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SAN ANTONIO
AT THE CROSSROADS OF OPPORTUNITY

INTERMODAL
MORE THAN ROADS AND RAILS

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THE BIONIC WAREHOUSE

Innovative Warehouse Strategies | TMS Guide

May 2012 • Vol. 32 • No. 5

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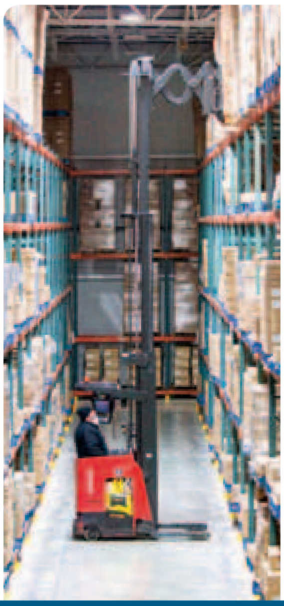

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Centralized location and a fast-growing economy are luring U.S. and international businesses to discover San Antonio's supply chain benefits.

CHECKINGIN

Felecia Stratton

by Felecia Stratton | **Editor**

Warehousing 'Outside the Box'

Historically, warehousing was viewed as a function that exists inside "four walls." Visibly, that's true. But when you consider all the different parts and impulses that influence a distribution operation, it can no longer be cornered so conveniently. That's why our May 2012 issue spotlights warehousing and distribution wall-to-wall–and beyond.

For example, it's easy to see the DC for what it is: a complex organization of racking infrastructure, conveyor and sortation systems, materials handling equipment, pallets, and people. Often obscured, however, is the conceptual connectivity that exists between other warehouses, suppliers, manufacturers, retailers, and end consumers. The DC is but one node within a much larger distribution ecosystem. Logistics technology and supply chain strategy merge functional silos and align these different business partners into a more cohesive and responsive network.

Taken alone, the warehouse has evolved into a bionic organism that pairs human intelligence with automation. It senses demand and supply changes, absorbs variability, and flexes inventory and capacity so companies can move product to market as efficiently and economically as possible. If you consider labor management, this metaphor only grows.

Merrill Douglas' article *The Bionic Warehouse* (page 38) explores how companies use technology and performance recognition programs to enhance labor productivity–whether it's a pointed labor management system, a module in a traditional WMS, mobile communication devices, or even Excel-based incentive modeling. These companies are taking the biological component of distribution activity–human labor–and re-engineering performance through next-generation IT systems, and tried-and-true motivation tactics.

While technology broadly allows companies greater flexibility in how they manage time-to-demand requirements, many are also reconsidering distribution network strategy, materials handling and infrastructure design, and warehouse processes to uncover hidden efficiencies. In *Innovative Warehouse Strategies: Four Walls, Three Takes* (page 45), Joseph O'Reilly looks at how a consultant, integrator, and wholesaler approach warehouse and distribution innovation from the inside and out.

Lastly, if you strip away the complexity of technology and strategy, warehouse management is reduced to moving inventory. And when you get down to basics, there is nothing more essential than the pallet. Finding the right pallet type and/or pooling solution can have a discernible impact on warehouse spend, product integrity, and inventory flow–as you'll read in *The Power of the Pallet* (page 51).

As growing e-commerce demands, cloud-based connectivity, and business process sophistication shape the arc of supply chain innovation, the distribution center has become increasingly "wall-less."

The bionic warehouses of today are making history; they're not part of it. ■

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DIALOG

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The Name Game

A recent news item about Washington State Representative Jan Angel's efforts to sell corporate naming rights for the Tacoma Narrows Bridge – in an effort to keep tolls in check – reminded me of your lighthearted list of possible transportation infrastructure sponsors (*Last Mile, October 2011*). Who knew fiction was so matter-of-fact?

— **Earl Helm,** Spartanburg, SC

Editor's reply: We still haven't heard back from Duracell about sponsoring New York's Brooklyn-Battery Tunnel. Stay tuned, however, for a follow-up Trends item in our June issue about this emerging source for transportation funding.

Figuring It Out

The cost breakdown of operating a commercial truck (*Last Mile, April 2012*) was interesting information, and not hugely changed percentage-wise since I got out of trucking. As an owner-operator in the late 1970s and early 1980s, I spent about one-third on fuel, one-third on everything else related to the tractor, and about one-third was my (pre-tax) income. I didn't spend $600 on coffee, though – I found it ran through me too quickly.

I was surprised, however, to see you refer to the tractor as a "cab." The cab is just the tin box in which the driver sits – or, in some cases, lives a good bit of the time. The "tractor" includes the cab, engine, frame, wheels, axles, and all the other components that pull the trailer.

Also in the April issue, I enjoyed the article *Logistics in Alaska: Taming the Last Frontier*. Operators there face lots of challenges rarely seen here in the lower 48.

— **Dave Bovee,** vice president, Chadwick & Trefethen Inc.

Department of Corrections

April 2012's *Last Mile* lists the average cost of operating a commercial truck as $1.38 per mile. However, if you total the per-mile cost numbers in each category, they equal $1.78.

— **Dick Grant,** executive vice president, O&S Trucking Inc.

Editor's reply: Great catch! The cost per mile for Repairs & Maintenance should have been .12, not .54. And due to rounding and estimating, some of the figures do not add up exactly.

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tweeting it forward:

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Remember the mushroom in the shipping department? He was a real fungi! @ILMagazine on using mushrooms for packaging: bit.ly/Ivkf29

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10TIPS

STEP-BY-STEP SOLUTIONS

by Deborah Catalano Ruriani

Becoming a Transportation Industry Advocate

Legislators are currently considering and implementing laws and regulations many transportation experts fear will significantly erode trucking productivity and increase the delivered cost of goods. There's no time like the present to begin advocating your company's interests. Brian Everett, ABC, executive director for the National Shipper's Strategic Transportation Council (NASSTRAC), outlines how business leaders can make a difference.

1 **Identify advocacy issues most important to you.** Many advocacy issues could impact your business, so select carefully the ones most important to you and your company.

2 **Quantify the impact on your business.** Demonstrating how proposed legislation will impact your company's workforce, costs, and competitiveness will help you influence policymakers.

3 **Understand the legislative/regulatory process.** Develop at least a basic understanding of legislative and policymaking fundamentals.

4 **Participate in the process.** Policymakers want to understand how proposed changes might impact your business, the U.S. economy, and the country's overall competitiveness. Look for opportunities to educate government leaders who do not have experience in transportation and supply chain management. Legislators rely on industry practitioners to help weigh the costs and benefits of proposed changes.

5 **Contact elected officials.** For policies that require legislation, such as transportation infrastructure funding, talk directly to those who vote on the decisions. Congressional leaders respond positively when constituents write or call about proposed or pending legislation. Tell them why they should make specific decisions about rules that will impact your business.

6 **Comment on pending regulations.** Regulations go through a public rulemaking process in which industry and citizens are invited to comment on proposed rules. Agencies then analyze the comments, adjust the rules, and issue the final version. Industry associations such as NASSTRAC frequently file comments on behalf of shippers to explain how pending rules will impact their member companies' operations. During the comment period, shippers can use NASSTRAC's filings or participate in letter-writing campaigns to provide input—before the rules become final.

7 **Educate your company's management about transportation legislation.** Shippers often say their companies' government affairs departments focus on issues aligned with their core business—not transportation. These issues, however, are crucial to the core business. It is up to transportation or supply chain management executives to educate government affairs professionals on critical transportation advocacy issues.

8 **Visit Washington.** Personally meet with a U.S. representative, senator, or agency to educate them about how their decisions will impact your business.

9 **Participate in fly-ins.** During a fly-in, transportation stakeholders gather in Washington at the same time to meet as groups with members of Congress. Several people expressing the same concerns about pending regulations creates an effective message.

10 **Get involved in associations.** Many industry associations aim to prevent regulations that negatively impact productivity, operations, efficiencies, and supply chain costs. These groups continually educate their members about ways to be an industry advocate. Get involved, and you just might make a difference. ■


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FREIGHTLINER

as told to Merrill Douglas

Michael Gilbert **is director of logistics and facilities at Indianapolis Fruit Company, which provides fresh fruits and vegetables to grocery stores and restaurants in eight midwestern states. He joined the company in 2011.**

RESPONSIBILITIES

Supervising a team of four managers who run the warehouse's shipping department, the facilities maintenance and sanitation department, and regional inbound and outbound transportation.

EXPERIENCE

Courier, operations manager, service assurance manager, senior manager, FedEx Express.

EDUCATION

Parkland College, Champaign, Ill., A.A.S., 1986 ; Madison University (online), B.S., business administration, 2005.

Michael Gilbert: A Fresh Start

I STARTED MY LOGISTICS CAREER AT 23 AS A COURIER for FedEx Express in Champaign, Ill. Of my 22 years with the company, I spent 21 in management. During my last 10 years, I managed several locations in Indianapolis, which are some of the largest FedEx Express package locations in the central United States.

When I joined Indianapolis Fruit Company in 2011, my first order of business was to assess the transportation operation, looking for ways to make it more efficient. I felt it was important to start using information technology the way we did at FedEx – to track and trace all shipments to the minute. Joe Corsaro, Indianapolis Fruit Company's vice president of operations, allowed me to take the necessary steps to reach that standard.

One initiative we launched was to install Navman Wireless computers on our refrigerated truck fleet. The units provide GPS-based navigation, vehicle tracking, and text messaging. They also collect data we use to analyze driver performance and route efficiency.

We use the technology to improve customer service and, at the same time, boost employee morale. For example, the units allow us to closely monitor unnecessary extended idle times and wasted fuel, reduce miles on delivery routes, and identify driver inefficiencies. They also help us identify employees who are doing all the right things every day, so we can give them the recognition they deserve.

Another project we introduced involves tracking shipping productivity, monitoring how many packages employees are picking per hour, and assessing how well they're doing their work. We want to reduce mistakes and make sure pallets are stacked correctly—to ensure, for example, that employees don't stack potatoes on top of tomatoes. Currently, we gather most of that data manually, but we are

The Big Questions

What do you do to recharge your batteries?
Relax with my nine-year-old daughter and watch a movie.

What's the worst job you've ever had?
Carrying chickens at the Teuscher farm in Fisher, Ill., was hot, smelly, and dirty. My mom would make me leave my work clothes outside the house.

What's on your Bucket List?
Scuba diving in Australia with a great white shark—in a cage, of course.

Guilty pleasure?
A Reese's Peanut Butter Cup Blizzard.

implementing a warehouse management system that will provide the information electronically in real time.

We're also helping our sales department target ZIP codes where we can serve more customers without adding more manpower. Thanks to the Navman units, we can identify the gaps in our existing routes. Because we know when trucks pass through certain areas, sales professionals can offer prospective customers specific delivery times.

Having spent 22 years of my career in the fast-paced world of express shipping, I had a deep pool of experience to offer Indianapolis Fruit. Although the company is different from FedEx, they both make customer service and satisfaction their primary goal. I have spent my entire career getting customers what they need when they need it, seamlessly.

Making that happen takes an army of people working together behind the scenes. I pride myself on my ability to bring together people with complementary strengths, so they can deliver the best possible service to our customers.

I knew little about the produce industry before I came to Indianapolis Fruit, but I'm learning more every day. As a picky eater, I'm also making a point of trying a new fruit or vegetable as often as I can.

The most important thing I've learned in my first year at Indianapolis Fruit is that it doesn't matter what's in the truck. Packages or produce, it's all about the customer experience. ■


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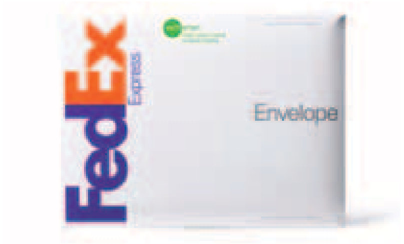
THE SUPPLY CHAIN IN BRIEF

GREEN SEEDS



▲ **FedEx Express** implemented a carbon-neutral shipping program for its most widely used document shipping packaging – the FedEx envelope, which is already made from 100-percent recycled content and is 100-percent recyclable.

The program makes FedEx Express the first global express transportation company to offer carbon-neutral envelope shipping at no extra charge to the customer.

Rand Material Handling, a distributor of warehouse, storage, and packaging supplies, introduced a new line of biodegradable stretch film products. When introduced to soil, as in a landfill, the film completely degrades within two years, yet has the same tensile strength as non-degradable products.

▲ **ThermoPod** launched a new line of super-insulated protective mailers and packaging liners, the only temperature-controlled packaging with components that are totally biodegradable. The new products are green alternatives to foam coolers and other non-biodegradable shipping containers.

Independent owner/operator **John Jones (left)** purchased Massachusetts Port Authority's first clean diesel replacement truck as part of a program giving owners of older trucks servicing the terminal a financial incentive to replace them with ones that are 2007 emission-compliant or newer. Jones, who is contracted to drive for Atlantic Beverage Express in Braintree, Mass., purchased a 2008 Kenworth W900L truck with a 2007 Caterpillar C-15 engine. His old truck, a 1996 Ford LTL9000 truck with a 1995 Caterpillar 3406E engine, was taken off the road and demolished. Over the next 10 years, Jones' truck is estimated to eliminate more than 10 tons of nitrogen oxides, six tons of hydrocarbons, and nearly half a ton of particulate matter from the environment.

SEALED DEALS

► **Transitions Optical Inc.**, a global manufacturer of photochromic lenses, began a new outsourcing relationship with third-party logistics provider **LeSaint Logistics**. Operating from its Fairfield, Ohio, facility, LeSaint Logistics now ships thousands of pieces per day throughout the world for Transitions Optical. The distribution facility spans 25,000 square feet, and houses several thousand SKUs under LeSaint's own ERP system management.

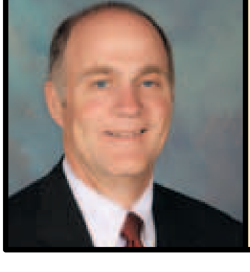
Swisslog, a global provider of integrated logistics solutions, agreed to a contract with supermarket chain **Asda** to deliver an automated goods-to-man materials handling solution called AutoStore. The intelligent storage and retrieval system for small case lines will be used to handle a range of Asda products in a more space-efficient and productive way than its current operation, while providing flexibility for future expansion.

UP THE CHAIN

Andersen Corporation, a global building products company, promoted **Ben Adamson** to the newly created role of director of supply chain architecture. Adamson's team examines internal and external supply chain capabilities across divisions and functions to identify opportunities and develop strategies to drive value to customers.

John Washuta was named vice president of global operations and supply chain at **Vertellus Specialties Inc.,** a specialty chemicals company. He joins Vertellus with more than 25 years of manufacturing experience with leading companies in the chemical industry.

Elizabeth (Betsey) Nohe joined **Morton Salt Inc.** in the newly created role of vice president, supply chain. Nohe leads Morton Salt's supply chain function across all company operations in the United States, Canada, and the Bahamas. She joins Morton Salt from McCormick & Company, where she held logistics, warehousing, customer service, procurement, and IT positions.



Michael Mader was named senior vice president, global strategy, planning and alliances for **Church's Chicken,** a quick-service chicken franchise based in San Antonio, Texas. In this newly created position, Mader has global accountability for strategy development, mid-range and long-term planning facilitation and execution, and management of key strategic alliances and partnerships.

recognition

Power Packaging, an Exel company, received the **Copacker Above and Beyond Award for Innovation and Productivity** from its customer, PepsiCo. The award singles out Power Packaging, one of 64 PepsiCo copackers, for consistently providing significant value through innovative product and packaging solutions while delivering outstanding production results.

▼ Home improvement chain Lowe's named regional LTL service provider **Southeastern Freight Lines** its **Platinum Carrier of the Year.** This is the fifth year in a row that Southeastern has earned the Platinum distinction by achieving Lowe's' primary operational objectives including on-time and claims-free deliveries.

Lowe's awarded Southeastern Freight Lines for meeting its transport goals.

LTL carrier **Central Freight Lines** was honored by the **Texas Motor Transportation Association** for reaching and maintaining the industry's highest safety standards in Texas. Central Freight won the first place P&D Division Fleet Safety Award, and took first place in the Intercity 10-20 Million Miles class.

KGP Logistics was recognized as a **2012 AT&T Supplier Award** winner for its support of AT&T affiliates. The 3PL was chosen for its contributions in creative cost management solutions, teamwork, customer service, product/service performance, and sustainability.

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TRENDS
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Seeding the Cloud, Harvesting Supply Chain Intelligence

The rise of "the cloud" and the proliferation of social media networks—both public and private—offer companies new avenues toward better analytical insight about their supply chains, says Siddharth Taparia, senior director, solution marketing for SAP. *Inbound Logistics* sat in on his recent presentation at the Supply Chain World North America conference in Miami.

by Joseph O'Reilly

As industries and companies begin to harness the power of social media to convey need-to-know, real-time information within the organization, similar opportunities exist outside the four walls—and beyond the firewall.

Even with social networking's current popularity, untapped potential remains. Nearly 60 percent of supply chain decision-makers report that their supply chain partners and vendors either don't participate in social media or they're unaware of their participation, according to a recent survey conducted by Kemp Goldberg Partners and IDG Research Services.

Taparia sees the cloud as yet another opportunity to exchange information within the organization, and among supply chain partners, to drive greater collaboration and insight.

"A company can learn from all the transactions flowing through its network," Taparia notes. "As an example, the first indicator of Black Friday retailing success does not come from Walmart or Best Buy. Rather, it comes from Visa or MasterCard, because they can look at the number of credit card transactions that take place and make an informed decision as to whether shopping volume is up, down, or flat."

Within the supply chain, a similar flow of transactions takes place. Multiple suppliers may provide a similar type of product, but information can be fragmented. A social network allows companies to consolidate this data, identify transactions, and mine the information for greater intelligence.

Moreover, users can combine all this information with ERP and financial flows—extracting "systems of record" so that multiple parties have access to the data.

"This takes traditional machine-to-machine processes and enables people-to-people collaboration, which creates new context for looking at the supply chain," says Taparia.

Companies such as Siemens AG and Powell Electronics have been using SAP's *Supplier InfoNet* solution, a cloud-based analytic application, to build the architecture for social networks where users can share information and knowledge about work they are doing internally or with business partners. This information may include designing products, working with distributors, or establishing supply chain strategies. If someone wants to enter a conversation, track activity or people on a project, or archive historical data, the information can be stored on a cloud platform. In this way, the cloud becomes a conduit to active collaboration, rather than a static cache for document sharing.

UNTAPPED POWER

But the real untapped power is when companies extend social connectivity to other supply chain partners, then continue to populate and saturate the network with new inputs and insights, explains Taparia. Then an organization has a holistic view to customer, supplier, and service provider behavior.

"A supplier might be having financial or operational issues not limited to one customer," he says. "The customer may not see it, but others—peers with whom it doesn't necessarily share information—might see it. By bringing this information together in the cloud, the company can start aggregating more meaningful information."

What emerges is a cloud environment where transactional flows and threshold alerts for specified key performance indicators (on-time deliveries, for example) can be combined with market information, news wire items, and financial reports to create richer insight about supply chain performance. In effect, subjective data is cleansed by objective market intelligence.

"The cloud indicates events that might happen in the future—what other people in a business network are already seeing," Taparia continues. "Every connected party has a view to supplier or business partner issues that might emerge down the road."

Not only can a company gauge how a certain vendor is performing per lot-acceptance rates or lead times, it can compare against other vendors in the network to identify better options. A supplier delivering late for another company may be a harbinger of things to come.

"There may not be a lot of visibility to see far down in the supply chain and identify possible problems with second- or third-tier suppliers," Taparia notes. "A cloud network allows you to see these suppliers, build a map of the entire supply chain, address issues upstream, and measure possible impacts. If a fourth-tier supplier in Thailand goes out of business, for example, you can analyze the effect it will have on the company and its other vendors."

A cloud network allows you to see second-tier suppliers, **build a map of the entire supply chain**, address issues upstream, and measure possible impacts.

Electronics powerhouse Siemens AG uses SAP's *Supplier InfoNet* solution to build a cloud-based social network.

ROADBLOCKS IN THE CLOUD

While the benefit of having infinite inputs is preferable to one- or two-dimensional information flow, companies operating in the cloud face some potential roadblocks. For one, data quality is largely the responsibility of actors involved in the network. The cloud is neutral. If you put bad data in, you get bad data out.

More importantly, some companies don't want to share proprietary business intelligence with potential competitors. For others, where supplier networks are heavily interconnected, or where businesses are willing to collaborate at the source and compete at the shelf, confidentiality is a lesser concern. Still, SAP has taken a conservative approach to showing and not showing what users can see in a network. "All the information users provide about a supplier is anonymous," Taparia says. "Nobody can trace it back to them.

"At the same time, the ability to look three or four degrees down in your supply chain is only available on a need-to-know basis," he adds. "If you request that a certain supplier join your cloud, it may be working with four or five other suppliers that you don't know about. You can ask the supplier to get visibility to a few vendors that provide components to a specific product you're sourcing—but you have to


It's
pronounced
Sigh´-ah.
SAIA

go through your supplier to get to theirs."

Whether or not lower-tier suppliers want to participate in a cloud-based network ultimately becomes a moot point. Other business partners can still submit information regarding their performance. So in a passive way, this connectivity builds greater accountability within the network.

Leveraging cloud networks as a supply chain differentiator is most likely a future state for most companies—but it's a viable target. Solutions companies such as SAP and others are steering customers in that direction as they try and extract more actionable and objective information from what already exists in the supply chain.

U.S. Transportation Credit Crunch

The credit quality of North American transportation companies has changed little since the beginning of 2012, according to Standard & Poor's Ratings Services recent industry report card, *North American Transportation Companies Navigate Through Higher Fuel Costs*.

Operating conditions remain mildly positive as the U.S. economy maintains its pace of gradual expansion. Standard & Poor's predicts a stable outlook for the industry, but says high oil prices pose a risk, particularly for the airline sector.

"We anticipate that revenues will continue to increase, but that higher fuel costs will partly—or in some cases, more than—offset growth," says Standard & Poor's credit analyst Philip Baggaley. "For example, airlines are trimming expansion plans or cutting back on flights in response to higher fuel costs so they can maintain their ability to raise fares."

The balance of supply (capacity) and demand varies by sector. Truckload capacity has moved more in line with demand following the bankruptcies of many small trucking companies, and fewer new tractor and trailer purchases by larger players over

Insuring Against Risk

Most companies readily acknowledge that supply chain visibility remains a critical problem when exceptions strike global networks. But many are not familiar with the tools available to help them mitigate risk and improve resiliency, including insurance options, according to *Supply Chain Resiliency: How Prepared Is Your Organization?*, a new whitepaper from New York-based insurance broker and risk adviser Marsh.

The 2011 earthquake, tsunami, and nuclear event in Japan, and floods in Thailand, resulted in significant business interruption losses. Companies in the electronics, semiconductor, and automotive industries were affected, and many have not yet completely recovered from these events.

To build more resilient supply chains, Marsh recommends an approach that encompasses an organization's total exposure—including non-physical perils—aligned to the value it derives from key products or other revenue sources. This tack, which relies heavily on the use of analytics, can help an organization identify single points of failure in its supply chain, along with risk mitigation and financing options.

Risk managers are also encouraged to become more familiar with emerging supply chain insurance products that are considerably broader than traditional contingent business interruption (CBI) and contingent extra expense (CEE) products on which they have previously relied.

"The CBI and CEE products that risk managers have historically looked to do not cover the increasingly frequent disruptions that are not related to physical damage," says Ben Tucker, a senior vice president in Marsh's Property Practice and an author of the report. "For example, the 2010 and 2011 Eyjafjallajokull volcano eruptions in Iceland caused little physical damage to insured property, but still led to significant disruptions and delays in transporting goods and services into and out of Europe."

In addition to indemnifying for business interruption and extra expenses resulting from physical damage to suppliers, supply chain insurance products also offer protection against non-physical interruptions to supply chains. These can include strikes, riots, ingress/egress, service disruption, and pandemics.

Iceland's Eyjafjallajokull volcano eruptions in 2010 and 2011 caused chaos across global transport networks. But because no property damage occurred, some companies were not properly insured.

the past several years. At the other extreme, global oil tanker companies continue to receive many deliveries of new vessels (ordered years ago), adding to oversupply and keeping shipping rates low.

Automakers Suffer Chemical Breakdown

Global automakers were reminded how fragile supply chains can be after crisis struck their supply network. They have sounded the alarm to find alternative sources for a chemical called CDT that is used to manufacture PA12 nylon resin for specialized plastic material found in fuel and brake lines.

The rush began after an Evonik Industries plant in Germany, which analysts estimate supplies more than half the world's CDT supply, suffered a deadly explosion in mid-April 2012 that is expected to keep the facility offline as long as eight months.

One potential source is Wichita, Kansas-based Invista, a manufacturer that uses the chemical to make fire-retardant carpets in its Texas plant. Invista has a limited overage of CDT, according to a *Detroit Free Press* report.

Automakers are concerned that the shortage could shut down production at manufacturing plants worldwide, and recently convened an emergency meeting in Detroit to discuss the problem. General Motors says CDT scarcity is impacting parts supply. Ford Motor Company and Chrysler Group have yet to be affected, but are closely monitoring the situation.

The CDT shortage echoes a similar problem automakers faced in 2011, following the Japanese earthquake and tsunami. Ford had to stop taking new orders for cars in Tuxedo Black because of a pigment shortage. The rare dye was sourced from a single German-owned factory near Japan's Fukushima Daiichi nuclear facility. ■

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

GLOBAL

THE WORLD AT A GLANCE

by Joseph O'Reilly

London's Olympic Park is one of 28 venues to host 302 Olympic events. Industry lobbies are working to ensure freight continues to move into and out of the city during the Games.

London Braces for Olympic-sized Logistics Logjam

For global TV viewers, the 2012 Summer Olympic Games in London will be a two-week parade of sports pomp and pageantry. But behind the scenes, a grittier story will unfold—how the rest of London gets on with life during a busy fortnight.

The Freight Transport Association (FTA), a United Kingdom trade lobby, has been public advocate number one, working on behalf of the commercial sector to help identify ways to keep freight moving during the Olympics.

"It is vital that commercial vehicle operators intending to deliver into London and other destinations over the next few months understand the restrictions and disruption the Olympics will cause, and plan around them," says Natalie Chapman, head of policy, Freight Transport Association, London.

The FTA is still awaiting final details on restrictions, but has counseled businesses to begin contingency plans for managing deliveries and supply chains around road closures, loading and unloading restrictions, and other route changes. The trade association also published a comprehensive guide with maps, diagrams, and details of expected restrictions that will be in force across London venues, as well as advice on how shippers can coordinate deliveries around night-time curfews.

"London's roads are the most heavily regulated in the country, with the London Lorry Control Scheme limiting routes at night and during weekends, and the Low Emission Zone dictating the age of vehicles that can operate in Greater London," says Chapman. "Add the Congestion Charge Zone and all the normal parking and loading restrictions, and London will be a delivery minefield ready to trigger fines, penalty charge notices, and license revocation for the unwary and unprepared."

To counter some of these challenges, the FTA has been campaigning for authorities to relax both delivery curfews and London's truck-toll scheme so that shippers and carriers can take advantage of off-peak hours.

In the meantime, Olympic organizers, the British government, emergency services, health providers, and transport carriers recently staged a three-day test period to mimic conditions during the Games' busiest slate, when 26 sports will take place across 14 venues. Authorities initiated possible incidents to see how different parties would react, and tested procedures put in place to deal with problems.

Asian Automakers Eye Brazil Supply

Tougher rules for automakers could pose supply problems in Brazil, especially for those building or planning to build their first factories in the country, according to a recent Dow Jones report. In 2011, Brazil raised taxes on cars made with less than 65 percent locally sourced content to curtail vehicle imports and strengthen the domestic auto industry. Authorities are expected to maintain these tariffs until 2016.

Asian carmakers migrating production to Brazil could cause disruptions in the supply chain.

Many established automakers already produce a significant ratio of their parts locally, and indicate they will be able to meet the new local content requirements—even with the standardizing of some features such as airbags and anti-lock braking systems—without significant bottlenecks.

But the arrival of new auto producers, especially the migration of Asian carmakers to Brazil, could shake up some supply chains.

Asian carmakers "will bring their production partners with them, but parts that don't make logistics sense to bring here, they will seek to buy in Brazil," says Renato Abel Crespo, Volkswagen's purchasing manager for the region. "Some parts of the supply chain could suffer disruption."

METRO GROUP Creates Logistics Unit

Following management restructuring earlier in 2012, German retail chain METRO GROUP is realigning its logistics operations to more quickly respond to economic changes in the 30 countries where it operates. The company is consolidating its cross-divisional logistics activities under one management structure—METRO LOGISTICS—which will handle logistics services for sales divisions in Germany, as well as overarching international operations.

The company plans to simplify supply chain management with this organizational realignment, and improve logistics service for sales divisions within its Metro Cash & Carry and Real stores. METRO LOGISTICS will comprise two operational units: one managing warehouse, distribution, and procurement within Germany and neighboring countries; the other handling international logistics.

"With the organizational restructuring, we will achieve enhanced operational processes and more efficient cost structures. This allows us to directly support the business of the sales divisions," explains Jeroen Janssen Lok, the new CEO of METRO LOGISTICS. "We are also aligning ourselves more with strategic activities, such as delivery and e-commerce, that are heavily dependent on optimal supply chain management."

German retailer METRO GROUP consolidated its cross-divisional logistics activities under one management structure.

China Ready to Invest in Transportation

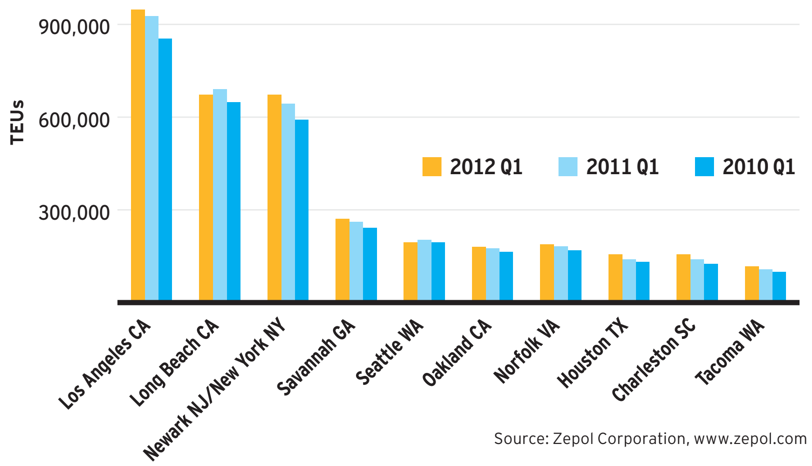
China is prepared to expedite investment in roads, railways, and utilities to boost economic growth, according to the *China Securities Journal*.

Increased infrastructure spending will fall within the government's framework of policy "fine-tuning," instead of another massive stimulus like the one it launched at the end of 2008.

With growing domestic consumption and export production balanced to foreign demand, the Chinese government favors continued spending on infrastructure—and improving the quality and reliability of its transportation network—over building out industrial capacity where surplus already exists.

Top 10 U.S. Ports for Inbound TEUs

Five of the top 10 U.S. ports show increased inbound TEUs for the first quarter of 2012. The Ports of Long Beach and Seattle are down slightly compared to last year.



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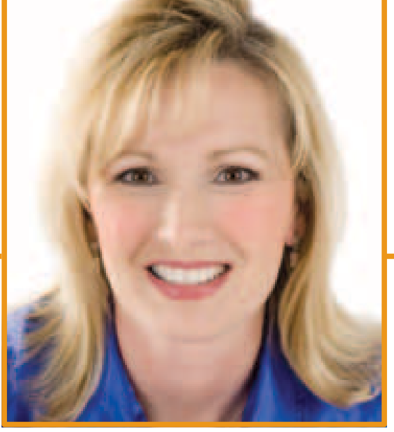

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Proper Care and Nurturing of a Supply Chain

Supply chain can be complicated, but managing it effectively doesn't have to be. Creating a superior supply chain is like parenting a baby through adulthood. It requires continual focus, monitoring, and care. Taking your eyes off your baby can be costly! But with proper care and nurturing, you can grow something that performs beautifully – even in the midst of today's ever-changing business environment.

Here are three critical steps to growing a superior supply chain:

STEP 1. From Crawling to Walking: Commitment to Growth

No one was born walking. So when it's time to transition from crawling to walking, a little extra help may be necessary. It's the same concept when moving from traditional freight management models to dynamic supply chain capabilities.

There are a couple of options to consider once you commit to maturing your supply chain beyond traditional freight management: You can build a supply chain strategy team internally or you can outsource it to a third party logistics company (3PL). Building an internal team requires a high level of hands-on supervision, internal systems development, and a capital commitment. If building an internal supply chain organization is not for you, perhaps you are better suited for working with a 3PL. A 3PL relationship can be more cost and time effective to implement. Plus many 3PLs offer already standardized best practices and technology tools, which means you don't have to invest to create these internally.

No matter what decision you make, growth of business in today's economic environment requires a commitment to dynamic supply chain optimization. Dynamic optimization eliminates the "set it and forget it" mentality of static order thresholds and load plans that age quickly, becoming less aligned with business needs over time. Be prepared to implement new technology tools, develop and enforce rigorous standard operating procedures, set and monitor measurable objectives, and expect continuous improvement day in and day out. What was optimal last week is likely not optimal this week. It may sound like a lot to take on, but really, the hardest part is often taking that first step in the right direction.

STEP 2. Keep Your Eyes on Baby | Stellar Monitoring Means Stellar Performance

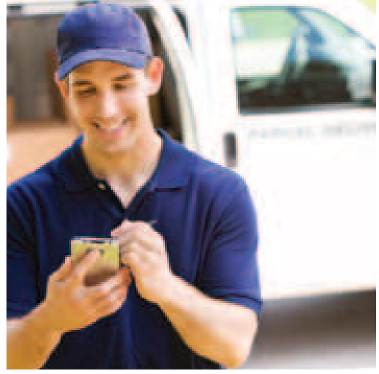
No one would leave a baby in a high chair with a full bowl of chocolate pudding unless you want a mess on your hands (and the floor, the walls, the ceiling)! In the same way, you can't take your eyes off your supply chain and expect good results. But let's be honest: you can't see all things all the time. You need tools and methodologies to help continually analyze ways to optimize your supply chain. You must have the ability to correlate order lead times, transit times, load utilization, delivery time and costs as business needs change from day to day. You must be able to translate data into intelligence that drives a daily supply chain plan. To do this manually could take weeks or longer! For example, consider that LynnCo's Optimizer tool makes millions of calculations in minutes. The engineered supply chain plan is then matched against business requirements and adjusted to the reality of the business. This is an incredible undertaking without the proper tools and expertise.

STEP 3. One Big Happy Family | Knowledgeable Resource Partners

For a family to function well and be happy, each member needs to know their role and do their part. In the same way, a well-established relationship between your company and all supply chain parties is the key to a smooth running, optimized supply chain. To establish and govern these relationships, make sure to communicate goals and expectations required of your team. Measure them, optimize them, and re-measure them, creating a collaborative team culture that focuses on doing it great today and even better tomorrow. For this reason, it is important that you have the right members on your team. You may not be able to choose your family members (don't we wish!) but you can assemble the highest caliber logistics partners that bring the greatest levels of expertise and resources. Starting off with the best partners and team members will save yourself headaches and lost opportunities in the future.

One last caution: Working with your supply chain is like buying shoes for a teenager: You can't expect that what fit yesterday will still fit tomorrow. With time comes change, so be ready to adapt! Be prepared to optimize continual change with patience and persistence. It doesn't happen overnight, but in the long run, your results will be astounding.





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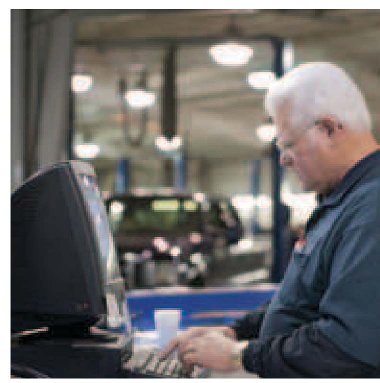
WITH ALL-TERRAIN CAPABILITIES



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Hey! Your Numbers are Trying to Talk to You!

I run across many companies in my travels. For a while, I've been centering a bit on different companies' methodologies for the continuous quest of supply chain network optimization, amongst other things. Some do quite a bit of planning and research, even hiring consultants, while others, it appears, do not. Particularly, the methodology for the planned placement and closures of distribution centers have been a little unsettling. Companies for the most part have been focusing on the things they are supposed to, i.e. location of key customers, proximity to key resources, economic development incentives, etc. However, the glaring error I am seeing again and again is the general lack of regard for one of the most important aspects of these projects – the transportation costs.

As a logistics major in college, many of my core transportation courses focused on how to determine optimal locations for warehouses, DCs, production centers, etc. To put it simply, a company's net return is the price of the goods sold less the cost of production, warehousing, and the cost of transport. When asked to speak to logistics students at a few different universities this year, I always asked to see the text books utilized in order to formulate a timely and appropriate hour of "logistics pontification." The textbooks I've been seeing are essentially the same books I utilized circa 1980's, back when gas was cheap, there was no Internet, and I was sporting a mullet. I assumed that these books would have been gone by now (just like the mullet), replaced with fresh information and new, exciting ideas regarding transportation aspects in the new millennium. Not the case. Information was dated as far back as pre-deregulation – some as far back as the 1940's in the footer. Some of the information I found was just plain inaccurate and dated. It is no wonder that the actual cost of transport is the one aspect that is still being neglected in these decisions. Formal training in this area has been lacking.

As a result of this, what other mistakes are these companies making? Some are glaring. Why would a company bring ocean containers from China to the East Coast just to turn around and ship them to the West Coast? Goods from the Northeast shipped to a midwestern distribution center, only to be shipped back to the Northeast. Some companies do a nice job with proper analysis and pick what they think is the perfect spot for a DC – or, perhaps, choose the best DC to actually close down, but they miss something that can be avoided. Take, for instance, their LTL. They may have thought that they optimized their transportation costs, but the basic flaw occurs by merely having their less-than-truckload carriers utilize a discounted rate base named after Russian dictators dated from the Milli Vanilli era, and by doing this they are not helping to optimize their carrier mix. As a result, they are paying higher LTL prices than they should because they have failed to help their carriers optimize their network – and are being punished for it by upwards of 20 – 30%. Thus, their transportation costs, and one of the key pieces of their net return, is negatively impacted.

The core problem is that too many logistics professionals are helping their companies make critical business decisions based on mediocre data. In other words, they are not helping – but hurting. This is bad, and it leads to greater problems as stated above.

So when do the numbers start telling you what to do? When you capture every single dataset of your transportation spend. I mean everything, in minute detail. Inbound, outbound, third party – all modes of transportation. Capturing this information, from the moment of execution of the shipment all the way to the payment of said shipment and everything in between is generally not being done well today. Most importantly, being able to organize this data into manageable numbers will not only help you to organize your company's logistics business at a level of granularity that it never had, but will help you and your company's leaders make thoughtful decisions based on accurate, real-time data in great detail, basically "letting the numbers tell you what to do."

Spotting trends then becomes very easy. Emotion, egos, everything is taken out of your decision-making process. Internal and external compliance becomes easy. Your numbers will dictate the decisions you should make, and they will definitely tell you the story. Every month, every week, every day. As your data matures, what it tells you can be startling.

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VIEWPOINT

BY CHARLES MYERS
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Load Boards Evolve Into Social Networking Tools

When you look at an Internet-based load board, it's hard to believe how far the freight and logistics sector has come. It wasn't long ago that carriers all over the country found much-needed backhauls by posting handwritten notes on truckstop bulletin boards, and brokers used those same boards to locate trucks.

But technology—particularly the Internet—has boomed. An array of products and services helps shippers, brokers, and truckers arrange transportation and reduce the number of empty miles driven, which benefits all parties. Load boards list available freight, and truckers search for the loads that best fit their desired destination, equipment compatibility, and price.

Here are three ways today's online load boards are evolving to create even greater levels of efficiency.

1. Going social. Load boards are incorporating social networking to help shippers and brokers manage shipments and carrier capacity more efficiently in a closed, trusted network. The new breed of load service combines the familiar process of social sites with leading freight technology products to create online freight marketplaces with more useful, necessary, and pragmatic features.

Similar to social networking sites such as LinkedIn and Facebook, load board sites allow shippers and brokers to invite preferred business contacts into their personal network. Shippers can add loads lists, auto-tender shipments, transfer documents, track shipments, pay carriers, and monitor carrier compliance and performance—all on an efficient and secure platform.

The marketplace can be public (available to all qualified participants) or private (available only to invited participants). And it can be used to manage all transportation spend—not just the spot-market portion—with real-time analytics to provide insight into pricing and load dynamics.

2. Built on trust. These new services are available through a single access point, and are designed to integrate with an existing transportation management system or function as a standalone platform. They allow shippers to build a private network by inviting trusted trading partners. Within the private network, they can push loads to targeted groups or make them available to the entire carrier population.

Trusted trading partners can "self-dispatch" loads at an offer price, or bid on select loads in an auction-based format. Shippers approve the final carrier selection, then track the load in the system from dispatch through delivery. If they fail to cover a load within the private network, the load can be sent to the public network to attract capacity from new sources.

3. More mobile. Online tracking using GPS systems or smartphone technology, automated driver check-in calls, and the latest apps continue to make load board functionality more accessible, further assisting in managing the public and private marketplaces. It is becoming necessary for all supply chain parties to adopt mobile technology.

Social networking and good old-fashioned trust continue to transform the way we think. When coupled with technology, they transform how we do business. From bulletin boards in truckstops to handheld computers, trucking is evolving. Social interaction and discovery are becoming a way of life, and embracing it will help shippers better utilize resources and take their business to the next level. ■

3PL LINE

BY GREG SCOTT
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LCL Plays Growing Role in Global Ocean Transportation

Demand for less-than-containerload (LCL) services is rising among global importers and exporters whose business models rely on cost, inventory control, and supply chain visibility. The shift to more LCL services in industries such as oil and gas (O&G), retail, and automotive can be attributed to several factors.

■ **Oil and gas fuels change:** Running an end-to-end logistics operation in a global O&G market is complex, but some of that complexity is eased by new lane additions to ocean freight services that link key geographies while reducing cargo handling.

The multi-billion-dollar companies harvesting our world's energy cannot tolerate supply chain delays or inventory depletion. O&G companies need efficient and cost-effective replenishment to supply global locations with new parts and equipment. LCL service provides that capability.

O&G companies want quick shipment pickup; crating options for improperly packaged or easily damaged cargo; and flexibility in cargo cutoffs for container loading. After an LCL shipment is exported, communicating vessel details and forecasted arrival via Web tracking allows O&G companies to manage deliveries or schedule crews to work rigs or production line operations at the destination. Being able to properly communicate and declare to the import customs agency eliminates the need to hold or inspect cargo.

■ **Retail takes stock:** As global retailers adjust to volatile consumer demand, third-party logistics (3PL) providers continue to enhance services that provide more control over shipments and quicker cargo availability at destination.

Retailers also want the ability to keep inventories moving without overstocked supplies, and at a low cost. LCL allows retailers to properly plan transit times so they can order just the products they need, and send shipments either to distribution centers or direct to store/customer. This approach helps maintain a balanced inventory that maximizes on-shelf availability without excess inventory or on-site stock.

When 3PLs control cargo flow and routing, they can respond to retailers' need for last-minute availability, pickup and delivery scheduling, or even mode changes in transit.

The logistics provider may also be able to select steamship lines that provide the best service levels in terms of on-time delivery against posted schedules, as well as flexibility in working with terminals and/or railheads to help expedite cargo availability and release.

■ **Automotive rolls on:** Freight forwarders must tailor solutions to meet automotive shipper requirements, whether it's choosing an LCL service to match production schedules or providing visibility to key milestone events.

Integrating LCL into an automaker's supply chain helps streamline product flow to keep logistics costs down while keeping the assembly line moving. By supplying a detailed LCL door-to-door schedule, logistics providers help automakers maintain production plans and allow buyers to cut sourcing costs.

As evidenced by the O&G, retail, and automotive industries, LCL services are necessary when building a true end-to-end supply chain. ■


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BY NIGEL HUGHES
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Benchmarking Keeps Logistics IT Outsourcing On Track

Logistics departments rely on technology to drive operational excellence. Benchmarking—analyzing an organization's performance against the comparable activities of another or its own over time—has traditionally been applied to validate and/or improve a service contract's value.

In an economy characterized by unstable growth and eroding margins, optimal logistics IT performance is necessary for companies to remain cost competitive and to support operational effectiveness and improvement in terms of reduced cycle times, product lifecycles, and innovative collaboration between businesses and logistics service providers.

By highlighting the differences between an organization's performance and a comparative reference standard, benchmarks can identify improvement opportunities and activities required to achieve superior performance.

Keys to Success

An effective logistics IT benchmark analysis should be part of an ongoing and proactive organizational commitment to quality and continual improvement—including, but not limited to, cost reduction. This can only come from understanding how and why performance deviates from the target. These differences are not simply side-by-side pricing comparisons showing a net gap or surplus. Rather, a benchmark should yield insight into how the organization's historical context and unique characteristics contribute to performance.

The benchmark should also define the different types of operational constraints, client choices within the organization, and how to address those constraints to improve performance. In a global logistics organization, these constraints can include geographic variations in service levels or reporting requirements that prevent a service provider from driving economies of scale.

Traditional improvement initiatives drive incremental efficiency gains within the existing operational environment, producing annual savings of 10 to 20 percent. A transformational approach to improvement, characterized by an optimized IT delivery model, utility computing, and a collaborative approach to identifying and implementing improvement, often produces overall cost savings of 40 percent or more.

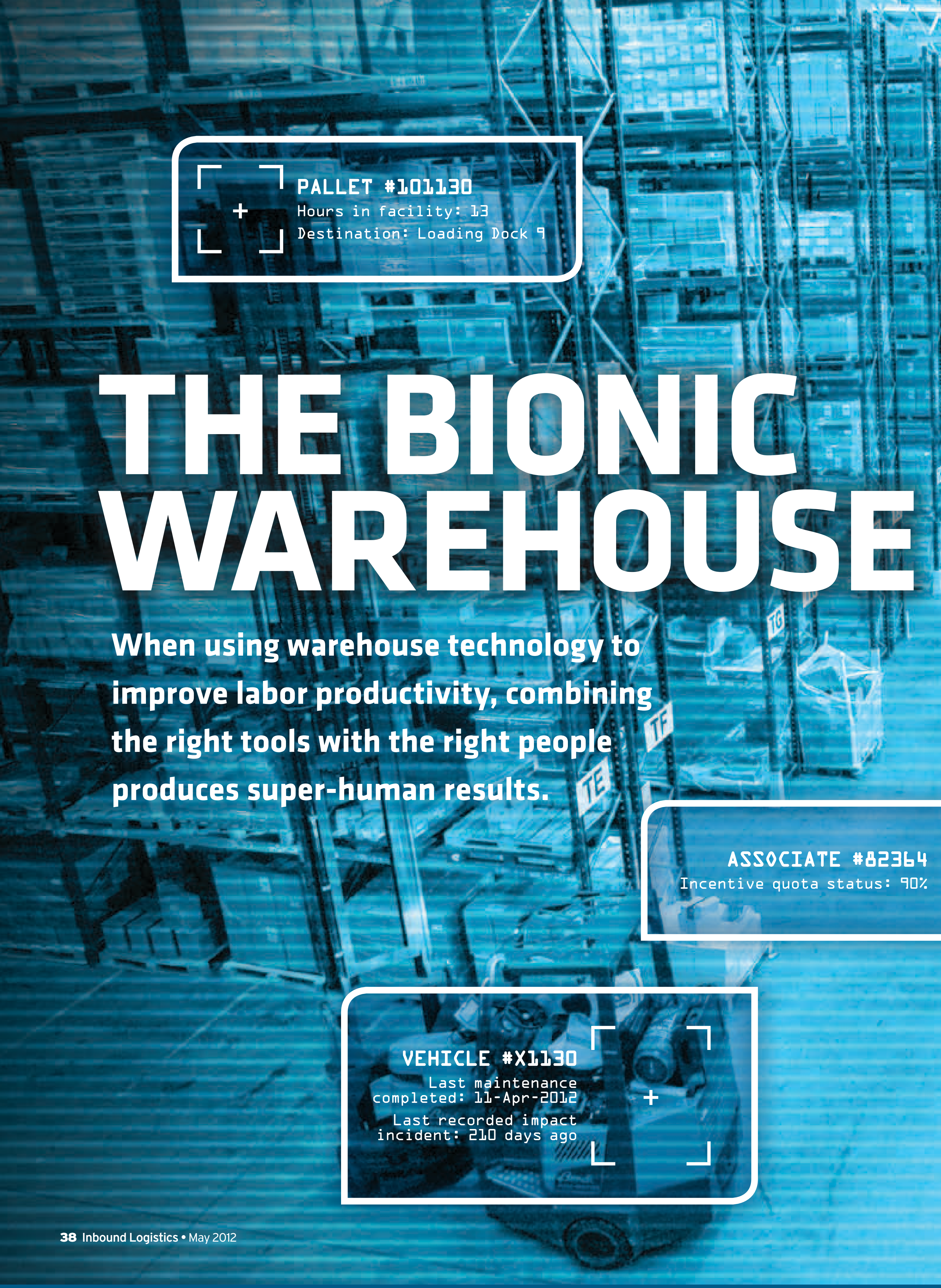
Rather than tightening the screws on the status quo, IT leaders are able to establish a new and significantly better way of doing things—a clean slate that fully leverages the benefits of standardization and utility computing.

The improvement reflects both increased delivery efficiency from the supply side, and improved commercial management from the demand side.

Identifying the Target

Benchmarking plays a central role in a transformational strategy by quantifying the current state and the potential improvement opportunity of moving to an optimized environment. With the target identified, companies can chart a roadmap to the standard delivery model. The existing environment's characteristics and complexity help define the type of business team that will be needed to manage the change initiative.

Benchmarks are proving essential to change strategies in terms of identifying the potential benefits of transformational initiatives and charting a path to achieving significant performance gains. ■



THE BIONIC WAREHOUSE

When using warehouse technology to improve labor productivity, combining the right tools with the right people produces super-human results.

By Merrill Douglas

No matter how much technology you bring into a warehouse, it takes people—working hard and smart—to make the operation succeed. Yet technology offers an important boost for businesses trying to make their warehouse workforce more productive.

Take APL Logistics, a third-party logistics services provider (3PL) that operates 25.7 million square feet of warehouse space around the world. In its quest for ever-greater productivity, APL is emphasizing labor management system (LMS) technology.

"By capturing data on individuals' performance in the warehouse, and comparing that data against established standards for discrete tasks, an LMS can help employees work more efficiently and improve the way companies deploy human resources," says David Frentzel, vice president, global contract logistics at APL Logistics in Scottsdale, Ariz. For example, if the LMS finds that a team or individual isn't working up to par, it gives managers information they need to make adjustments.

Data from an LMS can also support productivity incentives. "The system lets users create a gainsharing program to support a targeted level of productivity with established service and safety standards," Frentzel notes.

The task interleaving capability built into many top-tier warehouse management system (WMS) solutions can also help boost warehouse labor efficiency. The interleaving strategy might apply, for example, to forklift operators who move a pallet from a receiving dock to a putaway location. Rather than telling workers to drive straight back to the dock for a second pallet, the WMS might instruct them to pull a pallet from storage and deliver it to a replenishment area—in effect, seizing a backhaul opportunity.

"The technology plans all the different work steps based on optimization, the operator's location in the facility, and the next priority," Frentzel says.

In some facilities where employees do a lot of case picking, APL has gained big benefits from a technology called layer picking, which uses a clamp to lift an entire layer of cartons from a stack. In the past, a worker who needed to pick less than an entire pallet had to pull the cartons one at a time. "Picking by layer saves a great deal of effort," Frentzel notes.

Another technology strategy that pays off well in worker efficiency is the practice of periodically "re-implementing" a facility's WMS. The goal is to identify better ways to configure the system, or to find settings that need to be adjusted because the business model has changed. "Periodically, bring in an implementation team to examine how the application can improve your productivity," Frentzel says.

Also, each time the WMS vendor offers a system upgrade, management should consider the new version, looking for features that might promote greater workforce efficiency.

By judiciously deploying new technologies, and taking full advantage of technologies already in place, companies are gaining a better return on their investments in both human resources and machines. Here's a look at how five businesses are making smart use of these tools to improve warehouse labor productivity.

AN LMS IN TRAINING

In addition to providing data to support an employee incentive program, a labor management system (LMS) can spot warehouse employees who need more training and determine what kind of training they need.

"Our application's analytical tools help identify whether the issue is procedural training, time management, or motivation," says Andy Recard, vice president at TZA, the Long Grove, Ill., technology vendor that supplies the *ProTrack* LMS for auto parts retailer Pep Boys.

If the technology finds, for example, that a warehouse associate works efficiently all day except for the assignment right before lunch, that employee clearly knows how to do the work. "That's a time management issue," Recard says.

But if employees take too long on every assignment, they don't know how to do the work correctly, or aren't trying hard enough. "In that case, I can observe those individuals, and take notes on what they're doing well and what they're not, then evaluate their skill and pace," Recard says. The manager can then work with the employees on specific improvements.

Along with helping employees work more efficiently, an LMS can help a company deploy its workforce more effectively with advanced labor planning.

ProTrack, for example, captures information on how employees spend all their time–not just when they're picking product or putting it away, but also when they're attending meetings, changing batteries, or cleaning up spills. Such proactive analysis helps to ensure that the company gets as much return as possible on its payroll dollar.

Pep Boys: Tuned-Up Incentive Program

Incentives were the primary focus when Philadelphia-based auto parts retailer Pep Boys deployed an LMS two years ago.

Pep Boys operates distribution centers (DCs) in San Bernardino, Calif.; Mesquite, Texas; Indianapolis, Ind.; Chester, N.Y.; and McDonough, Ga. About 20 years ago, the company implemented a productivity bonus for work teams in its DCs, based on how much product they handled per hour.

But as Pep Boys started selling a wider array of products—tools, garage accessories, even kayaks, along with traditional auto parts—it grew harder to reward teams fairly based on metrics such as units, cases, or cubic feet of product moved per hour.

"The system was based on averages, and as our merchandising mix changed over the years, the averages became more of a challenge," says Stuart Rosenfeld, vice president of distribution at Pep Boys. Also, when calculating bonuses by team, the fastest and slowest workers in the group get the same reward. That's not an effective motivator.

In 2010, Pep Boys implemented *ProTrack*—an LMS from TZA of Long Grove, Ill.—at the San Bernardino DC. Before installing the software, Pep Boys worked with TZA to establish engineered standards that define how long it should take to complete each task in the facility. Those standards account not only for actions such as reaching and lifting, but also for the size of the item to be handled and its precise location in the DC.

"Fifty to 60 percent of warehouse labor expense is travel," Rosenfeld says. Pep Boys' old productivity metrics didn't distinguish between the worker who picked 20 items from one location and the one who picked from 20 different locations across 200 feet. The new standards do.

With both the standards and the software in place, *ProTrack* started receiving data from Pep Boys' voice-based data collection system. Time stamps in the data feed tell *ProTrack* when each employee starts and completes an assigned task. *ProTrack* calculates the time it takes to do the job and compares that to the time defined in the standard.

Such measurements allow Pep Boys to pinpoint which employees are working above the standard and reward them accordingly. Employees who are performing right at standard are doing fine, "but they're not going to get a bonus," Rosenfeld says.

Productivity at Pep Boys' San Bernardino DC rose by eight percent immediately after it installed *ProTrack* and launched the new incentive program. Over time, productivity rose another eight percent. The company has since introduced *ProTrack* and the incentive program in the Chester and McDonough DCs, and those facilities have seen similar improvements.

Pep Boys achieved those gains because under the new system, employees better understand what they must do to work more efficiently. Also, the new incentives reward good work more equitably. The best workers are getting even more done than they used to, because they know they can earn additional rewards. And workers who used to be just a little more efficient than average have bumped up their performance.

"The new incentive program is successful because management involved associates in the transformation from the start," says John Rodriguez, general manager of the San Bernardino DC.

Associates in each warehouse department participated in lean exercises to define exactly what each task involves. "The takeaway for the associate was that we truly understand what it takes to perform the work at hand," Rodriguez says.

Warehouse employees also helped develop the engineered standards. "Involving associates from start to finish added more credibility and buy-in to the program than we had with the previous program," he adds. Pep Boys plans to implement *ProTrack* in its Texas DC later in 2012, and is working on a strategy for bringing the system to Indianapolis.

TRACKING SYSTEM MAKES AN IMPACT

An impact tracking system helped increase productivity at a Georgia Pacific (GP) packaging plant in San Leandro, Calif. In September 2011, the plant implemented *ShockWatch EquipManager*, from TotalTrax of Newport, Del., on three new lift trucks that carry rolls of paper for making corrugated boxes. Since

then, GP has also installed the system on eight new trucks that carry finished goods.

The system alerts managers any time a lift truck hits another object, creating opportunities to coach new employees.

"When impact detectors are first installed, drivers register a lot of impacts," says Bryan Bergman, process engineer at the plant. "But as time goes by, they realize what causes these situations, and they start driving better."

Fewer impacts mean less equipment damage and worker down-time. "With the old lift trucks, we often struggled to find enough equipment to run each shift," Bergman says. "The trucks were always in the shop."

With better-trained drivers, the new forklifts remain in good condition, making them available to employees with work to do.

J&B Group: Old Tools, New Solutions

Like Pep Boys, J&B Group of St. Michael, Minn., used technology to create new employee incentives. But instead of buying a new technology solution, the company relied on tools it already had in place to help it launch a fresh productivity strategy.

J&B produces and distributes food products to retail and food service customers in 11 midwestern states. It also provides third-party cold-storage services.

In 2008, company officials decided to experiment with an incentive program to improve DC efficiency. Nicole Coyle, J&B's business unit analyst, studied historical data for third-shift order pickers and found each employee was picking an average of 120 cases per hour. She then built a model in Microsoft Excel to project the financial impact if the company offered different reward rates to order selectors who beat that average.

Company officials decided that for each dollar an associate saved J&B by picking faster, 25 cents would go to the employee.

Because accuracy, quality, and safety are just as important as speed, J&B also uses a separate gainsharing program to enforce those values.

Each day, Coyle monitors work in the warehouse to detect inaccurate picks and damages. The fewer problems selectors cause in the warehouse, the bigger the bonus they can earn. "The program guarantees workers get 100 percent of their gainsharing if the company performs at the level expected," says Paul Cincoski, J&B's director of logistics. The keys to ensuring employees get credit for excellent performance—and take responsibility for mistakes—are the radio frequency data collection (RFDC) terminals pickers use to scan bar codes each time they perform a task.

"Our RF capabilities enable us to track errors directly to a worker," says Cincoski. "No matter how many people touched the pallet, if an error occurs, we know which worker to assign the error to."

Thanks to the gainsharing program and the new incentives, the average number of cases J&B's night shift picked rose from 120 per hour to 150. That efficiency gain saved the company $200,000 in one year by eliminating the need for overtime work on the shift.

J&B has started a similar plan for the day shift, basing the goals on total cases moved per man-hour. Information from the RFDC terminals and from J&B's warehouse management system (WMS) allows the company to track productivity over any time increment. "And, most importantly, it allows us to trace actions back to individuals," Cincoski says.

The tools behind J&B's new incentive programs might be simple, but the rewards are rich. "By using technology and data, and involving our associates throughout the entire process, we successfully created a comprehensive and easy-to-understand incentive plan," says Cincoski.

Masters Gallery Foods: Damage Control

At Masters Gallery Foods, a supplier of cheese products in Plymouth, Wis., computers on forklift trucks help increase warehouse worker efficiency in several ways.

In 2009, Masters Gallery Foods implemented *iWarehouse*, a fleet optimization system from The Raymond Corporation of Greene, N.Y. That system collects data from the computers—called vehicle managers—on Raymond lift trucks and transmits the information over the warehouse's wireless network. The data becomes available to application modules that, among other capabilities, monitor driver behavior, alert managers about collisions, streamline safety procedures, assist in training new employees, and help managers determine how best to deploy lift trucks and workers.

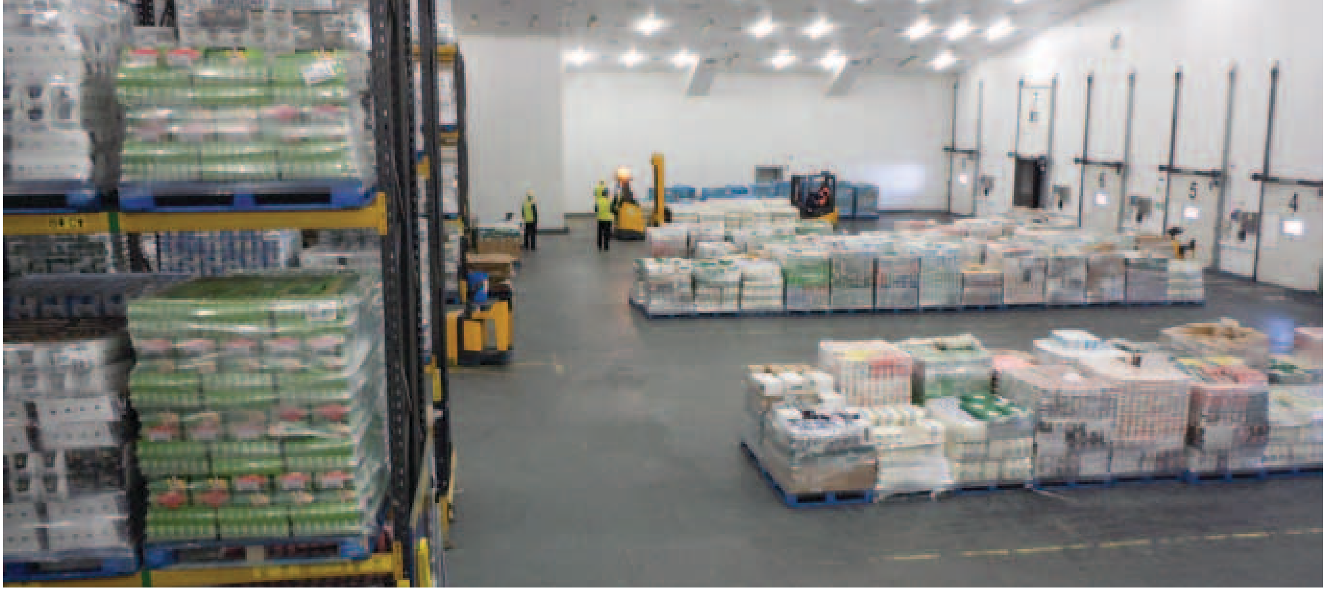
When Masters Gallery Foods introduced the new software, 50 employees operated lift trucks over three daily shifts. Driver impacts with storage racking were a serious problem, posing a danger and also slowing work completion rate.

"Equipment and products were getting damaged, and we did not have a way of tracking who damaged them," says Dan Murphy, warehouse manager at Masters Gallery Foods.

The *iWarehouse* solution's *iImpact* module notifies managers when an onboard sensor detects an impact. The system also sounds the horn on the lift truck and, if the impact is serious, slows the truck to one mile per hour. Because the alarm calls attention to the responsible driver, employees who cause impacts quickly improve their driving. "It's a behavior modification tool that helps train the operator," says Joe LaFergola, manager of business and information solutions at Raymond.

Masters Gallery Foods also uses Raymond's *iControl* module as a training tool. The software lets Murphy create a profile for each forklift driver—for example, setting different driving and lifting

Masters Gallery Foods uses Raymond's *iWarehouse* system to monitor and assess lift truck impacts. The system draws real-time, accurate information from on-board computers, and makes it accessible through a Web portal.



Yeo Valley implemented *Sky-Trax*, an indoor GPS system using a mix of technologies including: 2D bar codes placed on ceilings, truck-mounted computers, impact and lift height sensors, an optical label reader, and a pallet detector.

speeds for new and experienced drivers. Employees swipe time cards in the onboard vehicle managers to transfer their profiles to any trucks they use.

The system lets Murphy break in new employees gradually. "Once they get more familiar with the forklift, I can increase their speed by one mile per hour," he says. Employees who perform real work, but at safe speeds, learn their jobs quickly, making them productive sooner.

Masters Gallery Foods has also gained efficiency from *iWarehouse*'s on-screen checklist, which walks a driver through a federally mandated safety inspection.

Before using a truck, an employee used to spend an average of two to three minutes filling out a paper checklist and 15 minutes carrying that form to an office for filing. The onscreen checklist also takes two to three minutes, but once it's done the employee can hop right onto the truck.

One further efficiency gain at Masters Gallery Foods comes from *iMetrics*, a module for analyzing lift truck fleet activity. "I found places where forklifts were idle, or not maxed out," Murphy says. Based on such information, he adjusted employees' schedules and added a weekend shift to better match workers with available equipment.

Yeo Valley: Pinpointing Locations

Lift trucks also lie at the heart of a recent productivity initiative at Yeo Valley, a U.K. producer of organic dairy products. In this case, the technology monitors exactly where the trucks are at all times.

Yeo Valley's operations include a three-building national distribution center (NDC) in Highbridge, Somerset, that ships finished product to customers. In October 2011, Yeo Valley started a trial of TotalTrax's *Sky-Trax* vehicle tracking technology in one of the Highbridge buildings.

The company tested the system to see how well it would support its Right Pallet, Right Place, Right Time, Every Time (RPRPRTET) initiative. "We were looking for accurate data to be able to monitor truck driver performance, improved service levels due to RPRPRTET, and an increase in pick rates," says Martin Morris, Yeo Valley's supply chain general manager.

As part of the pilot implementation, value-added reseller (VAR) Harland Simon outfitted the warehouse ceiling with a grid of two-dimensional bar-code labels. It also installed two cameras on each of two counterbalance trucks that load and unload trailers, and on three reach trucks that pick and put away pallets.

The first camera reads the overhead bar codes, each of which contains a coordinate to define its position on the grid. *Sky-Trax* uses this data to monitor the truck's location.

"It also measures the rate of progress for the truck between the markers to gauge the speed and direction the truck is traveling," says Gerry Davis, head of business development at Harland Simon in Milton Keynes, U.K. A second camera installed between the truck's forks reads the bar code on any pallet the driver lifts. The truck also sports sensors that detect when it gains or releases a load and determine the height at which the pallet is picked or put away. The system transmits this data over the facility's RF network to a computer running the *Sky-Trax* software. The software gives managers a real-time view of lift truck movements and creates activity reports over time.

In the last three months of the six-month trial, lift trucks in the warehouse were completing 86 percent more work on average than when the trial began. The rate of accurate picks and putaways increased from 96 percent to 99.5 percent.

Two factors account for those improvements: drivers no longer have to pause to scan pallets with a bar-code terminal; and managers now keep better tabs on employees. "In the past, we could only manage workers by walking around," Morris says. "Now we are tracking every movement, every minute of the day."

Besides providing supervision that encourages drivers to work more conscientiously, data from the system has also helped Yeo Valley deploy the reach trucks and their drivers more efficiently. "It became clear that it was possible to operate with two trucks instead of three," Davis says.

As of April, 2012, officials at Yeo Valley were building a case for purchasing the pilot system and possibly for expanding the deployment to the NDC's other two buildings. ■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INNOVATIVE WAREHOUSE STRATEGIES

FOUR WALLS, THREE TAKES

A consultant, integrator, and wholesaler share some warehouse wisdom.

by Joseph O'Reilly

IN MOST WAREHOUSES, CHANGE IS A CONSTANT – especially when you consider seasonal demand forecasts, supply exceptions, and inventory flows. Distribution centers (DCs) are critical sense-and-respond nodes within the supply chain. Warehouse management is about mediating variability so supply flows to demand as economically and efficiently as possible.

In today's consumer economy, however, the warehousing function faces its own external changes. The e-commerce revolution has upended brick-and-mortar convention as companies explore better ways to pull product to consumers – not just retailers – faster. Retail and wholesale channels are converging.

Technology has played a significant role, allowing companies of all sizes greater flexibility in how they manage unique "time-to-consumer" requirements. But companies and third-party logistics (3PL) providers are also reconsidering distribution strategy, infrastructure design, and warehouse processes as they lay new foundations for future fulfillment.

Inbound Logistics asked a consultant, integrator, and wholesaler for their perspectives on how they and their business partners/customers are approaching warehouse and distribution strategy inside the four walls and out.

THE CONSULTANT

REMOVING CONSTRAINTS OF CONVENTION

Sometimes it is difficult to see the warehouse for what it really is—a collection of pallet positions where inventory is put away and picked at varying frequencies. The key to distribution efficiency is making better use of warehouse real estate, according to Terry Harris, managing partner, Chicago Consulting.

Companies often put away inventory without considering how that position impacts future processes. Without directed putaway, decisions are left up to the operator, or the use of a traditional zone structure.

Warehouse real estate demands a more common-sense approach to visualizing inventory turns within the facility—a term that Harris refers to as expected time to pick (ETP).

> **"ETP allows warehouse facilities to cut pick time in half. Picking makes up 70 percent of warehouse labor tasks, so that savings is a big deal."**

In most warehouse operations, picking is more time-consuming than putaway. That's where labor generally resides. Warehouses need to optimize slotting to ensure pallet positions and storage profiles match the flow of goods within a specific facility.

Harris' premise is that traditional zone picking and putaway conventions do little to increase speed or efficiency within a facility. They force companies into using a protocol for prioritizing inventory that doesn't go far enough.

"Zones create groups of positions," Harris says. "The theory is that every position in that zone has the same real estate value, but that's rarely the case. By contrast, you can differentiate down to the pallet position within that zone. It's the logical extension.

"Why not use pallet positions specifically, instead of forcing inventory into a zone with other positions that are fundamentally different?" he asks.

With this thought, zones are a gross representation of warehouse reality — an artificial construction that generalizes needs rather than drilling down to specific time requirements. It's not a matter of visibility to SKU, but visibility to pick.

Every facility has storage areas that are more accessible than others. Harris uses the analogy of a Rubik's Cube, where warehouse positions can be viewed with left-right, front-back, and high-low dimensions. The front face is completely accessible; the other sides less so.

"Assume that aisles run front to back, and that pickers start at the middle of the front face at ground level," explains Harris. "Then it's easy to specify the accessibility of every storage position. Ground-level positions on the front face near the start have the highest accessibility. High positions in the back at the left and right extremes are the least accessible."

PUT AWAY IN THE RIGHT PLACE

For most companies, a few SKUs make up the majority of picks. Reason dictates that fast movers should be most accessible, while slow-moving items should reside in the back of the warehouse where they're out of the way.

Implementing an ETP approach requires in-depth planning.

"First, assign an accessibility index or number to every position by identifying how long it takes to get to it," explains Harris. "Then, sort and create a sequence of these positions by time.

"Second, put away received shipments in the right place," he continues. "When you receive a shipment, calculate the expected time to pick, which is nothing more than calculating on-hand inventory divided by the forecast—data that is readily available from any warehouse management system. Then, map that time to a specific position dictated by fast picks and slow picks."

The forecast addresses any variability in demand. And ETP provides a broad understanding of time-to-demand that can apply to different distribution scenarios. For example, if the ETP is either negative or zero, that means the facility has orders coming in and no inventory on hand, which favors putting inbound shipments into a crossdock position. The same applies for back-order purging or routine housekeeping where position accessibility migrates according to demand forecasts.

"ETP allows warehouse facilities to cut pick time in half," says Harris. "Picking makes up 70 percent of warehouse labor tasks, so that savings is a big deal."

While the ETP approach doesn't increase or decrease capacity, it does distribute inventory and flow more evenly. Companies can pick up productivity gains elsewhere by concentrating activity in more visible areas—eliminating idle time and fostering labor accountability—or re-configuring layout and racking infrastructure with greater understanding of SKU demand and performance.

"The theory of constraints is to get rid of them," says Harris. In this case, it's the challenge of getting past convention.

THE WHOLESALER

OUTSOURCING TO MEET DAILY DEMAND

In 2002, United National Consumer Suppliers (UNCS) began as a wholesale distribution business that focused on manufacturer overrun and overstock. One decade later, the business is on the *Inc. 5000* list of fastest-growing private companies, and aims to capitalize on the e-tail revolution.

UNCS' value proposition is straightforward: it buys and sells product, says Michael Woo, vice president of logistics. "If Crayola changes its packaging from green and yellow to blue and yellow, it sends the old product to us, and we move it for them," he explains. "We focus on pallet business in and out of second-tier retailers such as Marshalls, Bed Bath & Beyond, and Tuesday Morning."

Economic conditions over the past few years have favored wholesale distributors such as UNCS that provide retailers with a means to liquidate inventory and sell discounted goods. "Many consumers who used to shop at Macy's and Neiman Marcus now buy from Marshalls, which increases demand for the type of product we sell," Woo notes.

To manage fulfillment, UNCS works with a network of regional 3PLs to coordinate warehousing. It uses freight brokers and forwarders to handle domestic and global transportation. UNCS' distribution strategy is predicated on having at least two facilities in major markets where it operates so it has flexibility to keep costs down and quickly respond to customer demand.

In 2007, UNCS began working with Aspen Logistics in Salt Lake City, Utah, and has since expanded to use the 3PL's southern California facility as well. Recently, the two companies partnered on a pilot program specifically geared toward meeting the "deal of the day" phenomenon.

DEAL WITH IT

As more people shop online, many Web sites are marketing short-term deals on select products with limited supply. When a customer asked UNCS to assist in selling product online direct to consumers, it set about developing a pilot program. The speed-to-market demands associated with e-commerce, and daily deal bargains in particular, were unique for UNCS.

"For a long time, daily deal sites were focused on services, as opposed to everyday products," says Chris Ticknor, marketing director of Aspen Logistics. "The advent of this new service line was the perfect opportunity for growth. UNCS and Aspen are well-versed in supplying excess inventories in short timeframes."

"Deal of the day" has become a commonly used and misleading moniker. Most Web sites create a five- or six-day sales period with limited quantities of a certain product. Inventory can be a mix of on-hand goods that haven't sold or items that are specifically sourced for that purpose.

"Procurement teams will locate a product and offer it on the Web site at 85 percent off retail," says Woo. "As consumers start to buy, the orders are forwarded to us. We ensure we have correct shipping information, then send the orders to our warehouse to be processed and shipped."

But this process creates some challenges. For example, once deals go live, consumers expect immediate delivery. "Expedited orders put a strain on the supply chain that didn't exist before," says Woo. "With B2B transactions, account managers can maintain relationships. But when selling direct to consumer, they have to handle thousands of customer inquiries about tracking and returns.

"Another challenge is that some daily deals are multiple SKUs of the same product," he adds. "That means combining the complexity of a pick-and-pack operation with expedited shipping."

> **"Fulfilling 'daily deal' orders combines the complexity of a pick-and-pack operation with expedited shipping."**

A good example of this complexity is the PHI hair straightener that Aspen Logistics and UNCS recently moved. The product comes in three different colors, so extra care is required to ensure customers receive the right SKU. Products can arrive at the warehouse in different kinds of case packs—which is fine for a retailer such as Marshalls. But when UNCS is shipping orders out to different buyers, those case packs have to be broken out and individually packaged.

Aspen Logistics provided the level of expertise, attention, and seasonal labor necessary to identify and react to some of these demands. Moving forward, UNCS expects to rely on its third-party distribution partners to expand this part of its business, especially as e-commerce continues to grow.

"Daily deals have created a market that didn't exist five or six years ago," says Woo. "It's easy to set up a Web site and sell to that market. But finding, preparing, and moving the product, and working with parcel carriers to ensure shipments are delivered on time to meet consumer expectation, is an entirely different challenge."

THE INTEGRATOR

AUTOMATING TO SIMPLIFY

When the economy tanked in late 2008, and the malaise of credit insolvency and housing foreclosures spread into 2009 and beyond, capital improvement projects sank as well. Consumer spending contracted and companies cinched their budget strings. Many new projects were postponed rather than terminated—especially in the materials handling sector.

"There was pent-up demand in 2008 and 2009," says Ken Dickerson, chief operating officer for Wynright, an Elk Grove, Ill.-based provider of materials handling systems. "Many businesses that had projects on hold had time to evaluate their plans. Coming out of the economic downturn, they had already made decisions to upgrade existing facilities and invest in automation."

Wynright evolved at the right time. The company, which originated as Wynright Engineers and Integrators (WEI) in 1972, consolidated a collection of smaller materials handling acquisitions under the current brand in 2009. Its business is designing, manufacturing, integrating, and installing intralogistics solutions. These include conveyor and sortation systems, voice- and light-directed order fulfillment equipment, programmable logic controllers and robotics, and mezzanines and structures.

Industry demand for greater distribution efficiencies, improved inventory turns, and faster ROI have placed a premium on automated conveyor, sortation, and robotics solutions. These solutions are compelling to companies such as footwear company Skechers, which Wynright worked with to equip a new 1.8-million-square-foot DC in Rancho Belago, Calif.

The LEED-certified Gold facility is one of the largest projects Wynright has worked on. "It's a greenfield build with an extensive amount of automation," says Dickerson. "Skechers consolidated five California DCs into one location, which now handles both retail and e-commerce sales channels. It's an example of a facility where automation is involved in virtually every aspect of operation."

Projects the size and scope of the Skechers DCs are largely an exception in today's economic environment. Many companies don't have the capital or clout to command such investment, but

Skechers consolidated five DCs into one fully automated facility, which now handles both retail and e-commerce sales.

still see e-commerce requirements growing faster than retail.

"In some cases, shippers are going back to existing DCs that are strategically located to support brick-and-mortar business and adding areas in those facilities to manage e-commerce," says Dickerson. "Usually this involves technology—such as automation, pick-to-light, or pick-to-voice software systems—that enables operational simplicity. Not every company is in a position to build greenfield facilities."

Automation serves to simplify operations and improve labor utilization. One challenge Wynright's customers often face is finding ways to empower warehouse workers. This means designing systems and warehouse architecture that enable better behavior.

"Productivity and cost reduction are the two benefits that should result from automation," says Dickerson. "You have to achieve productivity gains if you want to hit your expected ROI."

One example of how Wynright's solutions facilitate DC efficiency is the use of its patented robotic truck loaders, which can cube out multiple trucks at the same time under the supervision of one staffer. "The system loads trucks floor to ceiling without pallets," says Dickerson. "You can ship five standard truckloads with four trucks, a 20- to 30-percent more efficient use of truck space. This has a direct impact on transportation costs."

Incremental automation progressions can have a marked impact on an operation. Rather than invest in a full migration, companies can reconfigure facility space.

For example, Wynright recently retrofitted a 20-year-old facility for a customer. "Before expanding the footprint of the building, evaluate which space can be used more efficiently," Dickerson advises. "Improving the layout might include changing the placement of certain goods or workstations."

In some cases, companies might decide to go vertical and use automated storage and retrieval systems (AS/RS) to use space more efficiently, decrease energy consumption, and reduce the time to get products to various locations within a facility.

Projects such as Skechers' amplify ROI. Wynright went the distance with its mezzanine and AS/RS design, and the results were impressive. Skechers now processes approximately 17,000 pairs of shoes per hour—more than double the number handled in its old buildings—and the system is capable of handling expected growth of 25 percent.

The takeaway? Investing in materials handling solutions is one positive way to manipulate distribution space.

THE POWER OF PALLETS

There's more to these warehouse workhorses than meets the eye. Companies that use pallet systems strategically can reduce transport costs and promote supply chain efficiency.

Pallets aren't glamorous. More often than not, these workhorses of the warehouse are taken for granted, used and abused, dropped, thrown, and cast aside.

Yet pallets play a critical support role in moving many types of goods. They are the glue that connects retailers, distributors, manufacturers, growers, and transportation and logistics service providers across numerous industries. Without pallets, the supply chain could not function.

And while they may represent the lowest cost consideration in the product lifecycle, managing pallet systems effectively can improve efficiencies and economies in a manufacturer's supply chain.

"Pallet type and quality have an enormous impact on many factors, including loading and unloading time, safety, product quality, and cost," says Curt Most, global sales manager for Oconomowoc, Wisc.-based reusable packaging company Orbis Corporation.

Pallets come in several shapes, sizes, and materials. Choosing wisely is critical. The right choice can mean a smoothly running process; the wrong choice can mean a major headache.

"The wrong pallet can translate to distribution and delivery slowdowns," says Most. "In the worst cases, the wrong pallet choice can result in the loss of product and profit."

Four-way block pallets, which most pallet pooling companies use, are often made from a harder wood than conventional stringer pallets.

In some industries, pallet choice simply depends on the end product. For example, food and beverage, pharmaceutical, and electronics industries often have specific shipping requirements. In those cases, companies often elect to operate closed-loop pallet networks, pooling equipment that meets their specific needs.

Making a Smart Choice

For other companies, pallet choice comes down to the storage and retrieval systems a customer employs. Some systems require specific pallets that won't jam warehouse equipment.

In still other cases, end users weigh the pros and cons of different types of pallets to determine the best type for their needs. Wood is the most traditional type of pallet, and remains the most popular. Durable, strong, and well-suited for heavy loads, wood pallets are also less expensive than plastic or aluminum. The downside is they require fumigation and fire-retardant applications for certain shipment types or for international transportation.

Most pallet pooling companies use four-way block pallets, which are often constructed from a harder wood than conventional stringer pallets. Pallet manufacturer and pooling company PECO Pallet of Yonkers, N.Y., provides wood block pallets exclusively.

"Wood block pallets are stronger and more durable than conventional stringer pallets," says Adrian Potgieter, vice president of sales for PECO Pallet. "True four-way block pallets can also be stacked and transported more efficiently than notched stringer pallets. PECO's 48-inch by 40-inch four-way pallets hold up to 2,800-pound loads, and are edge-rackable.

"Block pallets also have better top-deck coverage, are safer to use in overhead racks, and don't slip in refrigerated areas," he continues. "And because they are built to consistent, accurate dimensions, PECO pallets are ideal for use in today's fast-moving automated production lines."

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reusable pallets that are leased to manufacturers throughout North America. To maintain quality and reduce customer costs, PECO's renters ship only to authorized distributors who participate in PECO's system. The distributor or retailer notifies PECO when pallets are ready to be picked up; a carrier then returns them to the depot to be cleaned, inspected, and repaired as needed.

Throughout their cycle of use, pallets stay inside the closed loop of PECO's extensive service network. This limits pallet loss and damage, and allows the company to quickly get high-quality pallets back into the rental pool.

To promote warehouse and shipping efficiency, PECO Pallet's logistics team guarantees on-time delivery within 72 hours. Renters can place pallet orders 24/7 using an online pallet management tool that integrates seamlessly with existing EDI systems. PECO's field-based service team monitors pallet flows carefully to prevent loss and keep costs low.

A Natural Advantage

Another advantage to wood pallets is that they are a natural product—a feature plastic and aluminum can't claim.

"PECO's pallets are built from sustainably harvested lumber and are constantly repaired, reused, and recycled," says Potgieter. "No harmful chemicals are ever used on PECO pallets. When a

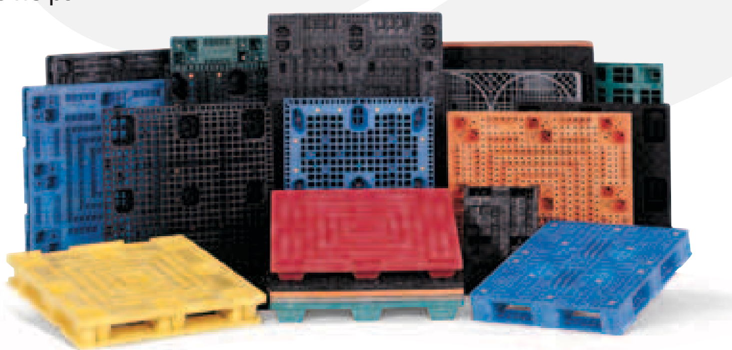
Plastic pallets are often more durable and lighter than wood pallets, in addition to being water repellent, exportable, fire resistant, and recyclable. They also tend to cause fewer warehouse handling injuries, because they are free of splinters and rusted nails.

ORBIS®

A shift in thinking leads to a place where planet and profit coexist.

ORBIS seamlessly integrates with your supply chain to implement your reusable plastic pallet program.

With more than 35 global manufacturing, sales and service locations, ORBIS has the resources and insight to support you every step of the way. That means improved efficiency, decreased environmental impacts and more importantly, reduced trip costs. ORBIS helps leading companies:



- >> Compare reusable and single-use pallets
- >> Evaluate ROI and cost-per-trip
- >> Calculate energy, waste and emission impacts
- >> Optimize supply chain performance
- >> Standardize shipments

To learn more about ORBIS pallets, totes, dunnage and bulk containers, please visit www.orbiscorporation.com.

It's a revolutionary shift in thinking.
And it's only available from ORBIS.

pallet can no longer be repaired, the wood is shredded into mulch for animal bedding, and the nails are removed and recycled. Nothing moves to a landfill.

"Environmental sustainability is an important concern, and using pooled pallets is an easy and cost-effective way for companies to reduce their carbon footprint," he adds.

Plastic Gains Ground

Wood may be the traditional choice, but plastic pallets are gaining acceptance. "In the past, some companies laughed when they heard we were selling plastic pallets," says Most. "Now, they are coming back to us.

"Compared to wood, plastic pallets cause less equipment damage and fewer employee injuries, and they last longer," he continues. "But companies are still catching on to those advantages. It takes time for them to realize plastic pallets are more an investment than a commodity."

> "They may not get a lot of attention, but high-quality pallets are a critical supply chain element."
>
> –**Curt Most,** Orbis Corporation

Although they can be more expensive, plastic pallets are often more durable and lighter than wood pallets, in addition to being water repellent, exportable, fire resistant, and recyclable. They also tend to cause fewer warehouse handling injuries, because they are free of splinters and rusted nails. While a broken wood pallet may have to be retired, plastic pallets can often be repaired with replacement boards.

Plastic pallets also offer bar-coding and tracking capabilities via RFID, allowing manufacturers and shippers to follow their pallets anywhere in the supply chain.

Like wood, plastic pallets support the green initiatives many companies have launched in the past few years. While wood is obviously a more natural product, broken plastic pallets can be ground up and re-used to make new pallets, rather than going to a landfill. Additionally, many plastic pallet manufacturers buy back broken pallets and give the customer credit toward new ones.

"A $60 pallet with a $20 residual value is actually a $40 pallet," says Most. "Companies like to promote that they are environmentally friendly, and plastic pallets fit well with that goal."

Plastic pallets from Orbis come in three types: nestable, stackable, and rackable. Nestable pallets fit inside each other, condensing the amount of space they take up. This type of pallet is often used in distribution applications.

"Grocery stores often choose nestable pallets because they are typically the least expensive, and can take a beating," says Most. "There are no bottom runners to break off, and no bottom base, so they are easy to use in tight spaces."

Nestable pallets can also help reduce transportation costs and gain significantly more space. "A typical truck fits about 500 wood pallets," says Most. "But you can get about 1,200 nestable pallets on a truck. That makes a huge difference in terms of cost."

Stackable pallets are similar to wood pallets in that they have a bottom deck. This type of pallet is beneficial for manufacturers who double-stack loaded pallets on top of each other.

Finally, rackable pallets can go into an edge-rack application, where the edge of the pallet sits on steel or fiberglass bars with the product on top and no support underneath. Weights can vary from 750 pounds to 3,000 pounds.

A Custom Solution

Plastic pallets are also easy to customize. For manufacturers with unique needs, the ability to customize pallets can mean huge savings and efficiency gains. Jifram Extrusions of Sheboygan Falls, Wisc., makes custom plastic pallets for a variety of companies.

"We custom-build pallets to customer specifications," says Wayne Meyer, director of sales and marketing at Jifram. "Shipments are less likely to be damaged when moved on custom pallets. Also, they allow shippers to cube out their truck or trailer better, and help maximize warehouse space."

One shipper with unique pallet needs is Parallel 44, a Wisconsin-based vineyard and winery that crafts wine from Northern varietal grapes. The company's requirements called for a small-volume, plastic pallet solution that would handle a static weight capacity of 25,000 pounds, supporting multiple 5,000-gallon wooden tubs of wine. The pallets also had to be washable and durable.

The company began by researching molded pallets; however, initial molding costs were high, making it an impractical solution. Parallel 44 then contacted Jifram about its custom-built extruded plastic pallets. The winemaker ordered samples, which it rigorously tested throughout its facility.

"Jifram's custom-built plastic pallets provide the perfect small-volume solution for Parallel 44's specific requirements," says Meyer. "The pallets' superior structural strength meets the company's static weight needs, and the pallets are completely washable and hygienic.

"Reusable plastic pallets also offer safety and operational advantages," he continues. "For example, wooden pallets that are damaged or broken may collapse under heavy loads. The durability of reusable and recycled plastic pallets helps improve worker safety."

Other Options

Aluminum is another option for manufacturers looking to ship and stow goods safely. Aluminum pallets are light, durable, non-corrosive, and fireproof, easily cleaned and sanitized. The threat of theft, however, is significant, given aluminum's scrap value.

Ultimately, manufacturers must choose the pallet system that works best for their products. Fortunately, more options are available today than ever before. Taking the time to weigh the pros and cons of the different options can go a long way in making the transport and stowage process more efficient and less stressful.

"Nothing is worse than seeing a product through from inception to shipment, only to find it damaged or unusable at delivery," says Most. "They may not get a lot of attention, but pallets are a critical supply chain element. High-quality pallets are exceptionally engineered and designed products that perform as integral components of the supply chain." ■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From inventory tracking solutions to mobile robots, today's warehouse technology and automation systems provide more potential for efficiency improvements than ever.

Three supply chain leaders offer their perspectives on the materials handling challenges and opportunities affecting your business processes.

MATERIALS HANDLING THOUGHT LEADERS

60 **CHRIS WRIGHT**
Vice President, InfoMobility, DRS Technologies

61 **LAURA KELLEHER**
Director of Marketing, Americas, Honeywell Scanning & Mobility

62 **ROBERT ARNDT**
Vice President, Lean Supply Chain Solutions, Ryder Supply Chain Solutions

Tracking Rugged Tablets

Q: It seems that tablet computers are growing in popularity. Is this true in our field, where conditions can be difficult?

A: Although the tablet has been available for years, it is receiving renewed attention for its combination of an easy-to-read display and keypad-free data entry and retrieval. Tablets offer several advantages over notebook computers and handheld devices. A standing worker can easily operate a tablet while holding it in one hand. Tablets are compact and take up less space. And they offer the display size that works best for mobile employees.

CHRIS WRIGHT

Vice President, InfoMobility
DRS Technologies

Q: Rugged tablets cost more than what consumers buy. Is this additional expense worth it?

A: You just can't take a regular tablet or even one labeled "ruggedized" and expect it to work in adverse environments where vibration, heat, cold, moisture, and other factors come into play. Selecting a computer that performs in rugged environments is cost-effective compared to trying to use off-the-shelf, non-rugged consumer hardware. One freight hauling company saw the failure rate of onboard computers reduced from 70 percent to three or four percent when they purchased rugged tablets. This means less out-of-service time and, of course, fewer replacement purchases. The most durable rugged tablets are designed, manufactured and qualified to pass MIL-STD-810F or -810G. These federal standards specify testing procedures that are designed to determine how equipment holds up under a variety of conditions, including temperature, impact, vibration, and humidity that the equipment may encounter while being used, transported, and stored.

Q: Should comparisons between computers be made solely on ruggedness?

A: No, there are other factors that must be considered. Chief among these is advanced communications. Today's mobile worker needs an array of communications tools, including access to broadband Internet, Wi-Fi service for local area networks including hot spots, Bluetooth connections for wireless connections to peripherals, and global positioning to aid in going from location to location. Other factors to consider include screen size and readability, especially in bright sun. A well-designed docking system allows the computer to be quickly and easily un-docked and placed in another vehicle. One additional consideration is automatic antenna switching. When a mobile tablet is brought into a vehicle, its communications functionality is likely to be compromised by the vehicle's metal construction and even by tinted glass. Manually switching between the antennas within the tablet and external ones on the roof can cause transmission delays or interruptions. Automatic switching eliminates the threat of data loss or disruption.

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Warehouse Automation Management Goes Mobile

LAURA KELLEHER

Director of Marketing, Americas
Honeywell Scanning & Mobility

Q: Consumer devices, such as smartphones, are becoming more common in warehousing applications. How is the personal wireless space affecting the industrial/commercial wireless space?

A: The form, function, and ease of use industry decision-makers experience when using their personal mobile devices is affecting their expectations of enterprise devices. It is driving demand for smaller and lighter rugged and semi-rugged devices, as well as the desire to use personal consumer devices for enterprise applications. Decision-makers must carefully consider the implications of using consumer devices, as they typically aren't built to withstand use in challenging environments, leading to higher failure rates and increased downtime.

Q: What types of enterprises are using consumer-grade devices to manage their automation?

A: This shift is occurring in more consumer-facing applications, including retail in-store and healthcare point-of-care. In supply chain applications, a premium is still placed on device security and ruggedness, a factor that is continuing to drive the need for industrial-class mobile devices for workers on the floor or in trucks.

Q: What about other workers in supply chain lines of business?

A: The combination of mobility and PC functionality that a warehouse or fleet supervisor can get from a semi-rugged hand-held or tablet form factor can replace an office PC and allow that supervisor to perform tasks and handle exceptions more efficiently.

There is also greater mobility in other functions, such as quality control, maintenance, and receiving—areas where the worker may previously have had a fixed PC workstation or a laptop. These workers want the whole office at hand, without having to carry a laptop around. Enterprise leaders need to determine whether a rugged or semi-rugged device would deliver a lower total cost of ownership for these applications, or if a consumer-grade device would do.

Q: Will enterprises begin deploying a mix of rugged devices for some workers and consumer devices for others? And does that present a challenge for IT?

A: There's definitely more diversity in deployed devices. The objective for businesses is to optimize each worker's productivity at each node along a workflow, by providing the right data capture device for that specific task.

Managing these devices presents a significant challenge for IT. One solution is device management software that is both manufacturer- and operating system-agnostic, allowing Microsoft Windows, Google Android, and Apple iOS devices from any manufacturer to be managed on a single dashboard.

Q: Are some enterprises resistant to this type of "Big Data" deployment?

A: Not really, simply because the technology is so customizable that it's hard to feel force-fed. The supply chains that don't have real-time visibility from the point of sale all the way back to the point of manufacture will have difficulty meeting consumer demand. The advice I'd give a business struggling with too many data-capture options is to find a partner who can help optimize each step in their workflow in a way that is scalable and future-proof, and enable them to manage their entire system from a single remote location.

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Making a Business Case for Lean MHE

Q: What are the biggest cost drivers in a distribution center?

A: Distribution centers are driven by four primary costs. Labor is usually the largest cost, which is why companies focus on it so much. Second is the building itself. Third are the IT systems necessary to support the operation. Finally, there's materials handling equipment (MHE).

Companies typically don't focus on MHE but they should, because it is a cost driver. Consider, for example, the considerable cost differential between having a dense storage strategy—with very narrow aisles and automatic guided vehicles—and an operation that requires flex space and wider aisles for lift trucks to maneuver. Another example: using a 5,000-pound forklift when all you need is a 2,500-pound model. It's important to match equipment to specs and priorities to eliminate excess costs.

Costs are also bundled by decisions to buy or lease; or whether to perform preventive maintenance internally, through an original equipment manufacturer, or outsource that responsibility entirely. While many companies automatically focus attention on removing labor costs, opportunities to reduce costs and create efficiencies can be found by taking a lean approach to materials handling.

Q: How has a lean approach to materials handling equipment and processes evolved?

A: Lean has traditionally had a great impact on manufacturing operations. But interest is growing in applying lean principles across the supply chain, where the total cost of moving goods to market goes well beyond production. You can take steps out of the process, increase density, reduce inventory, enhance quality, expedite movement, and reduce total costs in many areas between the manufacturer and consumer. MHE is one example.

Many companies are already on a lean manufacturing path. But once they see that those same concepts apply to different functions and activities—and they identify improvements that can be made—everyone becomes interested, because it's a competitive differentiator. Lean can take warehouses to new levels of efficiency.

Q: How can companies apply lean to make MHE and processes more efficient?

A: Lean can work in a few different ways. For one, it defines expectations. If a facility doesn't set goals, employees will come up with their own—and they might not be optimal. Visual management helps demonstrate expectations, display performance, and incentivize improvement. When problems arise, they can be immediately addressed and rectified.

There are also more practical lean returns. Companies can look at how they slot a building so fast movers are closer to the ground and to the front; or use a U-shaped cell layout to take unnecessary travel time out of the operation. On the labor side, voice-directed picking and automation free up hands and time. These, and countless other examples, are good reasons for companies to evaluate implementing lean MHE.

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BUYER'S GUIDE 2012

A weak economy, fluctuating fuel costs, shifting capacity, lengthening supply lines, and demanding customer requirements are raising shipper and carrier interest in transportation management systems (TMS). A variety of solutions are available to meet every company's unique needs.

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 Buyer's Guide to some leading providers and solutions that can put you on the right road toward improved transportation management and performance.

TMS BUYER'S GUIDE 2012

	VENDOR	PRODUCT	DESCRIPTION
L	**Accellos** Colorado Springs, CO accellos.com	**Accellos One Transport, Prophesy Trucking Software**	Builds loads; plans routes; monitors in transit progress; and executes the initial and settlement paperwork.
H	**Acuitive Solutions** Charlotte, NC acuitivesolutions.com	**Acuitive TMS**	Facilitates end-to-end collaboration during procurement negotiations and after the process with auditing capabilities. Manages, analyzes, and interprets key metrics including rates and rate history, routing patterns, audited invoices, contract terms, Sarbanes-Oxley compliance, and shipment details.
H L	**Agile Network** Chesterfield, MO agile-network.com	**Agile Elite Suite**	Evaluates multiple carrier options for accurate delivery time, date commitments, and delivery charge information; automates medium– to high-volume multi-carrier shipment processing from multiple locations.
H	**Agistix** Redwood City, CA agistix.com	**The Agistix Transportation Management Solution**	Provides real-time rating and bidding; automates shipment execution and real-time tracking across multiple carriers, all modes, inbound, outbound, third party, international, and domestic; offers on-demand route configuration, custom document generation, external point solutions, reporting, searching, data mining, and data visualization tools.
H L	**Aljex Software** Middlesex, NJ aljex.com	**Aljex Vision**	Automates shipment execution with least-cost routing, EDI, document imaging, integrated emailing and faxing, and burst communication. Suitable for use by manufacturers, retailers, 3PLs, and intermodal and asset-based carriers.
H	**Amber Road** East Rutherford, NJ amberroad.com	**International Transportation Management**	Enables shippers to manage ocean and airfreight transportation, with the ability to automate annual tender; centrally manage approved carriers, routes, and rates; optimize carrier selection; and audit freight bills.
H L	**AndSoft** Madrid, Spain and-soft.com	**e-TMS**	Cloud solution for FTL , LTL, small package, ocean, and air shipments. Supports high data volume, customizations, and changes in real-time. Flexibility to handle international transactions.
H	**BestTransport.com** Columbus, OH besttransport.com	**BestShippers TMS**	Enables shippers to optimize loads, execute advanced tendering rules (both inbound and outbound), track shipments, and pay freight bills. Provides immediate and accurate visibility into every transaction.
H	**CargoSmart Limited** San Jose, CA cargosmart.com	**CargoSmart Contract and Performance Management**	Automates ocean contract management, including rate search, rate comparisons, and routing guides. Integrated with transit times and booking for seamless execution. Performance management aids contract negotiation.
H L	**Cheetah Software Systems** Westlake Village, CA cheetah.com	**Cheetah Freight, Cheetah Delivery**	Provides optimized routing, dynamic dispatch, and real-time tracking information to LTL companies. Modular, integrated system. GPS-enabled supply chain visibility. Instant proof of delivery.
H	**ClearTrack** Brentwood, TN cleartrack.com	**Global Logistics Management**	Provides automated shipment visibility, real-time status information, distribution center appointment management, key performance indicator dashboards, flexible analysis reports, and email notifications.
H L	**Codeworks** Columbus, OH ctcodeworks.com	**Traffic**	Allows shippers to identify loads and consolidate freight to minimize costs, review shipment savings before consolidation, find carriers with the lowest shipping costs or best margin, and use stored route histories to choose the most fuel-efficient routes.

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	VENDOR	PRODUCT	DESCRIPTION
H L	**CT Logistics** Cleveland, OH ctlogistics.com	**FreitRater**	Provides rate quotes from multiple carriers in all modes; automated shipment execution; real-time status information; reporting, searching, and data mining.
H	**CTSI-Global** Memphis, TN ctsi-global.com	**CTSI-Global Transportation Management System**	Allows shippers and 3PLs to manage all transportation networks to control orders, optimize loads, select the best carriers for all modes, tender shipments, issue parcel manifests, track progress, and manage claims.
L	**Datex** Clearwater, FL datexcorp.com	**Footprint TMS**	Shippers can manage drivers and assign them to routes; view real-time shipment tracking information; export routes to handheld devices; and import route status and customer signatures from handheld devices.
H L	**Descartes Systems Group** Waterloo, Ont descartes.com	**Descartes Transportation Management**	Helps logistics managers, shippers, and third parties simultaneously evaluate transportation alternatives to find the most efficient shipping method. Manages contract carriers from shipment planning through execution and settlement.
H	**Elemica** Exton, PA elemica.com	**Elemica Transportation Management**	Supports complete process of order-to-shipment planning, booking, execution and settlement, visibility, monitoring, alerts, exception management, connectivity, and collaboration.
H L	**eShip Global** Irving, TX eshipglobal.com	**eShipGlobal TMS**	Handles every aspect of the transportation lifecycle, including strategic sourcing, rate quotes, transportation execution, freight audit, and payment settlement.
H L	**Folio Logistics** Greenville, SC foliologistics.com	**Transportation Management System**	Optimizes loads across business units, locations, and customers; optimizes inbound and outbound loads, carbon footprint, real-time information, and reporting; and models impact of changes to transportation plan.
H	**Fortigo** Austin, TX fortigo.com	**On-Demand TMS**	Automates, optimizes, and audits logistics processes across the supply chain. Carrier-neutral, Web-based TMS supplies one system of record for logistics across multiples sites, and interfaces with enterprise resource planning and other supply chain management solutions.
H L	**Freight Management** Anaheim, CA freightmgmt.com	**EzShip**	Acts as a virtual shipping portal for quoting, booking, and tracking all modes of freight. Easily integrates with ERP, WMS, and other operating systems. Accommodates freight forwarders, shippers, and inbound programs of all sizes.
H	**GT Nexus** Oakland, CA gtnexus.com	**GT Nexus Cloud Supply Chain Platform**	Capabilities include real-time shipment/item-level visibility; ocean, air, and truck spend management; freight audit; shipment planning; consolidation management; and shipment execution.
H L	**HighJump Software** Eden Prairie, MN highjump.com	**Transportation Management**	Provides international multimodal shipment optimization, carrier and rate management, vendor compliance, vendor tracking, proof-of-delivery, and claims and reporting.
H	**IBM** Armonk, NY ibm.com	**IBM Sterling TMS**	Enables shippers and suppliers to collaborate; provides load planning, tendering, shipment execution and tracking, freight payment, and advanced analytics.

	VENDOR	PRODUCT	DESCRIPTION
H L	**IES** Midland Park, NJ iesltd.com	**IES Supply Chain Suite**	Suite of import and export solutions serves freight forwarders, customs house brokers, NVOCCs, and other transportation intermediaries. Manages shipment flow, provides Web visibility with EDI and email status messages, and generates report data.
H L	**Infor** Alpharetta, GA infor.com	**Infor SCM Transportation Management**	Allows shippers to analyze inbound and outbound shipment orders based on origin and destination; consolidate orders into loads; and determine the most cost-effective way to move loads based on constraints.
H	**InMotion Global** St. Petersburg, FL inmotionglobal.com	**InMotion Global TMS**	Offers routing and optimization, lane rate management, Web-based load tendering, real-time shipment location/status visibility, reporting, and a shipper/carrier Web portal.
H L	**JDA Software Group** Scottsdale, AZ jda.com	**JDA Transportation and Logistics Management**	Helps shippers, carriers, and transportation service providers 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 L	**Kewill** Chelmsford, MA kewill.com	**Kewill Flagship**	Manages domestic and international services, carrier compliance, integrated parcel and freight shipment processing, and item-level packing control and visibility.
H	**LeanLogistics** Holland, MI leanlogistics.com	**On-Demand TMS**	Delivers complete transportation planning, execution, settlement, and procurement, as well as supply chain visibility and business intelligence to improve business processes, increase efficiency, and reduce costs.
H	**LOG-NET** Red Bank, NJ log-net.com	**LOG – NET Transportation Management**	Monitors events and status, filtering results to view only shipments deviating from trip plans; generates forwarder and carrier rating and performance reporting; performs appointment scheduling, contract fulfillment, route and rate management, and freight audit.
H L	**Logility** Atlanta, GA logility.com	**Logility Voyager Solutions**	Automates multi-modal shipment planning, execution, and freight accounting. Supports automated, unattended operation by monitoring ongoing activities and providing real-time alerts of potential problems. Analyzes productivity using key performance indicators to provide operations reports.
H	**Logistics Management Solutions (LMS)** St. Louis, MO lmslogistics.com	**TOTAL**	Supplies complete transportation management, including rating, freight optimization, load tendering, shipment tracking, and business intelligence.
H	**M33 Integrated Solutions** Greenville, SC m33integrated.com	**M33 TMS**	Manages the lifecycle of an order, from rate quoting through freight bill payment and reporting. Delivers accurate carrier rating and rate shopping, proper carrier execution for increased cost reduction, and real-time shipment visibility.
H	**Made4net** Paramus, NJ made4net.com	**TransportExpert**	Supports and optimizes carrier selection; manages freight rates and carrier contracts; generates shipment documents; electronically communicates transportation needs to carriers; and provides real-time, exception-based shipment status visibility.
L	**Magaya Corporation** Miami, FL magaya.com	**Magaya Cargo System**	Allows shippers to create import and export consolidations for air, ocean, and ground shipments; query and compare carrier rates; print labels to ID and track all packages; automate tariffs and billing; and receive proof of delivery, online shipment updates, and package tracking data.

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	VENDOR	PRODUCT	DESCRIPTION
H L	**Manhattan Associates** Atlanta, GA manh.com	**Transportation Lifecycle Management (TLM)**	Provides a global view of transportation across all modes—inbound or outbound—from bidding to billing, to reduce costs, reroute around trouble spots, and coordinate deliveries precisely.
L	**McLeod Software** Birmingham, AL mcleodsoftware.com	**Freight Management Solutions**	Provides tools for bid procurement, less-than-truckload/truckload mode optimization, and load execution.
H L	**MercuryGate International** Cary, NC mercurygate.com	**MercuryGate TMS**	Delivers integrated multimodal TMS, allowing global shippers and service providers to optimize and execute loads. Analytics and a workflow engine automate processes for maximum efficiency.
H L	**NTE** Chicago, IL nte.com	**NTE Transportation Management**	Provides shipment planning, optimization, routing guide execution, financial settlement, track-and-trace capabilities, and alerting and reporting options.
H L	**Nulogx** Mississauga, Ont. nulogx.com	**Transportation Manager, Optimizer, Claims Manager**	Manages and executes the full lifecycle of the transportation process from electronic receipt of the shipment to routing, rating, dispatch, tracking, delivery, and payment.
H L	**Oracle** Redwood Shores, CA oracle.com	**Oracle Transportation Management**	Provides carrier rate bidding and management, shipment planning and execution, freight billing and claims, visibility, and key performance indicators.
H L	**Precision Software** Chicago, IL precisionsoftware.com	**Precision Transportation Management**	Streamlines transportation planning and execution, manages asset utilization, automates business processes, and handles freight payments. Users can rate, route, produce labels, and manage service levels for any shipment mode.
H	**RateLinx** Madison, WI ratelinx.com	**ShipLinx**	Provides rates and shipment execution using multiple carriers and multiple rate bases for all modes; tracks real-time key performance indicators; generates reports and status updates.
H L	**RedPrairie** Waukesha, WI redprairie.com	**Transportation Management**	Supports global planning and execution for all modes, including parcel and fleet. Features freight settlement, client invoicing, event management, and trading partner Web portals.
H L	**Retalix** Plano, TX retalix.com	**Retalix Transportation Management Solutions**	Integrates and manages all aspects of the transportation process, including inbound/outbound optimization, yard management, and dock scheduling.
H	**RMI** Atlanta, GA rmiondemand.com	**ShipperConnect**	Handles multimodal transportation planning, execution, terminal operations, carrier settlement, and exception alerts while providing shipment visibility across all carriers and modes.
H L	**Roadnet Technologies** Towson, MD roadnet.com	**Roadnet Transportation Suite**	Manages all aspects of transportation, from planning through execution. Determines optimal routes and loads; collects real-time shipment data; and analyzes results through reporting.

TMS BUYER'S GUIDE 2012

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	VENDOR	PRODUCT	DESCRIPTION
L	**Royal 4 Systems** Long Beach, CA royal4.com	**Royal 4 TMS Suite**	Automates carrier communications, including contract negotiation, load tendering, invoice processing, and payment approvals. Allows shippers to build loads, group orders, and plan routes to maximize asset utilization, and manage carrier selection and compliance.
L	**SAP** Walldorf, Germany sap.com	**mySAP Supply Chain Management**	Offers transportation planning and shipment completion capabilities, shipment cost calculation and settlement, freight billing, and service agent selection.
H	**ShipXpress** Jacksonville Beach, FL shipxpress.com	**RailSync**	Tracks rail shipments across multiple carriers; handles local and interline rail activity; manages and reports freight revenue; provides accurate car hire expense summaries; and synchronizes communication among train crews, office staff, and shippers.
H L	**Supply Vision** Chicago, IL supply-vision.com	**Supply Vision Logistics**	Offers customizable shipper and logistics provider visibility tools with integrated warehouse management, document imaging, and intelligent rate shopping.
H L	**TECSYS** New York, NY tecsys.com	**TECSYS TMS**	Automates and optimizes small package and LTL shipment rating, routing, manifesting, tracking, and post-shipment analysis.
H L	**TMW Systems** Beachwood, OH tmwsystems.com	**Transportation Management Software**	Automates contract rating for least-cost carrier assignments across multiple shipping locations. Includes carrier management, cost tracking and allocation, shipment visibility, national rating index, and load optimization tools.
H L	**Transite Technology** Raleigh, NC transite.com	**Jaguar TMS**	Provides contract and pricing management; rate quotes from multiple carriers across modes; optimization; and automated shipment execution.
H	**TransportGistics** Bohemia, NY transportgistics.com	**TGI Transportation Suite**	Features shipment rating, bidding, supply chain visibility, freight audit and payment, routing guides, reverse logistics, and document creation.
H	**Transwide** New York, NY transwide.com	**Transwide TMS**	Enables users to source, plan, execute, settle, and analyze transportation processes.
H	**TransWorks** Fort Wayne, IN trnswrks.com	**Intermodal & Drayage Transportation Management Solutions**	Automates communication between drayage and rail providers; optimizes drayage movements; and ensures efficient equipment use.
H	**Ultra Logistics** Fair Lawn, NJ ultralogistics.com	**UltraShipTMS**	Gives logistics managers total network visibility and control over inbound and outbound transportation, ensuring optimal procurement, execution, and reporting.
L	**USTC Live Logistics** Baltimore, MD ustclive.com	**On-Demand TMS**	Provides all available carrier rates and terminal information; creates and stores bills of lading, and maintains carrier invoice records. Reports can be scheduled to run at pre-determined times.

THE 3PL ALTERNATIVE

Shippers may be able to gain access to transportation management system functions through their third–party logistics (3PL) provider. Here's a sample of some 3PLs offering TMS, either as a standalone option or part of the outsourced transportation service.

VENDOR	PRODUCT	DESCRIPTION
BlueGrace Logistics Riverview, FL mybluegrace.com	**BlueShip TMS**	Allows users to customize their transportation process, providing functions such as rating, routing, tracking, and reporting.
Cardinal Hosted Logistics Concord, NC cardlog.com	**Cardinal Activity Tracker**	Enables order and shipment management from order creation to final mile delivery. Features dynamic workflow at point of delivery, including scanning, electronic proof of delivery, exception codes, and real-time visibility.
Echo Global Logistics Chicago, IL echo.com	**ETM**	Offers routing guide management, automated load entry, tendering and acceptance, load visibility, customized reporting, and analytics.
Exel Westerville, OH exel.com	**Transportation Management System**	Configured and deployed to customer specifications to manage transportation processes.
Jacobson Companies Des Moines, IA jacobsonco.com	**Logistics Integrated Network Collaboration System**	Offers access to shipment information to enhance order visibility and product flow throughout the supply chain.
LeSaint Logistics Romeoville, IL lesaint.com	**TransTech TMS**	Gives shippers visibility to shipping costs and activities.
Menlo Worldwide Logistics San Mateo, CA menloworldwide.com	**Logistics Management Solutions Suite**	Executes a full menu of transactional transportation functions across all modes.
SEKO Worldwide Itasca, IL sekologistics.com	**SEKO Transportation Management System**	Automatically audits invoices, reports exceptions, and generates real-time track-and-trace information for international and domestic shipments.
TMC, a division of C.H. Robinson Chicago, IL mytmc.com	**Managed TMS**	Features constraint-based bidding software, mode/route optimization, automated shipment tender, rate assignment, freight payment, yard management, dock and appointment scheduling, global visibility, and business intelligence.
Transplace Frisco, TX transplace.com	**Transplace Transportation Management System**	Automates order management, shipment optimization, shipment tracking, and overall performance. Enables route and mode selection, load consolidation, asset utilization, and reporting.
Weber Logistics Santa Fe Springs, CA weberlogistics.com	**Weber Web Portal**	Provides shippers access to shipment visibility, reporting, and custom business rule setup.
Werner Enterprises Omaha, NE werner.com	**SMART**	Delivers shipment validation, visibility, and optimization, and facilitates comprehensive data collection.

ECONOMIC DEVELOPMENT:

PULLING THE RIGHT STRINGS

BY JOSEPH O'REILLY

It's one thing for politicians to say they support transportation and logistics investment, but it's another thing for them to take action. Here are five states and government leaders going above and beyond to influence economic growth.

Watching Brad Little engage with local business owners is edifying. He's amiable but direct, accommodating to questions and succinct in his answers. These are the kind of attributes you might expect from a cowboy—which he is. Little is a third-generation Idahoan and rancher by trade.

He's also Idaho's Lieutenant Governor, and chairman of Governor Butch Otter's task force on modernizing transportation funding. His experience and demeanor serve him and Idaho businesses well. It's also a telling representation of how the state values economic development.

Idaho isn't alone. Many other states go above and beyond to support transportation and logistics infrastructure development and legislation that facilitate business retention, investment, and expansion. While partisan politics, demographics, and geography can typecast and divide, leadership and vision have a way of elevating some above the rest. Here are five outstanding examples.

Utah Connects The Dots

Utah is arguably the most topographically and economically diverse land-locked state in the country. From the verdant mountains of the Wasatch Range that frame Salt Lake City, to the interior's barren Canyonlands, to the fast-growing and consuming communities sprouting up along its southwest I-15 corridor, Utah's economic development potential is boundless. Tourism, renewable energy, aerospace and defense, and IT are all areas of strength.

With such a varied economic landscape, the state's greatest challenge is coordinating among different public and private sector interests. The state is unique in that regard. In 2005, then-Governor Jon Huntsman Jr. pulled economic development into his office.

"It was a strategic decision that played out well," says Spencer Eccles, executive director, Governor's Office of Economic Development (GOED). "We were the first executive branch office of economic development. Since then, several other states have moved in that direction."

Coordinating economic development efforts under the executive branch has its privileges. Whether on a business card or car, the Governor's seal carries influence.

"We have the power to convene. When we call a meeting, it's the same as the Governor calling a meeting," Eccles explains. "If we can get people to the table, we can act on what Governor Gary Herbert talked about in his inaugural address: 'Unprecedented partnerships are essential, because we are facing unprecedented challenges.' All we have to do is connect the dots."

When GOED pulls industry together with local and state government agencies, good things happen. For example, it has a composites working group that was formed out of seven strategic industrial clusters in the state that were deemed important based on various core competencies. This includes corporate juggernauts the likes of Boeing, ITT, and ATK.

"We've been working with these companies to build relationships between themselves as competitors, as well as with us," Eccles notes. "We asked them what other companies we should recruit to the state."

One example is Janicki Industries, a Seattle-based, family-owned composite tooling supplier for the aerospace, marine, and transportation industries, which was identified as a potential target. GOED made contact with the company and pitched its value proposition. Janicki is now building a 100,000-square-foot precision composites manufacturing facility in Layton, Utah, near Hill Air Force Base.

The Janicki example demonstrates Utah's strategic approach to recruiting companies that are complementary to specific clusters. And GOED has the clout to get businesses to come together and help expand the pie for the benefit of everyone.

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By bringing industry and state and local government agencies together, Utah attracted an array of industries and companies, including *(top to bottom)* eBay, Adobe, and IM Flash Technologies.

Keeping the Dots Connected

Utah is a transportation oasis that criss-crosses the Rockies and joins north and south. Four major Interstates—I-15, I-80, I-70, and I-84—connect through the state. Union Pacific is the rail freight operator of choice, with more than 1,400 miles of track, and Delta operates its western hub at Salt Lake City International Airport.

But Utah's most interesting distinction is its broadband infrastructure, which has built up along its well-traveled transportation corridors, explains Michael Sullivan, communications director, Governor's Office of Economic Development. "Our broadband infrastructure is the fastest in the West, and second in the United States to New York City," he says.

Enforcing its reputation for "connectedness," Utah's IT competencies have created one of the most intelligent highway systems in the country. Utah Department of Transportation (UDOT) has been equipping all major road systems in the state with fiber-optic cables that send information to a sophisticated computerized system. The system allows UDOT to monitor and manage traffic flow and communicate information in real time.

IDAHO: GEM OF THE WEST

Q&A with Lieutenant Governor Brad Little

Idaho Lieutenant Governor Brad Little

Q: In terms of proximity to demand, and transportation network density, Idaho faces logistics challenges. How does the state compensate for these shortcomings to attract business development?

A: Idaho's people and business community pride themselves on turning challenges into opportunities. Tremendous ingenuity and creativity exist throughout the state. Idaho ranks first in the country for patents per capita, and the talent of its workforce, combined with the natural resources within the state's geography, lead to strengths in a variety of sectors including agriculture, mining, forestry, and one of our emerging clusters: recreational technology.

Idaho is an outdoor laboratory for companies that manufacture and test outdoor equipment and apparel, optics, guns, ammunition, and knives. Some specific examples of successful companies in this cluster include PNW Arms, which relocated to Potlatch because we are a gun-friendly state; PEET Dryer, which manufactures and ships products from St. Maries to international markets around the world; and Buck Knives, which relocated from California to take advantage of Idaho's business-friendly climate and low business costs.

Q: What are Idaho's transportation strengths?

A: While Idaho does experience some geographic challenges with regard to transportation, we also have unique capabilities that enable us to effectively and efficiently transport goods throughout the Northwest and to Asia markets.

For example, the Port of Lewiston—Idaho's inland seaport—is a tremendous asset for companies using the Columbia-Snake River system to access the Pacific Ocean. From a policy perspective, the state has also embraced the development of intermodal hubs that link road, rail, air, and river resources to move goods produced in the state to domestic and international markets.

In addition, the Magic Valley region has guaranteed overnight delivery options in the West because of its proximity to Boise and Salt Lake City, making it an exceptional location for companies that have robust shipping needs.

Q: Idaho ranks high in export growth. What is the state doing to facilitate international trade?

A: One simple way for Idaho to support economic growth in its own backyard is to encourage companies to look beyond domestic markets for their customer base. Idaho maintains trade offices in China, Taiwan, and Mexico—which are three of the top export markets for Idaho goods and services. Our international trade managers have represented the state for a combined total of 57 years, which highlights the state's commitment to these markets and the relationships that have developed over time with key business and government partners.

We continually cultivate these partnerships through trade missions, reverse missions, and cultural exchanges that give us the opportunity to meet face-to-face to open the door for export opportunities.

For example, in fall 2011, I led a trade mission to Mexico and Brazil with 13 Idaho companies that were seeking the state's support to create or expand export opportunities. Governor Butch Otter just returned from a mission to China where he was accompanied by 14 companies that understood the advantage of partnering with the state to explore one of the fastest growing economies in the world.

Q: What differentiates Idaho from neighboring states?

A: For product distribution, Idaho's strategic location in the western United States, along with the second-lowest business costs in the West, make the state attractive to companies looking to expand or relocate.

This year, Governor Otter and the legislature let the nation know the state is serious about supporting employers' growth by lowering income tax rates for businesses big and small at a time when most states are raising taxes to make up for overwhelming budget shortfalls.

Idaho's reputation as a business-friendly state continues to grow as companies in a number of industries are discovering for themselves why a stable government, low operating costs, a skilled labor force, accessibility to government leaders, and support from state agencies and local economic development organizations brings more to their bottom line.

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In another instance, GOED played host to a Fortune 100 company that was on a 48-hour flyover and had interest in a parcel of land partly owned by Utah's Department of Transportation (UDOT). The prospect also had questions about highway infrastructure. UDOT's executive director, John Nord, was on a business trip to the U.S. East Coast. After a phone call and a red-eye flight back to Utah, he was waiting with maps early the next morning. GOED got its quarry, and 2,200 new jobs.

The company's search committee was impressed. "They said, 'Do you know how long it would have taken us to set up a meeting with the head of the DOT in our own state?'" recalls Michael Sullivan, GOED's communications director.

While GOED has the elective ability to effect collaboration, it also relies on the Economic Development Corporation of Utah (EDCUtah), a public-private enterprise, to assist in bringing business to the state. "EDCUtah does a lot of the recruitment footwork," says Eccles. "We may originate a lead, but EDCUtah will qualify it."

GOED has also endeavored to drive further collaboration internally by reorganizing operations and breaking down silos.

"We recently participated in a trade mission to Chile, working with international and rural development agencies," says Eccles. "One rural Utah company produces heavy machinery for mining. It specializes in small gauge manufacturing, which works very well for smaller, family-owned Chilean mine operations."

Not surprisingly, GOED was able to connect the dots.

Wisconsin: Freight Fits the Bill

Wisconsin is famous for many traditions, such as brewing, cheese curds, and Green Bay Packers football. But Governor Scott Walker's progressive transportation initiatives are also attracting attention.

"Governor Walker consistently promotes Wisconsin as open for business," says Steven Krieser, executive assistant and third-in-command of the Wisconsin Department of Transportation (WisDOT). Krieser helps shape policies and oversee legislative and communication activities.

"Shortly after he took office, Governor Walker asked us to identify areas where we could harmonize our freight movement regulations with those of neighboring states, eliminate permits that no longer made sense, and streamline operations," Krieser notes.

WisDOT analyzed the wide array of permits it manages, and came up with a package of legislations it calls the Freight Friendly Wisconsin Initiative. At the same time, Governor

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VIRGINIA IS FOR MOVERS

Q&A with Governor Bob McDonnell

Q: Transportation funding and strategy is a hot topic for the federal government. For states, it has become a competitive differentiator. How is Virginia supporting infrastructure investment?

A: First, Virginia acknowledges that ongoing investment in transportation infrastructure is necessary to sustain the Commonwealth's growth.

Second, Virginia's leadership recognizes that in the current economic environment, the state cannot improve its transportation infrastructure without the help of the private sector. It isn't financially possible.

Third, the state has prioritized transportation projects based on need and long-term value to the public, industry, and our economy. This is a comprehensive approach that examines road, rail, and maritime projects.

The Commonwealth has broken new ground on the use of public-private partnerships to build critical transportation infrastructure. Its most recent development is a contract with Elizabeth River Crossings, the consortium that will build a new $2.2-billion Midtown Tunnel to connect the cities of Norfolk and Portsmouth.

Moreover, in 2011, we created the Virginia Transportation Infrastructure Bank (VTIB), a special non-reverting, revolving loan fund that is a sub-fund of the Transportation Trust Fund. The bank's purpose is providing low-interest loans to localities, certain private entities, and other eligible borrowers so they can fast-track high-priority projects.

The overarching intent is to alleviate, in part, a critical need for additional funding sources to finance the Commonwealth's current and future needs for road and highway design and construction. This also includes toll facilities, mass transit, freight, passenger and commuter rail, ports and airports, and other transportation facilities.

On the railroad side, Governor Warner's Rail Enhancement Fund was created in 2005 as the first dedicated revenue stream for rail infrastructure investment in Virginia's history. The fund supports passenger and freight rail transportation improvements throughout Virginia, requiring matching funds from railroad companies.

We have also been debating the creation of an economic development zone along Virginia 460, while bringing that highway up to Interstate standards. This project would drive development along that corridor, provide drivers with a second east-west route to I-95, and pay for the road improvements with a toll.

Q: In the private sector, transportation and logistics has a growing presence in the C-level suite. To what extent does transportation have a voice within Virginia's executive branch?

A: Transportation and logistics historically has had a voice in Virginia government, and it is an important one. Two names come to

Virginia Governor Bob McDonnell

mind: Norfolk Southern's Vice President of Business Development Dr. Robert Martinez, who in 1994 took over as secretary of the Virginia Department of Transportation (VDOT); and current VDOT Secretary Sean T. Connaughton, who came to Virginia after serving as administrator of the U.S. Maritime Administration (MARAD).

Martinez pushed to amend transportation law to allow for privately funded roads. His focus was to build road projects without increasing taxes, while making it easier for private investors to put up money for road projects. Investors, in return, were allowed to make a profit on tolls they charged.

At MARAD, one of Connaughton's focus points was laying the foundation for a marine highway system. In Virginia, he has executed that plan by fostering development of the 64 Express barge service. This service connects the container cargo terminals in the Hampton Roads Harbor with the Port of Richmond.

As a result of that work, the 64 Express has removed thousands of truck trips from Interstates 64 and 95, thereby decreasing congestion, reducing emissions along that corridor, and adding new value to the Port of Richmond—which all but closed as a result of the recession and the loss of a key customer prior to Virginia Port Authority's involvement. Currently, that barge service operates twice weekly and will soon run three days a week.

Q: How does Virginia foster collaboration between private and public sectors with regard to legislation and business development?

A: The state's leadership tries to bring as many parties to the table as possible when the planning process begins. Unilateral action, we believe, is a thing of the past.

The Commonwealth is home to nearly one dozen Fortune 500 companies, a massive federal government presence, significant operations from both of the East's Class I railroads, and two direct gateways to the global market—Dulles International Airport and the Port of Virginia.

In this economic climate, we have to look at projects in their entirety, measure long-term economic benefits and returns on investment, and identify the upfront and prolonged costs.

Q: How is Virginia leveraging import and export trade, and transportation and logistics activity, to help reinvent rural parts of the state that have been negatively impacted by manufacturing and agriculture degradation?

A: Agriculture is still the state's largest industry, and the Port of Virginia provides farmers in Virginia (and the port's larger market area) a means by which they can move their products around the globe. Providing farmers with a conduit to world markets has been critical to their industry's stability. Still, agriculture is continually challenged, and it is our position that we can create or replace some jobs in rural areas by leveraging growth at the Port of Virginia.

Virginia's port, with its modern facilities, the deepest shipping channels on the U.S. East Coast, and a geographic position that puts it within one day's drive of two-thirds of the nation's population, is an asset without parallel. Moreover, it reaches all corners of the Commonwealth. Industries tied to cargo coming in and out of the Port of Virginia employ more than 345,000 people—one out of every nine resident jobs—according to a study conducted by the College of William and Mary.

We believe our port can serve as a bulwark against job loss in the state's rural areas, as well as those areas that have a large military population, which is traditionally transient and constantly shifting its force size.

Many jobs have been created in the past decade with the growth of 200-plus warehousing and distribution centers that have come to Virginia. In 2011, 29 companies—leasing or building a total of 7.8 million square feet—announced new operations in the state, and chose to locate here as a result of the Port of Virginia. Those announcements equate to a total investment of more than $700 million, and will create nearly 4,700 jobs.

Warehousing and distribution is a "clean" industry because there are no effluent, smokestacks, or dangerous byproducts of operation. Jobs are year-round, and range from forklift drivers on the floor to inventory, logistics, and supply chain managers who coordinate truck arrival and disbursement.

Additionally, when these industries are clustered in parks, then coupled with road, rail, and port access, they become selling points to lure like-minded businesses and users. The port, the state's positive business atmosphere, and an understanding of the stop-loss issue at the local level will combine to expand port-related jobs across the Commonwealth.

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Walker directed the DOT to reach out across modes to manufacturers and shippers, and organize a freight summit to share ideas and concerns.

"In fall 2011, we hosted our first Freight Summit in Appleton," says Krieser. "Shippers, manufacturers, growers, and parties across all modes witnessed Governor Walker signing the first nine bills that had passed the legislature."

One bill that passed—2011 Wisconsin Act 53—featured an overhaul of the state's restrictions on trucks transporting poles, pipes, and girders; rules that dated back to the earliest days of the motor carrier permitting process. Whenever a utility or contractor moved that type of freight through Wisconsin, the DOT required a permit for shipments in excess of 40 feet. The new bill replaced the existing law with a contemporary 65-foot-limit for a single vehicle without a permit, and 120 feet for a two-vehicle combination.

"Licensing and permitting systems are in place to regulate conduct and enforce reasonable restrictions to ensure the rights of other highway users," explains Krieser. "In this case, there was no reason to continue with the permits."

Similarly, 2011 Wisconsin Act 55, which relates to permits for overweight vehicles, takes advantage of a federal exemption for 90,000-pound loads (six axles) on interstate highways for sealed containers originating or terminating at a global destination. Shippers now benefit from extra weight allowances when moving freight through Wisconsin's ports or across the Canadian border.

Lawmakers also focused on facilitating seasonal and regulatory constraints that impact the agriculture and dairy industries—two foremost economic drivers in the state. Under Wisconsin law, farmers who remove crops from the field during fall harvest have a grace period to run 15 percent over typical maximum weight limits to take product to processing facilities. 2011 Wisconsin Act 52 extended the back end of that window from Nov. 30 to Dec. 31.

The impetus for many of these changes evolved as discussions among motor freight carriers, shippers, the DOT, and the Governor's office turned into working groups. Because industry is not necessarily in the business of following administrative decisions and rule changes, Krieser expects the now-annual Freight Summit to play a major role in bringing the public and private sectors together to share new ideas and concerns.

"We don't see Freight Friendly Wisconsin as an endpoint," notes Krieser. "These bills were low-hanging fruit, and they were out of sync with the way business is moving today. Our goal is to continually evaluate our regulations and recommend to the legislature changes that facilitate the flow of freight, while understanding the science behind road weights and infrastructure limitations."

WisDOT Keeps Shortlines on Track

In addition to legislative changes, the Wisconsin Department of Transportation (WisDOT) is also exploring ways to provide better services – from locating transload facilities to buying and renovating outdated rail track – to coordinate intermodal freight movement.

"Over the past several years, we have been actively acquiring rail lines that are important to manufacturers and mining operations, but have become financially impractical for shortline railroads," explains Steven Krieser, executive assistant, WisDOT. "We rehab those tracks, then lease them back to the rail operators."

It's a win-win situation for small railroads that don't have the capital resources to invest in and maintain infrastructure, and local manufacturing and mining interests that depend on rail access to remain viable.

A relatively new natural resource that is in hot demand is also adding to the growing need for rail services.

"Wisconsin's geology is favorable to the formation of frac sand, which is used in oil and mining processes," Krieser says. "We have enormous reserves here, so it's a growing industry. Frac sand is also very heavy per volume, so rail is the ideal way to transport large shipments."

Iowa: Giving Suppliers a Break

When legislation and supply chain meet in the news, it is often a matter of cause and effect—and it is not always positive. Michigan businesses learned this the hard way in 2007, when state legislators passed a six-percent sales tax on warehousing and logistics services. At the time, the state had the highest unemployment rate in the country. Wisdom eventually prevailed and the bill was repealed.

More recently, the Iowa House of Representatives' 83-14 vote in favor of HF 2471 in April 2012 turned heads—in a good way. The legislation, colloquially termed the "supply chain bill," allows certain companies to deduct earnings when calculating their state tax burdens. To qualify, businesses must employ at least 50 people at a facility in Iowa or demonstrate that at least 10 percent of total payroll is located in state; and sell at least 10 percent of their products to larger Iowa-based companies that export the majority of their products out of state. In effect, it is a tax break for suppliers.

"At nearly $20 billion per year, manufacturing is the largest segment of Iowa's gross domestic product," says John R. Gilliland, senior vice president, government relations, Iowa Association of Business and Industry. "Not only is Iowa home to a number of large anchor manufacturers, but smaller suppliers are visible across Iowa and across the country.

"There are some great examples of how an anchor manufacturer can draw in its supply chain, as agricultural producer Cargill has done in Eddyville, Iowa," he adds. "This legislation is designed to incent more suppliers to come to Iowa to be closer to their customers."

The crux of the issue is that Iowa has a high corporate tax exposure. Iowa's single-factor, non-unitary tax is based only on the percentage of total sales income within the state. So an Iowa manufacturer selling all its products outside the state would pay no Iowa corporate income tax.

"The problem is, many Iowa companies supply manufacturers, many of whom sell most—if not all—of their products in state," explains Mark Lofgren (R-Muscatine), Iowa state representative and sponsor of the bill. "Consequently, they have to pay very high corporate state income taxes."

This provides less incentive for smaller suppliers to locate closer to major customers such as John Deere and Cargill. It also prevents Iowa from attracting and growing cluster development, an increasingly important economic development strategy.

Cargill, which produces and markets food and agricultural products such as soybeans, is committed to serving Iowa farmers through two soy product plants in Cedar Rapids.

Governor Terry Branstad and the Iowa Economic Development Authority raised the issue, and Rep. Lofgren brought it home to the House with HF 2471.

"The bill's purpose is encouraging suppliers to locate in Iowa near anchor manufacturers," Lofgren explains. "This will help small companies; reduce lead time to manufacturers; lower costs to customers; assist local communities; and bring jobs to Iowa."

Lofgren acknowledges the bill isn't a silver-bullet solution, but sees it as one step toward creating a more accommodating environment for smaller businesses in Iowa.

While members of the Republican-controlled House voted overwhelmingly in favor of HF 2471, Lofgren is cautiously optimistic about its chances of passing the state Senate, where Democrats hold the majority. He doesn't believe they are as enthusiastic about the bill, and other competing economic development legislations—an employee stock ownership plan, for example—may take priority.

Still, a great deal of bi-partisan agreement in the House led to the lopsided vote, Lofgren says. He hopes this bill, and future efforts, set a precedent for how businesses perceive Iowa.

"HF 2471 is another way to capture the attention of prospective companies," Lofgren says. "It will get them to look at other areas where Iowa excels." ■

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INTERMODAL

MORE THAN ROADS & RAILS

Intermodal service excellence requires well-connected transportation infrastructure, best-of-breed logistics service providers, a skilled workforce, and affordable utilities.

Businesses strive to strike a balance between fickle consumer demand and compelling market forces. For the domestic transportation segment, rail intermodal services are vital to meeting shippers' needs.

"Domestic intermodal traffic will continue to increase," says Benjamin J. Hartford, a senior research analyst of transportation/logistics with financial services firm Robert W. Baird. "International traffic is more tied to import growth—and therefore more directly linked to consumer demand—while the domestic intermodal market's inherent growth is a result of converting truckloads from highway to intermodal rail."

Recent rail and intermodal investments facilitate more consistent and on-time service. "Investments by both rail and intermodal companies have been equally important in terms of expanding the market opportunities for domestic intermodal," Hartford notes.

"Intermodal freight services are the fastest growing segment of the rail business," says Holly Arthur, a spokesperson for the Association of American Railroads. "More than 140,000 miles comprise the freight railway system in North America, creating many growth opportunities."

TRANSPORTATION ACCESS

When siting a new manufacturing or distribution facility, many companies are willing to trade proximity to large cities and busy ports for access to rail transportation and highways. For example, a business serving the Chicago market might look to surrounding states with good intermodal connections.

"The Chicago area is unique because of the volume of traffic that flows through," says Jim Kramer, president of the Intermodal Association of Chicago. "But just as important for intermodal transportation is the location of rail facilities in relation to the interstate highway network and secondary truck roads. Access to multiple modes drives development in areas outside the metropolitan region.

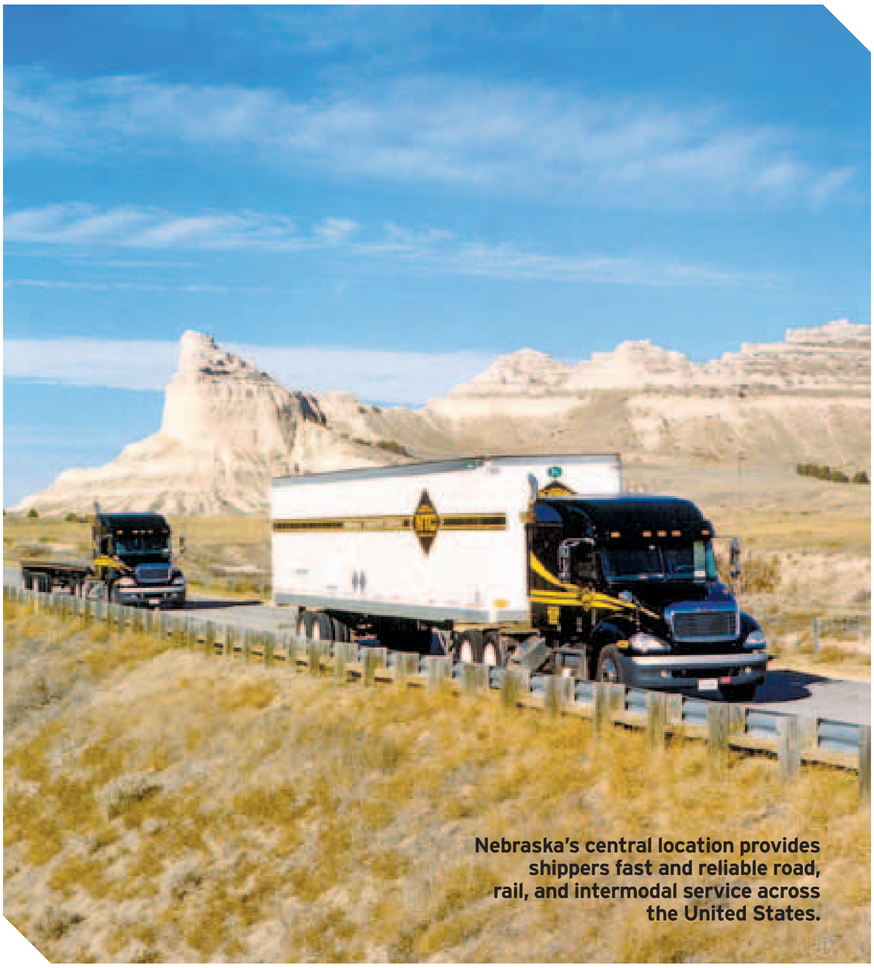
"In addition, companies need logistics services that complement their intermodal activity," he notes.

Some businesses seeking a Midwestern presence find that Indiana provides the access they need. "Rail, with or without an intermodal terminal, is enhanced by other transportation modes," says Harold Gutzwiller, director of economic development for Bloomington, Ind.-based electric utility Hoosier Energy. "That's why Indiana always fares well with transportation, distribution, and logistics companies."

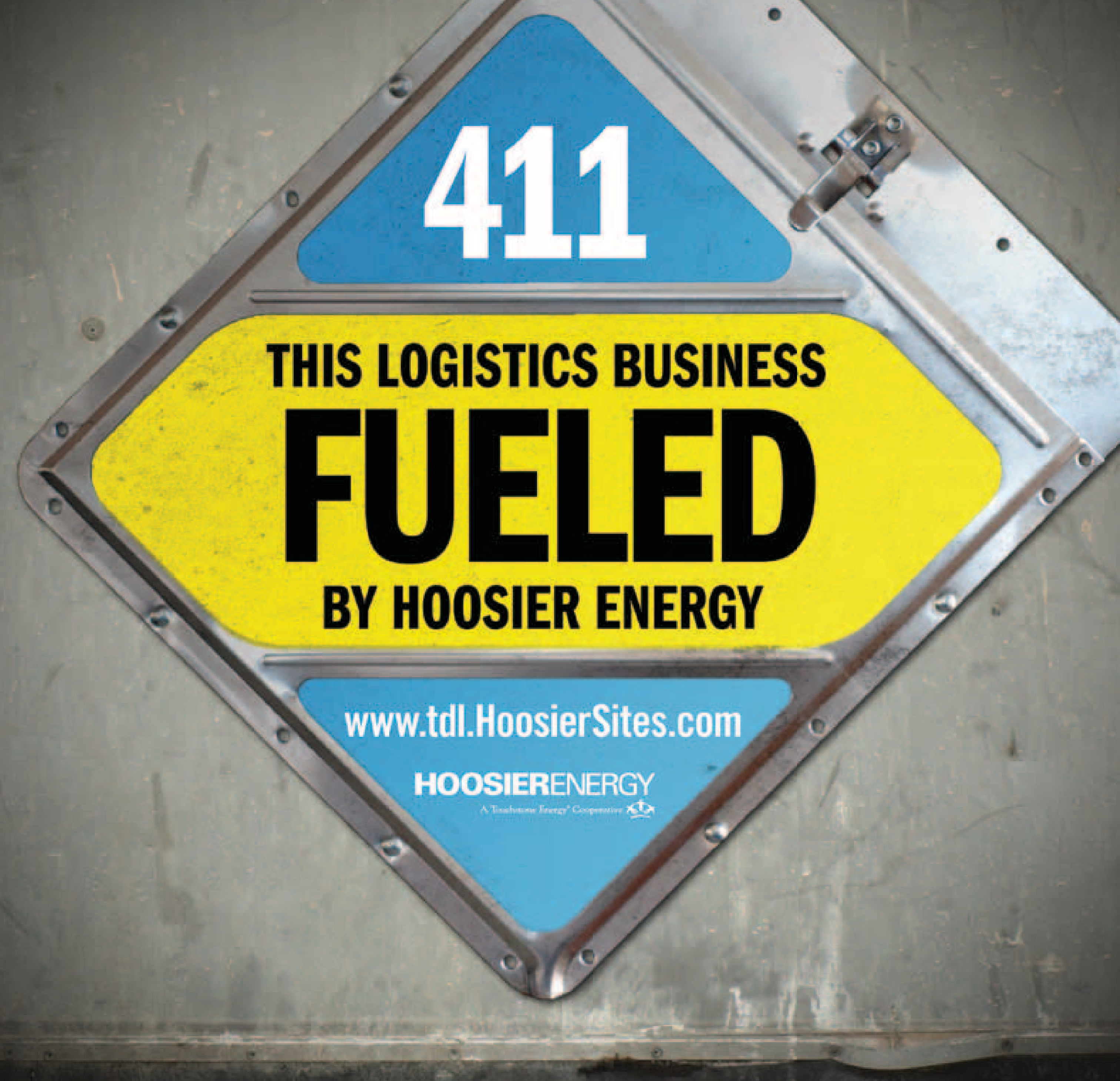
Hoosier Energy serves a region of Indiana that features two inland ports—Port of Indiana-Jeffersonville and Port of Indiana-Mount Vernon—as well as two international airports—Indianapolis International Airport and Louisville International Airport. All these facilities boast significant freight operations.

AT THE HEART OF INDUSTRY

For businesses serving the entire United States, locating in the center of the country may be the best strategy for reaching far-flung markets. Nebraska, for example, provides easy access to an extensive intermodal transportation network.



Nebraska's central location provides shippers fast and reliable road, rail, and intermodal service across the United States.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Brightening intermodal's future in Nebraska, BNSF will invest about $202 million in maintenance and rail capacity improvement and expansion projects in the state in 2012.

"Geographically, Nebraska is center stage to regional markets," says Ken Lemke, economist, Nebraska Public Power District (NPPD). "Interstate Highway 80, the most traveled east-west transcontinental route of the interstate highway system, offers 482 miles of quick access to every location in the nation. Through Nebraska's roadways, goods delivered by truck reach 26 percent of the U.S. population in just one day. Within two days, that percentage skyrockets to 91 percent."

The network of assistance available through professional organizations also serves Nebraska's logistics community well. One example is the Nebraska Trucking Association (NTA), the statewide trade association for commercial truck and bus operators, and affiliated businesses. It is a not-for-profit association governed by a board of directors.

"This organization delivers the essential knowledge, contacts, services, political representation, and partnerships that help its members deliver goods to Nebraska communities and throughout North America," says Larry Johnson, president, NTA. "More than 800 trucking companies and affiliated businesses hold NTA memberships."

Nebraska is home to several of the nation's leading truck transportation companies, including Adams Trucking, Crete Carrier Corporation, and Werner Enterprises. More than 13,500 trucking companies operate out of the state.

RAIL GETS ON BOARD

Rail services are also well-represented in Nebraska, where 10 freight railroads operate more than 3,200 miles of track.

"Nebraska's relationship with major Class 1 railroads is a vital strategic advantage for companies that locate in the state," says Lemke. "Union Pacific, headquartered in Omaha, and BNSF Railway Company are two key railroads that enable strategic supply chain delivery by way of direct, mid-continent routes.

"Because of these main rail centers, no major U.S. city is more than five days away from Nebraska by train," he notes.

The rail companies are betting heavily on Nebraska. BNSF recently announced plans to spend an estimated $202 million on maintenance and expansion projects in Nebraska in 2012. Last year, Union Pacific spent $224 million on capital projects in the state.

Nebraska's neighbor states also offer considerable logistics advantages. The already advantageous Kansas City area is set to take another giant leap forward in the logistics arena with the introduction of the I-35 Logistics Park in Olathe, Kansas.

"Kansas City is the country's absolute center geographically," says Dan Jensen, principal of Kessinger/Hunter & Co., the commercial real estate company introducing the new logistics park. "The area is well-situated, and all the major rail providers operate here. Shippers can reach 80 percent of the continental United States in two days by ground; in three days, they can almost cover North America."

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What can we do for you? From site selection to targeted recruiting to grant assistance and marketing, we've got all the tools and expertise you need to successfully develop your business. To help us serve you better, let us know more about your needs and areas of interest.

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ELECTRICITIES of NORTH CAROLINA, INC.
The energy behind public power

I-35 Logistics Park is being developed to leverage those advantages. Upon its completion in 2013, the park will include three state-of-the-art bulk distribution facilities encompassing nearly three million square feet.

The site, just one mile from a new I-35 interchange, capitalizes on Kansas City's already impressive rail intermodal credentials. KC SmartPort, the authority on logistics opportunities in the 18-county, bi-state Kansas City region, cites several key components that make the region an excellent hub for transportation and logistics operations.

The area is the largest rail center in the United States by tonnage, and the heart of a rail corridor spanning coast-to-coast across the United States and extending from Canada to Mexico. Kansas City offers more than 10,000 acres of Foreign Trade Zone space—more than any other U.S. city. It is located at the intersection of three of the nation's major interstate highways (I-35, I-70, I-29) and soon, a fourth, I-49.

The Kansas City International Airport moves more air cargo each year than any air center in a six-state region, and the area is located on the largest navigable inland waterway, the Missouri-Mississippi River system.

"The combination of water and rail is one of the most cost-effective ways to move product," Jensen notes. "I-35 Logistics Park's location is a real plus."

Logistics service providers in the Kansas City area help shippers take advantage of these modal opportunities.

"A combination of strengths make a great rail intermodal site," says Chad E. Ford, vice president for business development of Ford Storage & Moving, which operates logistics, dry van, and drayage services in the Kansas City and Omaha markets. With warehouses and terminals in both locations, the company offers more than 750,000 square feet of space.

"Kansas City has interstate and railway access to many strategically located distribution centers," Ford says.

SERVING THE SOUTHEAST

For multimodal access in the southeastern United States, businesses need look no further than North Carolina's Statesville region.

Located at the intersection of two of the nation's busiest interstate highways—I-40 and I-77—the area features over-the-road

Diverse land tracts and interstate access have prompted a number of industrial companies and manufacturers to relocate to North Carolina's Statesville region.

I-35 Logistics Park

155th & Old Highway 56 | Olathe, Kansas

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ABOUT THIS LOCATION

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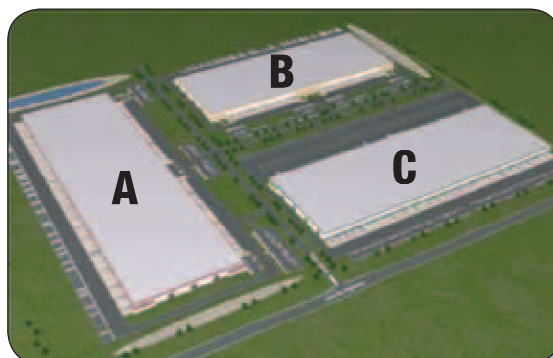

- ± 821,663 SF (divisible)
- 168 (9' x 10') dock-high doors; 2 (14' x 16') drive-in doors
- On-site Trailer Parking: 116 spaces provided (161 additional future spots)
- Ceiling Clearance: 32' to 36' clear
- Sprinkler Type: ESFR
- Foreign Trade Zone Eligible
- One and one-half mile from the new I-35 & 159th Street Interchange
- Thirteen miles from the UPS Lenexa facility
- Three miles from the FedEx Smartpost facility
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connectivity to major markets on the East Coast and beyond.

"That connectivity is enhanced by our industrial properties' proximity to the highway system," says Michael Smith, executive director of Statesville Regional Development. "Most local business parks are within four miles of an interstate exit."

Highways are vital to shippers in the Statesville region, but rail links are at the heart of the transportation network. "The area is serviced by Norfolk Southern and local shortline Alexander Railroad," Smith says. "With a network of rail lines and spurs covering the Statesville region, many of our available properties are rail-ready.

"Planned rail-access developments will provide strong rail connectivity in the region," he adds.

The final piece of North Carolina's intermodal puzzle, Statesville Regional Airport, offers a reinforced 7,006-foot runway with adjoining available property and potential through-the-fence access. Located less than one mile from I-40, Statesville Regional Airport is currently home to corporate aviation facilities for two Fortune 500 companies, as well as multiple NASCAR teams.

Help is readily available to ensure that businesses throughout the state make the most of North Carolina's offerings.

"Site selection professionals can order a detailed report on North Carolina sites that precisely match their specifications," says Brenda Daniels, economic development manager for ElectriCities of North Carolina Inc.

ElectriCities is a not-for-profit service organization representing more than 70 cities, towns, and universities that own electric-distribution systems. Using ElectriCities as an introduction to North Carolina, site selection managers have a turnkey information source. "They find all the information they need in one place," says Daniels. "The process is fast, easy, and confidential."

ElectriCities remains a partner through the entire site location process, helping companies with utility-related issues, arranging site visits, and facilitating contact with local, county, and state officials.

Important as they are, location and infrastructure are just two parts of the intermodal picture. Transportation access and top-notch facilities are useless without a qualified labor pool. That's one of Nebraska's greatest advantages.

"Nebraskans take pride in the quality of their work, and the workforce consists of productive, dependable, educated, and well-trained individuals who care about what they do," Lemke says. "This contributes to high productivity and success rates, and low absenteeism and turnover."

Nebraska maintains a four-percent unemployment rate, less than half of the current nationwide unemployment rate of 8.2 percent. Unemployment insurance and worker's compensation costs also are lower than the national average.

Indiana also provides employers a strong workforce. "Hoosiers are some of the most productive employees in the United States," notes Gutzwiller. "They are well-trained and well-educated, and they understand the need to work cooperatively.

"With a manufacturing and agriculture legacy, our employees expect to provide top-quality performance every day," he adds.

POWER PLAY

A skilled workforce needs tools at its disposal to do the job properly. Those tools often demand power.

Access to affordable power gives Nebraska yet another edge as an intermodal hub. NPPD, the state's largest electric utility, uses a diverse mix of generating facilities—such as nuclear, coal, gas, oil, hydro, and renewable energy—to meet the needs of its customers.

"In 2011, NPPD relied on non-carbon-emitting resources for more than 40 percent of its overall energy mix supplied to customers," Lemke notes. "Additionally, more than 5,000 miles of high-voltage transmission lines make up the NPPD electrical grid system, which delivers power reliably to approximately one million Nebraskans."

As a member of the Southwest Power Pool, NPPD has the advantage of selling its excess power into the regional marketplace. Additionally, Nebraska's low electric rates are a function of its unique status as the only completely public power state.

The availability, reliability, and affordability of public power also contribute to North Carolina's logistical advantages. It's no coincidence that some of the state's most dynamic growth has occurred in public power communities. Any power-intensive industry will find significant advantages in the region.

In North Carolina, ElectriCities works closely with companies as they seek the lowest possible electric rates. "Special rates are available for industrial customers," Daniels notes.

Indiana also offers access to low-cost utilities that can power domestic intermodal sites. Hoosier Energy is a generation and transmission cooperative providing wholesale electric power and services to 18 member distribution cooperatives in central and southern Indiana and southeastern Illinois. It operates coal, natural gas, and renewable energy power plants, and delivers power through a 1,500-mile transmission network.

"Through our member/owner distribution cooperatives, Hoosier Energy is able to provide reliable, low-cost power via efficiently operated facilities," says Gutzwiller. "Users receive the lowest-cost product because Hoosier Energy, as a cooperative, operates just to cover costs, not to earn a profit for investors."

Transportation infrastructure, experienced transportation and logistics service providers, low-cost utilities, and a skilled workforce all play vital roles in creating ideal domestic intermodal sites. As shippers continue converting long truck hauls to intermodal, these hubs play a dynamic role in the country's supply chain. ■

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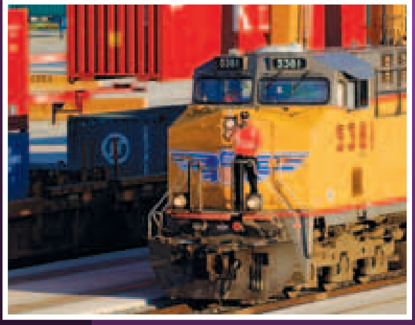


At the Crossroads of Opportunity

San Antonio

Centralized location and a fast-growing economy are luring U.S. and international businesses to discover San Antonio's supply chain benefits.

Out of endings come new beginnings. Just ask the people of San Antonio, Texas. They lived this adage firsthand when the Base Closure and Realignment Commission closed the city's Kelly Air Force Base 10 years ago.

The move had significant impact not only on the 15,000 civil servants who worked at Kelly, but on the greater community as well. San Antonio business and government organizations decided to turn the closure from a negative to a positive.

"We evaluated the situation with the goal of establishing a new center that could absorb many of the employees who were displaced, while also creating growth for San Antonio," says Reynaldo Cano, economic development manager for the City of San Antonio. Cano leads the city's efforts to leverage grants, tax abatements, training dollars, and non-traditional incentives to create packages that will attract new companies to San Antonio.

The answer to recovering from the base closure came in a concerted effort to exploit the city's location and resources. Since then, San Antonio has attracted a diverse range of new industries to its equidistant location between U.S. coasts, and its favorable logistics attributes, while still retaining its aerospace past.

Today, San Antonio is growing, thanks to the base's metamorphosis into industrial site Port San Antonio, as well as a host of other efforts, from a community visioning project to rigorous international recruitment efforts and a dedicated approach to workforce development.

In December 2011, the Milken Institute ranked San Antonio as the nation's best-performing city on its annual list of 200 metropolitan areas – up from 14th the prior year – and the city has been listed among the United States' most recession-proof cities by *The Atlantic*, *Money*, and other publications. San Antonio is the seventh-largest U.S. city by population, making it a formidable market.

For business logistics professionals, San Antonio offers not only a key highway crossroad, but a crossrail as well. Interstate 10, which runs east to west and stretches from Los Angeles to Florida, intersects in the city with north-south-running Interstate 35, which starts at the border in Laredo, Texas, and continues all the way to Canada, tracing the NAFTA corridor. The rail system also boasts both east-west and north-south rails. That means San Antonio serves as a vital connection point joining California coastal ports, the 600 Mexican maquiladoras dotting the border, the many Texas cities within 250 miles of San Antonio, and a long list of U.S. East Coast, Midwest, and Southeastern metropolitan areas.

Five major seaports are accessible within a three-day drive: Houston, Corpus Christi, Manzanillo, Lázaro Cárdenas, and Veracruz. San Antonio International Airport offers air cargo capabilities and a federal inspection station, as well as warehousing and distribution services.

Until 2008, rail connectivity in San Antonio was not ideal. The two north-south and east-west rail systems were not accessible from a single intermodal facility. Instead, Union Pacific operated its intermodal services out of two inner-city yards, requiring 80,000 semi trucks to pick up or drop off containers each year. Trains often had to bypass San Antonio and deliver containers to Houston; trucks then transported those shipments back to the San Antonio area.

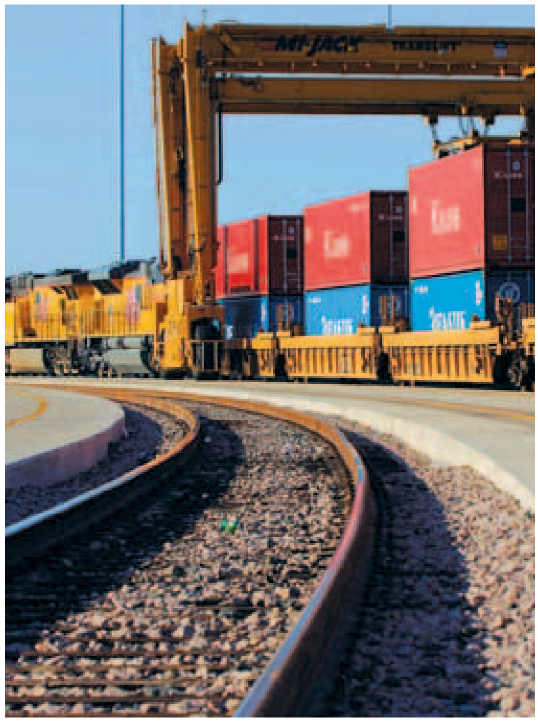
San Antonio is the seventh-largest city in the United States, and the second-largest within the state of Texas, with a population of approximately 1.3 million. It is also home to five Fortune 500 companies.

In 2008, Union Pacific opened a new $115-million, state-of-the-art San Antonio Intermodal Terminal accessible to both north-south and east-west rails, as well as Interstates 35 and 410. The 350-acre facil-

ity offers three ramp tracks, seven support tracks, and two receiving/departing tracks, and is capable of processing about 250,000 containers per year.

Adjacent to the railyard is a 300- to 400-acre parcel for customer facilities such as light manufacturing and retail distribution centers, currently about half occupied. Domestic shipments are typically retail, food and housing materials, while international freight commonly includes electronics, plastics, and auto parts.

Dell and Toyota are major customers for Union Pacific in the San Antonio market. Toyota broke ground on a massive pickup truck manufacturing facility in San Antonio in 2003, attracting many parts suppliers as well. San Antonio is part of a Texas-Mexico Automotive SuperCluster that promotes the attributes of the area to automotive manufacturers and suppliers.



Union Pacific opened its $115-million San Antonio Intermodal Terminal in 2008, providing efficient and cost-effective transportation to the south Texas region.

"We've created a distribution point for both inbound and outbound freight to a large part of the country that previously had limited truck-competitive rail product service," says John Kaiser, vice president and general manager of intermodal at Union Pacific.

The move attracted customers that had never used rail before. "It gives this market efficient, cost-effective transportation and logistics options," he says.

PORT SAN ANTONIO

Another key to the city's resurgence is Port San Antonio, a master-planned, 1,900-acre inland port offering a massive aerospace, industrial complex, and international logistics platform on the grounds of the former Kelly Air Force Base. The port lies entirely within a Free Trade Zone (FTZ), and provides access to the Kelly Field industrial airport; rail service via two Class I railroads, including Union Pacific; and quick transit time to Interstate Highways 10, 35, and 37.

Port San Antonio's 7.7 million square feet of industrial space is currently occupied by leading global aerospace companies that can take advantage of the region's longest runway to maintain, repair, and overhaul many of the world's largest aircraft models. Other tenants build, repair, and distribute aircraft and their components. Air Force activity has since resurged at Port San Antonio; in addition to the adjacent Lockland Air Force Base, the National Guard also has facilities there.

The port's East Kelly Railport has grown consistently. Initial third-party logistics (3PL) services at the Railport included warehousing, distribution, and transloading bulk and breakbulk, principally for the region's construction, manufacturing, and consumer products markets. The Railport has been a strategic central location from which to support Eagle Ford Shale, a large fracking project in southwest Texas.

The port offers a range of services to facilitate commerce at the site. In addition to FTZ and Customs activities, an in-house team can deliver build-to-suit facilities to meet tenants' specialized needs. The port's inventory system provides shippers delivery information, and accurate release data to the connecting railroads.

Two road projects within the port promise to improve connectivity between the Railport and area highways, and enable access to 150 acres for additional air-served facilities.

"With the aerospace industry's significant growth in our region, and with Port San Antonio supporting most of the recent expansions, this land is very important to the industry's future," says Bruce Miller, president and CEO of Port San Antonio. "All our leasable aircraft maintenance and manufacturing space is currently occupied."

THE INTERNATIONAL CONNECTION

More than 50 percent of the total goods flowing between the United States and Mexico travel through San Antonio before reaching their final destination, and volume is growing. Since building a plant in San Antonio, for example, Toyota has more than doubled the percentage of parts it sources from Mexico. But Mexico is also growing as a consumer market, so products also move south from San Antonio through Laredo.

"San Antonio has a natural connection to Mexico because of our economic and cultural ties," says Mario Hernandez, president of the Economic Development Foundation, a private, nonprofit organization that assists businesses and industry relocating or expanding into the San Antonio area.

"Laredo is the primary port for moving Mexican product into and out of the United States," he adds, a feature that attracts both domestic and global companies to the area.

Port San Antonio's foreign trade zone allows customers to eliminate or forego import duties for certain goods while at the port facility. For example, busi-

EVERGREEN
CHINA SHIPPING

nesses can bring in components from abroad, assemble them in the FTZ, then export them without paying import duties, provided the goods never enter the U.S. market. Similarly, the duties can be deferred if goods maintained in an FTZ warehouse are only withdrawn from the zone and distributed around the country incrementally – the duty is due only when the product enters the U.S. marketplace.

"That's an important attribute for manufacturers or logistics providers," says Cano. "The FTZ helped attract good tenants to the port."

The FTZ is administered by the Free Trade Alliance (FTA), which was formed in San Antonio after NAFTA was signed to develop the city as a multimodal and competitive international trade center. The FTA works to create local jobs, attract foreign investment, expand exports, and educate college students how to do business globally when they join the workforce.

Among its programs is the International Business Development Center, an accelerator program that provides consulting, office space, and local business contacts to foreign companies. It has served 160 firms in the past 12 years.

All the positive press San Antonio has been getting helps the FTA do its job, says Kyle Burns, president and CEO of the Free Trade Alliance. "The diverse economy makes it easier to sell," he notes.

Global companies are often drawn to San Antonio because of its proximity to their U.S. customers. For example, a Chinese medical, industrial, and instrumentation contractor located a plant in the area "because their customers were in the United States, and locating here allowed them to deliver their products more quickly and efficiently," says Reynaldo "Rey" Chavez, president and CEO of the San Antonio Manufacturers Association (SAMA), which promotes and supports manufacturing in the San Antonio area. Several Chinese automotive suppliers are exploring San Antonio as a favorable location in the Texas-Mexico Automotive Super Cluster.

A TEAM APPROACH TO GROWTH

The San Antonio community takes a team approach to attracting new industry. In addition to the Economic Development Department, government agencies work with Port San Antonio, the Economic Development Foundation, SAMA, FTA, and the Chamber of Commerce to promote the city and help employees relocate to the area. San Antonio maintains offices in diverse locations such as Mexico and Guangzhou, China, to promote the benefits of doing business in the region.

The city already hosts a broad range of industries, but a wide-ranging, community-based visioning process called SA2020 resulted in a bold set of goals for its future growth, including a special focus on establishing a leadership position in four industries: aerospace, cyber-security, bio-science and healthcare, and renewable energy. The program has already attracted new businesses.

"Distribution and logistics is also one of the Economic Development Foundation's targets," says Hernandez. "We see tremendous value in attracting the distribution sector to add to our supply chain strength."

One industry having a dramatic impact on San Antonio's economy is oil and gas. Eagle Ford Shale is a fracking project extracting natural gas from shale in southwest Texas, in a massive area stretching from Dallas-Ft. Worth to Mexico. San Antonio is the closest metro area to the project, and, as a result, has become the desired location for all of the corporate, professional, and distribution activities related to it, such as headquarters for large contractors, engineering, geology and IT firms, and equipment companies. Eagle Ford Shale contractors brought in at least 2,900 jobs in 2011.

LOW COST OF DOING BUSINESS

When it comes to attracting new business, San Antonio tends to compete against its Texas neighbors – Dallas-Ft. Worth, Houston, and Austin – all business-friendly and infrastructure-rich. One area where San Antonio prevails is in wage rates: heavy equipment and tractor-trailer drivers earn an average $15.74 per hour in San Antonio, compared with $18.15 in Houston and $19.52 in Dallas, according to the U.S. Bureau of Labor Statistics. Industrial truck and tractor operators (including forklift operators) earn $13.41, and laborers and freight stock and material movers (hand) earn an average $11.29, also lower than other Texas cities.

There are about 52 million square feet of industrial space in the San Antonio area, which lease for an average $4.25 a square foot. Because the city owns the electric and water systems, rates tend to be competitive.

"Texas is a very business-friendly state," says SAMA's Chavez. "There are more than 880,000 manufacturing jobs in the state,

From School To Career

Complementing the wide range of educational and vocational institutions in the area, Port San Antonio houses Alamo Colleges' St. Philip's Southwest Campus and the Alamo Area Aerospace Academy, a high school-to-career program supported by Alamo Colleges.

In this nationally recognized model program, high school students undertake a curriculum customized to the needs of local industries. Focus areas include aerospace, IT, nursing, and advanced technology manufacturing.

"Manufacturers can hire the students attending the academy for a paid internship between their junior and senior years," explains Reynaldo "Rey" Chavez, president and CEO of the San Antonio Manufacturers Association. "Students earn certifications in safety and quality assurance, which are great credentials to have if they pursue a career in manufacturing."

> "San Antonio has attracted a diverse range of new industries while still retaining its aerospace past."

and last year Texas was the top exporter of manufactured goods in the nation."

The state fared better in the recession than other parts of the United States. "San Antonio offers a good ecosystem for new manufacturers," says Cano. "We have focused on leveraging and extending our attributes via global links." One such link is an Export Leader's Program offering training and coaching that has helped 120 local companies expand into other countries.

A GREAT PLACE TO LIVE

Executives choosing San Antonio as a business location may also have to live there – and locals say that's far from a sacrifice. San Antonians boast that their city is "the place where the sunshine spends the winter," with an annual average temperature of 68.6 degrees. The cost of living is about seven percent below the national average, according to the ACCRA Cost of Living Index. In March 2012, the average price for a single-family home was $185,561.

"In addition to its business benefits, San Antonio is welcoming to new residents, and is becoming extremely diverse," says Burns.

Its quality of life makes San Antonio a big draw for well-educated workers, and the community makes a concerted effort to ensure the workforce will support its growth plans. "Many of our businesses are focused on educating the next generation of manufacturers through local workforce development programs," says Chavez. Incentive programs provide training dollars to meet manufacturers' specific needs.

The Brookings Institute identified San Antonio as one of only four cities – the others were also in Texas – to regain all jobs lost during the recession. Unemployment was 8.1 percent in fall 2011, below the national average. San Antonio is home to a bilingual and bicultural workforce that is growing at one to two percent each year.

San Antonio is enjoying a heyday as an increasing number of U.S. and international businesses recognize the inherent advantages of its location and infrastructure.

"We have a good business climate, reasonable regulations, strong infrastructure, and competitive costs," says EDF's Hernandez. "These are corporate America's top requirements – and we've got them all in San Antonio." ■

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Created from the former Kelly Air Force Base, Port San Antonio is approximately equidistant from the U.S. East and West coasts, and at the center of the NAFTA Corridor between Mexico and Canada. The entire development enjoys designation as a Foreign Trade Zone.

I.T. Toolkit

by Marty Weil

A New Recipe for Effective Warehouse Management

Hungry to improve order fulfillment, Tastefully Simple orders a highly customizable WMS and savors a 20-percent improvement in pick rates.

Tastefully Simple makes it easy for home cooks to whip up a batch of coconut macaroon bars or a dish of crowd-pleasing spinach dip. But after several years of rapid growth, fulfilling customer orders began to leave a bad taste in the company's mouth, due to an outdated warehouse management system (WMS).

Alexandria, Minn.-based Tastefully Simple sells its packaged sauces, mixes, and gourmet food products at in-home parties where guests sample the items and receive serving suggestions, recipes, and entertaining tips. Since 1995, the company has grown from a modest start-up to a $100-million-plus enterprise with more than 23,000 consultants nationwide.

"We are a direct-sales company, the Avon of food," says Scott Fearing, senior advisor, warehouse systems at Tastefully Simple. To keep up with the company's strong growth, Fearing and his colleagues had to whip up a new recipe for effective warehouse management.

Adapting to Dynamic Needs

As Tastefully Simple expanded its product offerings over the years, it became increasingly constrained by its legacy WMS. Because the system needed extensive custom programming, the company had to work within its original framework, which hindered agility.

"The system's limitations were problematic," says Fearing. "Our dynamic business model changed several times over the years, which had a huge impact on our order profile.

"We needed a flexible system that allowed for easy configuration changes," he adds. "Configurations in our old WMS took months of expensive custom programming. We wanted to make changes faster and more cost effectively."

The company also sought a solution that would scale with its growing business. "We didn't want to hit a ceiling imposed by the functionality of our old system," says Fearing.

Tastefully Simple reviewed what it considered to be the top 10 WMS providers. After narrowing the list to four finalists, it held preliminary meetings to articulate its criteria for a new warehouse management system. The company sent the finalists a comprehensive request for proposal that defined its high-level business requirements. Three of the four finalists continued; the fourth dropped out due to shortcomings in its lot-tracking capability.

"Each vendor presented an on-site demonstration," says Fearing. A team of 10 employees from across the company were involved in the evaluation. Ultimately, they chose to work with Reston, Va.-based Softeon Inc.

"The team found the Softeon system's navigation best met our needs," says Fearing. "It was very logical, and the user interfaces made perfect business sense.

"Further, the system allowed simple configurations that let us change and enhance our processes with minimal testing and no impact to our business model," he adds.

From a technology perspective, a supply chain execution product suite is at the heart of Softeon's platform. *Softeon WMS* is the core module, consisting of plug-in elements such as order and transportation management, assembly, and kitting. The solution is fully service-oriented architecture based—its high-level software components include Web services that are event- or process-driven, with non-proprietary, component-based architecture.

"Tastefully Simple needed the ability to extend functionality easily to integrate with its back-end systems, as well as with the materials handling equipment on the floor," says Dinesh Dongre, vice president, Softeon. "Easy and effective integration was essential, as were demanding performance criteria and the ability to meet high-availability requirements."

Another requirement was leveraging Tastefully Simple's existing infrastructure. Because the company uses SQL Server across the enterprise, it was adopted for the back-end layer. Softeon developed a logic application layer in between the WMS and back-end for business logic, and the platform's powerful rules engine enabled quick reconfiguration to optimize processes or adopt new requirements.

The Implementation Process

Tastefully Simple signed its agreement with Softeon the first week of March 2011; the implementation went live Sept. 15, 2011.

"We had developed business rules and requirements, which we forwarded to Softeon," says Fearing. "Within one month, we were on-site to see the basic start of our system. Softeon had the system configured, and we had done a good deal of data migration. That was our first review."

Then components were migrated to the Tastefully Simple site and environment, and Softeon continued to configure the application to meet the requirements.

Tastefully Simple, a distributor of easy-to-prepare food, uses Softeon's warehouse management system to control distribution from product receipt through order fulfillment.

"Fortunately, we had an extensive test environment, with numerous people trying out the software," notes Fearing. "By June, we were looking at specifics and had a dedicated testing team on our site. Some of our database personnel were also involved in building the interfaces and doing configurations. In August, after intensive testing, we were 90 percent or more complete. On Sept. 15, we launched the system. It took one day to do the final data migration, and we were shipping orders the next day."

Another impressive note: the system has not gone down once since its launch in September 2011. "It has performed every day since we went live," says Fearing.

"Obviously, we spent time testing and perfecting processes during the first weeks after implementation," he adds. "But now, the system alerts us to events, such as order upload errors and download issues, we never saw with the old system. It also provides better visibility into back-end systems."

Tastefully Simple made more configuration changes in the first two months using the new system than it did during the previous six years of running its former WMS, according to Fearing.

"We gave the system's design our best shot," he says. "Most of our requirements stemmed from how we previously ran the business. As we learned about the system's features, we made simple configuration changes to speed processes and resolve problems more efficiently."

Profile in Productivity

Tastefully Simple has many different order profiles. With the old system, the company had to force those profiles through the same process to one pick area that did everything. With the new system, it can filter orders by SKU, size, queue, weight, and other characteristics, and it has developed additional pick areas to handle very specific order types.

"This approach has driven efficiency way up," says Fearing. Efficiency and productivity gains are both significant, as Tastefully Simple can now tailor its environment to each order.

One of Tastefully Simple's major challenges had been fourth-quarter sales. Holiday sales require lots of gift building—and special kitting.

"Softeon helped us create a special odd-sized pick area. For the first time, we are able to separate items from an order for fulfillment, then have the system marry up the data at the end of the process," says Fearing. "This was an issue we wrestled with for years; with Softeon, the solution was part of our basic system."

Dishing Up Benefits

With the new system, Tastefully Simple can handle a higher percentage of work with a given headcount. "We have always contracted out work during busy periods; now we're able to do more work with our team members," Fearing notes.

Tastefully Simple measures productivity by picks-per-hour, and that metric has continued to rise steadily since the new system went live. "Picking throughput is improving, as is some soft activity that we typically don't measure," says Fearing. "With the flexibility that we have setting up our production lines, we've seen a 30-percent increase in our picks-per-hour metric.

"We are also exploring the new flexibility options to our main line conveyor pick area, and we see the potential for a 15- to 20-percent improvement to our picks per hour rate as well," he continues. "The receiving process is more visible. We've been able to develop more advanced putaway rules. Our organization is cleaner and more logical."

The keys to success for any implementation include understanding what you are looking for, your pain points, and what your business actually does. "A major reason implementations fail is not including change management as part of the core implementation process," says Fearing. "Tastefully Simple's team collaboration throughout the process was critical to ensuring the system was adopted much earlier than day one of going live."

Duties were clearly segregated during implementation. The Softeon team focused on meeting configuration stability and boundary conditions; the Tastefully Simple team focused on testing core business processes. This helped ensure that Softeon addressed the factors that made a difference to the company's daily operations. The iterative nature of system development, part of the vendors' methodology, also supported this process.

Implementation occurred in three phases. The early phase of testing by Tastefully Simple focused on the receiving side of the system: receiving purchase orders from its backend system, entering them into the WMS, and reconciling inventories.

The next focus was on ordering. How would the system receive order profiles? What different order profiles needed to be considered? Softeon started with high-volume order profiles, then worked through to the more complex, irregular ones.

Finally, the team moved to performance. Because of the automation requirements of picking, packing, and fulfilling orders, they paid particular attention to this element.

"We focused on what was needed to achieve high performance, whether it was RF equipment or tying into conveyor processes," says Dongre. "All the stress and performance testing was in the final stage. We leverage a standard methodology that identifies risks and ensures user adoption as early in the development cycle as possible.

"Tastefully Simple had solid processes and excellent organization, as well as a strong project management group," he continues. "This collaboration—the clarity of who was responsible for what, and everyone taking ownership—was a big part of being able to ship the day after going live."

A Little Closing Magic

Fearing emphasizes the importance of the working relationship between vendor and customer. "Some companies that need a WMS solution may hire a provider and say, 'Go into our warehouse and set it up.' Then they are stuck with what they get," he says.

"The Softeon/Tastefully Simple partnership was built on two competent teams sharing a goal and planning relentlessly to hit it," he adds. "That was the magic solution for us." ■

WEB_CITE CITY

www.inboundlogistics.com/web_cite

IN THIS SECTION:
3PLs

3PLs

GENCO ATC • www.genco.com

GENCO ATC provides third-party logistics for manufacturers, retailers, and U.S. government agencies. The company's supply chain solutions deliver initial and ongoing value by combining supply chain technology, industry-best experience, and lean Six Sigma philosophy into solutions that generate savings for clients.

LEGACY Supply Chain Services • www.legacyscs.com

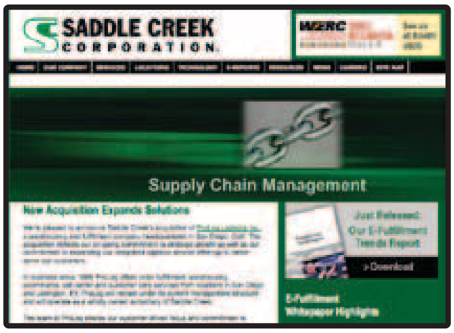
LEGACY Supply Chain Services, formerly TMSi Logistics, is a fully integrated supply chain and logistics provider that reduces costs, improves service, and creates a performance-driven culture that empowers employees to continuously find ways to improve. LEGACY has enhanced its service offering, achieved a greater network of resources, and expanded its warehousing and transportation capabilities on a national and global level to better serve customers.

RMX Global Logistics • www.rmxglobal.com

Your Single Source Logistics Provider...Customer-Focused by Design. At RMX Global Logistics, we're here to find logistics solutions for you 24 hours a day, seven days a week. Our state-of-the-art systems manage more than 150,000 moves each year. That means we have the strength and capacity to meet your most demanding needs, along with the flexibility to customize operations to your unique requirements. For a partner with in-depth understanding of supply chain management and an international logistics network, look to RMX Global Logistics...The Logistical Choice.

Saddle Creek Corporation • www.saddlecrk.com

Saddle Creek Corp. is a nationwide third-party logistics company integrating warehousing, transportation, packaging, and fulfillment services to provide comprehensive supply chain solutions. Our turnkey logistics solutions can help you increase efficiency, streamline your business, and better manage costs.



IN THIS SECTION:
Air/Expedited • Economic Development

AIR/EXPEDITED

Alaska Air Cargo • www.alaskacargo.com

Alaska Air Cargo provides reliable air cargo services to meet your shipping needs. Whether it be small packages, full ULD shipments, or chartered freighter service, Alaska Air Cargo offers a variety of options, including GoldStreak® Package Express, a next-available-flight service for items up to 100 pounds; Priority Air Freight for time-sensitive shipments that are larger than GoldStreak and need to be at a destination by a specific time; and Animal Express, a priority express service that ensures animals a safe and comfortable journey.

ECONOMIC DEVELOPMENT

Columbus Region • www.columbusregion.com/logistics

The Columbus Region-Columbus Logistics Council focuses on the growth of the region's industry in its eight counties of the broader Columbus 2020! growth strategy. The Columbus Region is your channel to the global marketplace. Through truck, rail, air, and port, the Columbus Region logistics infrastructure gets your freight where it needs to be, when it needs to be there. For more information, contact 614-225-6903.

Eagle Pass, Texas • www.eaglepasstx.us

Eagle Pass, Texas' mission is to be known as the premier international crossing. That means providing a safe, efficient, and cost-effective toll fare for international travelers and positively impacting trade and tourism locally, regionally, and internationally. Eagle Pass, and its sister city Piedras Negras, Coahila, enjoy the convenience and ease of international travel and commerce provided by three border-crossing points, two of which accommodate vehicular traffic and one that is devoted exclusively to commercial truck traffic. Plus, Eagle Pass has one of the very few international border-crossing points for railroad traffic.

LaSalle County EDC • www.80at39.com

Located at the interchange of Interstate 80 (East Coast to West Coast) and Interstate 39 (connecting link of interstate access from Winnipeg, Canada, to the Gulf of Mexico) in Northcentral Illinois approximately 90 miles southwest of Chicago, along the Illinois River, the area is a prime location for expanding businesses.

WEB_CITE CITY

www.inboundlogistics.com/web_cite

IN THIS SECTION:

Economic Development – Real Estate

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, 800-282-6773 x5541, e-mail econdev@nppd.com, or visit the Web site.

GLOBAL TRADE

Visual Compliance • www.ecustoms.com

Our solutions and services span the spectrum of trade compliance: import documentation and ABI submissions (ABI certified and ACH capable), NAFTA certificates, export documentation (AES certified), Denied Party Screening, DDTC/BIS Export License applications/management, tariff classifications and new initiatives such as ACE (Automated Commercial Environment), and ACI (Advance Commercial Information) eManifest programs for highway carriers into the United States and Canada, respectively.

LOGISTICS IT

Logistics Management Solutions (LMS) • www.lmslogistics.com

Logistics Management Solutions (LMS) offers TOTAL, a Web-enabled TMS that significantly reduces overall transportation costs, can be implemented – and producing results – within 90 days, offers a low-cost point of entry, and easily integrates into existing ERP systems. Many of our clients, including BASF and Monsanto, are using TOTAL to significantly cut their transportation costs. Contact us: 1-800-355-2153.

REAL ESTATE

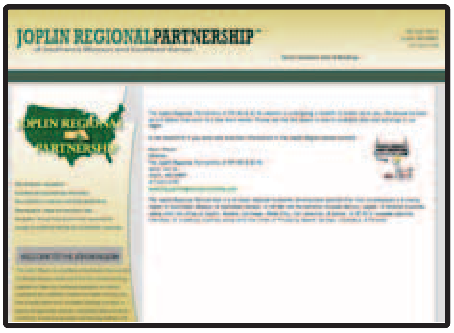
Watson Land Company • www.watsonlandcompany.com

Watson Land Company is a developer, owner, and manager of industrial properties throughout southern California. With a legacy spanning more than two centuries, Watson's dedication to customers is based on delivering functional, high-quality buildings within masterplanned centers, coupled with unmatched customer service. Watson Land Company's long-standing tradition of integrity, innovation, and fiscal responsibility has made it one of the region's most respected names in commercial real estate, and one of the largest industrial developers in the nation.

IN THIS SECTION:

Site Selection – Trucking

SITE SELECTION



Joplin Regional Partnership • www.joplinregionalpartnership.com

At the Joplin Regional Partnership of Southwest Missouri and Southeast Kansas, you'll find five counties working to provide you with a central U.S. location for a manufacturing, distribution, or transportation hub. The Joplin Regional Partnership region's close proximity to Walmart headquarters makes this choice ideal, especially for both manufacturing and distribution. Three Class I railroads and two short-haul railroads are also important parts of the transportation network.

TMS

RateLinx • www.ratelinx.com

RateLinx provides transportation management solutions, TMS technology, and freight payment and auditing for companies for all modes, as well as providing cutting-edge Vendor Compliance technology and methodologies for companies with vendor compliance programs and the vendors that utilize them. RateLinx manages and/or services freight in the billions of dollars for thousands of shippers both domestically and internationally, and is recognized as a leading manufacturer of integrated logistics software for small parcel, LTL, truckload, ocean, air, and expedited shipping. For more information, visit our Web site or contact us at sales@ratelinx.com.

Transwide • www.transwide.com

Transwide offers a complete range of TMS solutions for both shippers and carriers. Transwide TMS for Shippers is a modular, on-demand (SaaS) collaboration platform that enables partners in a logistics network to increase transportation performance through optimized planning, execution, visibility, and cost management. With 500+ customers (80,000+ users) in 72 countries across four continents, the Transwide solution suite enables shippers to source, plan, execute, settle, and analyze their transportation with maximum cost efficiency.

TRUCKING

ABF Freight System Inc. • www.abf.com

ABF has never had more to offer our customers than we do today: Global supply chain services providing both FCL & LCL solutions; warehousing with over 80 warehouse locations; a Dual-System® Network providing regional and national LTL service; truckload and intermodal; expedited and time-specific services; white-glove inside delivery. All of these services are linked by one platform, providing seamless visibility and world-class customer service. How can ABF help you? Call 877-ABF-0000, visit abf.com, or follow us on Facebook and Twitter.

WAREHOUSING

ADS Logistic Services (ADS) • www.adslp.com

ADS is an award-winning, full-service 3PL provider offering public and contract warehousing, distribution, and fulfillment services designed to move your product with maximum speed, accuracy, and cost efficiency. ADS proudly received *Inbound Logistics*' prestigious Top 100 3PL Providers award for many years. With more than 15 years of experience, ADS has the cutting-edge technology, extreme cost containment strategies, and high level of expertise required to solve any logistics challenge. Visit www.adslp.com or contact Bruce Mantz at sales@adslp.com.

ClearSpan Fabric Structures • www.clearspan.com/ADIL

ClearSpan Fabric Structures provides energy-efficient, economical structures for a variety of warehousing, manufacturing, and equipment storage needs. State-of-the-art ClearSpan Hercules Truss Arch Buildings feature exceptional height, and wide-open spaces with ample clearance for access and ease of movement. Rip-stop polyethylene covers let natural light shine through, eliminating the need for daytime artificial lighting and lowering energy costs. Constructed in the USA from the highest quality steel and fabric, these buildings can be built to any length and up to 300 feet wide. For more information, visit www.ClearSpan.com/ADIL or call 1.866.643.1010 to speak with a ClearSpan specialist.

Hermann Services • www.hermanntds.com

Our commitment, years of experience, and excellent customer relations are what set us apart from other industry providers. Our fourth generation owned-and-operated family business is founded on a tradition of exceptional customer service. We take great pride in continuing to build long-lasting customer relationships, and maintaining positive name recognition. At Hermann, you get the personal touch you deserve from a professional team that is committed to meeting your warehouse and logistics needs.

Jacobson Companies • www.jacobsonco.com

Jacobson Companies is a leading third-party logistics company providing end-to-end supply chain solutions that include warehousing and distribution, contract packaging and manufacturing, freight management, customs brokerage, and international ocean and airfreight forwarding. Jacobson can offer expertise in a wide range of industry verticals including food and beverage, consumer packaged goods, chemicals, healthcare/life sciences, durable goods, consumer electronics, retail, and industrial/automotive. What can we do for you? Contact us at 800-636-6171 or visit our Web site at www.jacobsonco.com.

Landoll Corporation • www.landoll.com

Landoll's Bendi and SwingMast lift trucks can solve your materials handling challenges through increased productivity and flexibility. The Bendi lift trucks provide the world's first 180-degree front-wheel-steered design, giving you unmatched maneuverability in narrow-aisle storage. The SwingMast design offers a 90-degree rotating mast front or side loader that can stack loads in 56-inch aisles. To see how these two narrow aisle lift trucks can make your operation more productive, view the specification sheets on the Web site.

Ryder • www.ryderscs.com

Ryder Supply Chain Solutions is an end-to-end supply chain partner with nearly 80 years of experience helping customers in North America, the UK, and Asia transform their supply chains by delivering the best in operational execution. Ryder provides a full range of services, from optimizing day-to-day logistics operations to synchronizing the supply of parts and finished goods with customer demand. At Ryder, we understand that when it comes to logistics, Execution is Everything.

Weber Logistics • www.weberdistribution.com

As a full-service, complete logistics provider, we are experts at non-asset freight management; asset-based LTL and TL services, including temperature-controlled; dedicated and shared warehousing; distribution; cross-docking/pool distribution; transloading; network optimization modeling and analysis; retail compliance; order fulfillment; material handling; supply chain management; real estate development; and personnel staffing. We have been in business for 85 years and specialize in working with importers; retailers; food, beverage, and CPG companies; and chemical and paper manufacturers.

WSI-Warehouse Specialists Inc. • www.wsinc.com

Reliability is everything. At WSI, that has been our approach to integrated logistics and supply chain solutions for more than 40 years. Our promise of Condition, Count & Time ensures accurate, timely, and sound performance – every time. Recognized as one of the top 3PL companies in North America, WSI delivers custom solutions for warehousing/distribution, fulfillment, transportation, import/export, information technology, and customer support services. Depend on WSI for increased efficiency, reduced costs, and absolute reliability.

WhitePaperDigest

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

3PL Central

TITLE: ***Growing Your 3PL by Supporting Multi-Channel Warehousing***
LENGTH: *11 pages*
DOWNLOAD: *www.3plcentral.com/multi_channel_warehousing_email*
SUMMARY: The fast-growing trend toward multi-channel distribution could provide your 3PL with one of its largest growth opportunities in years. To learn what your 3PL must do to prosper in this new environment, download 3PL Central's latest whitepaper, *Growing Your 3PL by Supporting Multi-Channel Warehousing*, today.

DRS Technologies

TITLE: ***Advanced Communications Technology in a Rugged Tablet***
LENGTH: *5 pages*
DOWNLOAD: *http://drsarmor.com/pdf/ARMOR_X10gx_White_Paper.pdf*
SUMMARY: Mobile computing has evolved from a specialty to a requirement for productive, task-oriented, and customer-focused employees. Rugged tablets such as the ARMOR™ X10gx from DRS Technologies have changed how and where employees work, increasing their ability to connect and share information with colleagues and customers, and delivering the communications mobility needed to put the right person in the right place with the right information.

Share your whitepaper with *IL* readers!

***WhitePaper Digest* is designed to bring readers up-to-date information on all aspects of supply chain management. We're building a database of SCM whitepapers, and you can help. E-mail us with whitepaper recommendations: editorial@inboundlogistics.com**

GT Nexus

TITLE: ***Visibility in the Import Supply Chain: Getting a Clear View Into Competitive Advantage***
LENGTH: *8 pages*
DOWNLOAD: *www.gtnexus.com/landing-pages/il-importer-visibility*
SUMMARY: This whitepaper describes how leading importers are reaping the benefits of end-to-end global supply chain visibility and control. Using concrete examples from the field, this document focuses on specific areas of the importer operation, and shows how a clear view of the end-to-end supply chain can deliver unprecedented value to the bottom line.

Ryder

TITLE: ***Grocery Retailers and Food Manufacturers Collaborate to Save Up to 22 Percent***
LENGTH: *16 pages*
DOWNLOAD: *http://bit.ly/I42uEi*
SUMMARY: Beyond the grocery aisle, a complex and often costly and inefficient supply chain interconnects food manufacturers and grocery retailers. To meet consumer demands, grocery retailers are sourcing from a wider base of manufacturers and placing more orders. And, because they have limited warehouse space, they are requiring more frequent replenishment. Food manufacturers face pressure to increase efficiency, reduce costs, and compete smarter. Trends and challenges like these are driving a new focus on collaboration among consumer-packaged goods trading partners. This whitepaper explores how a collaborative mixing and consolidation program delivers improved supply chain efficiency, predictability, and cost savings.

Purolator International, Inc.

TITLE: ***Border Hassles That Can Put the Canadian Market Out of Reach: What Your Business Should Know***
LENGTH: *18 pages*
DOWNLOAD: *http://info.fastesttocanada.com/content/WhitePaperDownload-BorderHassles_InbLog*
SUMMARY: This whitepaper discusses regulatory and logistical hurdles U.S. businesses must be aware of when shipping across the U.S./Canadian border. These challenges must be understood and addressed as part of the cross-border experience. Transporting goods into Canada is a complicated process. Regulations and protocols are constantly changing, and U.S. businesses must entrust their Canadian-bound shipments to a qualified logistics provider that ensures shipments are afforded every trade enhancement, priority clearance review, and duty/tax reduction to which they are entitled.

RWI Transportation

TITLE: ***2012 Temperature-Controlled Transportation Report***
LENGTH: *16 pages*
DOWNLOAD: *http://rwitrans.com/resources/whitepapers.asp*
SUMMARY: This study, based on a survey of North American shippers, examines the top challenges faced in temperature-controlled transportation. It provides interesting insights and information about best practices, common challenges, and emerging trends in today's temperature-controlled market. The report is offered by RWI Transportation, an asset-based logistics company providing temperature-controlled transportation. RWI manages in excess of 100,000 shipments annually, including both temperature-controlled and dry freight.

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inbound logistics

INBRIEF | NEW SERVICES & SOLUTIONS

EXPEDITED

DHL

DHL added two new direct, five-times-per-week flights within Asia: one from its hub in Hong Kong to Ho Chi Minh City, Vietnam; the other from Hong Kong to Chengdu, China. The Hong Kong flight, which replaces an existing flight that stopped in Bangkok, improves inbound and outbound service by shortening the transit time from Vietnam to the United States and Europe by two hours. The Chengdu route ensures evening pick-up and next-day delivery for shipments to Chengdu and other economic centers in Southwestern China, such as Chongqing, Kunming, and Guiyang.

www.dhl.com | 800-CALL DHL

UPS

UPS Express Freight service now offers day-definite delivery, including customs clearance, to Nicaragua and Honduras. The service gives shippers in those countries access to UPS's network, and connects them to other major trading cities in 27 countries, including those in Asia and Europe.

www.ups.com | 800-PICK-UPS

3PLs

Performance Team

A new 163,000-square-foot warehouse and distribution center in Shreveport, La., provides distribution, transportation, and supply chain management services. Located near Interstates 20 and 49, the new facility specializes in exports, limited-quantity hazmat, and freight management.

www.ptgt.net | 866-775-5120

Dupré Logistics

A new location in Corpus Christi, Texas, serves the logistics needs of local shippers, specifically those in the Eagle Ford Shale oil fields. The full-service terminal houses a shop, yard, and driver facilities.

www.duprelogistics.com | 800-356-3659

▶ Materials Handling: UTILEV

Suitable for light- to medium-duty operating environments, UTILEV UT25-30P diesel and LPG fuel forklift trucks are available in 5,000-and 6,000-pound capacities. UTILEV trucks are designed to be easy to service and maintain with a focus on minimizing service time and costs.

www.utilev.com

Regal Logistics

Regal Logistics began right-off/right-on container service at Pacific Northwest piers, including the ports of Tacoma and Seattle. The 3PL maintains and operates a pool of Hyundai Translead container chassis from its Pacific Northwest location as part of the comprehensive Regal Trucking Drayage service. Regal Logistics has future plans to roll out its chassis pool service to its East Coast location at the Port of Charleston.

www.regallogistics.com 866-300-5580

Zenith Global Logistics

Specialized furniture carrier and international logistics provider Zenith Global Logistics added 25 regional and over-the-road trucks and 50 trailers to its fleet. It also opened a new less-than-truckload freight hub in Elkton, Md., 50 miles from Baltimore. The company serves the continental United States and multiple points in Asia with warehousing, consolidation, and full/split container programs.

www.zenithcompanies.com 800-937-3876

▲ **Data Collection: Intelligent Instrumentation**

The LANpoint Power X industrial data collection terminal comes standard with Windows CE 6.0 running on an XScale 624MHz processor; memory that is expandable through an SD card; and hard-wired 10/100BaseT Ethernet. A digital I/O option provides eight input channels and eight output channels for access control and automated production counting.

www.instrument.com 800-685-9911

OCEAN

Bahri

The National Shipping Company of Saudi Arabia's new brand, Bahri, serves the oil and gas, chemical, general cargo, dry bulk, and ship management sectors, and offers support services including human resources and finance. Bahri owns and operates 19 chemical tankers, 17 very-large crude carriers, and four general roll-on/roll-off ships.

www.bahri.sa 800-732-0204

Panalpina

Four new direct less-than-containerload services in Latin America operate through Panalpina's in-house carrier, Pantainer Express Line. The guaranteed weekly and bi-weekly services connect Buenaventura, Colombia, with Guayaquil, Ecuador, and Colon, Panama; Santos, Brazil, with Colon; and Veracruz, Mexico, with La Guaira, Venezuela. The new services cut transit time from Mexico to Venezuela by 15 days.

www.panalpina.com 973-683-9000

Mitsui O.S.K. Lines

A new service transports cargo from major Asian ports to key destinations on the U.S. East Coast, via the Suez Canal. The route includes Hong Kong, Singapore, Norfolk, and Savannah.

www.countonmol.com 630-812-3844

FREIGHT PAYMENT SERVICES

Data2Logistics

The company's new Claims & Audit Review System optimizes the presentation and navigation of shipment data requiring auditor review, caches client freight bill data, and distributes the information to Data2Logistics auditors.

www.data2logistics.com 239-936-2800

Cass Information Systems

A new offering, Cass Freight Claims Services, allows shippers to outsource managing freight loss and damage claims and, in some cases, increase claims recoveries by decreasing threshold levels. The system automates communication with carriers and provides document management, freight claims expertise, and full reporting for current and historical claims.

www.cassinfo.com **314-506-5500**

DATA COLLECTION

Wasp Barcode Technologies

The Wasp HC1 Mobile Computer allows users to read 1D bar codes with the integrated laser scan engine, and review records on the 3.8-inch-wide color touchscreen, making it suitable for outdoor or harsh applications such as loading docks and warehouses.

www.waspbarcode.com **866-547-9277**

TEMPERATURE CONTROL

SP Express

SP Express expanded the temperature-controlled space at its warehouse and distribution facilities in Phoenix, Ariz.; Ontario, Calif.; and Dallas, Texas. To serve the needs of perishables shippers, the locations offer lot and expiration tracking; automated expiration and low-inventory alerts; and inventory control methods for food and nutrition product fulfillment.

www.spexpress.com **866-773-7363**

Carrier Transicold

Carrier Transicold's new trailer refrigeration technology features improvements to the condenser, heat exchanger, and fan designs; and a new engine emissions system. It offers improved cooling capacity for most applications, and reduced fuel usage.

www.trucktrailer.carrier.com **706-357-7223**

Thermo King

TracKing is a Web-based asset management system that provides the ability to remotely monitor and track untethered refrigerated units in a fleet. Shippers can use WiFi to monitor and pre-cool units in the yard, download temperature data, and upload temperature profiles. When the truck leaves the yard, TracKing automatically switches back to cellular mode for over-the-road monitoring.

www.thermoking.com **952-887-2200**

SOFTWARE

Accellos

The latest version of *AccellosOne Warehouse* includes enhanced shipping workflow tools; integrated order consolidation, load planning, and route mapping; and improved shipment traceability.

www.accellos.com **719-433-7000**

JDA Software Group

JDA Shelf-Connected Cloud helps suppliers and retailers collaborate to improve on-shelf availability, remove unnecessary inventory across enterprises, and set new strategies that leverage cost savings across the entire value chain. The solution drives visibility and enables analytics such as out-of-stock detection, sell-through analysis, and inventory performance.

www.jda.com **800-438-5301**

Zepol Corporation

The new *ComplianceIQ* tool combines multiple import-compliance datasets in an online interface that allows users to find specific Harmonized Tariff Schedule Codes, view product classifications, and search by binding rulings, tariffs, and quotas.

www.zepol.com **612-435-2179**

RedPrairie

Enhancements to *RedPrairie Warehouse Management* include extended GS1 barcode parsing to support various radio frequency picking methods; bulk allocation and bulk picking with configurable distribution workflows; streamlined receiving without order or trailer dependencies; added pick methods to support advanced cluster pick and cart position capture; and cycle count and adjustment by unit of measure breakdown.

www.redprairie.com 877-733-7724

WEB

APL Logistics

A new Web-based shipment planning platform, *Shipment Optimizer*, uses advanced algorithms to help shippers optimize and increase supply chain performance. The tool generates the best shipment plan to ensure cargo arrives at final destination on the preferred date; maximize space and load utilization; and minimize overall door-to-door transportation costs.

www.apllogistics.com 866-896-2005

TRUCKING

PITT OHIO

The less-than-truckload Fast Track solution now offers same-day delivery service, next-day delivery service, and second-day delivery service to all points in North America and many international destinations.

www.pittohio.com 800-366-7488

▲ Materials Handling: Mitsubishi Forklift Trucks

The 6,000-pound-capacity PWR30 series walkie end-rider is suitable for applications such as low-level order picking, long-distance transporting, and loading and unloading trailers. The PWR30 achieves speeds up to 9.3 mph.

www.mit-lift.com 713-365-1000

PRINTERS

Intermec Inc.

Suited for harsh industrial environments including transportation, manufacturing, and distribution centers, the metal-constructed PM43 and more compact PM43c label printers feature a full-color touchscreen, a choice of 10 languages or universal icons, and a multilingual Web-based user interface.

www.intermec.com 425-348-2600

Tharo Systems

EASYLABEL Net Print Server provides a Web browser-based interface for selecting and printing labels. Using many browsers on Windows, Linux, or Mac operating systems, shippers can browse and select label formats, fill in data, and specify the number and type of labels to print. Connected to a Tharo H-series printer, the EASYLABEL Net Print Server generates labels in 203 or 300 dpi resolution, in four-inch or six-inch widths.

www.tharo.com 800-878-6833

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inbound logistics

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2 Services or products you evaluate, specify, approve, budget, recommend, buy or manage.
(CHECK ALL THAT APPLY)

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

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

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

4 Business category.
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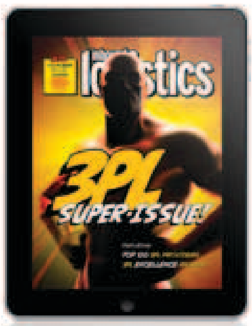

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203-964-0096

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September 6-7, 2012, Fall 2012 Supply Chain Leaders Forum, University Park, Pa. Sponsored by the Center for Supply Chain Research at Penn State's Smeal College of Business, this program for mid- to senior-level supply chain managers and executives addresses how organizations are struggling to manage internal talent inventory and external talent resources to attract, retain, and develop the right people for the job.

814-865-0585

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September 9-11, 2012, SCOPE Fall, Dallas, Texas. The Supply Chain Operations Private Exposition delivers a mix of strategic presentations and panels from industry thought leaders; shipper-led case studies; targeted research meetings with leading solution providers; and networking opportunities with high-profile industry peers. Speakers include Robert Boller, vice president of sustainability, Jackson Family Wines; Steve Sigrist, vice president of supply chain and sales operations, Newell Rubbermaid; and Dr. Omera Khan, senior lecturer in logistics and supply chain, Hull University Business School.

310-706-4150

www.scopewest.com

September 30-October 3, 2012, CSCMP Annual Conference, Atlanta, Ga. At the Council of Supply Chain Management Professionals' conference, learn ways to cut supply chain costs, boost efficiency, and improve your bottom line; network with colleagues; and discover new and innovative ideas that will keep you and your supply chain competitive.

630-574-0985

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Global Logistics By the Numbers

Expedited carriers transport millions of packages around the world every day. What does it really take to send a box from Rome, Texas, to Rome, Italy, on time? Here's a look at the people, facilities, equipment, and technology one major expedited carrier, UPS, counts on to get the job done.

15.6 million packages and documents delivered daily

26.2 million tracking requests received per day

120,014 ground vehicles including freight tractors and trailers (27,280), delivery cars, vans, and motorcycles; 1,928 are alternative fuel vehicles.

218 jets in service
942 domestic and 815 international flight segments per day

UPS planes are equipped with sensors for real-time weather data retrieval.

An on-site model of an airplane wing is used to predict icing and frost conditions in the air

The UPS Worldport in Louisville, Kentucky:
measures **5.2 million sq. ft.** (the size of about 90 football fields)

sorts 416,000 packages per hour pkg/hr
(about 115 packages per second)

processes 1.5 million packages on an average day.

runs 155 miles of conveyor belts

A team of **5 meteorologists** follow atmospheric conditions 24 hours a day. They work with the National Weather Service and will re-route or switch transportation modes to avoid bad weather and ensure on-time delivery.

Source: GOOD Magazine, Kiki Karpus, and UPS