDS

ISSUES AFFECTING LIABILITY MANAGEMENT

by C. Daniel Negron



C.H. Robinson Case: Brokers Learn Liability Lesson

I read about a recent case in which a jury awarded \$23.7 million against a transportation broker who hired a motor carrier that was involved in a fatal automobile accident. As I understand it, the transportation broker did not own or operate the truck that caused the accident. How is it possible that the broker was held responsible? As a freight broker, how do I protect myself against a case like this?

The case you refer to is *Sperl v*Henry, et al, and it has many freight brokers asking the same question.

According to published reports, while acting as a transportation broker, C.H. Robinson hired motor carrier company Toad L Dragonfly to move a shipment. While transporting the shipment on an interstate highway near Plainfield, Ill., the Dragonfly driver reportedly lost control of the tractor-trailer and rear-ended multiple vehicles.

At the time of the accident, the driver was reported to have a suspended license and falsified log books. The collisions caused the deaths of Joseph Sperl and Thomas Sanders, and serious injuries to William Taluc

Multiple law suits followed in which Dragonfly, the driver, and C.H. Robinson were all named as defendants. In the course of the litigation, it was learned that both Dragonfly and the driver had a limited amount of insurance coverage. C.H. Robinson claimed that it had no liability for the accident because it did not control Dragonfly or its driver, who were independent contractors. The case was tried before a jury who rendered the multi-million-dollar verdict against C.H. Robinson. At press time, it was not certain whether any appeals will be filed.

In cases such as this, plaintiffs rely on a number of theories to impute liability on the freight broker.

- Vicarious liability. This theory holds an operator liable for the acts of a third party as if he were standing in its shoes. There need not be any direct relationship between the parties, and their mere involvement in certain, often hazardous, transactions render them liable.
- Negligent hiring of a subcontractor. Under this theory, a party is alleged to have failed to ascertain that the carrier was properly qualified to undertake the move. In the Robinson case, the lapsed state of the driver's license may have been a factor in establishing liability.

The tragic consequences of this case

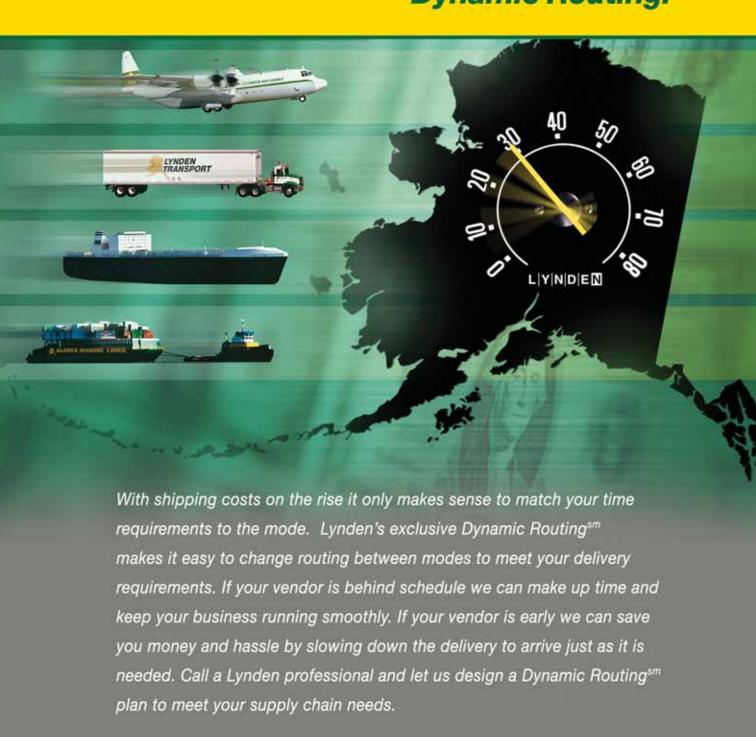
demonstrate the importance of all transportation intermediaries acting prudently when contracting with service providers. This begins with selecting a reputable company. Databases are available that can verify the status of a motor carrier's operating license and proof of its insurance. Depending on the commodities being transported, minimum insurance limits can range between \$1 million and \$5 million. In light of the case at hand, ascertain whether the carrier has excess limits as well. This should all be verified through certificates of insurance.

Get the transportation agreement between you and your carrier in writing. Make sure it contains an indemnification running from the carrier to you for any claim arising from a failure of due diligence when selecting a driver. The carrier should name you as an additional insured on its policy, obligating the carrier to undertake your defense in the event of an accident. Defense costs alone can be substantial.

Finally, make sure you are properly insured for these accidents. Although you are a transportation intermediary, you can be held liable for accidents caused by vehicles that you do not even operate. Ask your liability insurer to confirm that you will be covered for this exposure.



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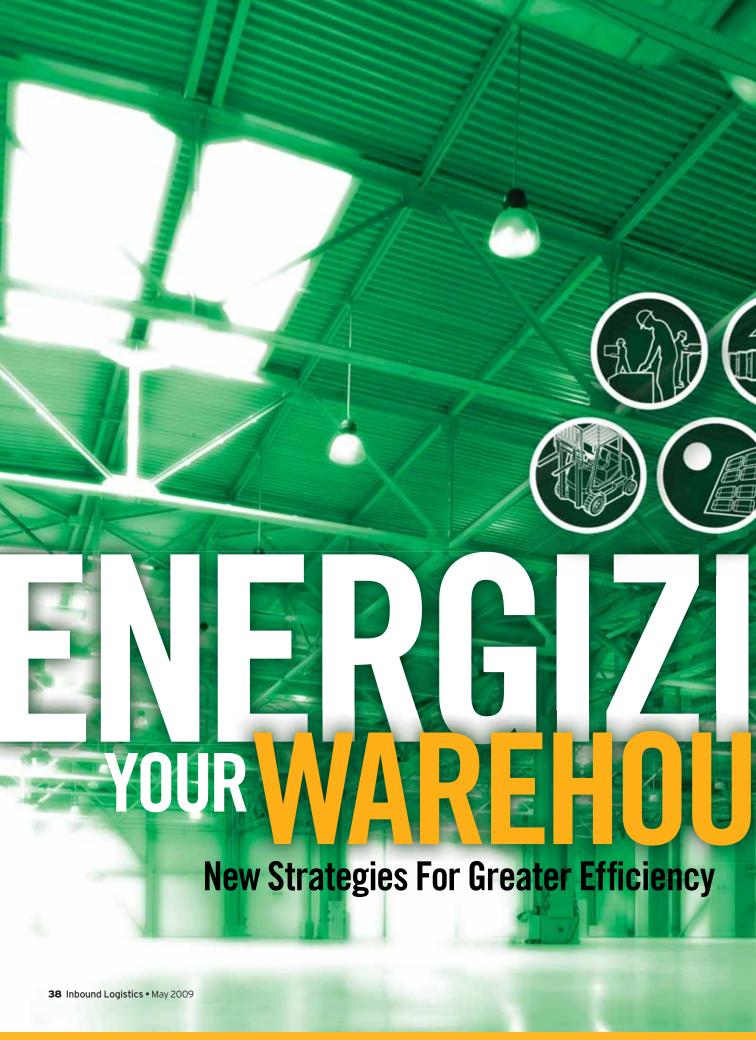
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By Merrill Douglas

In a tough economy, the universal battle cry is, "Do more with less!" We're all looking for new ways to squeeze a few more dollars, or a few more hours, from our operations while also delighting customers with everbetter service. In many cases, we're trying to achieve those goals while saving energy and reducing our environmental impact.

Warehouse operators can employ many excellent strategies to boost efficiency: warehouse management systems, wireless communications systems, materials handling automation, and well-designed cross-docking, for starters. Companies also are applying techniques that you might not have heard about before. Here's how some logistics professionals are making their warehouses smarter, faster, greener, and more economical.

LIGHTS. ACTION

One simple technique for saving energy and cutting costs in a distribution center is to replace older lighting systems with high-intensity fluorescents.

Warehouses traditionally have used

mercury vapor lamps, which give off a bluish light, or sodium halide lights, which have a yellow cast, says Geoff Sisko, assistant vice president at TranSystems, a logistics consultancy in Woodbridge, N.J. Both types of bulb cast a cone-shaped light, making them a less-than-efficient warehouse solution.

"With these bulbs, items high up in the racks are cast in shadow," Sisko says. "And low down on the floor, wasted light spills into areas that are covered by racks."

In addition, such lights take a minute or two to achieve full brilliance. "They're also power hogs," Sisko adds.

Many companies are retrofitting warehouses with T5 fluorescent bulbs and fixtures (T5 refers to the diameter of the bulb, 5/8 of an inch, in this case). These bulbs emit a lot of light, and because of their horizontal shape, they cast it in a linear pattern.

"Arranging the lights correctly can provide good light from the top of the racks to the bottom along the aisles. And in open space, the lights can be positioned to distribute lighting evenly," Sisko says.

Officials at Lion Brand Yarn Company, the oldest yarn brand in the United States, were so pleased with the fluorescents they installed in a Carlstadt, N.J., warehouse five years ago, they're now retrofitting a second building with that technology as part of a major renovation.

"We currently use old-style fluorescent bulbs in the DC's ceiling," says Marty Leiderman, Lion Brand's distribution manager. The lighting contractors have specified T8 bulbs, which measure one inch in diameter.

"The contractors are tailoring the light to the application we need," Leiderman the detectors don't sense movement in an aisle for a predetermined amount of time, the lights shut off, and only a few bulbs stay on to provide minimum light," Sisko explains. "As soon as somebody moves into the aisle and motion is detected, the lights come back on."

Another energy-saving technique that can be tied to a fluorescent lighting system is "light harvesting." When bright sunlight enters a room, a sensor sends a signal to a switch to dim the lights. When clouds roll in or the sun moves to the other side of the building, the fluorescent lights grow brighter. It has only

When Eden Foods, a Clinton, Mich.based purveyor of organic foods, built an addition to its warehouse last year, it ran a five-foot-high window made of polarized plastic around the top of the facility.

"The polarized plastic reduces the amount of lighting needed in the building," says Michael Potter, Eden's president and chairman. "It also lets in warmth in the winter and blocks the sun in the summer to minimize energy consumption."

Optimizing the light and other elements to reduce the impact on the earth is part of Eden's corporate culture. So when it came time to build the 72,000-square-foot addition, Potter opted to follow guidelines established by the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. Buildings earn LEED certification for attaining goals in sustainable site development, water savings, energy efficiency, materials selection, and quality of the indoor environment.

The addition, completed last year, incorporates recycled steel, highly efficient lighting, and a plumbing system that includes low-flush toilets. Eden also installed a bright white roof designed to reflect light and heat back into space, rather than absorbing it and contributing to global warming.

In the near future, Potter hopes to make the warehouse even more sustainable by adding alternative energy sources, such as solar panels or a wind turbine. "Solar panels are becoming increasingly more cost effective," he says.

A vendor exhibiting a windmill at a recent natural products expo told Potter he could build one sized to Eden's needs for \$10,000. "That's a reasonable price," Potter says. "A significant return on investment and a positive impact on energy consumption with windmills is affordable, even for us."

GOING UP

Another way to achieve new heights in warehouse efficiency might be, simply, to achieve new heights. In crowded Asian cities, for example, vertical warehousing helps some companies beat the high cost of land, cut transportation costs, and reduce the operation's environmental impact.



LIGHTEN UP. Diffusing skylights in this home improvement center warehouse in Silverthorne, Colo., increase daylight and reduce electric lighting and cooling loads.

says. "As a result, we'll have the proper amount of even lighting throughout the building."

The new fixtures and bulbs are more energy efficient than the equipment that was available when the building was erected more than 30 years ago. "We get better light cheaper," Leiderman notes. Lion Brand expects to net a return on its investment in the new fixtures in less than two years.

Some companies are going one step further and using motion detectors to control their fluorescent lighting. "If recently become possible to control fluorescent fixtures in this way, Sisko notes.

This technique is obviously best suited to buildings with large windows—not a common warehouse feature. "Manufacturing plants currently use it, and schools and offices could use it," Sisko says. A warehouse could install such a system in areas near the loading docks, which do get outside light.

If anyone is going to find a practical way to harvest light in a warehouse, it might as well be a company that makes its products from the fruits of the harvest.





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Eden Foods, Clinton, Mich., constructed a new warehouse addition according to LEED energy and environmental guidelines. The 72,000-square-foot addition (the area with the bright white roof) incorporates a variety of green features, including the roof itself, which reflects the sun's rays. This sends heat back into the atmosphere, rather than absorbing it and contributing to global warming.

Multi-story distribution centers haven't yet caught on in the United States, but that could change, says Steve Campbell, senior vice president, director of environmental and development services at AMB Property Corporation, San Francisco.

"Multi-story facilities are being discussed at length in the Los Angeles port area, and in the New York/New Jersey market," Campbell says. Officials at those ports are looking for ways to provide adequate distribution capacity in areas where there's little room left to expand.

AMB owns, operates, and develops industrial real estate in the Americas, Europe, and Asia, and its portfolio includes about eight million square feet of multi-story warehouse space. Tenants of AMB's vertical warehouses include logistics service providers Exel, Expeditors International, BAX Global, and FedEx. Some shippers also have

embraced the concept, Campbell says.

A multi-story warehouse allows a company to operate in a dense urban area, rather than locating miles from the population center. That strategy offers several benefits.

First, it shortens transit time to customers. "Companies in dense urban areas tie up a significant percentage of total operating cost in transit time," Campbell says. "When they start to cut transit times, efficiency soars."

The second benefit is environmental; shorter trips burn less fuel. Also, it's easy to design "green" features into a facility that supports dense usage on a small site.

Third, a multi-story warehouse offers much more usable floor space per square foot of land, a real boon in a city where land is expensive. "A typical floor-area ratio (FAR) in the United States is about 35 to 40 percent," Campbell says. "In Japan, FARs reach as high as 375 percent."

A multi-story warehouse naturally

requires different design solutions than a single-story facility. One approach for moving goods in and out of the higher floors is a pair of spiral truck ramps, one for upward-bound traffic and one for downward-bound.

Another solution is to serve just one floor with a ramp, and the balance of the building with both pallet lifters and freight elevators to allow for storage of goods that don't move in and out as quickly.

Because the upper levels of a multistory warehouse must be engineered to bear heavy loads, a vertical warehouse can be more expensive to build than a one-story facility. If the cost of acquiring the land represents at least 50 percent of the total construction cost, going vertical is a good idea.

"Many Asian markets, such as Tokyo and Osaka, Singapore, and certain Chinese markets, have reached that tipping point," Campbell says.

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American cities are nowhere near that tipping point, especially in the current economy with its depressed real estate prices. And certainly, Campbell concedes, recent trends in the United States have favored construction of mega-sized DCs on the outskirts of metropolitan areas. But that trend could reverse itself in favor of development closer to the urban core

A LIFT FOR LIFT TRUCKS

Whether the warehouse occupies one story or more, you still need to move goods from one section of the building to another. Forklift trucks provide

tank outside the warehouse, and refuel the lift truck just as you would a car," Sisko says.

Another plus is that a hydrogen fuel cell emits the same level of power all day. That's not true of a conventional battery. "As the battery begins to discharge, the power rating decreases. Less and less power is generated, and the lift truck slows down," Sisko explains.

As fuel costs inevitably rise again, hydrogen-powered electric trucks also will offer a cost-effective alternative to trucks with propane-powered internal combustion engines.

Whatever its power source, eventu-

its services outside the warehouse, providing fleet management and truck leasing to about 1,000 members, mainly commercial carriers and companies with private fleets. But when members repeatedly asked for help with their forklift fleets - particularly with buying parts, managing service, and buying whole units - AmeriQuest developed its new Materials Handling Services program, which includes lift truck parts procurement, lift truck fleet management, and lift truck remarketing.

Companies that maintain their own lift trucks are candidates for the parts procurement service. Normally, these









another focus for companies that want to make warehouse operations more efficient and economical.

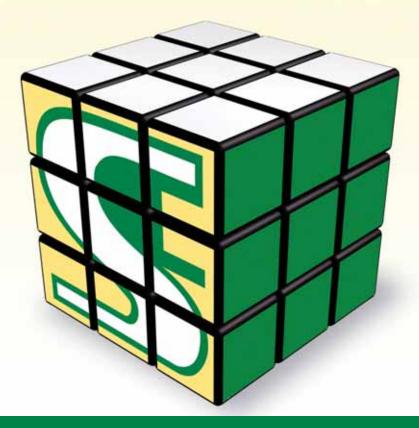
Some companies that operate large electric forklift fleets have been testing the use of hydrogen fuel cells to power them. Because they emit nothing but water vapor, these cells are environmentally friendly. And while it takes hours to recharge conventional batteries, refilling hydrogen cells takes just seconds. "Companies place a hydrogen

AMB builds and operates multi-story warehouses for customers in Asia, including (top): The Ohta Distribution Center, Tokyo, which uses two "corkscrew" ramps providing up and down access. Bottom (left to right): Amagasaki Distribution Centers 1 and 2, Osaka; and the Kasugai Distribution Center, Nagoya, incorporate multi-story design to reduce building footprint; and Shinkiba Distribution Center 1, Tokyo, a four-story ramped facility featuring rooftop car parking.

ally a lift truck will need maintenance. A service to help lift truck fleet managers squeeze costs out of that area was launched last November by AmeriQuest Transportation, Coral Springs, Fla.

Traditionally, AmeriQuest has focused

parts pass through three layers of suppliers-parts manufacturers, lift truck manufacturers, and lift truck dealers-before reaching the end user. "By the time an end user gets a part, it has been faced with three markups," says Scott



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Grushoff, vice president and general manager of AmeriQuest Materials Handling.

To gain discounts for its members, AmeriQuest has negotiated agreements with parts manufacturers and large parts distributors. Members order the parts from AmeriQuest.

"We cut lift truck dealers and Original Equipment Manufacturers (OEMs) out of the equation," Grushoff says. "On average, members save more than 30 percent on the parts they buy." AmeriQuest's inventory includes replacement parts, batteries and chargers, tires and poly wheels, electric motors, and many electronic components.

Warehouse operators who don't service their own lift trucks may sign up for AmeriQuest's fleet management service. When a member needs service, AmeriQuest dispatches a technician from an authorized provider, with which it has negotiated rates and established service standards. On site, the technician calls an AmeriQuest employee

who is an expert on lift truck repair, and the two collaborate on the problem. "There's no open checkbook for the technician to do any repairs he deems necessary," Grushoff says.

When the work is done, the repair service submits an invoice to AmeriQuest, which makes sure the vendor abides by the agreed rate and bills only for a reasonable amount of labor. Members also take advantage of AmeriQuest's rates for parts. At the end of the month, members receive a consolidated statement for all repairs performed.

AmeriQuest monitors repair records to make sure

Using hydrogen fuel cells to power forklift fleets is a growing green strategy. H2
Logic's hydrogen fuel cell system replaces batteries and combustion engines, in combination with a hydrogen refueling unit (inset). The fuel cell system is suitable for a range of vehicle applications, including forklifts.

service shops don't send inexperienced technicians who repeatedly misdiagnose problems. It ensures that equipment still under warranty is treated correctly. It also provides software that corporate managers can use to monitor lift truck usage and maintenance across all their locations.

Under its third offering, AmeriQuest helps members find buyers for used fork-lift trucks.

Although AmeriQuest charges a fee for some of its truck fleet management services, there is no fee for using any of the services in the Materials Handling program, Grushoff says.

BUILDING A TEAM

No matter how green the building or efficient the processes, you can't run a warehouse without people. When employees on the floor pull together as a team, opportunities to improve the operation abound.

One key to running a world-class

warehouse is to develop a corporate culture in which management and employees share common values, says Ron Cain, president and CEO of third-party logistics provider (3PL) TMSi. A strong sense of community in the warehouse drives excellent performance because everyone's efforts are aligned. "There's a higher purpose than just showing up to work," Cain says.

A non-asset-based 3PL based in Fernandina Beach, Fla., and Portsmouth, N.H., TMSi typically staffs and manages logistics inside its customers' facilities. For example, TMSi has been running parts warehouses in Jeffersonville, Ind., and Jacksonville, Fla., for General Electric since 2002 and one in Cranbury, N.J., since 2008. Distributors and technicians use these parts to service washers, dryers, refrigerators, and other major appliances.

At each warehouse, GE provides the facility, the warehouse management system, and the customer orders, explains Edward Huttunen, parts distribution



manager for GE in Louisville, Ky. TMSi, which staffs and manages the warehouse, is responsible for receiving, putaway, picking, shipping, arranging inbound and outbound transportation, and keeping inventory in good order and accurate.

COMMUNITY SERVICE

One strategy that TMSi's managers use to build team spirit on the warehouse floor is to encourage community service. In the GE facilities, the 3PL's employees have held food, clothing, and toy drives for charities that benefit children and have sometimes gone off site to volunteer for those organizations. "Collaborating for the sake of others encourages employees to feel like partners," Huttunen says. "It provides a different perspective of your fellow workers and generates camaraderie and strong bonds."

Employees at other TMSi-run warehouses have participated in walk-a-thons, run after-school programs, and led students in renovating houses for the needy. "Those facilities always outperform the others," Cain says.

Performance soars because public service projects get employees used to the idea of putting others first. "Once they do that, they become a true team built on trying to continue to improve," Cain says. That spirit spills over into the warehouse, where employees feel empowered to influence the culture and the processes.

TMSi's efforts to strengthen corporate culture in the warehouse go beyond philanthropy. The 3PL treats employees like valuable team members, encouraging them to share ideas and information among themselves, with GE and with GE's customers. For example, when distributors and technicians visit a GE warehouse to learn about the operation, TMSi staff are on hand to explain how they fill orders.

By the same token, TMSi includes floor staff in "action work-outs"—lean exercises in which GE's employees, customers, and distribution team collaborate to improve specific warehouse processes. Associates who work on the front lines have valuable insights, and they're thrilled when managers take their suggestions for improvement.

This kind of collaborative corporate culture gives employees a sense of ownership. "Employees are all over any kind of problem that touches their area," Huttunen says. "An employee with that attitude will seek out information and follow through without prodding from management."

In the current economic slump, when it's more important than ever to control costs, TMSi's teams have stepped up to the task. "They've worked with their associates and have been able to improve productivity through increased flexibility," Huttunen says. "They have also maintained a high-value proposition for our customers."

FULL SPEED AHEAD

"We're going to find a way to do it" could also be the cry of all logistics leaders who devise creative solutions for their warehouse operations. A smarter, faster, greener, more efficient warehouse puts a company in position to ride out tough times and keep speeding ahead.







Why are companies sticking with green packaging initiatives in the midst of an economic recession? Because reusing materials, reducing waste, and improving transportation efficiency is not only good for the planet, it's good for business.

ike nearly all environmental supply chain initiatives today, green packaging has become a hot-button topic for many companies. Supply chain managers, procurement executives, and packaging engineers are working together to revise packaging standards and implement new designs that seek to limit waste and reduce costs.

Though green strategies vary from company to company, most experts agree on a few basic tenets: reduce the amount of packaging used for each product, remove hazardous materials from the packaging, and make packaging easy to recycle.

"Companies are also examining the weight of their packaging. Reducing packaging weight creates a greener product because it takes less energy to transport it," says Philip Carter, a professor of supply chain management at Arizona State University's W.P. Carey School of Business.

Reduce Waste, Retain Protection

Excess packaging has irked businesses and consumers since the days of the CD longbox, and continues to be an issue today. When trying to reduce packaging, companies face one major challenge: balancing the desire to mitigate environmental concerns with the chief reason that packaging exists in the first place—to safeguard the products within.

"The primary purpose of packaging is to protect product during transit and protect shelf life," says Adrian Gonzalez, an analyst with Boston-based supply chain consultancy ARC Advisory Group. "Companies can't automatically reduce packaging because their products may not survive the handling required to transport them from point A to point B."

But there is room for improvement in most cases, says Kevin Howard, founder of Packnomics, a Vancouver, Wash.-based packaging consultancy, who believes

that standard design philosophy and test methods drive excess materials in packaging.

"Engineers design packaging to protect the merchandise for an internal lab test that is supposed to represent the hazards of distribution," he explains. "But the tests are excessive, and they don't effectively replicate what occurs during transportation."

At Palo Alto, Calif.-based technology company HP, for example, where Howard formerly worked as a packaging specialist, printers were dropped 26 times in a test lab. If the printer was still viable upon opening, the packaging was approved and sent to production. "These products were clearly overpackaged, taking more drops and from greater heights than would occur in distribution," he says.

HP has since become a champion of green packaging, completing a variety of package reduction efforts that are among the best-known in corporate use shrink wrap to secure them for trucking/handling purposes, which is less wasteful than using regular corrugated boxes," explains Steve Arbaugh, vice president brand marketing, alignment and experience, Interface Americas. In addition to the environmental benefits, this method cuts down the time it takes to unload and stage product installations.

Interface also recycles the packaging and shipping cartons at its Georgia warehouse, and has plans in place to reduce packaging to consolidate shipments; minimize emissions from inbound and outbound freight; and improve trucking load factors by increasing tonnage per gallon of fuel consumed. These programs are all part of Interface's "Mission Zero" promise to eliminate any negative impact the company may have on the environment by 2020.

Interface's strategy of tying green packaging programs together with trans-

Companies that adopt a holistic approach, and understand that packaging is closely aligned with other aspects of the supply

chain, are more likely to see their green initiatives succeed.

America. The company redesigned its print cartridge packaging, for example, to eliminate some 15 million pounds of materials, and reduced the overall package weight of its inkjet cartridge multipacks by 80 percent. Today, the computer giant sells laptops in Walmart that are entirely free of disposable packaging; the laptop is sold inside a padded messenger bag that consumers use to take it home.

Look Ma, No Packaging

Another company going the packaging-free route is Interface FLOR, an Atlanta-based modular carpet and flooring manufacturer, which forgoes packaging entirely when shipping certain products.

"We stack carpet tiles on pallets and

portation and distribution initiatives is becoming more common. Companies that adopt a holistic approach, and understand that packaging is closely aligned with other aspects of the supply chain, are more likely to see their green initiatives succeed.

"The right approach is to see the interconnectedness of the supply chain and understand how packaging changes impact everything from raw material costs to transportation and marketing programs," says Gonzalez.

Packaging's direct impact on transportation is perhaps the easiest to gauge. "If a company uses 25 percent less plastic or cardboard per unit, it will be able to fit 25 percent more product per pallet, resulting in fewer shipments and lower transportation costs," Gonzalez notes.

NOT SURE WHERE TO START?

FOLLOW THE LEADER

Companies looking to embark on green packaging initiatives don't need to reinvent the proverbial wheel to develop their strategies. Instead, they can take a cue from the world's largest retailer.

"Companies can adopt
Walmart's packaging scorecard
metrics to create a framework for
their own initiatives," says Adrian
Gonzalez, an analyst with ARC
Advisory Group.

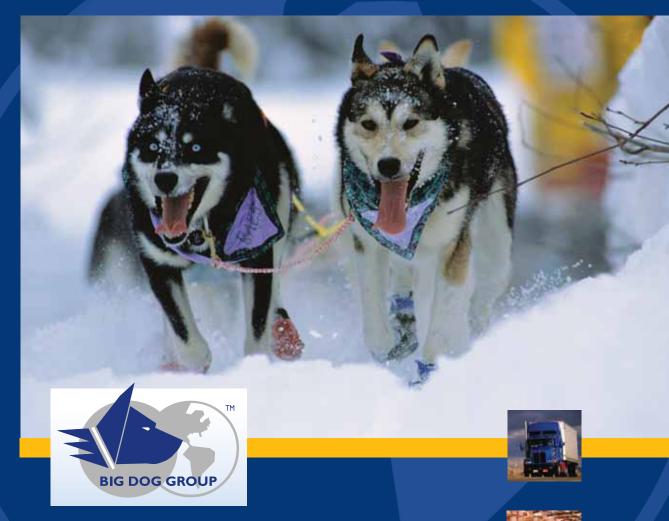
Started in 2006, Walmart's packaging scorecard was designed to encourage its suppliers to reduce packaging and conserve natural resources. It measures specifics such as greenhouse gas emission per ton of production; product-to-package ratio; cube utilization; and percentage of recycled content. The idea is for suppliers to determine how their packaging innovations, environmental standards, energy efficiencies, and material usage match up against those of their peers. But even companies not conducting business with Walmart can use these metrics to plan and evaluate their own green packag-

"These metrics are a great jumping-off point to help companies focus on where they can make the biggest improvement," Gonzalez

Another tip is to start small—select a doable packaging project that is likely to yield success and build momentum for a larger initiative.

"Companies need a success story to gain executive buy-in for a whole green packaging strategy. Start with packaging changes for a new or minor product to get positive results and prove it can be done," advises Philip Carter, a professor of supply chain management at Arizona State University's W.P. Carey School of Business.

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This idea of designing packaging from the inside out can have a substantial impact on the bottom line-and doesn't always require a complete overhaul of a product or its packaging. "A company can modify a product by as few as three or four millimeters and be able to fit 20 percent more units on a pallet-which can add up to millions of dollars in cost reductions," says Howard.

One East Coast-based Fortune 200 company simply modified the orientation of its product in shipping containers and was able to load 38 percent more units into the container.

Out With the Bad

Reducing excess materials is one effective way to start a green packaging initiative-but companies still need to consider the environmental aspect of the remaining packaging. "Replacing 'bad' materials with 'good' materials is another critical aspect of green packaging," says Gonzalez. "When possible, companies are now selecting paperbased packaging materials that are easily recyclable, and are made of previously

recycled content. They can't always get away from plastics, but companies are choosing plastics that are recyclable, and they are learning to design packaging that is easy for consumers to put in the recycling bin."

PVC plastic, one substance that has long incurred the wrath of environmentalists, heads the list of packaging materials being replaced with greener options. Found in the ubiquitous "clamshell" packages used for most consumer electronics products, PVC (polyvinyl chloride) releases dioxins and chlorine-a top contributor to ozone pollution-into the air when produced or burned. It also cannot be recycled.

"There is no good reason to use PVC plastics," says Howard. "Companies can use other clear plastics, such as recycled beverage bottles, that cost about the same as PVC, and can be recycled again after they are used."

A growing list of companies including Target, Walmart, Microsoft, Johnson & Johnson, Nike, and Apple have cracked down on PVC use. Target, for instance, recently asked its packaging vendor for iPod carrying cases to replace its clamshell packaging with a recyclable cardboard case. The company has also committed to eliminating PVCs from the packaging of its private-label products.

But not all packaging materials are as easy as PVC to label unequivocally "bad," which complicates the search for green packaging alternatives. Most people incorrectly conclude that paper-based products are always more environmentally friendly than plastic, which is not always true, says Howard. He cites the example of slip-sheets, the palletsized sheets used to support unitized loads during shipment. Though many companies have replaced plastic slipsheets with corrugated paper ones in an attempt to go green, it is not a foolproof

The corrugated or fiber slip-sheets need to be made of 100-percent virgin fiber (as opposed to containing recycled content) and must be laminated together with a non-water-based adhesive in order to withstand transit. "That's why paper slip-sheets cannot be recycled. But plastic slip-sheets are made from recycled content-mostly old milk jugs-and can be recycled again or sold back to plastic slip-sheet manufacturers for reuse," Howard explains.

Drinking in the Green

One company familiar with navigating the complexities of green packaging is Green Mountain Coffee Roasters. In 2006, the Waterbury, Vt.-based specialty coffee company introduced its Eco-Friendly Cup-the industry's first hot beverage cup made from all-natural paper-but it received some criticism because the cup is made from virgin material.

"Advocates of post-consumer content wanted the cup to contain some recycled material," says Paul Comey, Green Mountain's vice president of environmental affairs. "But the mill that manufactures the cup produces 70 percent of its own energy from the scrap wood chips that result from paper production. Introducing a recycling process would have taken away the mill's fuel for energy-efficient day-to-day operations."

Green Mountain Coffee Roasters redesigned its packaging to make a bag of 19 percent polylactic acid, a polymer derived from plant-based renewable resources. The company also introduced the industry's first all-natural paper to-go cup.



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In addition, he explains, when you recycle paper, the fibers become shorter than in virgin paper. So the recycled paper material for a cup would need to be thicker material to be as strong as virgin paper fiber.

"As you increase the thickness of the cup, you increase the shipping weight, which uses more energy in transportation. You have to look at each packaging example from all angles to determine what is best for the environment; there is no easy answer," Comey notes.

The lack of an easy answer, however, has not deterred Green Mountain from taking on numerous green packaging initiatives. About six years ago, the company began to focus on reducing its waste streams, with a goal of preventing excess waste from ending up in landfills by trying to reuse, sell, or compost leftover materials.

"We realized we were hauling material to the landfill that could be recycled or composted—and it was costing us money to do so," says Comey. The company decided to sell its used cardboard shipping boxes to a Canadian company for reuse, and realized at the same time that any broken boxes could be shredded and used as packing material.

"Instead of having to buy packing material, we produce our own from materials we were previously discarding," Comey notes.

Giving Green a Hand

Next, the company shifted its attention to reducing excess materials in its packaging process, and started by greening the cartons that it uses to package the portion packs for its single-cup brewing system.

"Our employees formed each carton by hand. The cartons used to be delivered from the manufacturer as pre-folded, pop-up cartons that use overlapping cardboard to create the bottom," Comey explains.

Today, Green Mountain uses a machine to form these cartons by gluing two cardboard flaps together for the bottom, reducing the amount of extra material needed. "This is a more efficient use of cardboard, and helped reduce costs because we use less material per



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"Almost all our green programs could also be billed as operational programs to reduce costs."

-Paul Comey, Green Mountain Coffee Roasters

box and less labor," says Comey.

Green Mountain is also committed to reducing its environmental impact by using renewable materials in its packaging. Its Eco-Friendly Cup, for instance, uses a bio-plastic lining made from 100-percent natural and renewable resources, as opposed to conventional cups, which are lined with a petroleum-based plastic. Under the proper conditions, the cup will break down into water, carbon dioxide, and organic matter.

Green Mountain also recently redesigned its 10- and 12-ounce coffee packages so that the bag is made of 19 percent polylactic acid, a polymer made from plant-based renewable resources.

"It's not 50- or 100-percent environmentally friendly, but our philosophy is that the journey starts with a single step," explains Comey, who notes that the company has already asked its supplier to increase the amount of polylactic acid in the film.

Costs: A Green Roadblock?

Many companies emulate Green Mountain's desire to embrace sustainable packaging, but often that desire is tempered by cost considerations. Only initiatives that reduce, or at least do not increase, costs get the green light.

"While green supply chain initiatives are a growing concern, today's economy has pushed cost-cutting to the top of the corporate priority list," says ASU's Carter, noting that many green champions have lost their jobs in this recession.

But at its core, green packaging is a waste-reduction exercise that can help companies remove needless costs from their supply chains. And though switching standard but not environmentally friendly materials for greener alternatives may require up-front investments, there is usually a tradeoff.

"Some companies may incur higher packaging costs due to the materials, but because they can fit more product per truck, the transportation savings

usually outweigh the increased packaging costs," explains Gonzalez.

When a project can deliver both results-environmentally friendly packaging that is also cost-effective-it is a sure-fire winner. Such was the case with the U.S. Postal Service's (USPS) recent cost-neutral green redesign of its expedited packaging products-the boxes, envelopes, tubes, and other containers and mailing supplies available to customers at Postal Service retail outlets and online. While committed to obtaining the environmental benefits of a green redesign, USPS was also tasked with keeping costs under control.

"Our goal was to try to reduce costs

companies revamp products and processes in accordance with its "cradle-to-cradle" philosophy, which aims to eliminate waste entirely. Together, USPS and MBDC used the cradle-to-cradle protocol to assess the materials used in the expedited packaging products.

With some 200 suppliers of everything from paper products to inks and adhesives, as well as 1,400 ingredients to examine, the complex project took about two years. During that time, MBDC visited supplier sites to obtain product samples and ran tests to verify cradle-to-cradle requirements were met.

As a result of their efforts. USPS made several important changes, including



To assess materials for its expedited packaging products' green redesign, the U.S. Postal Service used a "cradle-to-cradle" approach designed to eliminate waste entirely. The results netted an annual carbon emissions reduction of 15,000 metric tons.

if we could, but at a minimum be sure not to increase costs," explains Susan Brownell, USPS vice president of supply management. "We ended up not increasing costs at all."

To undertake the redesign, USPS partnered with MBDC, a Charlottesville, Va.-based consultancy that helps

a reduction in the number of packaging types it offers. "We used to have separate packaging for international and domestic expedited shipping, and we consolidated to one envelope type," notes Brownell.

The bulk of changes, however, were made to the inks and adhesives. Small







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- Corporate Values Training Through **LEGACY**



IS MORE THAN JUST A BOX

Some companies attempt to make their boxes "greener" as part of their business operations, but at Entropy Solutions Inc., green boxes are its business. The Minneapolis-based thermal technology company created the Greenbox, a temperature-controlled and reusable shipping solution composed of 100-percent organicbased materials.

Utilized by pharmaceutical and biotechnology companies such as Health Canada, Celator Pharmaceuticals, and LifeNet Health, the Greenbox provides important cold chain protection for high-value products, while also offering companies a greener packaging and shipping solution. "Shippers are attracted to the reliable temperature control the solution offers, but Greenbox also provides them a way to reduce packaging waste," explains Steve Skallerud, the company's vice president of sales and marketing.

The three-part system begins with a corrugated plastic outer container that is recyclable, crush-resistant, and resilient to water, puncture, and tear. "By contrast, the common corrugated cardboard outer container is difficult to reuse because it absorbs moisture, is easily damaged, and often rips when packaging tape is peeled off," says Skallerud.

Inside the outer container is a thermal-lock insulation panel that eliminates the ability of heat to transfer through the panel. A patented phase-change material controls temperature inside the shipping system. Using the latent heat of fusion to protect the package contents simultaneously from heat and cold, the materials are used in place of the frozen gel packs found in most other temperature-sensitive shipping containers.

In addition to being composed of earth-friendly materials, the Greenbox system is completely reusable. "When users receive a shipment in a Greenbox, they affix a pre-paid courier label to the outside of the box and send it back to the company that shipped it, or to a third-party reclamation center where it is inspected, cleaned, repalletized, and shipped back to the original sender," explains Skallerud. The components are also modular, so they are easily replaceable. If an outer container needs to be replaced, for example, the insulation panels and phasechange material simply go into a new box.

The Greenbox system also helps companies reduce costs. The box's tight temperature control allows product to stay in the box safely for longer periods, so users can select a slower shipping method. "Switching from overnight shipping to second-day or ground creates significant savings," notes Skallerud.



Fully reusable and composed of 100-percent organic-based materials, Entropy Solutions' Greenbox temperature-controlled shipping solution comprises a plastic outer container, insulation panels, and phase-change materials.

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ink pigment changes, for instance, helped meet MBDC's requirements, explains Joseph S. Han, contracting officer for USPS. In addition, the redesign has netted an annual carbon emissions reduction of 15,000 metric tons.

Part of the reason USPS was able to complete this project and remain costneutral was its close collaboration with suppliers. USPS could look to its suppliers to come up with alternatives if proposed solutions were deemed too expensive. In one instance, MBDC's recommendation to make changes to the red ink on the expedited envelopes would have caused a significant cost increase. USPS and its red ink supplier worked together to make minor changes to the ink's pigmentation that would remain cost-neutral.

"There are many good lessons in this example," ASU's Carter says of the USPS project. "Private companies can learn that cost reduction is not the only way to achieve good results. It is better to be cost-neutral than to do nothing-which is what many companies do when it comes to environmental projects because they don't see the benefit."

The Bottom Line

Those benefits are what forwardthinking organizations such as USPS, Green Mountain, Target, and Interface seek when they undertake green packaging initiatives. Whether they are driven by a goal of eliminating waste, an internal desire to be good corporate citizens, a wish to drum up support from environmentally aware consumers, or the need to comply with mandates such as Walmart's packaging scorecard (see sidebar, page 50), companies adopting green packaging initiatives are helping both the environment and their bottom line.

That double-duty aspect is key to getting these programs up and running, and keeping them in the good graces of C-level executives. "Almost all our green programs could also be billed as operational programs to reduce costs," says Green Mountain's Comey. With both economic and earth-friendly aspects covered, it appears that good things come from green packages.

Your Guide to Leading Logistics Resources | INSIDE



GREEN PACKAGING SOLUTIONS

These days it seems like the whole world is going green. Major retailers such as Target and Walmart are demanding sustainable packaging from their suppliers, and consumers are shifting their preferences toward eco-friendly products and green packaging solutions. If it's time for your company to begin investigating greener packaging options, you'll find this list of leading vendors a good place to start.

American Excelsion Company

PRODUCT: Foam package inserts

Arlington, TX 800-777-7645 sales@americanexcelsior.com www.americanexcelsior.com

Automated Packaging Systems Inc., AirPouch **Division**

PRODUCT: EarthAware biodegradable film

Streetsboro, OH 800-527-0733 www.airpouch.com

Capital Corrugated &

PRODUCT: Corrugated packaging

Sacramento, CA 800-916-3010 solutions@capitalcorrugated.com www.capitalcorrugated.com

CHEP Equipment Pooling

PRODUCT: Reusable plastic pallets and crates

Orlando, FL 888-CHEP-111 www.chep.com

Entropy Solutions PRODUCT: Greenbox Thermal **Management System**

Minneapolis, MN 877-4GRNBOX www.greenboxsystems.com

Earthcycle PRODUCT: Palm fiber packaging, NatureFlex Film

Vancouver, BC 604-899-0928 www.earthcycle.com

E-Z Flow Foam Packaging Systems

PRODUCT: Botanithane foam

San Diego, CA 858-279-FLOW ezflow@usa.com www.ezflofoam.com

FP International PRODUCT: Loose fill

Redwood City, CA 650-261-5300 www.fpintl.com

Georgia Pacific Packaging PRODUCT: Reusable plastic containers

Atlanta, GA 404-652-4000 www.qp.com/packaging/ products/rpc.html



Globe Guard Products

PRODUCT: Eco-friendly packaging products

12351 South Industrial Dr. East Plainfield, IL 60585

815-609-3600

info@globeguardproducts.com www.globeguardproducts.com

Globe Guard green, stock and custom packaging products include 100 percent recycled (PCW) content boxes, mailer envelopes, box sealing tapes, packaging papers, and Globe Guard 100 percent recycled labels. More than 50 years of packaging industry experience with a nationally recognized commitment to helping clients reduce costs while protecting the environment.

Green Bay Packaging Inc. PRODUCT: Fiber/pulp products, films, adhesives

Green Bay, WI 800-236-8400 www.gbp.com

Harmon Associates PRODUCT: Corrugated, fill, plastics

New York, NY 800-645-6158 commerce.gp.com/harmongp

Henry Molded Products PRODUCT: Molded fiber/ pulp products

Lebanon, PA 717-273-3714 www.henry-molded.com

Innovia Films Inc. **PRODUCT:** NatureFlex packaging film

Atlanta, GA 877-822-3456 www.innoviafilms.com



PRODUCT: Reusable plastic containers

1055 Corporate Center Drive Oconomowoc, WI 53066 888-307-2185

www.orbiscorporation.com

Plastic reusable packaging products and services improve the flow of product all along the supply chain, to reduce costs. ORBIS helps world-class customers move their product faster, easier, safer and more cost-effectively with plastic reusable containers, pallets and protective dunnage. ORBIS uses proven expertise, industryleading knowledge, innovation, superior products and supply chain services (pooling, cleaning and logistics) to implement plastic reusable packaging systems.

Packaging Corp. of America (PCA) **PRODUCT:** Corrugated containers and pallets

Lake Forest, IL 800-456-4725 www.packagingcorp.com

Panoramic Innovative Packaging PRODUCT: BioPAK containers

Janesville, WI 800-333-1394 www.panoramicinc.com

Pregis Corporation PRODUCT: Films, air cushioning, foams

Deerfield, IL 800-834-9441 www.pregis.com

RBL Industries Inc. **PRODUCT:** Corrugated containers, dunnage, foam

Baltimore, MD 800-234-5711 info@rblindustries.com www.rblindustries.com

Rehrig Pacific Company PRODUCT: Reusable plastic pallets and crates

Los Angeles, CA 800-421-6244 info@rehrigpacific.com www.rehrigpacific.com

Salazar Packaging Inc. **PRODUCT:** Eco-friendly packaging products

Plainfield, IL 815-609-3600 www.salazarpackaging.com

Sealed Air PRODUCT: Newspaperfilled padded mailer

Elmwood Park, NJ 800-648-9093 www.sealedair.com

Storopack **PRODUCT:** Cushioning and loose fill

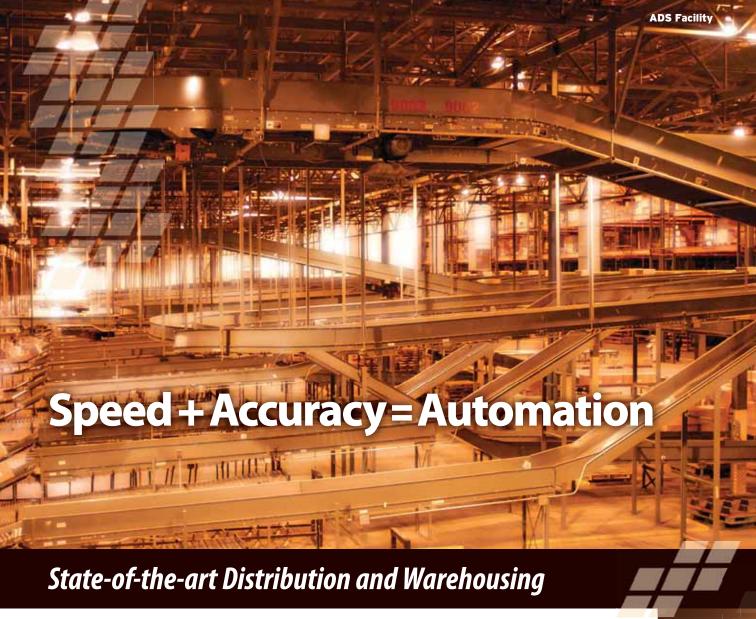
Cincinnati, OH 800-827-7225 www.storopackinc.com

Surface Guard PRODUCT: Biodegradable film

Aurora, IL 630-236-8250 email@surfaceguard.com www.surfaceguard.com

UFP Technologies Inc. PRODUCT: Molded fiber/ pulp products

Georgetown, MA 978-352-2200 info@ufpt.com www.ufpt.com



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- > Reverse logistics, returns and exchange management

- > Light directed picking
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An automated conveyor that diverts items to the correct spot could be the tool your warehouse needs for efficient, cost-effective materials handling.

by Catherine Harden

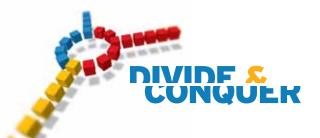
PICTURE YOURSELF SURROUNDED BY TOWERING RACKS

laden with row after row of shipping cartons, stacks of parcels, and totes filled with individual products. Each piece has a specific destination inside your warehouse. You've got to get this unruly assortment of items straightened out so you can build orders, process returns, and pack shipments for transit. But how?

One answer is by processing the items with an automated sortation system. Once programmed, the system carries items and separates them according to their ultimate destinations. Mechanisms such as pop-up wheels, tilting trays, and sliding plates called "shoes" divert parcels and products from the main conveyor to the appropriate belt, bin, or workstation. Many systems are infinitely configurable, with up to 95 paths to route items to the appropriate end point, and several offer bar-code scanners along the way to automate product tracking – a necessity with high-speed systems that can sort in excess of 225 items per minute.

The benefits of implementing a sortation system are easy enough to gather. Compared to manual sorting processes, automated systems reduce labor costs and errors, increase shipping rates, and save order assembly time.

On the following pages, you'll see a variety of sortation systems on offer from some of the industry's leading materials handling companies.



Automotion Conveyors & Sortation Solutions

708-229-3700 automotionconveyors.com

Trap Arm Sorter

Sorting up to 20 cartons per minute, this diverter is suited for shipping and/ or receiving operations with a medium rate requirement.

FEATURES: Conveyor handles up to 100 pounds of product per foot. Available in four widths. Sorts cartons weighing up to 75 pounds.

Beumer

732-560-8222

beumer.com

Tilt Tray Sorter

Available in three sizes, the Tilt Tray Sorter is suitable for handling small parcels, packages, fragile and sensitive products, as well as heavy freight goods, boxes, and bags.

FEATURES: Designed with sideways tilting mechanism that drops slightly on pivot to create a less jarring product transfer. Offers Double Density tray option to increase system capacity.

Blue Arc Engineering

317-467-BLUE

bluearceng.com

High Speed Vertical Conveyor Switch

Typically used in the food and beverage industry for vertically diverting and merging case flows to automated palletizers, the vertical switch allows inbound product to be sorted between two outbound conveyors.

FEATURES: Accommodates inbound case flows up to 180 feet per minute. Requires no compressed air or hydraulics. Product travels up to 36 inches vertically in less than one second.

Carter Control Systems

301-698-9660

cartercontrols.com

High-Speed Tray Sorter (HSTS)

The HSTS can process items weighing up to 70 pounds at a rate of 230 feet per minute, with a total of 95

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possible runout lanes. A powered splitbelt sortation-conveyor with pop-up bi-directional diverters transports product to runout lanes or a recirculation system.

FEATURES: Equipped with mini-cameras to scan bar codes from an item's rear, front, or top. Available in single-sided or double-sided configurations.

Cornerstone Automation Systems, Inc.

800-401-0304 cornerstoneautosys.com

SortMaster 150

Capable of sorting at rates up to 180 items per minute, the SortMaster 150 handles products weighing up to 10 pounds, such as CDs, DVDs, small

parcels, jewelry, and cold seal items. **FEATURES:** Modular design permits configuration in a number of variations. Requires no compressed air.

Daifuku

801-359-9900

daifukuamerica.com

Jet Surfing Shoe Sorter

Suitable for channeling and sorting medium-size items, totes, and cartons, the Jet Surfing Shoe Sorter can process up to 225 pieces per minute. Bi-directional shoes allow items to be offloaded to both sides of the sorter. FEATURES: Operates at speeds up to 541 feet per minute. Handles loads up to 110 pounds.





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Dematic

877-725-7500

dematic.us

FlexSort SL

A new parallel divert mode minimizes gapping between packages, allowing higher throughput at lower speeds and reducing the tendency of small and square packages to roll during sortation.



FEATURES: Equipped with a Web-enabled controller system featuring real-time tracking, gapping, and sortation control. Reaches throughput capacity of more than 400 cases per minute.

Diamond Phoenix

888-233-6796

diamondphoenix.com

Low-speed Sorter

With sort rates of less than 30 items per minute, low-speed sortation systems are suitable for tote systems and small case distribution operations. FEATURES: Achieves transfer rates of eight to 20 sorts per minute with rightangle transfer mechanisms, and 15 to 25 sorts per minute with pusher diverters.

FKI Logistex

877-935-4564

fkilogistex.com

UniSort XV

Powered diverter wheels shift items on the UniSort XV belt-powered popup wheel sortation conveyor, which is capable of rates in excess of 130 cartons per minute.

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service for accurate product tracking. Accommodates an unlimited number of diverts.

GBI Data & Sorting Systems

954-596-5000

gbisorters.com

Cross-Belt Sorter

Each of the Cross-Belt Sorter's "Smart Car" units possesses independent controls for functions such as belt acceleration, turn rate, distance, and timing.

FEATURES: Sorts articles of varying weights (up to 100 pounds), shapes, and sizes at rates up to 200 piece per minute, per station. Provides real-time tracking by time, loader, carrier, bin, and

HK Systems

262-860-7000

hksvstems.com

Modular Plastic Belt Sorter

Moving items at a rate of up to 300 feet per minute, the modular plastic belt's rollers rotate faster than the forward motion speed of the conveyor, while divert mechanisms drive the product off the mainline onto a takeaway.

FEATURES: Reaches divert rates up to 120 items per minute. Allows for zero spacing between divert lanes. Handles products ranging from envelopes to cases.

Hytrol

870-935-3700

hytrol.com

ViperSort

Capable of handling packages weighing up to 25 pounds and measuring up to 24 inches long, the ViperSort rightangle sortation conveyor sorts up to 120 items per minute.

FEATURES: Available in four widths and with pushers located on both sides with staggered centers.





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- Factory Mutual standard fire safety system sufficient to install ESFR sprinklers (280,000 gallon on-site water storage facility)
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LOGISTICS ECSPOTS

n a recession, corporate expansion and capital investment tend to be low priorities; instead, consolidation rules. But tight times make it more important than ever for companies to cut costs and improve efficiencies through smart distribution strategies. As a result, finding and maintaining distribution locations that allow companies to effectively serve their consumer market while keeping costs in check is key.

Inbound Logistics
picks 15 cities to
add to your site
selection shortlist.

by Amy Roach Partridge

Distribution professionals agree that proximity to major import/export cargo gateways is a must-have for a logistics hotspot. With the bulk of U.S. goods originating overseas, companies rely on ocean and air transportation, making locations near cargo ports and airports sought after. U.S. consignees also need access to north/south and east/west surface routes to disperse goods to consumers across the nation. And a location's rail and intermodal access is crucial as these modes are popular with shippers seeking relief from road congestion.

Today's logistics site selection checklist also includes secondary considerations such as workforce quality; facility costs; logistics and transportation expertise; business climate; and tax incentives and other government assistance. Large metro regions sometimes lose out to smaller locations that can offer space advantages and enticing incentive programs to help lure much-needed jobs to their areas.

2009

Differences in geographical nuances, consumer demand, and corporate structure can also influence a company's logistics site selection decision. A big box retailer looking to expand its import distribution network has different needs from a small company seeking business beyond local borders, or an Internet retailer with nationwide reach.

Whether a company's needs dictate a distribution location that is large or small, coastal or heartland, urban or rural, it is likely to find its match among the 15 cities *Inbound Logistics* selected as logistics hotspots for 2009. Here is a look at what makes these locations desirable, even when the economic climate is not.



THE NORTHEAST

Large, wealthy consumer markets and long-established transportation routes face off against high taxes and traffic congestion.

New York City Metro Area

ong a top market for logistics and distribution activity, the New York City metro area continues to be a major focus for logistics economic development because it provides companies access to nearly 80 million consumers-the world's most concentrated and affluent consumer market. In addition, the area's location at the nexus of an extensive multi-modal transportation network lures global businesses looking for strategic import distribution points.

The New York City metro area also boasts the largest port complex on the East Coast-the Port Authority of New York/New Jersey-which handles more than 30 million tons of oceanborne general cargo annually. The port's preliminary budget for 2009 includes a record \$3.3 billion in



capital spending for critical infrastructure projects, including expansion of its on-dock ExpressRail program, which seeks to alleviate congestion on the area's surface transport routes by boosting rail freight movement. The port is also forging ahead

with the Port Inland Distribution Network, a hub-and-spoke system that aims to lower inland distribution costs, increase throughput capacity, and provide value-added warehousing and distribution opportunities.

All these assets don't come cheap, however; companies looking to access the New York/New Jersey market and its distribution prowess must be prepared to wrangle with high rents and the nation's least-friendly business tax climate.

AIRPORTS: JFK International Airport, Newark Liberty International Airport, LaGuardia Airport

PORT: Port Authority of New York/New Jersey

ROAD ACCESS: I-95, I-80, I-78, I-87

RAIL CARRIERS: Norfolk Southern, CSX

WORKFORCE: 9.4 million

PER-CAPITA INCOME (2008 STATE RANK): 4 (NY), 2 (NJ)

STATE BUSINESS TAX CLIMATE RANK: 49 (NY), 50 (NJ)

Baltimore, Maryland

ith more than \$1 billion of development projects underway, Baltimore is enjoying a new renaissance-one that is spreading beyond its booming downtown and into the logistics and warehousing sector.

Baltimore's strategic location at the cusp of the Northeast and Mid-Atlantic states makes it an ideal distribution point for global consignees importing goods via ocean and air. And because Baltimore sits



directly on I-95, the Northeast's main north/south route, companies can use surface transit to serve 50 percent of the U.S. population overnight.

With its well-known Ro/Ro capabilities, the Port of Baltimore serves the auto industry with state-of-the-art auto processing and handling facilities, and has also become one of the United States' leading handlers of imported forest products.

The area's workforce is another strategic attraction: Maryland is ranked as a Top 10 "new economy" state and leads the nation in the percentage of degreed professionals, while Baltimore County is now Maryland's second-largest job center. Maryland's proximity to the federal seat of government, along with its consumer market in excess of 8 million people, also helps lure businesses to the area.

AIRPORTS: Baltimore Washington International Thurgood Marshall Airport, Dulles International Airport, Ronald Reagan Washington National Airport

PORT: Port of Baltimore

ROAD ACCESS: 1-95, 1-83, 1-70

RAIL CARRIERS: CSX, Norfolk Southern

WORKFORCE: 1.4 million

PER-CAPITA INCOME (2008 STATE RANK): 5

STATE BUSINESS TAX CLIMATE RANK: 45

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Chicago, Illinois

he Windy City is the Midwest's largest metro area and one of the country's most important transportation and distribution points. Six Class-1 rail carriers serve Chicago, and the city's port offers barge service to and from inland waterways and other Great Lakes ports—without the congestion that afflicts busier coastal ports. The city is a bustling air cargo center as well; O'Hare International Airport is currently North America's seventh-busiest cargomoving airport.



As with all big cities, Chicago offers the asset of great highway access—it sits at the junction of seven interstate systems—with the drawback of crowded surface routes. More than 700 motor freight carriers serve the metropolitan area, and trucking companies ship more than 50 million tons of freight each year.

AIRPORTS: Midway International Airport, O'Hare International Airport

PORT: The Port of Chicago

ROAD ACCESS: I-90, I-94, I-57, I-290, I-55, I-88

RAIL CARRIERS: BNSF, CSX, Kansas City Southern, Canadian National, Union Pacific, Norfolk Southern

WORKFORCE: 4.9 million

PER-CAPITA INCOME (2008 STATE RANK): 16

STATE BUSINESS TAX CLIMATE RANK: 23

Kansas City Metropolitan Area

ith both the geographic and population centers of the United States lying within 250 miles of Kansas City, the metropolitan area is a natural hub for intermodal transportation, warehousing, manufacturing, and distribution. Indeed, the trade, transportation, and utilities category is the region's biggest employer, with Yellow

Corporation, the nation's largest less-than-truckload carrier, headquartered here.

The bi-state Kansas City metro area ranks as the nation's third-largest truck terminal and second-largest rail center, and boasts more Foreign Trade Zone space—upwards of 10,000 acres—than any other U.S. city.

AIRPORT: Kansas City International Airport

PORT: KC Smart Port

ROAD ACCESS: 1-70, 1-35, 1-29

RAIL CARRIERS: Union Pacific, Norfolk Southern, BNSF, Canadian Pacific, Kansas City Southern

WORKFORCE: 1 million

PER-CAPITA INCOME (2008 STATE RANK): 22 (KS), 32 (MO)

STATE BUSINESS TAX CLIMATE RANK: 31 (KS), 16 (MO)

Louisville, Kentucky

Louisville earned its bragging rights as a major global distribution center when it became home to UPS' international airfreight hub, Worldport, which handles the 12th-largest volume of cargo tonnage in the world. Adding to its air cargo prowess, Louisville International Airport is one of the busiest air cargo airports in the country.

Logistics and distribution companies in the Louisville area also benefit from a location in the heart of the Midwest, as well as convenient access to three interstate highways, and CSX and Norfolk Southern rail systems that connect the city with major markets in the United States, Canada, and Mexico.

AIRPORTS: Louisville International Airport, Northern Kentucky Cincinnati International Airport

ROAD ACCESS: I-64, I-65, I-71

RAIL CARRIERS: CSX, Norfolk Southern

WORKFORCE: 619,000

PER-CAPITA INCOME (2008 STATE RANK): 46

STATE BUSINESS TAX CLIMATE RANK: 34

Indianapolis, Indiana

o longer known just for its races, Indianapolis is building a reputation as a primary industrial, commercial, and transportation center for the Midwest and a key gateway for U.S. trade. With its proximity to both the Corn Belt and the industrial centers of the upper Midwest and East, it is an ideal spot for a wide variety of logistics and distribution activity.

Indianapolis is the most centrally located of the largest 100 cities in the United States, and offers a location within 650 miles of 55 percent of all Americans. Served by four interstate highways and six railroads, it is also the home of the eighth-largest cargo center in the United States—more than 2.2 billion pounds of cargo were managed at Indianapolis International Airport (IND) in 2008. IND also hosts the second-largest FedEx operation in the world.



In addition, the rebirth of Downtown Indy over the last few years has helped the city boost its overall image, making it easier to attract highly qualified employees.

AIRPORT: Indianapolis International Airport

PORTS: Burns Harbor Port, Jeffersonville Port, Mount Vernon Port

ROAD ACCESS: 1-70, 1-74, 1-65, 1-69

RAIL CARRIERS: CSX, Norfolk

Southern, Indiana Railroad, Indiana Southern Railroad, Louisville and Indiana Railroad

WORKFORCE: 892,000

PER-CAPITA INCOME (2008 STATE RANK): 37

STATE BUSINESS TAX CLIMATE RANK: 14



Omaha, Nebraska

ebraska maintains strong public/private support for incenting regional economic development opportunities. As the state's largest city, Omaha offers a vibrant economy, educated workforce, and cost-efficient business amenities.

Nearly 18 percent of all U.S. manufacturers reside within a 500-mile radius of Omaha, rendering the city an excellent distribution hub. It is also a natural rail destination as home to the corporate headquarters of Union Pacific, and offers seven air cargo carriers at Eppley Airfield, which recently invested more than \$110 million in capital improvements.

AIRPORTS: Eppley Airfield

ROAD ACCESS: 1-80, 1-29

RAIL CARRIERS: Union Pacific, BNSF

WORKFORCE: 452,000

PER-CAPITA INCOME (2008 STATE RANK): 24

STATE BUSINESS TAX CLIMATE RANK: 42

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THE SOUTHWEST

Proximity to Mexico and a position as the main gateway for Asian-origin cargo keep this region going strong.

Houston, Texas

ouston's list of appealing attributes for site selectors is long: a population of more than two million people, the largest container port on the Gulf Coast, the 11th-biggest international air cargo gateway in the country; and one of the largest concentrations of industrial space in the nation. The city's network of highway, rail,

Houston's Bayport

intermodal, and air connections, as well as the Port of Houston's leadership in foreign trade, also helps boost its logistics and distribution activity.

The port is also in a prime position to capitalize on the expected increase of traffic that will come through the Gulf Coast with the 2014 completion of the Panama Canal expansion. In addition, its location along the stillpossible I-69 NAFTA Superhighway could enable area businesses to tap into over-the-road access between

Canada, the United States, and Mexico.

AIRPORT: George Bush Intercontinental Airport, William P. **Hobby Airport**

PORT: Port of Houston

ROAD ACCESS: I-10, I-45

RAIL CARRIERS: Union Pacific, BNSF

WORKFORCE: 2.7 million

PER-CAPITA INCOME (2008 STATE RANK): 21

STATE BUSINESS TAX CLIMATE RANK: 7

San Diego, California

n addition to its status as a military and defense hotspot, San Diego also shines as a manufacturing and agricultural hub, making it a key player in international trade. Logistics- and distribution-minded companies can bank on San Diego's strength in these industrial sectors, as well as the city's attractive labor force and high-income consumers.

San Diego's proximity to Mexico is also a draw for U.S. consignees interested in importing goods through less-congested Mexican ports and/or tapping the growing Mexican consumer market. The port also offers on-dock rail service with BNSF, and access to three major interstates. Air cargo services are maintained at San Diego International Airport, which handles more than 70,000 tons of cargo annually.

AIRPORT: San Diego International Airport

PORT: Port of San Diego

ROAD ACCESS: I-5, I-15, I-8

RAIL CARRIER: BNSF

WORKFORCE: 1.5 million

PER-CAPITA INCOME (2008 STATE RANK): 7

STATE BUSINESS TAX CLIMATE RANK: 48

The Inland Empire, California

hile the economic downturn has somewhat tempered the cargo frenzy at the ports of Los Angeles and Long Beach, the Inland Empire is still a growing destination for logistics and distribution businesses seeking close proximity to these ports without paying the high rents common in the rest of Southern California.

Comprised of more than 50 cities in Riverside and San Bernardino counties, the Inland Empire makes up the largest region of Southern California and has seen significant increases in population and job creation during the last decade. New facilities such as Victorville, Calif.'s Southern California Logistics - an 8,500-acre multi-modal freight transportation hub supported by air, ground, and rail connections – are drawing business away from more expensive areas in Los Angeles and Orange County. Access to major freeways without L.A.'s congested truck traffic, and to the NAFTA Corridor via Highway 86, are also benefits.

AIRPORTS: Ontario International Airport, Palm Springs International Airport

PORT: The Port of Los Angeles, The Port of Long Beach

ROAD ACCESS: I-15, I-10, I-215

RAIL CARRIERS: BNSF, Union Pacific

WORKFORCE: 1.8 million

PER-CAPITA INCOME (2008 STATE RANK): 7

STATE BUSINESS TAX CLIMATE RANK: 48





Packing a one-two punch with pro-business tax climate and access to Asian trade.

Anchorage, Alaska

laska's ultra-business-friendly tax approach and its booming air cargo market have piqued the interests of many in the logistics industry. Though isolated from many top U.S. markets, Alaska boasts global air cargo dominance—in 2007, Ted Stevens Anchorage International Airport was the world's third-busiest air cargo airport, with tonnage of 2.8 million. As for ocean cargo, The Port of Anchorage is continuing its \$700-million renovation and expansion, having just received an additional \$10 million from the Department of Defense.

AIRPORT: Ted Stevens Anchorage International Airport

PORT: Port of Anchorage

RAIL CARRIER: Alaska Railroad

ROAD ACCESS: Alaska-Canadian Highway

WORKFORCE: 195,000

PER-CAPITA INCOME (2008 STATE RANK): 15

STATE BUSINESS TAX CLIMATE RANK: 4

Portland, Oregon & Seattle-Tacoma, Washington

his urban trifecta forms the hub of trade and transportation in the Northwest. The well-educated, diverse population attracted large companies such as Nike, Microsoft, and Boeing, and continues to draw businesses seeking skilled labor. The area's ports are all gaining favor as alternate import destinations to traditional West Coast ports. Proximity to Canadian markets is another magnet for logistics and distribution activity.

AIRPORTS: Seattle-Tacoma International Airport, Portland International Airport

PORTS: Port of Seattle, Port of Portland, Port of Tacoma

ROAD ACCESS: 1-5

RAIL CARRIERS: Union Pacific, BNSF

WORKFORCE: Portland, 1.1 million; Seattle-Tacoma, 1.8 million

PER-CAPITA INCOME (2008 STATE RANK): 30 (OR), 14 (WA)

STATE BUSINESS TAX CLIMATE RANK: 9 (OR); 12 (WA)

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THE SOUTHEAST

Booming population growth and the country's fastest-growing consumer market are powerful draws.

Jacksonville, Florida

usinesses are attracted to Jacksonville's status as a key Southeastern transportation hub—it boasts four airports, three seaports, a highway system that links the city to three major interstates, and a rail system served by CSX, Norfolk Southern, and Florida East Coast railroads.



Its 38-foot deepwater port is one of the top vehicle-handling ports in the nation and the city's maritime logistics strength helped Jacksonville become the home of Southeast Toyota, as well as the site for a General Motors Corp. distribution center that

serves Georgia, South Carolina, and Florida. In addition to its port strength, Jacksonville offers shippers a solid road network served by more than 100 trucking lines.

AIRPORT: Jacksonville International Airport

PORT: Jacksonville Port Authority

ROAD ACCESS: I-95, I-10, I-75

RAIL CARRIERS: CSX, Norfolk Southern, Florida East Coast

WORKFORCE: 670,000

PER-CAPITA INCOME (2008 STATE RANK): 20

STATE BUSINESS TAX CLIMATE RANK: 5

Memphis, Tennessee

emphis' reputation as a major distribution network is anchored by its role as the home of FedEx's corporate headquarters. Memphis International Airport is one of the busiest air cargo hubs in the world, and the Port of Memphis does brisk business as well, ranking as the country's fourth-largest inland port.

Memphis delivers with direct service from major truck lines to all 48 contiguous states, as well as Canada and Mexico, and five Class-1 rail systems. Tennessee's low state and local tax burden is also key to the city's logistics appeal.

AIRPORT: Memphis International Airport

PORT: Port of Memphis

ROAD ACCESS: I-40, I-55, I-240

RAIL CARRIERS: BNSF, CSX, Norfolk Southern, Union Pacific, Canadian National/Illinois Central

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WORKFORCE: 613,000

PER-CAPITA INCOME (2008 STATE RANK): 39

STATE BUSINESS TAX CLIMATE RANK: 17

Mobile, Alabama

obile may be a small city, but its logistics offerings are anything but: five Class-A railroads, two interstates, an 11,000-foot runway, and a deep-water port that recently expanded to include a 135-acre container terminal with 800,000-TEU capacity. The Brookley Complex, a 1,700-acre trade and industrial complex that provides connections to air, rail, waterway, and interstate transportation, as well as a designated Foreign Trade Zone, further enhance its distribution prowess. These assets have helped Mobile lure big businesses such as Hyundai, ThyssenKrup, and Northrup Grumman.

Despite the current recession, Mobile boasts a healthy local economy based on factors such as tax revenue, Port of Mobile tonnage, and total employment.

AIRPORTS: Mobile Regional Airport

PORT: The Port of Mobile

ROAD ACCESS: 1-65, 1-10

RAIL CARRIERS: BNSF, Norfolk Southern, CSX, Canadian

National Railroad, Central Gulf Railroad

WORKFORCE: 185,000

PER-CAPITA INCOME (2008 STATE RANK): 42

STATE BUSINESS TAX CLIMATE RANK: 21





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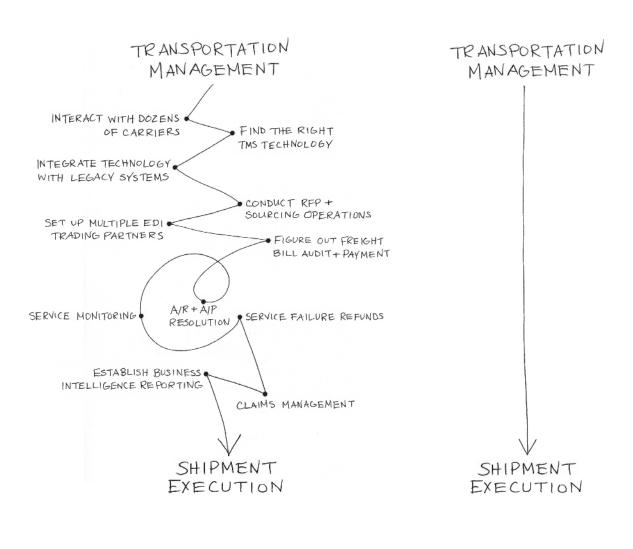
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Walmart - call Arkansas home.

Two of the nation's leading companies - motor freight carrier J.B. Hunt and retailer

SHOPPING WALMART'S CACHET

Having the world's largest corporation, and arguably most sophisticated and innovative supply chain, headquartered in your state goes a long way when selling potential suitors on the merits of its location. But Bentonville-based Walmart isn't alone. Dillard's department stores, Murphy Oil, and Tyson Foods are three other homegrown Fortune 500 companies that call Arkansas home, joined by 100-plus Fortune 500 parent firms that operate about 310 facilities in state.

Still, Walmart's prestige leaves an enduring mark on the state. "Its effect has been helpful in economic development," says Haley. "Having homegrown companies succeed on the global stage says something about our state."

True to point, Walmart's supplier compliance acuity has made Arkansas the likely location for many of the company's vendors, with Heinz, Clorox, General Mills, Pfizer, Mattel, Pepsico, Coca Cola, Procter & Gamble, Johnson & Johnson, Gillette, and Hershey's all operating distribution centers in state.

The discount retailer also is seeding tier-one and tier-two suppliers throughout the state, not just in Northwest Arkansas. "They want to be within 75 miles of Walmart," says Joe Holmes, AEDC marketing and communications director.

Given the timeliness and immediacy of its replenishment needs, Walmart wants to have major supply offices in state, which can help facilitate just-in-time logistics and deliveries, Holmes explains.

The largest corporation in the world brings a certain level of cachet and expectation, especially in terms of transportation and logistics capabilities and performance. This benchmark bleeds into all aspects of the state's development – from

Famous for its wealth of resources and down-home charm, the state of Arkansas has fast become the perfect match for transportation- and distribution-minded businesses.

Aptly coined The Natural State for its geographic and geological diversity, and scenic beauty, Arkansas is equally becoming known as A Natural for Business. Arkansas is earning a reputation as a magnet for transportation, logistics, and trade. Home to the foremost consumer goods retailer in the world, two leading motor freight carriers, the largest U.S. river system, a major east-west highway, and the country's largest rice crop, opportunities abound in Arkansas. Businesses are mining the state's potential and polishing its appeal; all the while its reputation strengthens.

"We're down to earth, approachable, and ready to do business," says Maria Haley, executive director, Arkansas Economic Development Commission (AEDC). Businesses can appreciate this down-home recognition and reception, but public and private sector Razorbacks are reluctant to rest on their "natural assets" to attract and grow business. Instead, under the leadership of Governor Mike Beebe and through the example of leading transportation and logistics visionaries, the state is devising a blueprint for economic development that empowers business through education and innovation.

"Everything spins from workforce growth and education," adds Haley. "We have a strategic plan for economic development. Without a plan, you don't know where you're going."

For Arkansas, the destination is already in sight.



There's a reason why global companies like Wal-Mart, J.B. Hunt and Tyson Foods call Arkansas home. No other state offers the unique combination of central geography, talent, technology, and training to propel sophisticated logistics and supply chains. In fact, more than 56,000 Arkansans are employed in the logistics industry, all with the experience to help your business go global.

Learn why business moves forward at arkansasedc.com, or call 1-800-ARKANSAS.



Arkansas

transportation and distribution infrastructure to education.

At the University of Arkansas, Walmart's legacy is front and center. The Sam M. Walton College of Business is named after the retailer's astute architect, and the company's presence throughout the school is overt. The marketing and logistics department is the largest in the Walton College and offers undergraduate degrees in retail and industrial marketing, and transportation and logistics.

"Walmart has brought a need for logistics education," observes Holmes.

In terms of bringing investment and

development to the state, educated labor is attractive, and education and economic development are inseparable.

"We have a targeted industry where we are able to educate the workforce and create an immediate labor pipeline for the state. This is very important for the growth of Walmart, its suppliers, and Arkansas," says Haley.

Walmart's presence is a great advertisement, but Arkansas' product sells itself.

Bordering the Mississippi River, proximate to the Gulf of Mexico, steadfast along the fast-blowing wind corridor, and mere miles from Memphis – home to the

busiest air cargo hub in the world – the state is positioned favorably in terms of transportation and market accessibility.

While Walmart-squired business development is rampant in Northwest Arkansas and the Little Rock area, Memphis has drafted a second and entirely unrelated economic development vacuum in the state's eastern region.

There are miles and miles of trucks and tracks at Union Pacific's state-of-theart intermodal facility on 600 acres in Marion, just north of where Interstates 40 and 55 converge. Nearby is Burlington Northern Santa Fe's Harvard Yard, as well as immediate access to three other rail carriers. Only 20 minutes from downtown Memphis, companies such as Smuckers and Toyota have located facilities in the West Memphis/Marion area.

No less important, these intermodal facilities are adjacent to the Mississippi River, which serves as the primary inland water artery in the United States and Arkansas. There are 1,000 miles of commercially navigable waterways in the state, with the largest - the McClellan-Kerr Arkansas River Navigation System - running through the center of the state, enabling barge traffic between Catoosa, Okla., and the Mississippi River. This system serves public ports at Fort Smith, Little Rock, and Pine Bluff, as well as many private terminals and numerous large industrial sites throughout the state. The Foreign Trade Zone at the Little Rock Port is located in a 104,000-squarefoot building, with sub-zones in El Dorado, Forrest City, and West Helena.

On the airfreight side, Little Rock National Airport features three runways and can accommodate large aircraft, including the Boeing 747. Eight freight carriers serve the airport, and UPS Air Cargo maintains a regional freight hub there. The state also lays claim to the Arkansas Aeroplex in Blytheville, formerly Eaker Air Force Base, the state's second-largest industrial complex and one of the largest commercial airstrips in the central United States.

Underpinning Arkansas' transportation infrastructure is a network of highways

Digging In

A variety of companies are setting down stakes in Arkansas:

- Chicago-based **Schulze and Burch Biscuit Co.**, a leading manufacturer of snack foods, is locating a new 500,000-square-foot production facility in Searcy that was formerly home to Maytag. The company currently operates a 500,000-square-foot facility in Chicago. The manufacturer's growing pastry and granola bar business demanded additional manufacturing capacity, which predicated its decision to expand production capacity in the south central region.
- **Boyd Metals** has broken ground on a new 10-acre manufacturing and distribution facility within the industrial park at the Little Rock Port. The Fort Smith, Ark.-based company is investing \$6 million in the 36,200-square-foot building, which will employ

46 people. Boyd distributes a broad range of carbon steel, stainless steel, aluminum, and fiberglass products. Production at the new facility will begin in late Fall 2009.

- Chicago-headquartered **Nordex USA**, a leading global manufacturer of wind turbines, is locating a manufacturing facility in Jonesboro and will invest approximately \$100 million in the new facility. The German company's U.S. division is building out 187 acres in the Craighead Technology Park. The new plant in Jonesboro is a key pillar in Nordex's international strategy that will enable it to serve the United States, one of the fastest growing markets for wind energy. The manufacturer's Jonesboro operation will be an OEM for every wind turbine component except the tower, producing rotor blades and assembling nacelles.
- **Caterpillar**, the world's largest manufacturer of construction and mining equipment, is locating its new North American motor grader production facility in North Little Rock, where it will invest \$140 million and employ approximately 600 people. Production of commercial motor graders is expected to begin in early 2010.



and byways served by two of the country's premier motor carriers: Arkansas Best Freight (ABF) and J.B. Hunt.

Situated midway between Mexico City and Montreal, within a 550-mile radius Arkansas can serve a market of 103 million people, or 42 percent of the U.S. population, Haley notes.

Interstate 40 is a major east-west, coast-to-coast thoroughfare, while Interstate 55 intersects I-40 in eastern Arkansas, and provides distribution opportunities from New Orleans north to St. Louis and Chicago. Interstate 30 connects with I-40 in Little Rock, and continues west to Dallas, creating a corridor to the southwest United States. In 2005, the state completed a \$1-billion reconstruction plan that overhauled 372 miles of the state's 589-mile interstate highway system.

NATURAL ATTRACTION

The breadth of Arkansas' transportation infrastructure and resources accommodates an array of industries with unique logistics demands. Shippers moving consumer goods with just-in-time requirements or glacial-like project cargo with out-of-the-box specs, via LTL or barge, next-day air, or rail are well-provided for.

Manufacturing, agriculture, and forestry are staple industries that have given way to specialization in food production, lumber, aviation and aerospace, and the renewable energy industry, which has been further distilled into rice, bottled spring water, paper, furniture, and wind turbine components.

"Arkansas' top export industry is aviation and aerospace," says Haley, "and our single largest export is component manufacturing for major companies such as Lockheed Raytheon. Eighty-three automotive and industrial equipment suppliers are located here."

The complexity of the aerospace supply chain, as with automotive, requires high-caliber logistics resources and expertise – capabilities that fit well with Arkansas' emerging wind turbine industry. Situated conveniently near major Gulf



The Port of Pine Bluff serves as the major trade center for the southeast portion of Arkansas, and is the anchor of the city's Harbor Industrial District.

Coast ports that have become primary gateways for wind turbine component imports and exports, Arkansas is on the periphery of a wind corridor that stretches from Texas to Canada.

"There has been tremendous growth in wind turbine manufacturing," Haley says. "Four international wind manufacturers have located in state in the past two years. We've seen growing blade and turbine manufacturing activity for use in the United States as well as for export to South

America. We need tremendous logistics capabilities to support this industry."

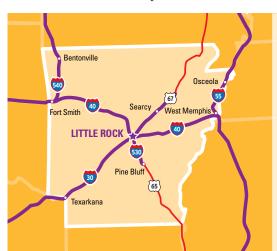
Recently Nordex USA, the American arm of the German wind turbine manufacturer, announced plans for a manufacturing facility in Jonesboro, Ark. As a result of the Nordex project, Jonesboro and the surrounding region expect numerous suppliers for the company to locate in the area.

While these natural attributes draw notice, Arkansas' state government has worked hard to nurture a business environment that keeps interest and investment in the state flowing.

"Leadership understands the needs of business – of getting public and private sector on the same page. Governor Beebe has focused us on working together and educating all the different agencies – education, labor, transportation and logistics, science and technology – to build a workforce for the future," says Haley.

With 56,000 people employed in transportation and warehousing jobs in the state, and more than 80 distribution facilities and 20 major trucking firms, Arkansas has committed resources, capital, and its future to the growth of supply chain and logistics industries and jobs.

It's little wonder then that Arkansas is a natural fit for transportation and logistics industries. The land of opportunity holds no bounds.



Hitting the Road

A network of highways and byways bolsters
Arkansas' strategic location and is served by two of the country's premier motor carriers, ABF and J.B. Hunt. I-30 connects with I-40 in Little Rock, and continues west to Dallas, creating a corridor to the southwest United States.

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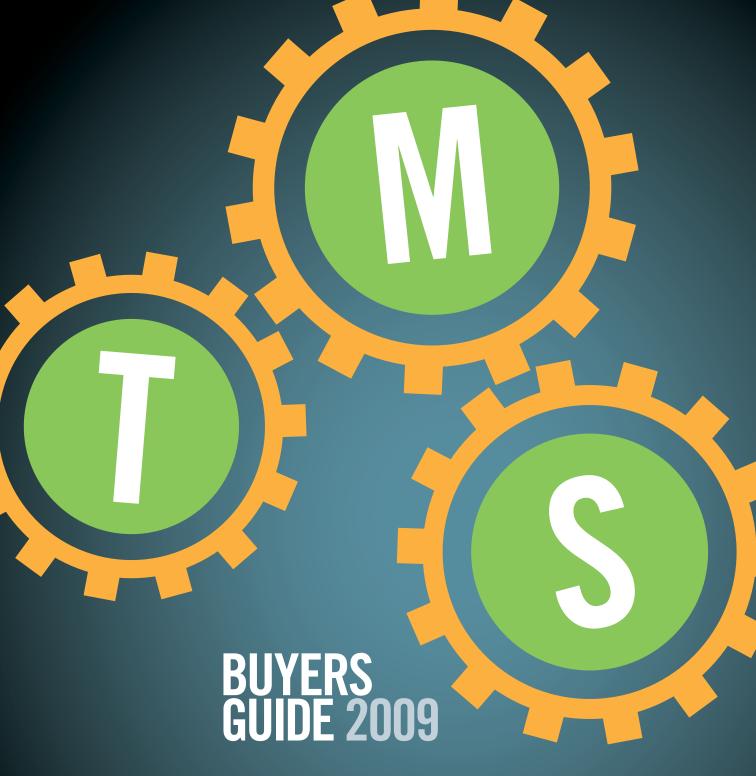
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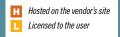
From on-demand Web-hosted applications to traditional licensing installations, over the road, on the rail, containerized, or parcel, TMS vendors and service providers are expanding their offerings to target specific end-user requirements. Because the choices can be overwhelming, *Inbound Logistics* offers this TMS Buyers Guide to some leading providers and solutions that can put you on the right road toward improved transportation management and performance.



BUYERS GUIDE

	VENDOR	PRODUCT	DESCRIPTION
Н	Agistix Redwood City, Calif. agistix.com	Logistics Management Automation (LMA)	Manages optimized transportation plans and day-to-day global logistics activities that occur with carriers across all modes of transportation.
	Appian Logistics Software Oklahoma City, Okla. appianlogistics.com	Direct Route	Allows users to enter and update data using a simple Excel environment for a straightforward interface as well as integrate mapping, mileage, and driving directions from sources such as GDT, NAVTEQ, Prophesy, MapPoint, and PC*Miler.
н	BestTransport.com Columbus, Ohio besttransport.com	BestShippers TMS	Enables shippers to optimize loads, execute advanced tendering rules (both inbound and outbound), track shipments, pay freight bills, and have immediate and accurate visibility into every transaction. Users can also view available carrier capacity in real time to optimize carrier selection.
	CDM Software Solutions Chicago, III. cdmsoft.com	CDM WinFrt	Facilitates simple data flow from quotes to operations. Standard modules include quotes, booking confirmation, air import/export, air domestic, ocean import/export, invoicing and job costing, database maintenance, and multiple level security.
H	Cheetah Software Westlake Village, Calif. cheetah.com	Cheetah Freight	Delivers real-time wireless solutions to automate and optimize pickup, delivery, dispatch, and customer service for private fleet and LTL carriers of any size.
H	ClearTrack Brentwood, Tenn. cleartrack.com	ClearTrack Import TMS	Integrates retail clients' internal supply chain information systems with external carrier networks to provide end-to-end visibility of transportation activity events.
H	Codeworks Columbus, Ohio ctcodeworks.com	WDLS Traffic	Maximizes margins on orders by pooling shipments, storing routes, and interfacing with existing systems.
H	CT Logistics Cleveland, Ohio ctlogistics.com	FreitRater	Accrues, assigns, costs, rates, and accounts for all freight/shipping and transportation activity.
H	CTSI Memphis, Tenn. ctsi-global.com	CTSI TMS	Gives users the ability to manage orders, optimize loads, select best carriers, tender shipments, track their progress, and file claims.
H	Descartes Systems Group Waterloo, Ontario descartes.com	Descartes Transportation Management	Manages contract carriers from shipment planning through execution and settlement. Descartes Transportation Management helps logistics managers, shippers, and third parties simultaneously evaluate transportation alternatives to find the most efficient shipping method.



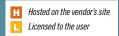


	VENDOR	PRODUCT	DESCRIPTION
H	Echo Global Logistics Chicago, III. echo.com	Evolved Transportation Manager (ETM)	Tracks individual shipments, transfers shipment-level data to financial management systems, creates customized dashboards and reports detailing enterprise-wide carrier activity.
H	Flow Logistics Bend, Ore. flowlogistics.com	eFlow	Provides a real-time application to accurately build, route, optimize, assign, track, and bill shipments. eFlow makes efficient use of transportation resources by managing the entire shipment process, regardless of mode - truckload, LTL, intermodal, rail, air, small parcel, or ocean.
H	HighJump Software Eden Prairie, Minn. highjump.com	HighJump Transportation Advantage	Provides tools to automate once-manual optimization processes, improve customer service, and reduce costs. Managers can spend more time on strategic transportation requirements and less effort on running scenarios.
H	i2 Technologies Dallas, Texas i2.com	i2 Transportation Planning and Management	Delivers transportation modeling and analysis, planning and management, bid collaboration, supply chain visibility, and replenishment planning.
H	Infor Alpharetta, Ga. infor.com	Infor SCM Transportation Management	Simplifies the complex nature of global trade by managing the inbound and outbound transportation of products from order inception to delivery.
H	InMotion Global TMS St. Petersburg, Fla. inmotionglobal.com	InMotion Global TMS	Provides a Web-based collaboration portal, electronic carrier tendering, and real-time access to a private freight capacity network.
H	JDA Software Scottsdale, Ariz. jda.com	JDA Transportation and Logistics Management	Helps shippers, carriers, and transportation service providers effectively manage multi-modal logistics networks. Covers the entire closed-loop transportation process - from strategic transportation sourcing, planning and optimization to shipment visibility, payment, and performance analysis.
H	Kewill Marlborough, Mass. kewill.com	Clippership	Enables parcel shippers to shop for optimal rates, services, and routings and ship with multiple carriers from one system, thus eliminating the need to learn multiple systems.
H	LeanLogistics Holland, Mich. leanlogistics.com	LeanLogistics On-Demand TMS	Provides complete daily planning, execution, settlement, and procurement functions that improve business processes, increase operating efficiency, and reduce transportation costs.
H	Logility Atlanta, Ga. logility.com	Voyager Transportation Planning and Management	Automates shipment planning, shipment execution, and freight accounting. Uses exception-based workflows to drive efficiencies, and presents alternatives to optimally group and ship orders.

T S

BUYERS GUIDE

	VENDOR	PRODUCT	DESCRIPTION	
Н	M33 Integrated Solutions Greenville, S.C. m33integrated.com	M33 Transportation Management System	Streamlines critical tasks such as quote requests across multiple carriers, rate confirmation retrieval, carrier contact for routing, time spent tracking and tracing multiple Web sites, problem resolution, carrier meetings, delivery confirmation retrieval, and audit/payment.	
H	Management Dynamics East Rutherford, N.J. managementdynamics.com	Transportation Management	Enables shippers to evaluate alternative routing options, optimize carrier selection for air and ocean freight, and audit transactions to avoid overcharges.	
H	Manhattan Associates Atlanta, Ga. manh.com	Transportation Lifecycle Management	Links strategic plans to actual transportation processes to gain global visibility into all shipping activities, allowing for more coordinated operations among trading partners.	
H	MercuryGate Cary, N.C. mercurygate.com	MercuryGate TMS	Executes shipments across all modes, manages carrier rates and contracts, optimizes loads, tracks loads and compiles load data, and provides operational, tactical, and strategic reports.	
H	MyFreightWorld Overland Park, Kans. myfreightworld.com	MyFreightWorld	Provides rate quotes from multiple carriers in all modes, automated shipment execution, real-time status information, and reporting, searching, and data mining.	
H	Next Generation Logistics Inverness, III. nextgeneration.com	FreightMaster TMS®	Includes a needs analysis, ROI calculation, system configuration, implementation, user training, and support programs structured to fit specific requirements and corporate cultures. Reduces freight spend, improves visibility, and enables users to make better decisions.	
L	Oracle Redwood Shores, Calif. oracle.com	Oracle Transportation Management	Integrates and streamlines transportation planning, execution, freight payment, and business process automation on a single application across all transportation modes.	
H	Precision Chicago, III. precisionsoftware.com	PRECISION Transportation Management	Streamlines transportation planning and execution, manages asset utilization, automates business processes, and processes freight payments. Users can rate, route, produce labels, and manage levels of service for any mode of shipment.	
H	RMI Atlanta, Ga. railcarmgt.com	ShipperConnect FMS	Traces railcars contained in permanently assigned fleets, or rail shipments loaded in "free-running" equipment. It monitors inbound and outbound rail shipments using information from Class I railroads and more than 300 short line and regional railroads.	
•	SAP Walldorf, Germany sap.com	mySAP Supply Chain Management	Offers transportation planning and shipment completion capabilities, shipment cost calculation and settlement, customer freight billing, service agent selection, and follow-up supervision of shipments.	



	VENDOR	PRODUCT	DESCRIPTION
Н	Shippers Commonwealth Charleston, S.C. shipperscommonwealth.com	Transportation Management System	Gives logistics managers control over load consolidation, optimized mode and carrier selection, load linking, and automated execution (Web or EDI load tendering, shipment tracking, and payment/ settlement).
H	Sterling Commerce Dublin, Ohio sterlingcommerce.com	Sterling Transportation Management System	Provides shippers with efficient planning and execution of inbound and outbound transportation processes. The solution delivers transportation planning, shipment execution, financial settlement, reporting, and analytics.
	TECSYS Montreal, Quebec tecsys.com	TECSYS TMS	Integrates into a company's business flow, and is ready for complete shipping automation featuring optimized rating, routing, manifesting, tracking, and post-shipment analysis for all small package and LTL shipments.
H	Telargo Jersey City, N.J. telargo.com	Telargo Mobile Asset Management System	Enables users to optimize resources, streamline business processes, maximize productivity, and minimize expenditures. Telargo solutions empower business owners to implement best practices for advanced fleet and workforce management.
H	Trans-i Technologies Ft. Lauderdale, Fla. trans-i.com	TranSHIP	Integrated transportation management suite includes solutions for shipping cycle business management, terminal and facilities management, dockside and intermodal operations, fleet management, and claims management.
•	Transite Technology Raleigh, N.C. transite.com	Transportation Management Solutions	Comprises transportation management functions including least-cost rating, tracking, audit, and reporting; shipment pricing including rates, transit times accessorials and rules; and LTL rating technologies such as LTL neutral rate bases, carrier rate base modules, and transit time modules.
H	Transplace Plano, Texas transplace.com	Transplace TMS	Assists users with optimal mode selection by analyzing cost and service requirements for shipments, then recommending the optimal mode a user should select for the best performance.
H	TransWorks Fort Wayne, Ind. trnswrks.com	Transportation Management Solution	Provides rating, tendering, exception management, scheduling, trailer pooling, freight pay, tracking, and reporting functionalities for truckload, intermodal, and rail shippers.
H	UltraShipTMS Wilmington, Del. ultrashiptms.com	UltraShipTMS	Gives logistics managers total network visibility and control over inbound and outbound transportation, ensuring proper coordination, optimal planning, and consistent execution.
H	Web Freight Pro Fort Mill, S.C. webfreightpro.com	Web Freight Pro	Allows users to use a core shipment entry and tracking system with optional add-on modules such as document imaging, warehouse management, and intelligent rate shopping.

NEWSERVICES

YOUR BUSINESS LOGISTICS RESOURCE



Diamond Phoenix

WHAT'S NEW: The MaxTriever series of storage and retrieval machines (SRMs). THE VALUE: The MaxTriever SRMs (pictured above) are well-suited for applications that include buffering and storing raw materials, work-in-process, and/or finished goods. They are also effective in replenishing forward picking locations. The system is designed to change aisles so one unit has the ability to access more of a facility, increasing warehouse space availability, simplifying inventory access, and reducing overhead costs.

> © 888-233-6796

Lufthansa Cargo

WHAT'S NEW: Seven added African destinations.

THE VALUE: In cooperation with Kenyan cargo carrier Astral Aviation, Lufthansa Cargo freighters fly cargo to Nairobi. From there, it is distributed to six other African states.

> © 800-LH-CARGO

Wallenius Wilhelmsen Logistics (WWL)

WHAT'S NEW: Monthly Ro/Ro service to South America's West Coast.

THE VALUE: The new service connects

cargo from WWL's U.S. East Coast ports at Baltimore and Savannah to Guayaquil, Ecuador; and Callao, Peru. Transhipment cargo is accepted from Galveston, Long Beach, and Tacoma, as well as several ports in Mexico and South America.

© 201-307-1300

ChemLogix

WHAT'S NEW: An international chemical supply chain and logistics services subsidiary.

THE VALUE: Focusing on smalland mid-sized chemical shippers, ChemLogix Global leverages ocean freight volumes to help optimize international logistics operations, expand into new markets, and ensure compliance with new security, international trade, and financial process regulations.

© 215-461-3805

The Grimaldi Group

WHAT'S NEW: Direct Ro/Ro service from Boston to West Africa.

THE VALUE: The Grimaldi Group's West Africa Direct Service sails from the Port of Boston to Senegal, Ghana, Togo, Benin, and Nigeria, and provides connecting service on other Grimaldi vessels to Angola, Gambia, Guinea, Sierra Leone, the Ivory Coast, Western Ghana, Cameroon, and the Congo.

© 800-666-9007

Agility

WHAT'S NEW: An expanded presence in Singapore.

THE VALUE: Agility's new Asia-Pacific headquarters and regional distribution center in Singapore offer a range of services, including inbound management and distribution, consolidation and finished goods management,

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

order fulfillment and purchase order management, configuration, and builtto-order management.

Wared Logistics

WHAT'S NEW: The establishment of four operating companies: Wared Transport, Wared Express, Wared Distribution, and Wared International.

American Airlines Cargo

WHAT'S NEW: Increased weight limit for Priority Parcel Service (PPS) between the United States and Europe.

THE VALUE: The PPS Heavyweight service now imposes a per-piece weight limit of 100 pounds for shipments between the United States and Europe.

Mountain Valley Express

WHAT'S NEW: A facility in Phoenix, Ariz.

THE VALUE: The less-than-truckload carrier's new 36-door terminal near I-10 and I-17 in Phoenix covers 6.6

acres, and has 8,771 square feet of dock space and 2,842 square feet of office space. Mountain Valley Express and its partner network now offer full-state coverage in seven states through 25 strategically located terminals.

© 888-247-1799

Milan Express

WHAT'S NEW: The relocation of its Cleveland, Ohio, service center.

THE VALUE: A new 48-door facility allows Milan Express to provide third-party logistics services to shippers in northeastern Ohio.

© 800-231-7303



INSTITUTE OF LOGISTICAL MANAGEMENT

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-Staff Sgt. H. Jennings, U.S. Army Ret.



TECHUPDATE

THE LATEST IN LOGISTICS TECHNOLOGY



Motorola

WHAT'S NEW: Two mobile computer models.

THE VALUE: The FR68 and FR6000 (pictured) offer a combination of real-time local and wide-area wireless communications coupled with advanced data capture capabilities, and an industrystandard operating system suitable for manufacturing and transportation applications.

> © 800-722-6234

route variables, and driver characteristics, and use the system to verify performance improvements.

₩ www.cheetah.com

€ 888-CHEETAH

Deutsche Bank and INTTRA

WHAT'S NEW: An agreement to create an online invoicing solution for ocean container shippers.

THE VALUE: The joint service combines the connectivity of INTTRA's e-commerce services with Deutsche Bank's financial supply chain solutions, including eBills, a platform for presenting and paying electronic invoices.

© 212-250-2500

₩ www.inttra.com

© 973-263-5100

TMW Systems Inc. and WebTech Wireless Inc.

WHAT'S NEW: A mobile resource management solution.

THE VALUE: Based on TMW's existing D2Link software and WebTech's WT7000 Locator in-vehicle device, the fleet management solution gives fleets and their drivers the ability to monitor a wide range of vehicle location, usage, and engine diagnostics data.

⇔ www.tmwsystems.com

© 800-401-6682

₩ www.webtechwireless.com © 866-287-0135

rfid/wireless

Identec Solutions Inc.

WHAT'S NEW: An Intelligent Long Range (ILR) asset management system. THE VALUE: Using ILR tags, the IntelliFIND Real-Time Location System determines an asset's specific location to less than 10 feet over an area equal

to 18 football fields. ₩ www.identecsolutions.com

© 866-402-4211

partnerships

Cheetah Software Systems Inc. and **Turnpike Global Technologies**

WHAT'S NEW: A delivery software

THE VALUE: The new solution integrates Cheetah's routing and dispatch optimization tools with Turnpike's RouteTracker engine data recording capabilities. Fleet managers can establish benchmarks for vehicle efficiency,

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



web

Shippers Choice

WHAT'S NEW: An online rate bidding tool.

THE VALUE: Using the "Pick Your Rate" transaction enhancer, shippers can view bids from carriers and select the rate they want to pay. All fees are automatically calculated and forwarded. If accepted, shippers receive the rate they chose.

© 509-663-8668

Transite Technology

WHAT'S NEW: Enhanced Web tools. **THE VALUE:** The transportation management solution company's new site includes a limited offer for a free trial version of its Continental rate base, a free transportation management practices assessment, and an interactive blog.

© 800-810-9888



hardware

Tharo Systems Inc.

WHAT'S NEW: A label applicator printer accessory.

THE VALUE: The PA2000t/b tamp/blow printer/applicator works with Tharo's H-Series thermal transfer bar-code label printers. With or without a computer attached, the PA2000t/b can print and apply labels on convex, concave, or flat surfaces, on either the top or side of a product.

© 800-878-6833



FastPic Systems

WHAT'S NEW: A photo library in *FastPic5 Order Processing* inventory

management software.

THE VALUE: This feature allows warehouse personnel to visually verify stockkeeping units, increasing operator productivity by eliminating the need to verify part numbers.

₩ www.fastpicsystems.com © 207-854-8663

XATA Corporation

WHAT'S NEW: Enhanced reporting capabilities in *XATANET* fleet operations software.

THE VALUE: The self-service reporting tool allows shippers to create reports tailored to their fleet operations needs. Available reports include driver and vehicle data, such as speeding and idle time; driver fuel-analysis, such as MPG usage by region and vehicle; and delivery and route analysis.

© 800-745-9282

PINC Solutions

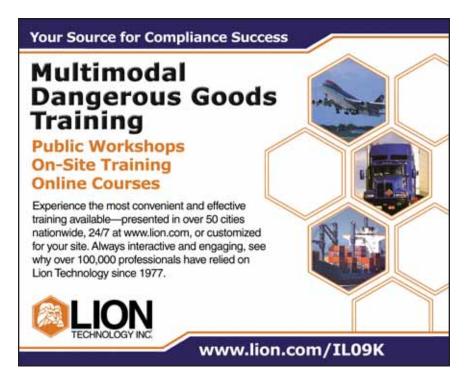
WHAT'S NEW: Software for monitoring temperature-controlled trailers.

THE VALUE: Yard Hound Reefer allows yard personnel to monitor refrigerated trailers' inside temperature and fuel levels without conducting manual checks.

Management Dynamics (MD)

WHAT'S NEW: An export compliance solution.

THE VALUE: Export On-Demand centralizes product compliance data and generates all required documentation. It integrates with MD's *Trade Content* to facilitate product classifications, screen for restricted parties, and determine documentation requirements.



3PLs



Four Soft Limited • www.four-soft.com

Four Soft Limited (4S) is an enterprise solutions company that develops innovative software products, and provides IT consultancy services to the logistics and supply chain management marketplace. 4S uses the power of leading-edge Internet technology to help you quickly and affordably realize the full power and potential of your operations. With more than 300 customers across 120 countries and 50,000 users, 4S is one of the top solution providers in the supply chain domain. Find out more about how Four Soft can boost your supply chain efficiency; visit the site today.

Hanson Logistics ● www.hansonlogisticsgroup.com



Hanson Logistics is a leading 3PL offering single-source transportation, warehousing, and distribution services. Our Chicago consolidation center features Velocities™ Multi-Vendor Consolidation Services reaching top retail and food service DCs, including Walmart. We can design, execute, and manage a temperature-controlled supply chain solution that meets your specific requirements, with broader visibility, lower transportation costs, and higher day-to-day performance. Call 888-772-1197.



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PLS is the leading provider of technology-based, custom third-party logistics solutions in the industries we serve. Our mission is to turn logistics into a competitive advantage for your business. We do this by harnessing the energy of more than 200 logistics professionals, backed by our proven processes, equipped with our exclusive technology, and fully accountable for delivering superior customer service. PLS serves a wide array of companies in the metals, lumber, building products, automotive, nuclear, oil and gas, and industrial equipment industries.

AIR/EXPEDITED

Pilot Freight Services • www.pilotdelivers.com



Pilot Freight Services, one of America's largest independent transportation and logistics companies, provides a full range of domestic and international air, land, and sea capabilities. Our 65 North American locations offer customizable services with a personal touch, and are complemented by a worldwide network of partners, assuring pick-up and delivery to over 190 countries worldwide, 24/7. Contact 1-800-HI-PILOT or www.pilotdelivers.com



ECONOMIC DEVELOPMENT



Baton Rouge Area Chamber • www.brac.org



Locate your logistics operations in Baton Rouge and you'll tap its regional advantages, including skilled, low-cost labor; superior transportation infrastructure; abundance of industrial sites and available facilities; and extraordinary Gulf zone benefits. Visit the Web site or call Chad Cornett, 225-381-7136 to get a customized site location package.

Binswanger • www.binswanger.com



Binswanger is a global real estate organization uniquely positioned to provide a full range of cross-border services, including site selection. Its exceptional knowledge of states, communities, individual property owners, developers and the transactions they are willing to structure, enables Binswanger to analyze and compare the best alternatives available.



Trade Tr

Germany Trade & Invest ● www.gtai.com



Located at Europe's center, Germany is the continent's largest economy and most important logistics hub, offering world-class infrastructure and cutting-edge logistics services. The location provides companies with opportunities for convenient Europe-wide distribution and easy access to the EU's 500 million consumers. For details, visit the Web site.

Joplin Chamber of Commerce ● www.joplincc.com



Thinking of Joplin, Mo., as the next site for your headquarters or distribution center? Your first stop should be The Joplin Area Chamber of Commerce's Web site. You'll find a complete business profile of Joplin, including population, location, infrastructure, labor, education, real estate, and cost-of-living statistics. The Joplin Area Chamber of Commerce is a private, not-for-profit organization of business and professional people committed to improving the economic prosperity and quality of life in the Joplin area. Member of NASCO.





Nebraska Public Power District • www.sites.nppd.com

One Web site with everything you need to know about doing business in Nebraska. Find valuable information including sites and building availability; community profiles; facts books; population characteristics; labor availability; profit opportunity studies; contact information; and much more. It's the one place to go to find out why doing business in Nebraska is a smart move. Contact Nebraska Public Power District, 1-800-282-6773 x5541, e-mail econdev@nppd.com, or visit the Web site.

Puerto Logistico (BP-RIO Development) ● www.puertologistico.com

BP-RIO is developing new facilities for logistics, commercial warehouse, show-room, and flex-office uses in Los Cabos and Riviera Maya, Mexico. The first-class buildings will offer users a highly professional and well-maintained environment, ample parking for both cars and trucks, secured shipping yards, dock-high loading access, a state-of-the-art fire protection system, office space built-to-suit, and well-conceived entry and exit points to maintain efficient flow of incoming and outgoing traffic. For more information, please visit www.puertologistico.com





Regional Growth Partnership • www.rgp.org

The Regional Growth Partnership is a private nonprofit corporation dedicated to fostering local, national, and international economic growth opportunities for Northwest Ohio.

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Saxony Economic Development Corporation ● www.wfs.saxony.de

The Saxony Economic Development Corporation (WFS) builds bridges for Saxon enterprises heading off into the world and for investors heading for Saxony in Germany. You, too, can benefit from our network competence and from 16 years of successful economic development work. Come and profit from our expertise!





Saxony-Anhalt • www.img-sachsen-anhalt.de

Investitions und Marketinggesellschaft Sachsen-Anhalt mbH (IMG) is the business location and marketing agency of Saxony-Anhalt. IMG staff provide all services related to new business siting. In addition, we are marketing Saxony-Anhalt both nationally and internationally and developing tourism concepts. The state of Saxony-Anhalt in Germany is the sole shareholder of IMG.

JOB BOARDS

JobsInLogistics.com, Inc. • www.jobsinlogistics.com

JobsInLogistics.com is the largest career and recruiting board on the Internet, specializing in logistics, manufacturing, supply chain, transportation, purchasing, freight forwarding, distribution, warehousing, 3PL, and materials management. With more than 15,000 registered employers and recruiters, and more than 200,000 logistics professionals' resumes, JobsInLogistics.com is the one and only place to find the top qualified candidates and the best logistics career opportunities.



LOGISTICS IT



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Aljex has amazingly innovative Web-based software for carriers and freight brokers. If you see a demo of our software, you will want it. Why? You will see how Aljex can easily double the number of shipments you can handle. It's so easy to learn that we include unlimited training and support. With Aljex, there is no long, painful switchover. In 24 hours we can have you trained, linked into the load-boards, have your logo on your forms, your users set up, your carriers and customers imported, and ready to work.

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Appian Logistics has over two decades of experience and expertise developing software and is acknowledged as an industry leader in providing solutions that work for transportation companies. Appian Logistics is committed to providing logistics solutions powerful enough for what-if cost analysis and easy enough for day-to-day execution. Contact Appian Logistics today for a solution designed to streamline your transportation operations.







INTTRA • www.inttra.com

INTTRA is a leading global provider of e-commerce solutions to the ocean freight industry. INTTRA professionals work with over 30 leading carriers to streamline and standardize their shipping processes worldwide through a network of over 20,000 corporate locations. Over 260,000 container orders are initiated on the INTTRA platform each week, representing more than 10 percent of global ocean container trade.

ZMS Technologies • www.zmstech.com

ZMS Technologies introduces z! Series, an integrated transportation management suite that will transform your business. Working in concert with a new generation of advanced modules offering capabilities not available with today's best-of-breed, ERP, or in-house applications, z! Series configures and scales based on your size and business model - from bread-and-butter domestic transportation management to global networks providing sophisticated fulfillment and logistics. Deploy the system in-house or as an on-demand managed TMS to suit your needs. For more information, visit the Web site today.



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S & S Systems, LLC • www.sandssystems.com

S & S Systems is a materials handling conveyor system integrator that prides itself on providing customers with professionally designed materials handling systems, incorporating quality components from equipment suppliers that meet or exceed our demanding standards. Each and every system is designed, engineered, and implemented to our customers' complete satisfaction, with S & S Systems providing and maintaining complete service and ongoing support after the sale.



OCEAN/INTERMODAL



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INTTRA is a leading global provider of e-commerce solutions to the ocean freight industry. INTTRA professionals work with over 30 leading carriers to streamline and standardize their shipping processes worldwide through a network of over 20,000 corporate locations. Over 260,000 container orders are initiated on the INTTRA platform each week, representing more than 10 percent of global ocean container trade.



CITE CITY www.inboundlogistics.com/web_cite

RFID



SATO America, Inc. • www.satoamerica.com



SATO America Inc. is a pioneer in the Automatic Identification and Data Collection industry, and the inventor of the world's first electronic thermal transfer bar-code printer. It revolutionized the bar-coding industry by introducing the Data Collection System and Labeling concept-a total bar-code and labeling solution providing high-quality bar-code printers, scanners/handheld terminals, label design software, and consumables.

SHIPPING SOFTWARE



Zepol Corporation • www.zepol.com

Zepol provides trade data tools that analyze the U.S. import and export market. Zepol's TradelQ™ analyzes approximately 30,000 import bills of lading daily from the U.S. Customs' Automated Manifest System (AMS). Zepol's products are subscription-based Web services that can be accessed at any time from anywhere in the world. Visit www.zepol.com to learn more about trade data tools and see video demonstrations.



SITE SELECTION



Salina Area Chamber of Commerce • www.salinakansas.org



Salina has approximately 1,200 acres of industrial sites available in North Salina, the South Industrial District, and the Airport Industrial Center. Sites range in size from one acre to 240 acres, and are available for new manufacturing, distribution, and warehouse businesses. Complete economic and statistical data, as well as site and building information, is available. Contact Salina Chamber staff: Aaron White, Existing Business Retention and Expansion, 785-827-9301.

SUPPLY CHAIN OPTIMIZATION



Optricity • www.optricity.com

Optricity Corporation, a niche software developer, deploys patent-pending RASSQT technology to solve complex supply chain (SC) optimization problems. Custom and best-of-breed solutions developed by Optricity help companies minimize costs where competing operational goals and constraints come together. Optricity's software enhances return on SC investment and easily integrates with current SC staples such as WMS, TMS, and ERP systems. Visit www.optricity.com to learn more about the advanced warehouse slotting optimization tool, OptiSlot™, and other Juncture Optimization™ capabilities.



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TMS



Arcline (2000) Inc. • www.arcline2000.com



Arcline (2000) Inc. develops advanced dispatch management software solutions for the transportation industry. Our objective and commitment is to provide a complete business solution for truck fleets and freight brokers that is innovative, expandable, and cost-effective. We pride ourselves as being Partners for the Future with our clients and employ a customer-driven approach. Contact us now to schedule an online demonstration. Available lease and purchase options, and free 30-day trials.

CDM Software Solutions • www.isfsoftware.com

CDM Software Solutions, Inc., a Certified U.S. Customer vendor based in Chicago, Ill., with sales offices located in Seattle, Wash.; San Antonio, Texas; Phoenix, Ariz.; Hong Kong; SAR and Shanghai, China, is a leading provider of software solutions to freight forwarders, NVOCCs, warehouses, exporters, importers, and logistics companies. CDM ISF Solution's key benefits include fast, efficient, and reliable processing via Internet browser, simplified entry with shipment copy feature, ability to define repetitive parties and HTS codes, ability to receive ISF shipment details electronically, and automatic ISF notifications via e-mail or SMS.





Gumro & Associates • www.gumroandassociates.com



Gumro & Associates (G&A) solves your distribution problems with a personalized approach and focus on quality customer service. Services include pool warehousing and distribution, just-in-time delivery, and a customized freight tracking, data collection software called "ePAD" (electronic Pool And Distribution). G&A is equipped with a professional MIS team, account managers, and dispatch managers to help you easily navigate through any transportation or logistics issue your company may be experiencing.

M33 Integrated Solutions • www.m33integrated.com



We at M33 Integrated Solutions are known throughout the logistics industry for our Web-based Transportation Management System (TMS) and our innovative co-management philosophy. Our advanced technology allows us to leverage the collective freight operations of all the companies that make up our client network. This collaboration delivers solutions and savings beyond anything our clients could have developed on their own, giving them the freedom to focus on what they do best.





Next Generation Logistics, Inc. (NGL) ● www.nextgeneration.com



NGL is a provider of managed freight services, logistics consulting, and TMS software. Our FreightMaster TMS® is a complete enterprise transportation management solution that can be quickly deployed, whether you choose our On Premise model or Hosted On Demand model to manage a single company or multiple divisions. It is a very powerful application, yet easy to use, that will reduce costs and save you time; deliver the functionality you need to make better decisions in providing end-to-end support, from order entry to optimization, to auditing and online settlement, to carrier collaboration and communication. FreightMaster TMS® delivers a low cost of ownership and can generate an ROI within months.

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Trans-i Technologies • www.trans-i.com

Trans-i Technologies is a recognized world-leading provider of integrated Web-enabled applications for the maritime shipping, operations, and intermodal logistics industry. Trans-i provides world-class transportation management solutions to the marketplace through leadership in technology and applications development. Its comprehensive range of information technology solutions includes e-commerce and Web development utilizing the latest .NET technology for shipping ERP and terminal operations, customized client/server applications, and computer programming, among others.





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Transite provides transportation management products and services to shippers, 3PLs, brokers, and carriers to automate and manage LTL, TL, small package, ocean, and air shipments. Our products range from complete solutions to technology used by other TMS and ERP vendors to provide best-of-breed functionality. Transite's solutions are hosted or purchased, flexible, quick to implement, and highly scalable.

TRUCKING

Affordable Network, LLC • www.myfreightlanes.com

Affordable Network's myFreight Lanes Web tool offers shippers a free, secure Web-based application designed to act as your own shipment planning department. With myFreight Lanes, you don't post your freight on an open Internet site; you get a hosted application that requires secure login. Regardless of the size of your operation, you can upload your regular lanes and input your daily shipments, and the Web tool will send your request to participating TL and LTL carriers. To learn more, visit the Web site, e-mail info@myfreightlanes.com or call 1-866-668-7229.





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WAREHOUSING

ADS • www.adslp.com

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Bilkays Express ● www.bilkays.com

In today's world, modern equipment is needed to handle the warehousing needs of the vast variety of businesses in the Northeast. So, Bilkays has all the systems and equipment you would expect to provide warehousing for whatever your needs may be. And you can be sure our specialized RF Management System and equipment can handle the toughest jobs. Our services include contract warehousing, custom packaging, customer pickup, dedicated contract service, EDI, innovative pricing, logistics, and much more. Find out more by visiting our Web site.

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Joplin Chamber of Commerce • www.joplincc.com

Thinking of Joplin, Mo., as the next site for your headquarters or distribution center? Your first stop should be The Joplin Area Chamber of Commerce's Web site. You'll find a complete business profile of Joplin, including population, location, infrastructure, labor, education, real estate, and cost-of-living statistics. The Joplin Area Chamber of Commerce is a private, not-for-profit organization of business and professional people committed to improving the economic prosperity and quality of life in the Joplin area. Member of NASCO.





Kenco Group ● www.kencogroup.com

Adding value to your bottom line-that's the mission of Kenco Logistic Services. For more than 50 years, Kenco Logistic Services has guided some of the most demanding supply chains in the world. Kenco's convergence approach can help you streamline your supply chain and bring a greater return on assets and investments. Kenco invites you to visit this Web site so that you might get to know its services. Then, contact Kenco so that you might truly understand its unique strategic advantages.



Magic Warehousing and Distribution, Inc. www.magicwarehousing.com



Magic Warehousing is a full-service warehousing and distribution center provider with the ability to custom-tailor warehousing and transportation programs to meet your specific needs. With its modern truck fleet, Magic Warehousing provides diversified import/export service from the United States to Puerto Rico. Shippers have come to depend on Magic Warehousing to handle even the most demanding requirements thanks to its experienced personnel, state-of-the-art equipment, and accurate on-time delivery.



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New Breed • www.newbreed.com



New Breed offers a complete distribution solution that integrates warehousing and transportation management, as well as value-added services such as sub-assembly and repackaging. Distribution Center Management-nationwide network of facilities to accommodate retail or direct-to-consumer distribution. Dedicated and multi-client facilities. Real-time Web access to inventory and order status. Full-featured WMS. Value-Added Services-kitting, sub-assembly, labeling, POP display assembly, price ticketing, repackaging, and other custom services. Transportation Management-network design and optimization, carrier selection, price negotiation and management, load tendering, shipment status and tracking, and freight audit and payment.

Ryder • www.ryder.com



Ryder provides end-to-end supply chain, warehousing, and transportation solutions including: third-party logistics (3PL), fleet management, RFID operations, reverse logistics, supply chain management, transportation management/freight management, truck rental, truck leasing, warehousing, lead logistics provider, lead logistics manager, service parts operations, and distribution center management.





TMSi Logistics • www.tmsilog.com

TMSi, an award-winning 3PL provider, has differentiated itself through a performance-driven culture resulting in sustainable cost savings and improved service levels. TMSi can optimize your enterprise's supply chain by providing distribution network modeling, long-term facility planning, and operations consolidation. TMSi and its clients identify performance markers such as time to market, inventory turns, profitability goals, and other Key Performance Indicators (KPIs) to monitor the supply chain's performance. For more information on TMSi, call 603-422-0777 or visit www.tmsilog.com.



WSI (Warehouse Specialists, Inc) ● www.wsinc.com

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WMS



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Now you can gain a bird's-eye view of all the containers in your warehouse. The On Trac WMS from Affordable Network lets you view only the containers that are in "available" status in your warehouse, and print a container report. OnTrac is committed to providing a quality product that will not only improve your operations, but increase profit to your bottom line. The software is aggressively priced, with no long-term contracts or upfront investment. To learn more, call 1-866-668-7229 or visit the Web site today.



TECSYS Inc. • www.tecsys.com



TECSYS is a leading supply chain management software provider that delivers powerful enterprise warehouse, distribution, and transportation logistics software solutions. The company's customers include more than 500 mid-size and Fortune 1000 corporations in healthcare, heavy equipment, third-party logistics, and general wholesale high-volume distribution industries.





June 2-5, 2009, U Connect Conference 09, Orlando, Fla. Featuring a keynote address by Bruce Richardson, chief research officer of AMR Research, the conference provides attendees with information and tools for improving their ability to respond to today's economic crisis and associated challenges. Sponsored by not-for-profit supply chain standards organization GS1 US, the event offers seminars on topics such as efficient distribution of goods, supply chain visibility and traceability, and sustainability.

609-620-4656 http://uconnect.gs1us.org

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The 2009 NASSTRAC Logistics Conference & Expo took place in Orlando, April 26-29. Hundreds attended from manufacturers, retailers, distributors, 3PLs, and providers of transportation services.

Key Take-Aways:

- Transportation executives see key factors as early recovery indicators, including increased flow of goods from China, PSI inventory levels, manufacturer and consumer indexes, and shipping counts/sizes. However, shippers and carriers do not anticipate freight improvement until 2010.
- Key legislative issues: infrastructure, truck sizes and weights, NAFTA, security, and West Coast port drayage.

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Shippers share perspectives (left to right): NASSTRAC Education Chair John Langley, Steve Ahern of BASF Corp., Carol Beaumont of PetSmart and Glenn Sokoloski of International Specialty Products.



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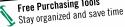
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2009

Forklift Truck Goes the Distance

or many, the fast-track 1980s are a distant recollection with little current relevance. But for Prescher Willette Seeds, a Delavan, Minn., soybean farming company, one memory remains a forceful and faithful servant.

The family run business' 1982 FGC25 Mitsubishi forklift truck was recently crowned winner of Mitsubishi Forklift Trucks' *Keeps on Running* contest. The Houston, Texas, forklift manufacturer invited customers that own and operate its small internal combustion cushion tire lift trucks to vie for the honor of oldest operating vehicle.

Prescher Willette Seeds, which raises, cleans, packs, and ships more than 100,000 bags of soybeans on its 3,500-acre farm each year,

received a brand new FGC25N Mitsubishi forklift as reward for its time-torqued truck.

"We currently have two Mitsubishi forklift trucks that are more than 20 years old, and we run them hard, especially in our busy spring and fall seasons," says Mike Hughes, plant manager of Prescher Willette Seeds. "We've never had a need to replace the forklifts because they are so dependable and are always ready to run when we are."

The oldest running Mitsubishi forklift truck in America won't stop running anytime soon. The company plans to operate all three of its Mitsubishi forklift trucks for many more years to come. Cultural fads may be fickle, but Mitsubishi forklifts are for keeps.

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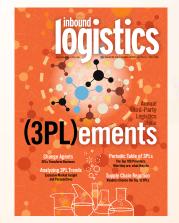
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