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Timothy Gomez, CEO of
Dixon Ticonderoga

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management UPDATE

AN EXECUTIVE SUMMARY OF INDUSTRY NEWS

◆ **Rogers out as YRC Freight chief.** Less-than-truckload (LTL) transportation services provider YRC Worldwide announced last month that Jeff Rogers, president of YRC Freight, its largest group, is no longer with the company. Company officials said Rogers will be replaced by YRCW CEO James Welch. Rogers previously served as president of YRC's Holland segment before taking the reins at YRC Freight in September 2011. Led by Rogers and Welch, YRC Freight implemented a comprehensive change of operations plan earlier this year that the company described as a key component of YRC Freight's strategy to continuously improve customer service by reducing the handling of shipments and excess time in transit.

◆ **FedEx reports 7 percent gain in FQ1 net income.** Fiscal first quarter earnings for transportation and parcel bellwether FedEx were impressive, with the company announcing last month that quarterly net income of \$489 million was up 7 percent annually. The Memphis-based company also said that quarterly revenue—at \$11 billion—was up 2 percent, and operating income—at \$795 million—saw a 7 percent gain. FedEx reported earnings per share of \$1.53, which was up 5.3 percent from \$1.45 from last year, topping Wall Street estimates of \$1.50 per share. “FedEx had a good quarter despite higher fuel costs and one less operating day,” said Fred Smith, FedEx Corp. chairman, president, and chief executive officer, on an earnings call. “Growth and overall customer demand for a wide range of global transportation solutions drove improved earnings.”

◆ **Solid import numbers at West Coast ports look promising.** While August volumes at the Port of Los Angeles (POLA) and the Port of Long Beach (POLB) were mixed, they could serve as a precursor to a solid holiday shopping season. Total volumes for POLA—at 709,675 twenty-foot equivalent units (TEU)—were up 0.43 percent compared to August 2012, marking the second straight month total volume has cracked the 700,000 TEU mark. And POLB total volumes—at 630,292 TEU—were up 16 percent annually. This output, according to port officials, stands as not only the best month for 2013, but also its best

month since October 2007, and signals a potentially strong beginning to Peak Season at a time when its prospects have been hard to gauge due to largely sluggish consumer spending.

◆ **FTR: Tighter capacity due to HOS could lead to higher rates.** Trucking market conditions may result in seasonal pricing power for carriers, according to the *Trucking Conditions Index* released by freight transportation consultancy FTR. Analysts said that its reading for July, the most recent month for which data is available, was 8.41, representing a 30 percent gain over June. FTR added that this increase reflects how, going forward, carriers may see a rise in pricing this fall as capacity tightens with regulatory effects and decent freight demand. FTR also noted that it expects a modest peak in freight growth in fall of 2013 before demand reverts to the slow growth trend experienced in 2012 and early 2013.

◆ **LA ditching ICF fee.** The Los Angeles Board of Harbor Commissioners recently voted in favor of port staff's recommendation to eliminate a never-used container fee created six years ago to help finance major rail, highway, and bridge improvement projects. The Infrastructure Cargo Fee (ICF)—varying from \$6 per TEU to \$18 per TEU—would have been assessed on all loaded containers entering and leaving the port by truck or rail. The fee was formally approved in 2008 but was never implemented. “It's time to take this fee off the books for good,” said executive director Geraldine Knatz, Ph.D. “The fact that we never collected it illustrates how the port successfully sought funding from other sources, specifically grants, in order to develop port infrastructure in a responsible manner that makes sense for all our stakeholders and preserves our competitive advantage.”

◆ **Call for better weight control.** Four global shipping industry organizations are calling on the International Maritime Organization (IMO) to approve a “carefully negotiated and crafted compromise” this fall that aims to address the problem of misdeclared cargo container weights. According to a report issued by customs and international trade law firm Sandler, Travis &

Continued, page 2

LM management UPDATE

AN EXECUTIVE SUMMARY OF INDUSTRY NEWS

Rosenberg, this problem presents safety hazards for ship crews, port workers, and truck drivers; leads to incorrect ship stowage and accidents; and impairs the ability to perform accurate cargo security risk assessments. Action is needed, the groups say, because the existing requirement in the IMO's Convention on the Safety of Life at Sea to provide a correct cargo weight declaration is not enforced and is ineffective. The IMO will therefore consider a proposed amendment to the convention that would require a packed container's weight to be verified before the container is loaded onto a ship.

◆ **First phase of National Gateway is done.**

The first phase of the National Gateway has been officially completed, the National Gateway coalition recently reported. The coalition is a \$850 million public-private partnership infrastructure initiative designed to provide a highly efficient freight transportation link between the Mid-Atlantic ports and the Midwest. It was first unveiled by Class I railroad carrier CSX in May 2008. This effort spans six states and Washington, D.C. and is comprised of both rail capacity and intermodal terminal capacity improvements. With the first phase complete, the coalition said that now enables the ability for the National Gateway to provide double-stack intermodal rail service between a CSX terminal in Chambersburg, Pa., and its state-of-the-art Northwest Ohio hub facility.

◆ **BRICS steady.** Direct inbound and outbound ocean cargo calls indicate that Brazil, Russia, India, and China (BRIC) are still generating attractive growth, said Drewry Maritime Research analysts. Container traffic loaded and discharged in BRIC region ports in the first half of the year grew by an impressive 7.1 percent year-on-year, up to 90.7 million twenty-foot equivalent units, which is significantly better than North America's 1.2 percent growth. According to Neil Dekker, head of Drewry Container Research, this clearly signals a reversal of fortune for the BRICs economic downturn of last year.

◆ **Single "green" standard.** The International Air Cargo Association (TIACA) placed a new emphasis on its strong support for a global solution to aviation emissions during the triennial

Global Assembly of the International Civil Aviation Organization (ICAO) that convened in Montreal last month. TIACA has consistently championed ICAO as the body to pursue a global agreement on aviation carbon emissions, and campaigned strongly against the controversial inclusion of aviation in the EU Emissions Trading Scheme (ETS) and welcomed the European Commission's decision to postpone the application of the ETS to aviation. During the assembly, TIACA asked the Commission to pursue a global agreement through ICAO, which was designated in The Kyoto Protocol as the body with authority to set international aviation's greenhouse gas policy.

◆ **CEVA and Ford Motor Company renew contract, expand business.** Global third-party logistics (3PL) services provider CEVA Logistics said it has renewed its contract and expanded its business with Ford Motor Company. CEVA has served Ford's Kansas City Assembly Plant (KCAP) for more than 11 years, and with a new contract in place, it will continue to provide the automotive manufacturer with various logistics-related functions at the Claycomo, Mo.-based KCAP. The KCAP manufactures the F-Series truck and will be the future home of the Ford Transit. The Kansas City operation is CEVA's longest running automotive manufacturing support operation for Ford in the Americas. A company official recently told *Logistics Management* that more than 200 CEVA staffers are dedicated to logistics related business at the KCAP.

◆ **And the winner of the Silver Kingpin Award is...** The Intermodal Association of North America (IANA) has announced that Richard (Dick) Coleman, retired President of ContainerPort Group, will be awarded the 2013 IANA Silver Kingpin Award at this year's Intermodal Expo in Houston, Texas. Coleman will receive his award during the opening general session on November 18 at the George R. Brown Convention Center. IANA said The Silver Kingpin Award has been presented annually since 1977 and is considered the intermodal industry's most prestigious honor. Given to individuals for their significant, long-term contributions to intermodalism, Coleman was chosen for his exemplary industry leadership throughout his career, spanning over 40 years. □



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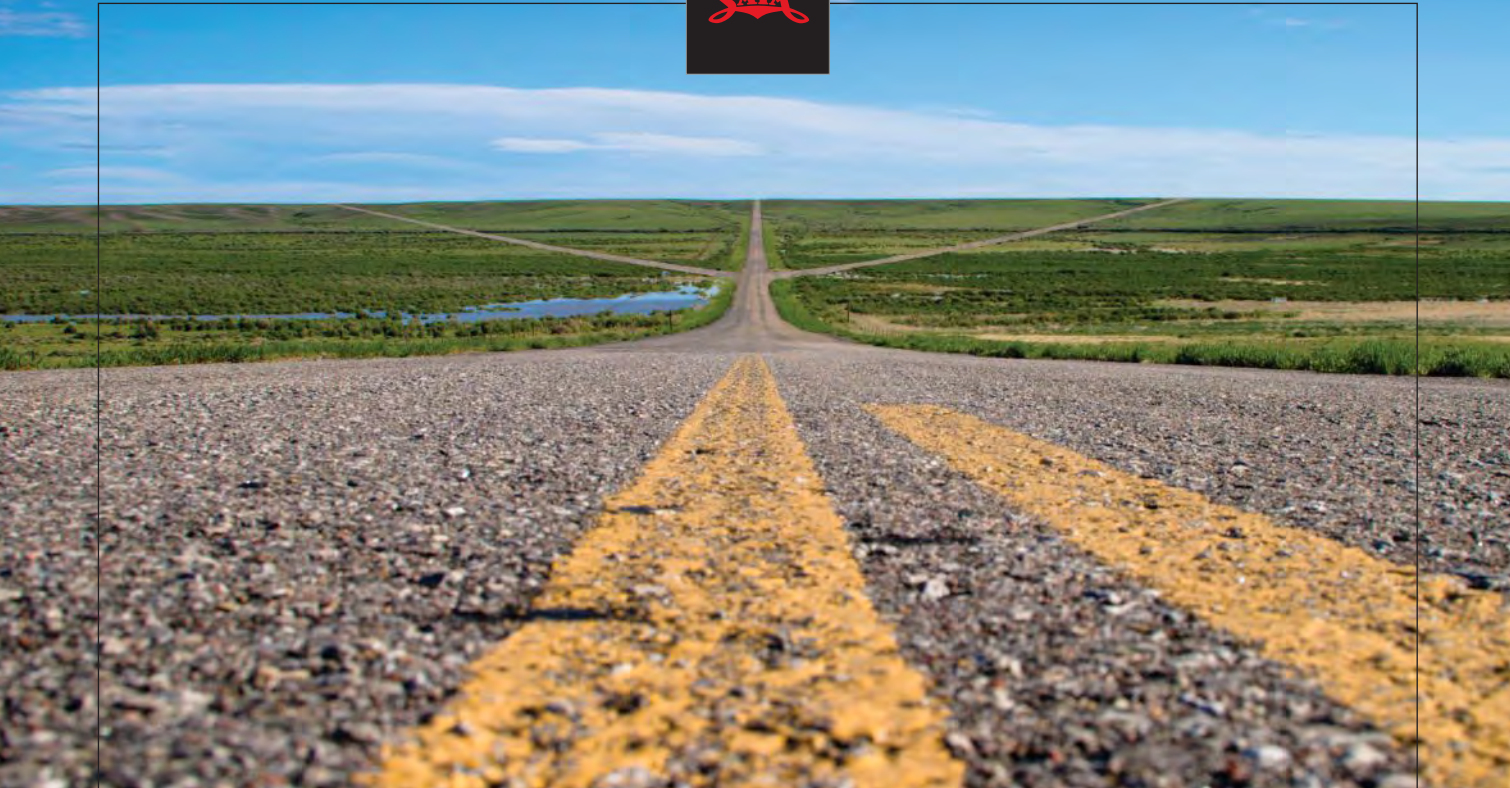


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2013 NASSTRAC SHIPPER OF THE YEAR

Dixon Ticonderoga writes its new logistics future

28 CEO Timothy Gomez led the charge to vertically integrate manufacturing and distribution at the 218-year-old pencil company—and saved \$5 million in logistics costs in the process.



Cover: Scott Cook/Getty Images

TRANSPORTATION AND BEST PRACTICES/TRENDS

Getting serious about multi-modal optimization

34

Intermodal is becoming increasingly more viable as logistics managers find themselves under pressure to keep costs down and improve supply chain operations. But how can shippers wring out its full value?



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State of the Cloud: Sky's the limit

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Cloud-based applications continue to penetrate the supply chain management (SCM) software space as more operations are eager to embrace the advantages it maintains over traditional options. We explore how far shippers have gone into the Cloud and reveal several limitations that could hinder the flight.



Cloud computing 41

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Voice and mobility: Enabling the visible supply chain

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Our Technology Correspondent offers an in-depth look at how voice and mobility are driving speed and efficiency inside today's more automated, multi-functional distribution operations.



Voice and mobility 44

GLOBAL LOGISTICS

How to stay ahead in global trade

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With new, complex regulatory obstacles on the horizon, our panel says that improving relationships with intermediaries should be a top priority for global shippers heading into 2014. Want to stay ahead of the game? It's time to listen up.



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The big picture on Big Data

It's early in the game, but warehouses and distribution centers are looking at new ways to use Big Data to maintain equipment, deliver services, and manage processes. **53**

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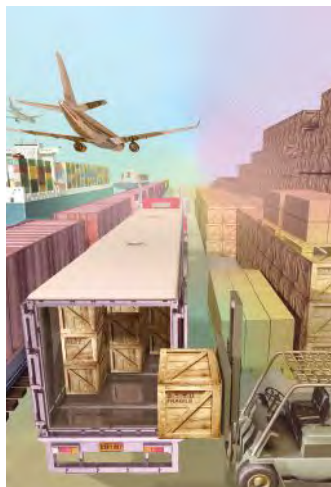
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► **SPECIAL REPORT**

Top 30 Ocean Carriers: Getting back to basics

The combination of financial necessity and commercial reality is further forcing top ocean carriers to shed their integrated logistics offerings and return to their core competencies. Meanwhile, a new alliance promises to further disrupt the global marketplace. **58S**



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Logistics: A path to the corner office

THE EDITORIAL STAFF of *Logistics Management* (LM) is thrilled to once again have the winner of the NASSTRAC Shipper of the Year Award grace our October cover. For nearly 20 years, LM has partnered with NASSTRAC, one of the leading logistics and transportation advocacy organizations, to fix the spotlight on a savvy logistics operation that has demonstrated excellence in the execution of a strategy designed to advance their company's business mission.

And this year's winner, the esteemed pencil manufacturer Dixon Ticonderoga, may be one of my favorite success stories for a couple specific reasons.

First, the story illustrates the complete transformation of logistics and transportation best practices inside a company that got mired in its ways. And second, it shows how a driven, visionary leader can put his knowledge of transportation and distribution to work to not only revolutionize how logistics is managed, but also to propel him into the corner office.

That leader is CEO Timothy Gomez who joined the 218 year-old company as director of distribution center operations a mere five years ago. When Gomez first came on board, he found that the company clearly needed to sharpen its logistics acumen. "It was a nightmare," Gomez tells Contributing Editor John Schulz. According to Gomez, the company was using too many carriers on inbound and outbound lanes to realize any leverage on rates, distribution processes were outdated, the layout of its primary warehouse was cumbersome, and they were relying too heavily on expedited freight services.

And due to this muddled mix, they were getting hit with fines from retailers due to transportation failures.

Starting on page 28, Schulz walks us through the methodical approach Gomez and the logistics team took to bring Dixon Ticonderoga's processes into the 21st century. On the transportation side,

Gomez got to work to winnow those 15 trucking partners down to four—a group they now call the "core four."

Gomez and the team then developed a stable and sustainable plan that not only integrated inbound and outbound activity, but also managed supply and purchase orders and aligned them to logistics capabilities. "We have 5,000 different SKUs, and now we know exactly how much we can load and move at any time," says Gomez.

And at its 200,000-square foot primary warehouse in Macon, Ga., Gomez applied the Lean process to combine the two receiving areas into one to reduce unnecessary movement of product and streamline the receiving process. Today, the entire process requires just 15 people using wireless handheld devices to track thousands of SKUs.

From the first to second year of this transformation, the company achieved \$1 million in savings—and that's grown to \$5 million.

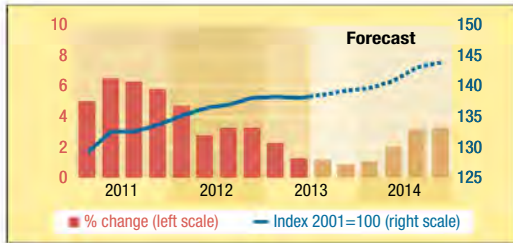
While this operation turnaround and savings is impressive in itself, my favorite piece of this story is that the ray of light emanating from the logistics department was recognized and rewarded with the corner office in a short period of time—a rarity indeed.

"This hard-driven, 45-year-old star has a unique perspective on the importance of logistics to the overall financial well-being of the company," Schulz told me following his interview with Gomez. "And his path to the top can be emulated."

Michael A. Levans, Group Editorial Director
Comments? E-mail me at mlevans@peerlessmedia.com
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price TRENDS

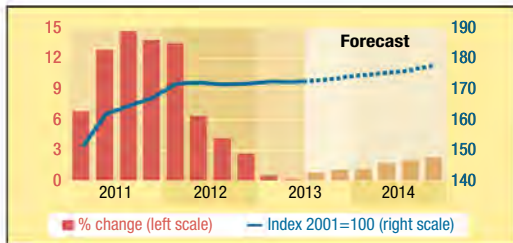
Pricing across the transportation modes



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
General freight - local	0.0	0.0	2.7
TL	0.2	0.1	-0.1
LTL	0.5	1.5	3.1
Tanker & other specialized freight	0.4	-0.1	0.7

TRUCKING

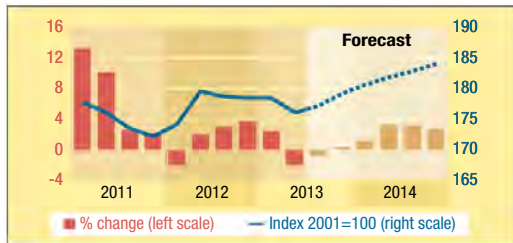
Inflation in the trucking industry slowed down over the summer, but did not damage margins. LTL transaction prices increased 0.5% in August on the heels of the previous month's 0.4% decline. Truck-load general freight carriers also inched up 0.2% in August, but that followed two months or virtually no change in TL tags. Analysis of cost/price trends suggests the trucking industry continued to cash in from declines in fuel costs. We estimate the industry's gross operating surplus (before taxes) totaled \$18.54 for every \$100 worth of services sold this past summer. Our inflation forecast for trucking remains up 1.4% this year and up 2.4% next year.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Air freight on scheduled flights	-0.1	0.2	0.8
Air freight on chartered flights	-3.0	-4.9	-8.8
Domestic air courier	0.5	-0.9	5.0
International air courier	0.5	-0.8	3.8

AIR

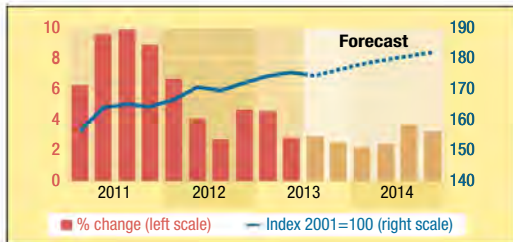
Average prices in the U.S. airline industry increased by 1.4% August, but with little help from airfreight business. Average transaction prices for flying freight on scheduled flights inched up 0.3%. Chartered planes flying domestic routes cut their prices by 3%, while those flying international routes cut tags 4.5%. These price cuts coupled with higher costs have made for a turbulent ride. This summer, although jet fuel prices fell 3.4% from same-month-year-ago levels, the U.S. airline industry's labor costs jumped 14.7%. As a result, the industry's margins dropped by \$3 for every \$100 of sales. Our scheduled airfreight inflation forecast remains up 0.6% in 2013 and up 1.8% in 2014.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Deep sea freight	0.6	-0.4	-1.7
Coastal & intercoastal freight	-0.1	0.3	0.2
Great Lakes - St. Lawrence Seaway	-6.7	-12.9	3.9
Inland water freight	-0.7	-1.4	-0.6

WATER

Reporting the sixth monthly price decline of the year, U.S.-owned water transportation service providers cut average tags 0.1% in August. For the three-month period ending August, prices were down 1.2% from year-ago. Freight carriers that operate over water no doubt would like to return to the profit environment enjoyed three years ago. In July 2010, gross operating surplus (before taxes) stood at \$25.49 for every \$100 worth of services sold. By July 2013, we estimate margins have slumped to \$20.79. Our inflation forecast now calls for no change in industry-wide prices this year followed by a 2.6% price increase in 2014.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Rail freight	-0.1	0.2	3.3
Intermodal	0.4	0.2	3.0
Carload	-0.1	0.1	3.4

RAIL

At first glance in August 2013, carload and intermodal rail prices appeared to ride diverging tracks as average prices declined 0.1% in the first case and increased 0.4% in the second. But compared to same-month-year-ago, prices increased for both, up 3.4% for carload and up 3% for intermodal rail service. When comparing to 2001 average price levels, we see carload tags up 81% and intermodal running close behind, up 54%. As for the margin picture, we estimate the rail industry's gross operating surplus (before taxes) stood at \$19.04 for every \$100 worth of services sold this past summer. Our rail industry inflation forecast has been revised to 3.2% in 2013 and 2.9% in 2014.

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House T&I Committee signs off on Water Resources Reform Development Act

With Senate version approved earlier this year, prospects are positive for first new water resources bill since 2007.

By Jeff Berman, Group News Editor

WASHINGTON, D.C.—The House Transportation and Infrastructure Committee (T&I) last month approved H.R. 3080, the Water Resources Reform and Development Act of 2013 (WRRDA).

Committee officials said that through this type of water resources legislation, Congress authorizes the U.S. Army Corps of Engineers to carry out its missions to develop, maintain, and support the nation's vital port and waterways infrastructure needs and support effective and targeted flood protection and environmental restoration needs.

And while Congress has passed this legislation every two years to provide clear direction to the Administration and the Corps, a bill has not been signed into law since 2007. The Senate passed its own version of the bill earlier this year.

In introducing the bill, House T&I Chairman Rep. Bill Shuster (R-Pa.) said that U.S. ports and waterways are highly essential, especially considering that 99 percent of the goods the U.S. trades, sells, and imports around the world go through U.S. ports (representing \$1.4 trillion worth of goods every year).

However, Shuster was quick to point out that these numbers come with a caveat,

considering that the nation's critical infrastructure is aging and the process for updating it is slow, costly, and packed with red tape.

"Something needs to be done," said Shuster, "but Congress has not passed a water bill in six years, and as a result our country is losing its competitive advantage. Meanwhile, the bureaucracy

rides on as government mandated studies have been going on for more than 15 years. We are literally studying our infrastructure to death."

According to Shuster, the new bill should go a long way in changing the *status quo*. "This bill will establish strong reforms and shorten the review time to three years," he said. "It also puts a cap on how much we can spend on these studies."

Various components of the bill are directly tied to the nation's ports, with language focused on authorizing needed investment in America's ports; supporting underserved, emerging ports; reforming and preserving the Inland Waterways Trust Fund, which pays for the construction and rehabilitation of the country's inland waterways system; and authorizing priority water resources infrastructure improvements recommended by the Chief of the Army Corps of Engineers.

WRRDA also addresses the Harbor Maintenance Trust (HMT) Fund, which is comprised of revenues collected annually from importers and domestic shippers for deep-draft navigation maintenance dredging and the operation and maintenance of large and small ports.

Shuster said that this bill does not provide any changes to



how the HMT is applied. However, he did point out that the T&I Committee has set up a process where, historically, about 50 percent of the HMT was spent on harbor maintenance—although this year that figure is now at 65 percent.

“What we have done in the bill is try to reform the process so that every year it inches up by 2 percent so that by 2020, 80 percent of the fund is spent on harbor maintenance,” said Shuster. “It is not something that gets fixed overnight...but it’s a step in the right direction.”

The bill also sets out to establish a new transparent process for future bills to review and prioritize water resources development activities with strong Congressional oversight, according to the House Committee.

According to Jim Walker, director of navigation policy and legislation for the American Association of Port Authorities, the bill is certainly a positive step forward, adding that it is critical for it to pass so port- and waterways-related projects can be authorized.

“The reforms to get things done more quickly is key,” said Walker. “Our goal was to get full use of the HMT revenues, and this bill gets us closer by maxing out at 80 percent by 2020, which is well ahead of where we are now at \$850 million a year. We are on a good path, not the full use we are seeking, but it’s certainly an increase and an improvement in what the Corps can do to maintain those channels for shippers and carriers.” □

late August that only five of the seven supplements were approved after further negotiations and rank-and-file voting. Until supplemental agreements covering the Teamsters’ Central Region Local Cartage and the Western States Office Employees are approved, overall wage savings from the new contract will not start to be realized by ABF.

“The national master portion of the ABF National Master Freight Agreement has previously been approved, but will not take effect until the status of the two remaining supplements is resolved,” said the Teamsters.

Arkansas Best Corp. in a filing with the Securities and Exchange Commission, called the new five-year agreement “an important step to return ABF to its historic profitability, while preserving the best-paying jobs and benefits in the freight industry.”

Unionized rival YRC Worldwide is operating with an agreement that finds its 15,000 Teamsters being paid 15 percent less than the NMFA requires. That 15 percent wage cut amounts to about \$80 million in annual savings for YRC, which has lost in excess of \$2.6 billion since 2007.

Using that same calculus, ABF stands to save approximately \$16.5 million annually from its 7 percent wage concession covering its 7,500 Teamsters. But those savings will not be realized until the final two supplemental agreements are approved. In this case, time literally is money.

Brad Delco, a trucking analyst with Little Rock, Ark.-based Stephens Inc., said in a note to investors that those final supplements should be ratified by the middle of this month. That could be a “best case scenario,” he noted.

Meanwhile, in another Teamsters supplemental negotiation affecting small package giant UPS, it appears both sides are making progress on health care details under terms of the master small-package agreement ratified last June. Under terms of the proposed deal, about half of UPS’s 245,000 small-package workers will move from a company sponsored plan to a program known as “TeamCare.”

This would be co-administered by UPS and the union. Much of the same key benefits—no co-pay, very low deduct-

TRUCKING

Delay in NMFA supplements costing ABF

FORT SMITH, Ark.—The parent of financially ailing ABF Freight System, the nation’s sixth-largest LTL carrier, is losing several millions dollars a week because of delays in approval of two “supplemental” agreements to its Teamsters’ National Master Freight Agreement (NMFA).

The contract includes an immediate

7 percent wage reduction covering 7,000 ABF Teamsters that is restored by the fifth year of the contract. The overall agreement was narrowly approved by ABF Teamsters on June 27; however, seven “local/area supplements” were again placed on the local ballots for approval.

Parent Arkansas Best Corp. said in



ibles—would remain. As with the ABF contract, the UPS master deal passed by a 53 percent margin, and voting on the supplemental health care proposal was expected to pass when it was due for a vote in late September, according to union sources.

At ABF, the LTL unit makes up more than 95 percent of parent Arkansas Best's revenue. It suffered an operating loss of \$14.9 million on \$1.09 billion revenue the first six months of this year, compared with an operating loss of \$15.8 million on \$951.4 million revenue for the first half of 2012.

Arkansas Best's second quarter net

income of \$4.9 million was down 58.8 percent compared to the \$11.8 million earned in the second quarter of 2012. But the second quarter 2012 net income included an \$8 million tax benefit. Revenue during the quarter was \$576.9 million, up from the \$510.5 million during the second quarter of 2012.

Teamsters at ABF probably have little choice but to accept the supplemental agreements. But time is on their side. For each day that the old supplemental agreements are in place, wage concessions cannot take place.

—John D. Schulz, Contributing Editor

CAPITOL HILL

GAO report calls on Congress to extend Positive Train Control deadline

WASHINGTON—With most U.S.-based railroads signaling that they will miss the 2015 deadline for installing Positive Train Control (PTC), the Government Accountability Office (GAO) said in a report that it's asking that Congress consider amending the Railroad Safety Improvement Act (RSIA) and grant the Federal Railroad Administration the authority to extend the deadline for certain rail lines on a case-by-case basis.

The GAO added that Congress should grant provisional certification of PTC systems and approve the use of alternative safety technologies in lieu of PTC to improve safety.

The objective of PTC systems is to prevent train-to-train collisions, overspeed derailments, and incursions into roadway work limits. PTC sends and receives a continuous stream of data transmitted by wireless signals about the location, speed, and direction of trains, according to the Federal Railroad Administration (FRA).

PTC systems, added the FRA, utilize advanced technologies including digital radio links, global positioning systems and wayside computer control systems that aid dispatchers and train crews in safely managing train movements.

A mandate for PTC systems was included in House and Senate legislation—H.R. 2095/S. 1889, The Rail Safety and

Improvement Act of 2008. The legislation was passed shortly after a September 12, 2008, collision between a freight train and a commuter train in Los Angeles. It calls for passenger and certain hazmat rail lines to take effect by 2015 and authorizes \$250 million in Federal grants.

The GAO report echoes the Association of American Railroads (AAR) and FRA's statements indicating they will miss the December 31, 2015, implementation deadline, coupled with most railroads saying they will as well.

Of the four major freight railroads cited in the report, GAO said just one—BNSF Railway—expects to meet the deadline, with the other three indicating that they expect to meet it by 2017 or later. The report said BNSF is on schedule to meet the deadline because of its “extensive experience working on PTC prior to RSIA, its iterative build and test approach, and the concurrent development of its PTC dispatching and back office systems.”

As per the RSIA requirements, railroads are developing more than 20 major components that are in various stages of development, integrating them and installing them across the rail network, according to GAO. The AAR stated that, by the end of 2012, railroads had invested \$2.8 billion on PTC and will ultimately spend \$8 billion on it.

“The railroads have done everything possible to make PTC happen as quickly as possible,” said Bill Rennie, director of Oliver Wyman, a management consultancy. “The problem is that it's a hugely complex technology. In the RSIA, Congress required interoperability for all locomotives, meaning that if UP is operating on a CSX line, the traffic information needs to be built into a common technology that feeds that UP locomotive pulling trains across CSX territory with information on that train's characteristics—and that technology does not exist.”

Another reason Congress should



extend the deadline, said Rennicke, is that PTC is essentially an untested system, noting that PTC systems in Europe were tested for 10 years before going live.

What's more, Rennicke said that the current deadline is so tight that it does not allow for a test period, meaning that 100 percent operation is needed from the start with no system failures, which he described as unlikely.

"The railroad industry and ultimately shippers will have to pay for all of this in the form of hundreds of millions or more if Congress does not come up with a more reasonable schedule," Rennicke added.

—Jeff Berman, Group News Editor

GLOBAL TRADE

Panjiva report gauges temperature of U.S. manufacturing

NEW YORK CITY—While U.S.-based manufacturing appears to have regained some momentum in recent months, a recent report from Panjiva, a data company for global suppliers and manufacturers, set out to see if there was more than meets the eye when gauging the current state of domestic manufacturing.

The report titled *Manufacturing in the U.S.—Movement*

or *Myth* surveyed more than 150 sourcing professionals to research factors impacting decisions made by companies to source goods from U.S.-based manufacturers.

Some of the report's key findings include: The majority (75 percent) of buyers currently source goods from the U.S.; more than a third of buyers (36 percent) anticipate a decline or stagnant activity for manufacturing in the U.S. long term; only 4 percent of buyers cited concern about working conditions at factories outside the U.S. as a driver of efforts to increase the amount of goods sourced from the U.S.; and 29 percent cited higher visibility into the capabilities of U.S. manufacturers and suppliers as a factor that would increase their likelihood to source from the U.S. in the future.

Panjiva also explained in the report that the nation's greatest strength is its short turnaround time, but costs are still



the key driver of decision making and the U.S. is not perceived as competitive on that front.

"What is potentially challenging about this is that not a lot can be done about those two things, with a fair amount of that due to higher labor costs in the U.S.," said Panjiva CEO Josh Green. "The reaction to that combination is instead to focus on U.S. strengths. We are not going to win on costs, so let's really emphasize the rapid response manufacturing has and where America is really differentiating itself."

In the report, Panjiva explained there was not a clear consensus about whether consumers will pay more for American-made goods, with 52 percent of respondents saying that they will pay considerably or slightly more. And it added that it suggests that consumers' willingness to spend more on U.S. products could translate into heightened interest from buyers in U.S. sourcing.

"The evidence on that is pretty mixed," said Green. "It certainly suggests that it could help drive manufacturing back, if that is, in fact, the case."

—Jeff Berman, Group News Editor

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A. Total no. copies (net press run)	51,468	51,293
B. Legitimate paid and/or requested distribution (by mail or outside the mail)		
1. Outside County paid/requested mail subscriptions stated on PS Form 3541	49,048	48,935
2. In-County paid/requested mail subscriptions stated on PS Form 3541	None	None
3. Sales through dealers and carriers, street vendors, counter sales and other paid or requested distribution outside USPS	23	22
4. Requested copies distributed by other mail classes through the USPS	None	None
C. Total paid and/or requested circulation	49,071	48,957
D. Nonrequested distribution (by mail and outside the mail)		
1. Outside County nonrequested copies stated on PS Form 3541	997	1,086
2. In-County nonrequested copies stated on PS Form 3541	None	None
3. Nonrequested copies distributed through the USPS by other classes of mail	None	None
4. Nonrequested copies distributed outside the mail	1,089	1,000
E. Total nonrequested distribution (sum of 15D 1, 2, and 3)	2,086	2,086
F. Total distribution (sum of 15C and E)	51,157	51,043
G. Copies not distributed	311	250
H. Total (sum of 15F and G)	51,468	51,293
I. Percent paid and/or requested circulation (15C divided by F times 100)	95.92%	95.91%
16. Publication of Statement of Ownership: Publication required and will be printed in the October 2013 issue of this publication.		
17. I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).		

Charles Tanner (signed), Director of Audience Marketing, 9/11/13

Peerless Media Statement of Digital Circulation

1. Publication Title: Logistics Management	Average No. Digital Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
Printed Circulation as reported on PS Form 3526, Line 15A	51,468	51,293
Digital Circulation	21,207	21,208
Total Circulation	72,675	72,501



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While TIGER roars, more funding is needed

IN CASE YOU DIDN'T NOTICE, Department of Transportation (DOT) Secretary Anthony Foxx recently announced that the DOT's Transportation Investment Generating Economic Recovery (TIGER) 2013 program awarded \$474 million for 52 transportation projects in 37 states.

The objective of the TIGER program is to ensure that economic funding is made available for transportation infrastructure projects. With this most recent round of funding, its fifth, the TIGER grant application levels again exceeded the amount of available funding, with applications for this round of grants topping \$9 billion.

As reported in *Logistics Management*, funding for this round was made possible through the White House's FY 2013 Appropriations Act, with grants made available for capital investments in infrastructure and awarded on a competitive basis based on published selection criteria. And when these grants were issued, DOT said that the TIGER program offers one of the only federal funding possibilities for large, multi-modal projects that are not often suitable for other federal funding sources.

This latest round of TIGER funding comes at a time when transportation infrastructure funding remains in limbo, given the relatively brief duration of the current federal transportation bill—MAP-21—which is set to expire next year as well as the Highway Trust Fund, which is insolvent.

This is what makes TIGER a great thing for infrastructure in the U.S. Heightening that is the fact that earlier this year the *American Society of Civil Engineers 2013 Report Card* for America's Infrastructure gave the nation's infrastructure an overall grade of D+, a notch above the D it received in the last report in 2009.

What's more, the National Association of Manufacturers (NAM) President and CEO Jay Timmons, along with Building America's Future (BAF) Co-Chair and former Pennsylvania Governor Ed Rendell, recently rolled out a new survey that highlights manufacturers' concerns about America's roads and bridges, transit, ports, and aviation systems.

The survey was based on feedback from more than 400 manufacturers, many of whom maintain "the U.S. infrastructure is in fair or poor shape, while roads in

particular are getting worse." Many of the respondents also believe that the U.S. infrastructure is not positioned to respond to the competitive demands of a growing economy, according to the survey.

According to the Coalition of America's Gateways and Trade Corridors (CAGTC), 25 of the 52 grants are dedicated to freight or have some sort of freight focus, representing more than \$205 million—or 43 percent of the \$474 million awarded in this round of funding.

This is real money and are real numbers, and they don't lie. TIGER is working and roaring, and there is little doubt that more funding allocated to the program is needed.

Through the first five rounds of TIGER, demand has topped available funding levels every time. DOT has received more than 5,200 applications totaling more than \$114.2 billion, with TIGER dishing out about \$3.6 billion to 270 projects.

Look at it from this perspective: Through the first five rounds of TIGER, demand has topped available funding levels every time. DOT has received more than 5,200 applications totaling more than \$114.2 billion, with TIGER dishing out about \$3.6 billion to 270 projects.

"There's a growing body of work that shows that TIGER is not only popular, but it has also been quite cost-effective for the government," says Leslie Blakey, CAGTC executive director. "When leveraging TIGER with non-federal sources, more and more localities are starting to understand the cost benefit approach. TIGER is showing better and better results, and DOT has gained experience in managing the program which is resulting in a very high quality of product."

And TIGER's future looks bright, says Blakey, considering that it's a fairly small program relative to the entire U.S. transportation program. And this mere fact helps to reduce pressure on Congress when it comes to continued funding. □

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Who's your DIM?

WHAT'S A DIM? It's your domestic intermodal manager. If you don't have one you might need one soon. Or better yet, you might want to consider a cross-functional team knowledgeable on domestic intermodal management.

If you ship truckloads around the country—mid or long distances, say over 500 miles—then there's a railroad rep looking to capture your freight. Many logistics management staff grew up with truckload and less-than-truckload training and experience. However, if intermodal was used, it was delegated to the single brand truckload providers who quietly used rail for long hauls without telling the shipper or the intermodal marketing companies (IMC) who handled this little understood mode.

With all due respect to my truckload carrier and IMC colleagues, shippers need to gear up their knowledge for increased rail use due to changes in the transportation market. If you're not already concerned about driver shortages, fuel costs, and highway tolls, then let's look at five other factors.

1) On-shoring: The movement of manufacturing back to the U.S. continues, and we're moving toward energy independence within 10 years, according to the Department of Energy. With the aid of robotics and smarter processes, the U.S. is gaining in production volume. This is not just true of automobile manufacturing, but also appliances and electronics. This means more domestic shipping over longer distances, and how these routes—highway and rail—affect your shipment corridors is going to be vital intelligence for your team.

2) New routes: From the widening of the Panama Canal to new rail access in Los Angeles, to higher clearances in the Northeast, the railroads are expanding capacity wherever possible. This means new competition for your freight.

3) New terminals: A new, huge intermodal yard in Indianapolis means faster, smoother service. New rail-highway transloading facilities in the East and Southwest opened to handle fracking chemicals and minerals means more options for domestic bulk shippers. Ask your service representative about some of these new infrastructure improvements and what they might mean for improved service.

4) Carbon footprint: Intermodal means more on rail and water, and this means your company gets to brag about reducing your carbon footprint in logistics—a message that is appearing in more and more annual reports. How can your domestic intermodal management plan affect the company's public profile and bottom line?

5) New technology: At trade shows and through webcasts produced by *Logistics Management*, shippers are hearing about new transportation management systems (TMS) that can select multi-modal solutions

Shippers need to gear up their knowledge for increased rail use due to changes in the transportation market.

for domestic and international freight plans. These are only going to get more sophisticated, so you need to pick a system provider and work with them to find a multi-modal planning solution for your supply chain. While searching, look at cloud-based TMS solutions that will be faster to adapt to changes and reduce your dependency on corporate IT resources.

So how do we develop domestic intermodal management expertise? First assess your team's current knowledge of current and future intermodal market trends. Are you paying for a third party to contract for intermodal when you could deal directly with providers? Is this fee justified by innovation, technologies, or consolidation leverage?

If so, fine. But shippers still need to learn more about how the intermodal works. Do you understand which intermodal terminals are key to moving your freight and are they handling volumes well? What are the long-term plans for these facilities?

If your team is in need of more knowledge, get it. There are books, seminars, and free advice at conferences and trade shows that can help get your team up to speed on domestic intermodal. The return on your investment is both leverage and innovative ideas to get improved cost and service. □



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Digitizing the value chain

EVERY YEAR, MORE PRODUCTS are being produced by companies whose supply chain operations are intelligently linked with suppliers and business partners. Many of the machines that make those products are guided by advanced data analysis, decision science, and other smart technology. The people who consume those products are probably using digital connections to guide their choices and ultimately make a purchase.

Most companies can see themselves in at least part of the above scenario. But regardless of how intelligent most companies' operations have become, there's a lot more race left to be run. Consider some of the following digital innovations being made by businesses around the world.

A mobile phone manufacturer encourages its customers to "print" their own personalized phone cases. The process, of course, is 3-D printing: using a digital model to create solid objects by laying down successive layers of material. The technical advances of 3-D printing have improved this manufacturer's ability to interact directly with its customers, build brand loyalty, and provide customized services.

However, 3-D printing is poised to enhance supply chain management capabilities in almost any industry: The closer to the point of need that companies can make (i.e., "print") a product, the more they might reduce transportation costs and lead times. Costs could also be reduced by printing prototypes and on-site, on-demand spare parts.

More than 1,000 discrete categories of "interest-based advertising" allow Google advertisers to reach tightly defined audience segments with tailored messages, specific product offers and promotions, and carefully chosen up-and cross-sell opportunities.

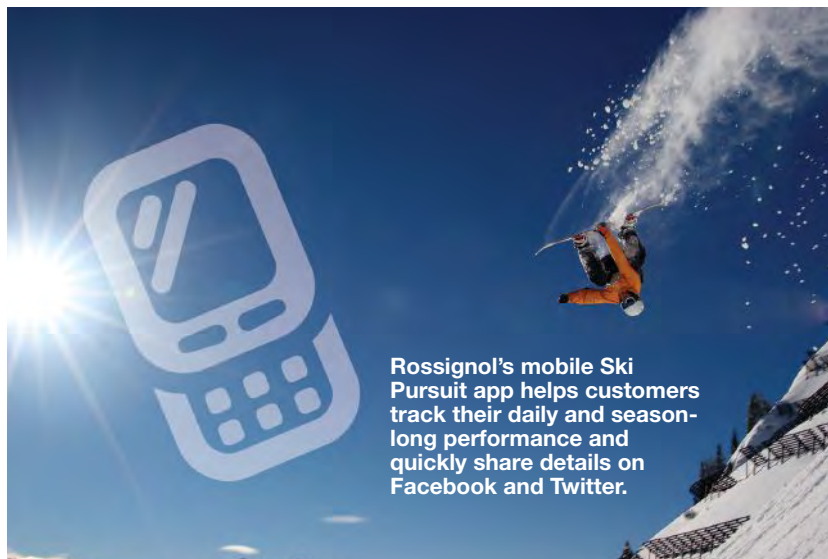
One Google advertiser increased its brand lift by 40 percent. Another noted a 400

percent rise in conversions. Interest-based advertising is an old concept (putting your ad money where your market is) that uses 21st Century technology. Think of it as advanced behavioral marketing: targeting consumers by collecting user information and balancing it against how users behave on the Web sites they visit and the content of pages upon which they land.

Rossignol, a 100-year-old alpine equipment company, is using "gamification" to get closer to customers. The company recognized that skiers and snowboarders love to congregate after hitting the slopes and relive their best runs. Rossignol's mobile Ski Pursuit app helps customers track their daily and season-long performance and quickly share details on Facebook and Twitter.

That's the power of gamification: integrating game mechanics in unique and compelling ways in order to increase sales and heighten user engagement, satisfaction, and retention. Gamification has also helped Volkswagen to design a new car model, Citibank to sell credit cards, and LinkedIn to create a database of business models.

For several decades, Kanban has been helping companies acquire goods and equipment as close to the beginning of a production run as possible. This smart



Rossignol's mobile Ski Pursuit app helps customers track their daily and season-long performance and quickly share details on Facebook and Twitter.

way to manufacture has recently been made smarter by “eKanban”—using the Internet to maintain real-time connections with suppliers and thus improve supply chain visibility, reduce transportation volumes, keep inventories low and even reduce working capital.

BMW is a big eKanban fan. Via the Internet, BMW sends Lear Corporation, one of its car seat suppliers, daily delivery schedules, giving the latter 300 minutes to produce and deliver the seats in sequence directly to the assembly line. In its first year of operation, BMW’s eKanban system helped the company save more than \$82 million.

Trumpf, a German producer of intelligent machine tools and industrial laser systems, is going beyond efficient manufacturing. It is mining the data provided by machines to create more-networked (smart factory) operations in which information is autonomously exchanged and machines often control each other.

Trumpf also uses a cloud-based platform for remote diagnostics—using internally developed software to monitor inventories and order-processing requirements. In the near future, Trumpf may control individual machines using iPads and deploy laser lenses equipped with RFID chips that signal when

they need to be cleaned.

The point of these profiles is to illustrate how even technology leaders can use digital innovations to further optimize their supply chains and their businesses. Making these leaps begins by thinking hard about how digital innovation relates to:

- **Products:** The additional value they might deliver to customers and the increased data they might generate.

- **Services:** Digitally-driven opportunities to hike sales, loyalty, and support.

- **Organization:** The structural impact of digitally optimized communication, reporting, visibility, and analysis.

- **Processes:** How technology might enhance flexibility and interactivity.

- **The end-to-end value chain:** Business-improvement potential associated with connecting more fully and deeply with external stakeholders.

Digital smarts don’t just benefit a company and its customers. As digital strategies are further refined and applied, the best and the brightest may also generate new career opportunities for employees, higher quality of life within their organizations, and even a smaller carbon footprint. □

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Private label sourcing at a crossroads

WHILE SUPPLY CHAIN MANAGERS are trying to maximize the profitable operation of their manufacturing and distribution networks, the pressure has been especially acute for this nation's retailers.

Optimization is more than just a buzz word with these shippers. For retailers, the concept includes "gross margin return on inventory invested" (GMROI) and balancing the cost of inventory at all points in the supply chain with availability to the customer.

According to research conducted by Deloitte Consulting LLP, rising costs dominate retailers' top challenges when it comes to sourcing private label goods. The study—*Private Label Sourcing: Strategies to Differentiate and Defend*—comes from Deloitte's survey of more than 260 respondents about their top private label sourcing pressures. It found three primary strategic responses to those challenges.

- First, analysts noticed re-shoring of production to domestic vendors. They saw this across all three categories surveyed: general merchandise, apparel, and grocery.

Researchers believe some of this trend emanates from higher and more unpredictable costs for transportation.

- Another strategy is vendor consolidation, which validates what analysts have been hearing from retailers for some time.

- Third, the study showed that companies continue to diversify their source country footprint.

Shorter product lifecycles

Deloitte researchers also found that, among the 94 countries noted as sources of supply, China, Mexico, and Canada are the most prevalent. However, after more than a decade as the undisputed leader as a sourcing and manufacturing base, China's appreciating currency, economic growth, and rising labor costs have begun to erode its dominance in the supply market.

Survey respondents indicate that other Southeast Asian countries—including India, Vietnam, Cambodia, and the Philippines—are becoming increasingly attractive as sourcing locations, particularly for apparel and softlines.

Other Southeast Asian countries—including India, Vietnam, Cambodia, and the Philippines—are becoming increasingly attractive as sourcing locations, particularly for apparel and softlines.



Michael Daher, principal and Retail Sourcing Practice leader at Deloitte, shared this observation with *LM*:

“A lot of retailers are looking to reduce their number of suppliers to get more buying power and a higher level of service with a few, strategic vendors. Retailers are also turning to more exclusive private label offerings to maintain loyalty, because nationally branded merchandise is easily sold by online competitors.”

Daher adds that as consumers are faced with a proliferation of online options, product design and innovation are becoming increasingly important for private label.

“This demand for new innovations and customized product is leading to shorter product lifecycles and smaller, more frequent order quantities,” Daher adds.

As low-cost online competitors continue to expand across more categories, Private Label provides an opportunity for retailers to defend their market share by offering products that are exclusive to their banner. But it’s not the “copy and paste” Private Label we grew up with—these are innovative private label brands that require more sophisticated sourcing capabilities.

Retailers’ current response strategies do not appear to directly mitigate such pressures. Roughly seven in 10 survey respondents indicate that their organization’s response strategy is currently focused on enhancing quality assurance programs (71 percent), engaging in advanced planning/scheduling with vendors (70 percent), and enhancing ethical sourcing capabilities (69 percent).

In contrast, retailers are adopting new strategic responses that correspond more closely to the acute cost of reported pressures. Retailers’ top three emerging strategies include: diversifying their country source of supply footprint (35 percent); re-shoring production to domestic vendors (33 percent); and consolidating vendors (28 percent).

It is also important to note that ethical sourcing remains a top priority among retailers: a total of 92 percent of respondents indicate their organizations are either currently enhancing their ethical sourcing capabilities to address sourcing pressures or plan to do so in the future.

Omni-channel changes

As retail comes to grips with the disruptive omni-channel changes in consumer behavior and the competitive landscape, the pace of international expansion becomes more complex, notes AlixPartners, a global research firm based in New York.

Ethical sourcing was a major part of the firm’s recent *2013 Executive Survey on Supply Chain Sustainability*,

which queried more than 150 “C-level” executives from a broad range of Private Label industries in the U.S. and Europe.

Sustainable supply chain opportunities are seen as having greater potential for financial return than are others, with freight consolidation and network optimization—both of them cited by 53 percent of executives surveyed—topping the list. Similarly, third-party logistics and trucking (49 percent each) are seen by executives as the segments in which the most-cost-competitive sustainable innovations can be found.

“Private Label companies that can implement cost-effective supply chain sustainability improvement strategies and market them to customers will have a competitive advantage,” says Foster Finley, AlixPartners’ managing director.

But ethical sourcing must still contain ROI if it is to gain traction, the survey suggests.

“For companies willing to spend on sustainable technologies, nearly 60 percent require a cost payback within 18 months or less,” says Finley. “Just 17 percent are willing to wait longer to see a return on their investment. That lack of return on investment is the largest

Recent studies find that global consumer behavior fueled by mobility and online shopping are driving the strategic importance of private label sourcing.

obstacle to achieving greater supply chain sustainability, cited by 65 percent of executives we asked.”

Lack of return on is followed by implementation costs, which was cited by 59 percent of respondents. For all of those reasons, active investment in sustainable supply chain projects remains a question mark for many company executives.

While retailers are looking to private label sourcing to drive more differentiation on the shelf and to defend market share, margin, and brand reputation, the jury seems to be out on how much sacrifice can be made.

“Twenty-nine percent do plan to actively invest in these types of projects, and 13 percent said they have a plan, although it will not be implemented in the next year. Nearly half—43 percent—are undecided,” adds Finley.

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Considering a natural gas powered fleet? The devil is in the details

THE NATURAL GAS MARKET OUTLOOK has been a frequent topic covered in this column over the last two years. Over this time, I have consistently argued that although natural gas is abundant, natural gas prices will inevitably rise because the costs of production do not support the “glut” prices that have resulted from the fracking boom.

Natural gas prices matter, of course, because the price differential between natural gas fuels and diesel presents an opportunity for some—not all—fleets to enjoy significant net savings by replacing diesel powered trucks with natural gas powered alternatives.

My colleagues at Mercator and I have developed a model that calculates the net present value (NPV) and internal rate of return (IRR) for potential investments in natural gas powered trucks. Before describing the model, I will first review how the natural gas and diesel markets have developed over the last twelve months.

It’s certainly no secret that a glut of natural gas emerged toward the end of 2011, and this glut lasted through 2012. Signs that the market was beginning to work through the natural gas glut began to appear in the early months of 2013, however, and as the amount of natural gas in storage declined from a five-year high to the five-year average between January and April, Henry Hub spot prices jumped 38 percent, rising from roughly \$3.20 to \$4.40 per Mcf (thousand cubic feet).

Since then, spot prices have oscillated, but overall the average since April has been \$3.80 per Mcf. And at these low prices, it does not make sense to drill in anything but the most productive sections of shale plays, so we should expect prices to rise in the future.

At \$3.80, the average price over the last six months has been 38 percent higher than the average price through all of 2012. Of course, the wellhead price of natural gas is just one component in the retail price of compressed natural gas (CNG) and liquefied natural

gas (LNG). Regarding the latter, LNG is currently only readily available in California.

Currently, on a diesel gallon equivalent (DGE) basis, California’s prices for LNG range from just \$2.19 to \$4.09; this amounts to a difference in excess of 87 percent. Outside of California, pump prices are even more wide-ranging. One DGE of LNG can be purchased for \$1.99 in Houston, but the same quantity will send you back \$9.64 in La Crosse, Wisc.

Never will you find such a disparity in diesel prices within the same city because markets are well developed (high competition). And unlike LNG, which literally boils off and is lost to the atmosphere if it sits for more than a few days and its temperature rises above -260 degrees Fahrenheit, diesel is stable. Clearly, LNG price volatility has both a geographic and temporal component that is not matched by diesel.

By comparison, CNG is far more readily available than LNG, and unlike LNG, CNG is stable. Once compressed, it can be stored for decades. Similarly, retail CNG prices are more stable than LNG prices. That said, even within a region, there is significant price variation. In the greater Los Angeles area, current natural gas prices range from \$2.26 to \$3.59 on a DGE basis, a difference of 59 percent. Again, you are not likely to see such a disparity in diesel prices within any particular region.

The average CNG retail price across the Los Angeles region is \$2.91 on a DGE basis. At the national level, the average price is closer to \$2.50 (DGE). The retail price for CNG is comprised of eight main components: the commodity price; transport to the utility’s city gate; the local gas company service fee; taxes and special assessments; compression (using electric pumps); maintenance and repair of the compression/retail facility; the amortized cost of capital and equipment; and the retail markup.



Each of these components varies by location, and the wellhead price component is the only variable cost. On average, the commodity price component only accounts for 20 percent to 30 percent of the retail CNG price. Consequently, CNG prices are far more stable than natural gas spot prices. The same is true of diesel prices, which are far less volatile than oil prices.

Since January 2012, CNG prices have fallen into a fairly narrow band, especially considering the volatility shown in the commodity price. According to data from the *Clean Cities Alternative Fuel Price Report*, that reports average prices every two or three months, CNG prices varied by only 4 percent from the minimum price to the maximum price.

By comparison, and according to the same data source, the maximum diesel price was 10 percent greater than the minimum. Given the timing of the data, we can expect that both CNG and diesel volatility was greater than reported; however, the lesson is that CNG prices are, in fact, less volatile than diesel prices. In short, while retail CNG and LNG prices may be more stable on average, geographic variability can be extreme and should be considered in any investment analysis.

In addition to CNG prices being less volatile, CNG is consistently less expensive on an energy equivalent basis than diesel. Since January of 2012, the average retail price differential was \$1.65 per DGE, and the minimum and maximum price differentials were \$1.49 and \$1.85, respectively.

Of course transitioning to a CNG (or LNG) powered fleet is neither without risk nor without cost. On the risk side, there is a not insignificant chance that the price differential between natural gas fuels and diesel could narrow rather quickly—and, in the process, turn a good investment bad.

On the cost side, natural gas power plants are more expensive. And because the energy content (Btu per gallon) of CNG and LNG is significantly less than the energy content of diesel, for a CNG or LNG alternative to achieve the same range as a diesel truck requires that for every gallon of diesel, 3.7 gallons of CNG must be carried and 1.72 gallons of LNG must be carried.

The larger and more complex CNG and LNG tanks are notably heavier than the diesel equivalent and significantly more costly as well. In some cases, the additional weight of the tanks will decrease the payload capacity.

In addition to having different tank configurations, CNG and LNG have different refueling requirements. Because LNG is cryogenically liquefied, drivers must use protective gear (facemask, gloves, closed-toe shoes) and receive specialized training. Because CNG tanks must be filled through pressurization, and pressurizing a gas causes the temperature of the gas to increase, which in turn causes its volume to expand, fast-filled

tanks achieve maximum pressure when the tanks are less than totally full.

In order to completely fill the tanks, a slow fill technique that can take six to eight hours is required. Consequently, if you don't have your own refueling facility, the practical tank volume is decreased by as much as a quarter.

The investment model developed at Mercator and referenced earlier generates an incremental discounted cash flow forecast and estimates the payback period, net present value of the investment, and the internal rate of return for the investment using nearly twenty user-defined inputs including:

- Incremental natural gas spot prices and diesel prices, which vary by region
- Type of power plant (CNG or LNG) and displacement
- Tank size and configuration
- Fleet characteristics including number of trucks/tractors, average payload, average miles per year, average trip distance, and average fuel economy (for diesel, the model estimates the natural gas equivalent)
- Fueling technique (slow or fast filling CNG)
- Financial considerations such as the discount rate, the price differential between truck/tractor models, salvage period, residual value, and the incremental cost of capital.

Running various realistic fleet and pricing scenarios

Evaluating natural-gas-powered alternatives to diesel-powered trucks and tractors is a complicated task, but in some cases, the financial rewards for making such a transition can be significant.

through the model produces intriguing results. We find that for some fleets, the decision to switch to natural gas is almost risk free—meaning that the net present value of the investment is positive under most likely fuel price scenarios. We also find that for other fleets, transitioning from diesel to natural gas will not provide a positive return on investment even under pricing scenarios weighted to favor natural gas alternatives.

Evaluating natural-gas-powered alternatives to diesel-powered trucks and tractors is a complicated task, but in some cases, the financial rewards for making such a transition can be significant. But even in such cases, the value of such an investment must be weighed against competing investment opportunities, which is typically accomplished by comparing the internal rates of return between competing investments.

Depending on where and under what conditions your fleets operate, natural gas powered trucks/tractors may make a terrific investment, but the devil is in the details. □



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Dixon Ticonderoga writes its new logistics future

CEO Timothy Gomez led the charge to vertically integrate manufacturing and distribution at the 218-year-old pencil company—and saved \$5 million in logistics costs in the process.

BY JOHN D. SCHULZ, CONTRIBUTING EDITOR

Sometimes even the most venerable among us needs a hand crossing the street now and then. The same can be said of a storied U.S. manufacturing company—one that literally had a part in writing U.S. history all the way back to just after the Revolutionary War.

Not to put too fine a point on it, but when Timothy Gomez came aboard as director of distribution center operations for North America at Dixon Ticonderoga five years ago, the esteemed pencil manufacturer needed to sharpen its distribution processes.

“One word—nightmare,” says Gomez.

And it was at that time that he launched a logistics transformation program at the privately held 218-year-old company that brought its distribution and logistics processes into the 21st century. The transformation entailed vertically linking its manufacturing plant with its logistics processes through a series of modernizations at the company’s major distribution hub.

In the past five years, these new processes has saved the company \$5 million in logistics costs, helped to propel Gomez into the roll of CEO, and has now earned Dixon

Ticonderoga the distinction of 2013 NASSTRAC Shipper of the Year, an award given annually by the association and *Logistics Management* to a shipper that has transformed its operations through the implementation of best practices and innovative thinking.

Here’s how Gomez and the logistics team at Dixon Ticonderoga made it happen.

Underlining the problem

When the 45-year-old Gomez joined Dixon Ticonderoga back in 2008 as director of distribution center operations for North America, he discovered some of its shipping practices were nearly as old as the company.

According to Gomez, it was using too many trucking companies to have any leverage over rates, while its processes and layout of its principal warehouse were outdated and cumbersome. He also found that the company’s system for handling defective merchandise was costing the company too much money and additional time.

“I had a disorganized warehouse, we were using 15 different transportation providers for inbound and outbound, we used receiving docks for shipping docks, shipping docks



“Our shipping costs were significantly higher than they should have been...and our distribution system was literally chaos.”

—Timothy Gomez, CEO, Dixon Ticonderoga

as receiving docks, three or four different brokerage services, and we were using significant expedited freight service to maintain service levels,” Gomez recalls.

To top it off, the company was getting hit with high fines from retailers because of transportation service failures. “Our shipping costs were significantly higher than they should have been...and our distribution system was literally chaos,” says Gomez.

For a company that sells a half billion pencils a year and has 150,000 different store keeping units (SKUs), that chaos meant mass confusion because its major production facility in Mexico City was not linked in any way to its logistics and distribution arm in the U.S. When product was ready, Gomez recalls, logistics often was not.

A major problem was split loads. Because manufacturing was not linked to transportation, truck inefficiencies were commonplace. Instead of one or two full truckloads by handful of chosen core carriers, it was sending partially loaded trucks by as many as 15 trucking companies.

“Let’s say we needed 150,000 units of XYZ, but we could only load 120,000 on the truck,” says Gomez. “The other 30,000 units would come later. It was

Scott Cook Photography/Getty Images



Gomez developed a stable and workable logistics plan to not only integrate shipping logistics inbound and outbound, but also to manage supply and purchase orders and link them to logistics capability.

erratic, and it was costing us plenty.”

Dixon Ticonderoga had no system linking its production to its available logistics resources. This caused service failures, which in turn caused some retailers to fine the pencil manufacturer because the correct amount of product was not available in a timely manner.

Writing the solution

One of Gomez's first achievements was whittling 15 former trucking partners down to four. These “core four” include UPS Freight and its brokerage arm, which now receive 85 percent of Dixon Ticonderoga's total logistics business today.

It also utilizes Old Dominion Freight Line (ODFL) for what Gomez calls “daily milk runs” into the U.S. from its 1,000-person production facility in Mexico City. It also uses C.H. Robinson as its chief third-party logistics provider (3PL) and Georgia-based TQL for truckload freight.

Interlining carriers offered freight savings due to the increased volume given to the carriers. Contracting with a limited number of core carriers enabled Dixon Ticonderoga to estimate future freight costs, improve on-time delivery, and work to eliminate issues in the future due to a solid relationship with those core four.

Gomez says that the key to its logistics turnaround was working with UPS. The \$54 billion freight and logistics giant has strategically and vertically integrated with Dixon Ticonderoga, which also utilizes UPS' brokerage

services in Far East and Europe, as well as inbound and outbound transportation.

“Over 85 percent of my logistics is vertically integrated with UPS,” Gomez says. “They have really been the glue that holds this all together.”

ODFL has been used strategically to improve inbound freight from Mexico, which produces about half of Dixon Ticonderoga's products. Before, shipments used

to come sporadically; but now, during its peak season from January through July, daily full truckloads come via ODFL to its major distribution center in Macon, Ga. “I call them ‘milk runs’ because they're just as reliable as the milkman delivering milk to your doorstep was a half century ago,” says Gomez.



But the improvement is not just in transportation. Gomez developed a stable and workable logistics plan to not only integrate shipping logistics inbound and outbound, but also to manage supply and purchase orders and link them to logistics capability.

“We have 5,000 different SKUs and we know exactly how much we can load,” Gomez says of Dixon Ticonderoga's varied product lines of not just pencils, but paints, watercolors,

crayons, industrial supplies, arts, and crafts.

With factories in China, Korea, India, and elsewhere, Dixon Ticonderoga used its established relationship with UPS to gain a foothold in logistics in these places. “When you have to fight for container space on a ship, UPS definitely has clout with getting space for our containers so we don't have service levels drops,” Dixon says.

However, the layout of the 200,000-square-foot warehouse in Macon, Ga., was another headache. Originally, the receiving area was separated into two areas of the warehouse with the shipping staging area between them, thus creating additional movement when the receiving team crossed into the path of the shipping team. By combining the receiving areas into one within its distribution center, the team reduced unnecessary movement of product and streamlined the receiving process.

Using the Lean process, Gomez created direct load lanes (called “SWIM” lanes in Lean-speak) to enhance processes and the layout of the warehouse to increase value and efficiencies. He says that the entire process requires just 15 people who are employed with wireless handheld devices to track thousands of SKUs at all times.

Additionally, Dixon Ticonderoga improved how defective materials are handled by staging a permanent non-conforming area within the warehouse. This has reduced both freight refusals at delivery and freight claims by insuring non-conforming product does not ship to customers.

Prior to the change, Gomez says that retailers had been charging Dixon Ticonderoga in excess of \$1 million annually for defective and non-conforming products. Today, those charges amount to about \$25,000.

Bottom line savings

From the first year to the second year of its transformation, Gomez says that Dixon Ticonderoga achieved more than \$1 million in savings. That has grown to more than \$5 million in the five years that the program has been in place.



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Gomez: From director of distribution center operations to CEO

It's probably safe to say that Timothy M. Gomez is one of the few supply chain professionals to gravitate to the chief executive level. But his path to the top is one fellow logisticians can emulate if they follow his advice.

As CEO of privately held Dixon Ticonderoga Co., the 45-year-old Gomez has a unique perspective on the importance of logistics to the overall financial well-being of a corporation.

"For me it's very simple," says Gomez. "Any supply chain professionals who want to cross over into executive management need a good balance of knowledge of the demand and supply chain, as well as how to create synergies to optimize supply and demand, integrate them, and not treat them as two separate things. You have to learn that."

The second key, according to Gomez, is to constantly be thinking about continuous improvement. "Executives today are never complacent," he says. "You're only as good as your ability to drive change. You have to go to work every day to drive change."

His third key is simple: "Never, never, never sacrifice customer focus for logistics issues. Customer focus is the No. 1 issue."

Finally, Gomez says that logistics and supply chain professionals need to think about continuous improvement for themselves as well. "If you're not committed to your personal development every day, you'll never make it crossing over to manage a company."

—John D. Schulz, Contributing Editor



"Any supply chain professionals who want to cross over into executive management need a good balance of knowledge of the demand and supply chain, as well as how to create synergies to optimize supply and demand, integrate them, and not treat them as two separate things. You have to learn that."

—Timothy Gomez

"We are able to sustain it," Gomez says proudly, referencing the continuous improvement processes.

And it shows. According to market analysis, the most efficient companies spend between 3.8 percent to 4.2 percent of total revenue on logistics. Dixon Ticonderoga was way above that percentage when Gomez came aboard. The company has since reduced that spend by 1.4 percentage points to now fall between the benchmark, he says.

Because it was successful integrating logistics inbound on container shipments coming from overseas, Gomez says that the company was able to reduce the number of

containers it uses by 15 percent. "That's real money," he says.

Inventory turns have been reduced by 25 percent, and the amount of inventory was cut by 28 percent since it now has a predictable supply chain. During the five year period, Gomez says, Dixon Ticonderoga's revenue grew by 50 percent.

As one of the few supply chain professionals to gravitate to the CEO level, Gomez has a distinct appreciation for how vital, innovative, and well-run supply chains are to the health of the overall corporation.

"When you try to pioneer something with a company that hasn't done this before, it's like driving on a dirt road,"

Gomez recalls. "At the beginning, it's always bumpy. But as we started going the first year, we realized we weren't on a dirt road any more. We were on a paved road. It may have some potholes along the way, and you hit them."

But in the second year, Gomez adds, the logistics team felt as if they were riding on a brand new road. "Nothing is perfect when you start," he adds. "When you pioneer something, it's a blank canvas. Mistakes can be made, but there were many more positives than negatives."

—John D. Schulz is a Contributing Editor to Logistics Management

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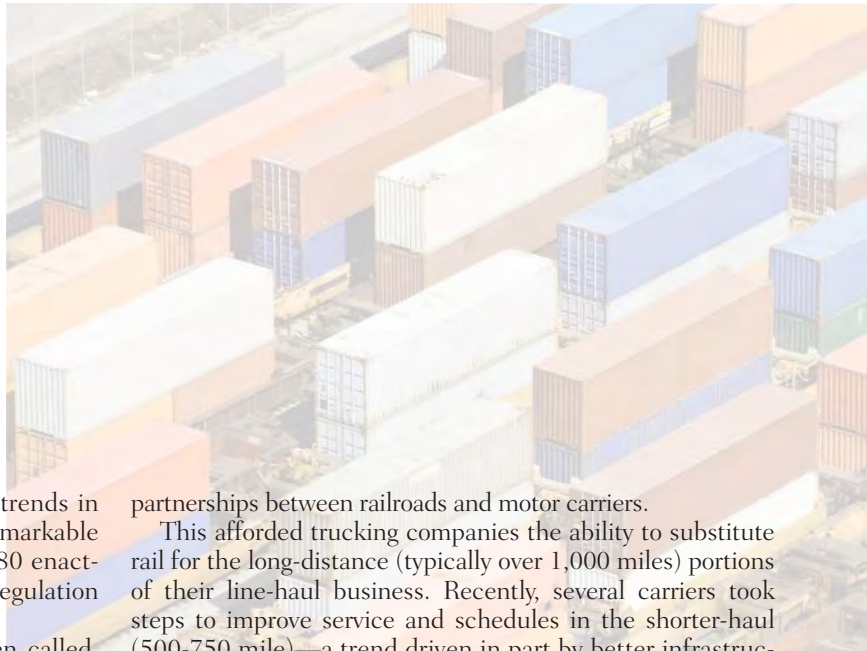
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Getting serious about multi-modal

Intermodal is becoming increasingly more viable as logistics managers find themselves under pressure to keep costs down and improve supply chain operations. But how can shippers wring out its full value?



BY **BROOKS BENTZ & SCOTT FATA**, ACCENTURE

Anyone who's paying attention to market trends in freight transportation knows about the remarkable growth intermodal has had since the 1980 enactment of the Staggers Act, ushering in deregulation of much of transportation.

Prior to its passage, "Piggyback," as it was then called, was the odd man out in a world of "boxcar" railroading. In their 2012 edition of *Railroad Facts*, The Association of American Railroads (AAR) reported that the entire rail industry moved just a little over 3 million units (trailers and containers) in 1980. In 2013, the forecast based on data provided by the Intermodal Association of North America (IANA), which tracks intermodal business activity in detail, estimated that volume may top 15 million this year.

Deregulation provided the catalyst for railroads to respond aggressively to declining merchandise carload volumes with creative pricing and marketing of intermodal services. For instance, the hard-charging growth in intermodal began to reconvert highway traffic to rail. That growth has driven a sustained spurt of rail industry investment in service improvements, adding capacity and new terminals.

A bellwether illustration of the magnitude of these improvements has been seen in the return of motor carrier traffic to the rails. In 1989, J.B. Hunt and the former Santa Fe (prior to the BNSF merger) forged the "Quantum" deal that reignited

partnerships between railroads and motor carriers.

This afforded trucking companies the ability to substitute rail for the long-distance (typically over 1,000 miles) portions of their line-haul business. Recently, several carriers took steps to improve service and schedules in the shorter-haul (500-750 mile)—a trend driven in part by better infrastructure, newer terminals, and the rising cost of fuel which together are making intermodal even more attractive.

So what's the punch line? Intermodal may be a progressively more viable contender for helping to improve supply chain performance. The second key point is that intermodal is likely to grow as services continue to broaden and improve, while the major railroads commit large amounts of capital dollars to improving infrastructure and service.

Consequently, intermodal could become more useful to shippers as they continue to be under pressure to keep costs down and improve their supply chain operations.

Wring out value

So what does that mean for shippers who have either used intermodal without wringing out its full value or for those who haven't tried it yet?

In the classic 1988 movie "Bull Durham," catcher Crash Davis advises rookie pitcher Ebby Calvin "Nuke" LaLoosh:

OPTIMIZATION

The advent of the double-stack container car essentially doubled productivity for any amount of linear train capacity and drove economics that re-revolutionized the intermodal business.

“Baseball is a simple game: You throw the ball, you hit the ball, you catch the ball.” Well, freight can also be seen as a simple game: You pick up the freight, you haul the freight, you deliver the freight. The devil, as they say, is in the multifaceted details.

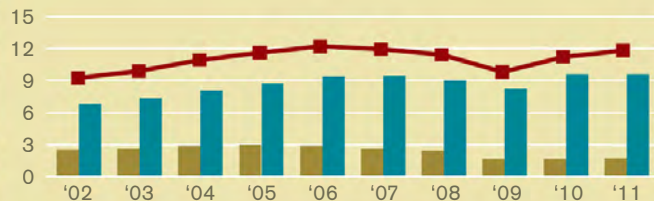
The real key to making this work to a shipper’s advantage involves developing capabilities in at least two key areas, both of which focus on value realization. Executive management teams generally expect a solid value proposition, so making this part of any transformational effort or even just a functional improvement is an essential consideration.

In our “View of Logistics,” we paint a picture of the primary things shippers should explore to be better positioned to “get it right” in an integrated fashion. While this is a comprehensive view of end-to-end transportation management, the key buckets of value reside predominantly in two areas:

Sourcing and optimization. More than rate shopping, this involves a holistic, multi-modal re-engineering and optimization of the complete transportation network. This essentially takes the market-basket of freight flows (inbound, outbound, inter-facility) and puts them in front

Intermodal traffic

(Millions)



Legend: Trailers (blue bar), Containers (teal bar), Total (red line)

	Total	Trailers	Containers
1965	1,664,929	NA	NA
1970	2,363,200	NA	NA
1975	2,238,117	NA	NA
1980	3,059,402	NA	NA
1985	4,590,952	NA	NA
1990	6,206,782	3,451,953	2,754,829
1995	7,936,172	3,492,463	4,443,709
2000	9,176,890	2,888,630	6,288,260
2001	8,935,444	2,603,423	6,332,021
2002	9,312,360	2,531,338	6,781,022
2003	9,955,605	2,625,837	7,329,768
2004	10,993,662	2,928,123	8,065,539
2005	11,693,512	2,979,906	8,713,606
2006	12,282,221	2,882,699	9,399,522
2007	12,026,631	2,600,635	9,425,996
2008	11,499,978	2,478,890	9,021,088
2009	9,875,967	1,639,603	8,236,364
2010	11,283,151	1,684,684	9,598,467
2011	11,892,431	1,720,967	10,171,464

Source: AAR Railroad Facts for 2012

Transportation Best Practices/Trends: Intermodal

of the market. Ideally, the market can then tell you what it is worth through “expressive competition.”

Expressive competition is rooted in the ability to incent the buyer to select the seller from a field of competitors by the seller’s creative “expression” of incentive pricing based on combining offers (“combinatorial pricing”) and bundling key elements of the shipper’s volume together to produce economically attractive offerings. From there, you may be more able to optimize your network in terms of price, capacity, and service.

Operational execution. Focusing on planning and optimization in the following important areas, shippers evaluate the use of the asset’s (trailer, container) capacity, meaning loading efficiency, and cube utilization; and use of the asset itself to properly and dynamically route and schedule the asset to make the most of its time on the road (rail, water, or air).

Building the control tower

So, how do shippers do this? A transportation control tower (TCT) can be designed to efficiently ship and monitor a shipment while in transit as it crosses various modes of transportation. It can be done in-house, out-

sourced, or via a hybrid model of the two.

A TCT is not a fixed operating model, but rather a custom fit in an off-the-rack world to execute transportation management in an integrated manner. Managing end-to-end transportation is the core function of a TCT, which is an optimal blend of transportation best practices and enabling decision-support technology.

The key attribute is that the TCT concept helps enable the optimization of modal choice to potentially gain the best service and capacity at the best price to fulfill an organization’s supply chain requirements.

Intermodal can be a critical element in the maximization of value. The question is how to harvest that value most efficiently and effectively. Two possible paths are:

Multi-echelon expressive competition: Making intermodal a priority can involve holistically re-engineering the transportation network. This is done through expressive competition, whereby intermodal is added to the sourcing of network transportation capacity and evaluated against other ways of moving the freight in terms of price, service, and capacity. In the table shown below, each lane has pric-

ing, capacity, and service for solo truck, team truck and intermodal.

When running various optimization scenarios, different levers can be pulled to achieve different results (e.g., low-cost scenario, best-service scenario, maximizing intermodal, limiting teams to 20 percent on any lane, etc.)

This may also provide immense flexibility to design a cost-effective transportation service network, while also delivering the service needed to achieve customer satisfaction.

Blended Service: The shipper may use multiple service options on a lane or set of lanes to cover a variety of service options to enhance their ability to dynamically make the best choices for a given set of circumstances.

For example, service requirements may demand truck delivery on certain lanes. But trucks arriving at a destination on a Saturday or Sunday night when the delivery must be made on Monday is a wasteful use of capacity, when an intermodal move—even with a longer transit time—might also provide a Monday delivery. The only way these types of opportunities may become visible and thereby actionable is by looking at the network holistically.

The concept of the TCT is not new.

Lane information										Bid information						
Item ID	Origin city, state	Origin ZIP	Destination city, state	Destination ZIP	Miles	Primary mode	Primary equipment type	Required transit time	Annual shipments	Bid	Minimum charge	\$/mile	Annual capacity	Transit time	Mode	Equipment type
947	Perth Amboy, NJ	08862	Atlanta, GA	30301	868	TL-Solo	53' Dry	2	2,190	1	\$1,478	\$1.70	548	2.00	TL-Solo	53' Dry
										2	\$1,800	\$2.10	548	1.00	TL-Team	53' Dry
										3	\$1,100	\$1.30	548	4.00	IM	COFC
957	Long Beach, CA	90801	Linden, NJ	07036	2,800	IM	TOFC	6	620	1	\$1,500	\$1.00	155	8.00	IM	TOFC
										2	\$2,000	\$1.10	620	6.00	TL-Solo	53' Dry
										3	\$2,500	\$1.30	620	3.00	TL-Team	53' Dry
874	Ocilla, GA	31774	Goldsboro, NC	27553	479	TL-Solo	53' Dry	1	570	1	\$664	\$1.39	143	1.00	TL-Solo	53' Dry
										2	800	\$1.67	143	1.00	TL-Team	53' Dry
										3	500	\$1.04	65	2.00	IM	TOFC
875	Belmont, NC	28012	Brownsville, TX	78521	1,378	TL-Team	53' Refer	2	540	1	\$1,000	\$1.59	540	2.00	TL-Team	53' Refer
										2	\$500	\$1.31	540	3.00	TL-Solo	53' Refer
										3	\$500	\$1.09	540	5.00	IM	TOFC
959	Baltimore, MD	21230	Abbeville, LA	70510	1,254	IM	TOFC	1	498	1	\$1,404	\$1.12	498	4.00	IM	TOFC
										2	\$500	\$1.28	498	3.00	TL-Solo	53' Dry
										3	\$500	\$1.56	498	2.00	TL-Team	53' Dry

Source: Accenture, 2013



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Sustained Intermodal Growth: A brief history

Ironically, much of the early intermodal volume came from motor carriers. For instance, the New Haven Railroad in the early 1950s providing seats in cabooses for carrying drivers who wanted to accompany their rigs.

Over its years of development I would argue that four key elements contributed mightily to the long-term sustained growth of the intermodal business:

- Collapsible hitches
- 85-foot flatcars
- Mechanized loading
- Advent of the double-stack car

Collapsible hitches secured trailers to flatcars and eliminated tedious chains and binders and sped the loading/unloading process.

Significant commercial developments also sprang from the development of the 85-foot flatcar. Prior to the invention of what became the industry standard TTX car (for TrailerTrain, the pool operator owned by the major railroads), flat cars—the 40-foot and 50-foot varieties—carried a single trailer. The longer car could carry two trailers.

Mechanized loading with overhead cranes and side-loaders (“PiggyPacker”) increased productivity over “circus” loading. The commercial breakthrough resulted from the marrying of loads to fill the cars, which spawned what we now know as the IMC (Intermodal Marketing) business. The third-party service providers entered the business to match loads, and railroads enabled

this by providing discounted rates to third parties. That created a new commercial model that is alive to this day.

The next big transformation was the advent of the double-stack container car, which essentially doubled productivity for any amount of linear train capacity and drove economics that revolutionized the business.

That, coupled with the steadily increasing size of boxes—from 35-foot and 40-foot trailers to ultimately the current standard of 53-foot—has made intermodal highly competitive, particularly on dense, long-haul lanes like Chicago to Los Angeles).

This is crucial, as it changed the game from the carrier point of view. From a small, generally disparaged and disregarded segment of the business run by cast-offs, misfits, and renegades (a population of which I was a proud member), the business morphed into a main-stream growth engine.

The market had continued shifting away from conventional boxcar or merchandise business, with a large-scale shift to truck, largely enabled by the completion of the federally-funded Interstate Highway System. Nothing remains static for long, and the growing highway congestion in major urban areas, along with rapidly rising fuel costs is again heightening the viability of intermodal as an option for shippers to consider.

— Brooks Bentz, Accenture

operations people. Essentially, each organization would determine where to draw the line between centralized and decentralized functions, and the answer may be different for everyone.

The objective is to provide everyone who is making decisions, strategic or tactical, with the elusive ‘single version of the truth’ view of data and what is happening across the organization.

Another key factor involves implementing the best decision support technology to help enable sound and practical optimization of complex networks.

Rather, the objective here is to develop a dynamic operating model that can flex with changes in operational requirements stemming from customer needs or any number of other issues that can arise over time—carriers leaving the market, changes in the cost of fuel, new vendors.

The bottom line is that intermodal transportation is likely to be a progressively more important catalyst for the improvement of supply chain performance. Devising a strategic plan of attack, using intermodal, will be a beneficial way to achieve success.

—Brooks Bentz is Managing Director, Supply Chain Transportation, Accenture; Scott Fata is a Senior Manager at Accenture

What has arguably made it a much more powerful tool is technology that enables decision-support to make it easier to connect with trading partners (carriers, forwarders, 3PLs, etc.) To many, the mention of a “control tower” may connote a power grab by one faction of an organization, but this need not be the case, unless a highly centralized model is viewed as desirable.

One of the critical factors in getting it right is the blueprinting process used to determine what makes sense to centralize and what makes sense to keep in the hands of local or regional



“The Business of America is Business.” — Calvin Coolidge

The Business of Alliance Shippers Inc. is... “To Manage Our Customers’ Business.”®

Perfect Shipment® Intermodal Results 2012 vs 2013

	Fiscal Year: 2012			Fiscal Year: 2013		
	Origin Pickup	Railroad Linehaul	Destination Delivery	Origin Pickup	Railroad Linehaul	Destination Delivery
July	98.8	96.3	96.6	98.9	98.0	97.8
August	98.7	96.3	96.8	99.0	98.5	97.9
September	98.8	96.9	95.3	99.0	98.4	97.6
October	98.7	97.8	95.8	98.8	98.4	97.5
November	98.6	96.5	97.3	98.7	98.1	97.5
December	98.8	96.9	95.3	99.0	98.4	98.0
January	98.9	97.8	97.8	99.0	98.7	97.9
February	98.3	98.2	98.2	99.0	98.5	98.0
March	98.6	98.5	97.2	98.9	98.1	98.4
April	98.5	98.3	98.1	99.1	97.0	98.7
May	98.9	97.4	98.1	99.1	97.7	98.3
June	98.6	98.2	97.8	98.7	97.5	97.9
12-Month Average	98.7	97.4	97.2	98.9	98.1	98.0

To our valued customers:

Alliance Shippers Inc.'s Perfect Shipment Program® is our operating process for providing on-time pick-up, railroad linehaul, and on-time delivery for all of our customers' shipments to either themselves or their customers in the railroad intermodal mode. The data reflected on this page is a comparison of our on-time performance in the three aforementioned categories for our fiscal year 2012 versus our fiscal year 2013.

Two years ago, Alliance Shippers Inc. set a goal to reach a percentile of at least 98% of on-time performance in each of the three segments that go into a railroad intermodal truckload shipment. For our fiscal year 2013, we have attained that goal.

I want to thank the thousands of trucking companies who are integral in this process who pick-up and/or deliver our customers' business. I want to thank all the United States railroads for providing outstanding service in order for Alliance Shippers Inc. to reach our goals that allows us to fulfill our customers' service expectations.

In today's modern transportation world a company has to have the highest level of information technology, which Alliance Shippers Inc. has, a company "culture of service" and a roster of employees who are not only highly professional in their business responsibilities, but have practical experience in the railroad intermodal industry.

I congratulate all of the Alliance Shippers Inc. employees for their contributions in attaining this 98% achievement for fiscal year 2013.

There is an old saying that says "without a customer you have no business." All of us at Alliance Shippers Inc. want to thank our customers for allowing us to provide service to them and their companies.

Respectfully,

Ronald Lefcourt

President, Alliance Shippers Inc.



For more information about all of our services, visit us at:
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Supply Chain & Logistics Technology

Cloud-based applications continue to penetrate the supply chain management (SCM) software space as more operations are eager to embrace the advantages it maintains over traditional options. We explore how far shippers have gone into the Cloud and reveal several limitations that could hinder the flight.

State of Cloud Computing: Sky's the limit

BY BRIDGET MCCREA, CONTRIBUTING EDITOR

Drawn in by cloud computing's low startup fees, cost efficiencies, virtually unlimited storage space, and the potential to reduce IT implementation and support costs, a growing number of companies are opting out of purchase-and-install software options and instead implementing cloud-based applications that allow them to share and access both software and information via the web.

Instead of using their own physical servers or hard drives to store the software and information, logistics professionals can now "subscribe" to software services that are housed and readily accessible online in a 24/7 format.

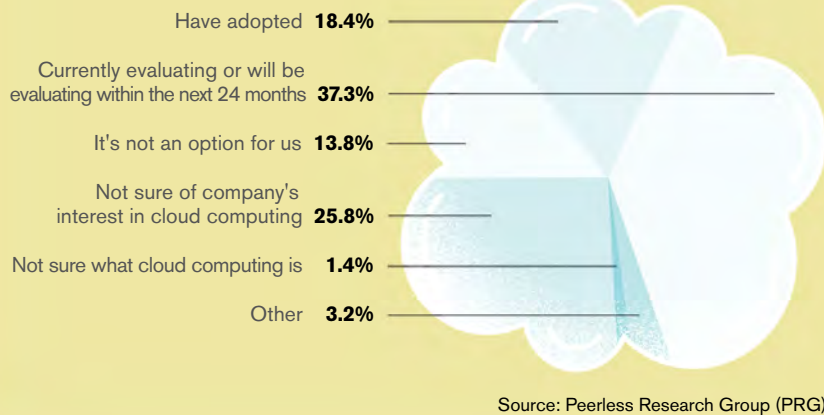
Frequently confused with on-demand or hosted solutions, cloud applications are delivered as a utility and outside of the shipper's firewall via a service like Amazon

EC2. Another point of confusion involves Software as a Service (SaaS), where applications like TMS and WMS are delivered in a multi-tenant environment and hosted at the provider's datacenter, via a third-party host, or through a cloud computing provider.

Cloud computing has been gaining ground in the supply chain management (SCM) software space over the last few years. According to the *Logistics Management 2013 Technology Usage Study*, 18 percent of responding logistics professionals say they've already adopted cloud-based solutions, 37 percent are evaluating them, 13 percent don't see cloud-based solutions as an option, and another 26 percent say they're not sure of their company's interest in cloud computing.

According to the survey, key concerns that shippers

Which best describes your company's status regarding the adoption of cloud computing?



cite in relation to cloud computing include security, system reliability, privacy, and backup plans. Those companies that are strongly considering cloud solutions say ability to access from anywhere, bandwidth, and capacity, and the fact that current SCM software providers are swiftly moving in that direction, are driving their decisions.

Over the next few pages we'll explore the depth of cloud computing's mark on the SCM space, discuss the limitations of this software delivery method, and hear from an equipment manufacturer that's bent on getting 100 percent of its customers using the cloud as soon as possible.

Surpassing growth expectations

There's no doubt that shipper interest in cloud-based applications is on the rise. By 2016, analysts at Gartner predict that roughly 40 percent of supply chain applications will be delivered in the "combined cloud," which encompasses public cloud (where multiple users share resources), private cloud (for a single company), and multi-tenant SaaS (the application serves multiple businesses and users) delivery methods.

Dwight Klappich, Gartner's research vice president, says certain sectors of the supply chain space are already surpassing that 40 percent target. More than 50 percent of new sourcing and

procurement applications, transportation managements systems (TMS), and global trade management (GTM), for example, are currently being delivered in the cloud, he says.

Klappich says both warehouse management systems (WMS) and select supply chain planning (SCP) applications are gaining traction in the cloud, albeit not at the same rate as TMS and GTM. "We're beginning to see more interest and acceleration in the cloud for WMS and SCP," he explains, "but their numbers trail those of other supply chain applications."

In most cases, Klappich says that the reluctance to move into the cloud comes down to a single question: Is there a real advantage to running the application offsite versus in-house? "When the answer is no, shippers generally don't make the move into the cloud," says Klappich.

However, when TMS is moved into the cloud, shippers gain the advantages of being able to collaborate and interact with suppliers, carriers, and other key service entities in a 24/7 environment online. And when GTMs are cloud-based, solutions providers can easily and quickly push out the most updated trade compliance and regulatory parameters to a shipper's global locations—all via the web. "The advantages are pretty clear," Klappich says, "and that's why applications like TMS and

GTM took off faster in the cloud."

Steve Banker, director of supply chain solutions for ARC Advisory Group, says that in some cases, shippers have had no choice but to move into the cloud. In the supply chain planning market, for instance, vendors like Aspen Technology and Kinaxis, for example, don't offer traditional software delivery models.

The fact that choices were limited helped push up cloud adoption numbers in those sectors and also helped buoy cloud computing as a whole. In the TMS and GTM software sectors, Banker says that the architectural advantages of moving into the public cloud, namely for the sake of collaboration, "simply couldn't be matched by traditional software solutions."

Assessing cloud's limitations

Throughout most of its history, cloud computing has been presented as the "quick and cheap" way to get a new piece of software installed and operating. Not so fast, says Klappich, who sees "quick implementation" cloud sales pitches as misleading.

"Some vendors are overselling the fast implementation aspect of the cloud," says Klappich. "Cloud users do gain some advantages in this area, but nowhere as great as some of the vendors have stated. That's caused issues for companies that thought they'd put software in the cloud today and be using it tomorrow."

Keep in mind that moving into the cloud doesn't necessarily change the implementation process itself. And if it does, the gains may come in the 10 percent to 20 percent range—as in a cloud implementation is 10 percent to 20 percent faster than traditional purchase-and-install. A new TMS user, for example, still has to load all of its carrier rates and configure the new system to integrate with its transportation network regardless of the fact that the application is cloud-based.

Cloud computing's limitations don't end there. Now that the delivery method has had some time to create a track record for itself, Klappich says a few more issues have been brought to his attention. For starters, he compares

the cloud versus the purchase-and-install decision to the “lease versus buy” choice that new car buyers must make.

“A car is cheaper to lease if you’re going to keep it for two years, but if you’re going to keep the auto for 10 years then it makes sense to buy it,” says Klappich. “The same logic can be applied with SCM software.”

Infrastructure management issues also come into play when the cloud is involved. What sounded like a good idea upfront—offloading server space and support to a third party—hasn’t panned out for all shippers. “When you select a cloud-based option you have to go into it with your eyes open,” says Klappich, “and recognize that you’re actually relinquishing control over the infrastructure management and application support.”

One way to avoid or at least manage these challenges is by biting off small chunks of the cloud—rather than trying to do department- or enterprise-wide software rollouts. “Figure out what you have the bandwidth to handle and then build a roadmap around that,” advises Jeff Trino, principal, GTM leader, supply chain technologies at Capgemini.

When working with shippers, for example, Trino focuses on a specific aspect of the firm’s business, such as its inbound distribution center network, implements a specific piece of cloud-based software, and then waits for the early successes (or failures) to rear their heads over a six-month period. “Carve out an approach that’s realistic for your business and tackle it one piece at a time,” he says.

No end in sight

Expect to see more growth ahead for cloud computing in general and for cloud-based solutions in the SCM space. Will it get to the point where more shippers are using cloud than purchase-and-install software? Not anytime soon, says Banker. “The cloud segment continues to grow faster than the traditional software segment, but it’s going to be many years before the segment gets bigger than that of the traditional software

Riding the coattails of WMS into the Cloud

If Jim Gaskell had his way, every Crown Equipment Corp. customer would be using the cloud to store, manage, and retrieve information about its material handling equipment. Instead of sending maintenance, transportation, operator, truck, and battery information data to the warehouse or distribution center operation’s server via a wireless network, the lift truck’s onboard computer would simply ship it off to a web-based platform. Accessible from anywhere and on a 24/7 basis, the information could be shared across the entire enterprise—and not just within a single warehouse.

Gaskell’s dream may not be far off. In October, Crown rolled out a cloud-based solution for its Infolink lift truck fleet management system. Hosted on its private cloud system, the solution will help users consolidate their data, house it on the web, and then access it whenever they need it.

Whether logistics professionals choose to embrace the system remains to be seen. According to Gaskell, director of global Crown Insite products, some have voiced trepidation over the security of the information and the fact

that they’ll be “losing control” of the data that was once stored on their own servers. But Gaskell and his team have an ace in the hole—the fact that more and more companies are using cloud-based warehouse management systems (WMS).

“Quite honestly, if users don’t have a problem putting WMS data in the cloud, then they won’t have a problem putting their lift truck data there,” says Gaskell, who estimates that 10 percent of Crown’s customer base is currently using the cloud for lift truck fleet management. “We’ll just come in on the coattails of WMS.”

Gaskell sees the cloud as particularly relevant for global supply chain organizations that rely on a highly fragmented approach to lift truck fleet management. And while all U.S. operations may be able to use a central company server, locations in Mexico, Latin America, or Europe have to meet different data collection and management rules, and therefore can’t always use the domestic infrastructure.

“Customers are telling us that they are challenged in trying to get all of their global data in a central location,” says Gaskell. “The cloud solves that problem.”

—Bridget McCrea,
Contributing Editor



model,” adds Banker.

Trino sees more growth ahead for the cloud and points to companies’ desire for faster ROI and shorter IT deployment times as the key drivers going forward. He also expects continued consolidation among cloud providers as large players like Oracle, SAP, and Microsoft continue to build up their own cloud-based SCM offerings. “These companies have the install base,” says Trino, “and they’re actively looking for acquisition targets to expand in this market.”

Klappich, who will be keeping an eye

on Gartner’s 2016 projection that 50 percent of new software deals will be cloud-based, says the fact that WMS took just five years to mature in the space (compared to 10 years for TMS), is proof that shippers want alternative delivery methods and the benefits that they provide. “We’re going to see continued growth in cloud-based SCM, just like we’ve been observing for a while. At this point there is no end in sight,” he says.

Bridget McCrea is a Contributing Editor to Logistics Management

Voice + Mobility: Enabling the visible supply chain

Our Technology Correspondent offers an in-depth look at how voice and mobility are driving speed and efficiency inside today's more automated, multi-functional distribution operations.

BY BRIDGET McCREA, CONTRIBUTING EDITOR

Sharply focused on the orchestration of processes and making sure directions are followed to a “T,” today’s warehouse and distribution center (DC) managers rely on technology to verify that their facilities run like well-oiled machines. Over the last few years, voice and mobility have emerged as two of the most valuable technology tools for managers and their employees, and in doing so have fused yet one more link on the growing “visible supply chain.”

David Krebs, vice president of enterprise mobility and connected devices at VDC Research, keeps close tabs on the adoption of both voice and mobility in the warehouse and DC. Right now, he says voice is primarily being used for picking applications in an industry like grocery, where high-volume picking and packing is the name of the game. “At this point,” says Krebs, “voice is really for hands-free picking applications.”

Mobility, on the other hand, is ubiquitous in the typical DC. There, goals like optimizing “perfect orders” (those that are fulfilled, shipped, and delivered correctly and on time) and reducing idle work hours are achieved through the use of mobile devices, rugged hand-held equipment, Wi-Fi, and the web. As more warehouses are asked to support concepts like omni-channel retailing—creating a seamless consumer buying experience across mobile

devices, computers, bricks-and-mortar, and catalog—the need for mobility, and the supply chain visibility it creates, has grown exponentially.

“We’re seeing individual warehouses supporting both single-item distribution and high-volume distribution solutions,” says Krebs. “To do that, logistics operations are deploying a greater variety of data collection technology that incorporates voice, traditional barcode, RFID, and location technologies.”

Over the next few pages we’ll take an in-depth look at how voice and mobility are being put to use inside today’s warehouse and DC operations through the eyes of top analysts and vendors who are in the trenches, watching the evolution of the visible supply chain.

Doing the dirty work

It’s been years since the grocery industry decided that it no longer wanted to “get its hands dirty, picking through boxes,” says Joe Vernon, warehouse management systems (WMS) practice leader at consulting firm Capgemini.

Since then, the notion of using technology to do this dirty work has spread to many other industries. As the trend picked up speed, technology vendors caught on to the need and began making equipment, devices, and software designed to support the fully mobilized warehouse—or, at least one that

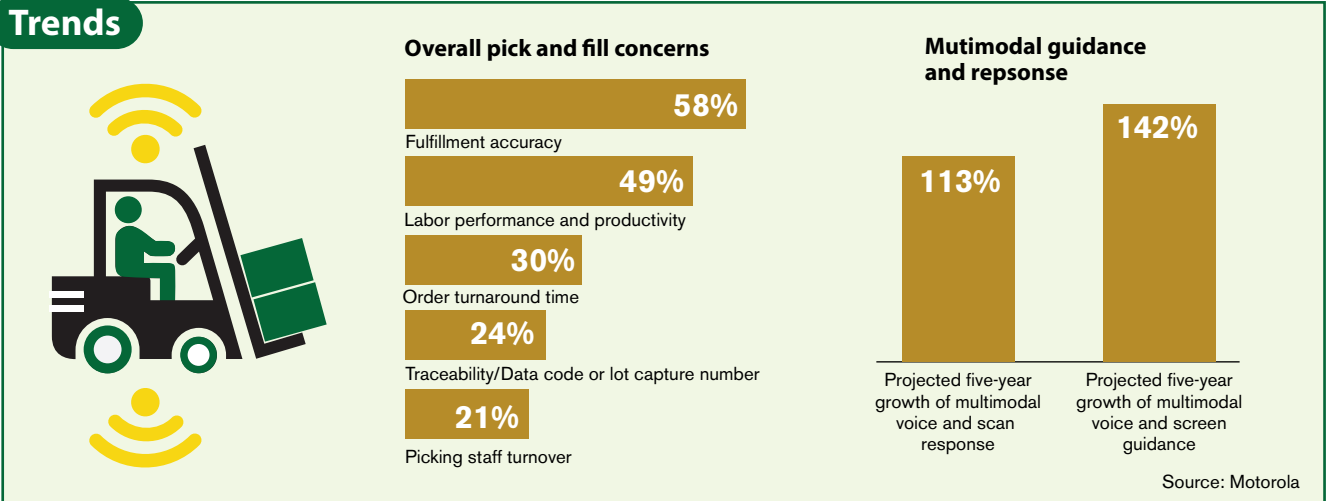
employs as much mobile technology as possible.

Today, Vernon says that one would be hard pressed to find a warehouse or distribution center that doesn't rely on at least some form of mobile technology to receive, process, store, inventory, and ship its products. "It's become a mainstream option—from the front to the back of the warehouse," says Vernon.

In some instances, the technology works so well that users don't want to give up their existing systems in lieu of newer, state-of-the-art voice-based options. "Radio frequency (RF) technology is still delivering a lot of value," says Vernon. "When you try to pitch someone on voice-based loading, very often the answer is: 'I have 50 devices that are working, why do I need more?'"



Pick and fill: Today and tomorrow



A warehouse survey by Motorola reiterated that the picking and replenishment processes—which account for up to 70 percent of operating costs in a warehouse—remain the top priority for warehouse professionals to address with advanced technology solutions.

Another issue that's holding shippers back from making mobility investments is the fact that devices aren't necessarily made to take the abuse of the warehouse environment. After all, the odds that a device may be dropped out of a forklift or accidentally placed under a heavy box are very good in that setting.

"Devices that come down to the warehouse floor have to be industrialized," says Vernon, who points to the iPad as an example of a useful device that wouldn't survive a 10-foot fall from a lift truck. "It's a nice device and inter-

face, but the iPad has to be industrialized before it can be used in the warehouse. Warehouse managers need to understand that before they push non-rugged into certain applications."

The vendor perspective

With technology advancing at the speed of light, and with new voice and mobility innovations hitting the market on a daily basis, product and solutions providers must have their fingers on the pulse of the shippers who are purchasing and using their products.

At Voxware, a developer of voice-picking software, President and CEO Keith Phillips says that his team is seeing strong demand for voice applications in the warehouse. Citing industry statistics, Phillips estimates that voice penetration in the supply chain is at



"Devices that come down to the warehouse floor have to be industrialized. It's a nice device and interface, but the iPad has to be industrialized before it can be used in the warehouse. Warehouse managers need to understand that before they push non-rugged into certain applications."

—Joe Vernon, warehouse management systems (WMS) practice leader, Capgemini

about 20 percent right now. Breaking down the market into thirds (large, midsized, and small enterprises), Phillips says voice usage among large enterprises is probably closer to 60 percent to 70 percent.

In most instances, Phillips says that technology costs are the inhibitors when it comes to the midsized and smaller users. He doesn't see that obstacle going away anytime soon. In fact, voice devices continue to fetch a retail price that is upwards of \$2,000 to \$3,000.

"As a software company we don't

control those prices," says Phillips, "but watching them retreat is kind of like watching the polar ice cap move." To offset those costs, software firms have started offering cloud-based models that allow users to get their voice systems up and running without a large, upfront capital payment. "This has helped tremendously," says Phillips. "More than 80 percent of our new customers are using the cloud."

Warehouse and DC managers are also finding innovative new uses for voice. At Pittsburgh-based voice solution developer Vocollect, Jay Armant, vice president of product management, says that functions like cycle counting, receiving, shipping, reverse logistics, and auditing are all being handled by voice.

These additions complement the usual lineup of voice-related activities, which typically include enabling, picking, or selecting workflows and processes. "Logistics professionals want to gain additional value and benefit improvements within the four walls of the distribution center, and one way they can achieve those efficiencies is by expanding their use of voice



“We could see a move to mobile technology for voice, particularly if ruggedized device prices stay high. In fact, if the equipment manufacturers don’t start lowering their prices they are going to lose out to the iPhone.”

—Dwight Klappich, research vice president, Gartner

to non-traditional areas of the DC,” adds Armant.

What’s ahead?

Based on his research into technology penetrations, shippers’ technology needs, and shipping market trends, Krebs says that, overall, “the fundamentals are good to very good going forward when it comes to voice and mobility usage in the warehouse.”

Krebs points to innovations like Google Glass as one driver of voice usage, noting that while the product wasn’t made for warehouse usage, the very idea of “wearables” and “hands-

free operations” can be applied across many different industries and applications. “These are some interesting concepts that I think warehouse workers could benefit from down the road,” Krebs says.

Capgemini’s Vernon expects voice and mobility equipment makers to come out with even more innovative products—all with the goal of “driving more devices into people’s hands.” To logistics operations that are considering a more mobile and voice-enabled warehouse and DC, or looking to upgrade an existing system, Vernon says careful selection and research is

necessary during this era of unbridled technological innovation.

“Be smart,” advises Vernon. “Don’t go out and buy the latest and greatest if you don’t need it.”

Dwight Klappich, research vice president for research firm Gartner, sees more growth ahead for both voice—which he says is mature, but not ubiquitous in the warehouse and DC—and mobility—both mature and ubiquitous.

Klappich says that the pathway from using ruggedized devices to employing handheld smartphones and other types of smaller, cheaper mobile equipment is currently being carved out. “We could see a move to mobile technology for voice, particularly if ruggedized device prices stay high,” says Klappich. “In fact, if the equipment manufacturers don’t start lowering their prices they’re going to lose out to the iPhone.”

—Bridget McCrea is a Contributing Editor to Logistics Management

Mobility: Satisfying the “need for speed”

Today’s logistics managers face a series of significant changes in how warehouses, distribution centers, and the entire supply chain operate. More facilities and larger spaces demand high-speed mobile communications virtually everywhere on or off the floor.

The need for more accurate product tracking and tracing, the effects of the manufacturing re-shoring movement, and myriad other e-commerce and related transportation challenges are pushing logistics operations to come up with more efficient and effective ways to manage their DCs.

Put both voice and mobility on the list of resources that logistics professionals have on their side. Such technologies feed today’s “need for speed,” according to Rob Armstrong, senior marketing manager, manufacturing and logistics, for Motorola Solutions. “Our research shows a 77 percent correlation between manufacturing profitability and inventory turns,” says Armstrong. “So the speed at which manufacturers, third-party logistics

providers, and distributors operate has a significant impact on profitability.”

Armstrong points to person-to-person communications as a critical link in the inventory turn-profitability chain. For example, a major food distributor on the East Coast recently consulted with Jim Hilton, Motorola’s vertical lead, manufacturing, about his operation’s lagging productivity. The distributor’s major issues, according to Hilton, involved inefficient cross-docking and shared production across various, geographically dispersed plants.

Using two-way radios equipped with voice-over-internet protocol (VoIP), the distributor was able to closely align its production lines, minimize overproduction, and create a more collaborative environment for line supervisors. “The whole operation wound up more effective and streamlined,” says Hilton, “even though multiple states were involved.”

Taking that model a step further, Hilton says that he’d like to see more logistics operations employing analytics

across the production line, through the logistics component, and out into the sales department. “There are a lot of models out there that help companies see where their people and trucks are and what to do if something happens,” says Hilton. “But what if you were able to use the information to figure out what to do before a disruptive event occurs?”

Armstrong says such scenario planning is already happening in the warehouse, with labor rebalancing occurring automatically when a truck is late to the dock, or when product is piling up on a dock because the truck can’t be loaded quickly enough.

In most cases, however, these reallocations require a human touch. “Warehouses and DCs are now moving to the point where they can take in analytics and figure them out on a machine-to-machine basis without having to have someone else figure them out,” adds Armstrong.

—Bridget McCrea, Contributing Editor



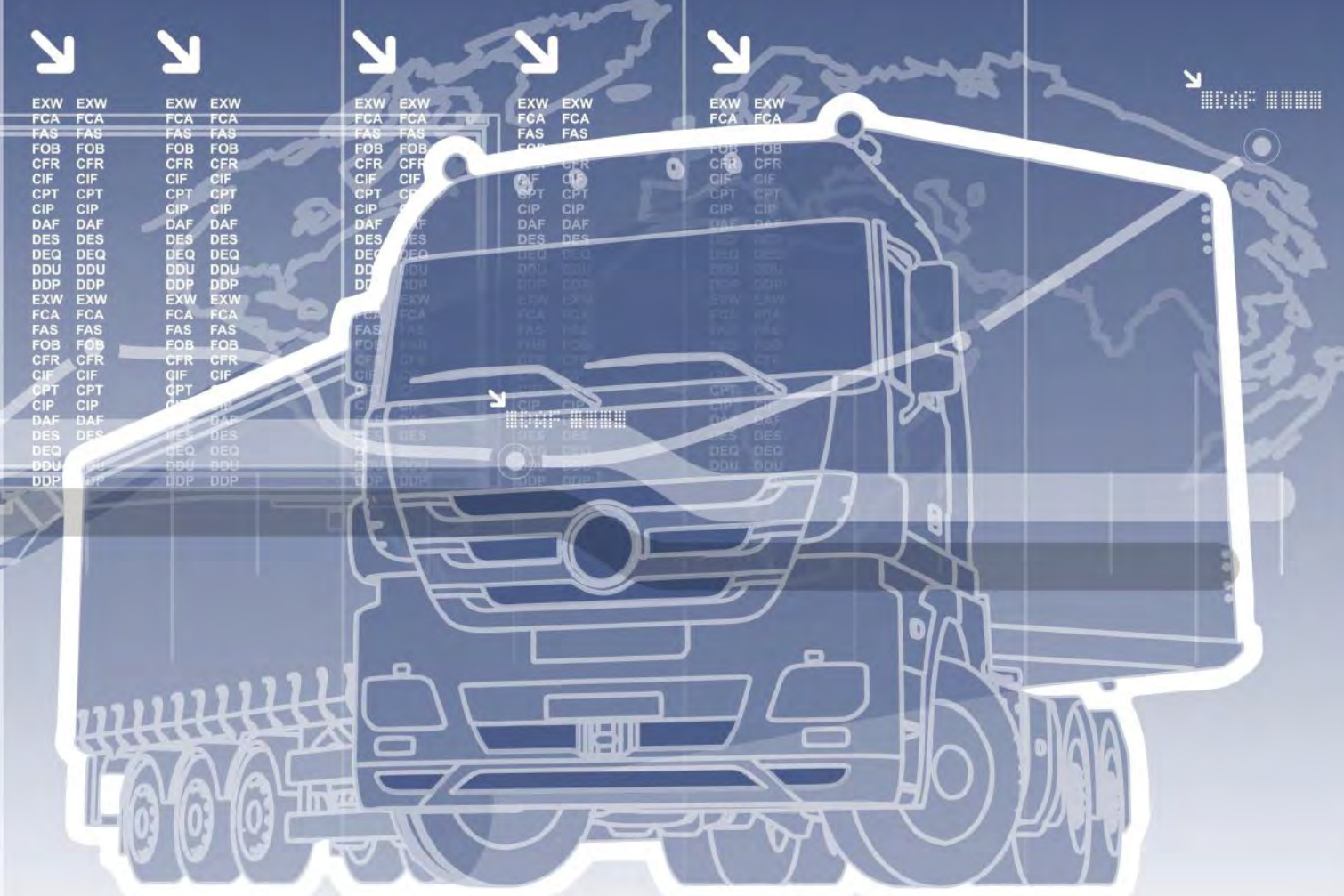
How to stay ahead in global trade

BY **PATRICK BURNSON**,
EXECUTIVE EDITOR

Besides anticipating changes in compliance and trade law, shippers are asking their freight intermediaries to help them with risk mitigation and for advice on how to penetrate emerging markets. Modal choices and IT investment are also top of mind with global shippers these days. With so many concerns, finding reliable market intelligence and the proper partnership can be a daunting challenge.

In an effort to help global shippers improve their relationships and processes with their freight forwarders, we've asked four prominent industry experts to address a variety of issues that will have an important impact on global logistics next year.

Joining us in this dialogue are Bryn Heimbeck, chief executive officer of Trade Tech, a provider of cloud-based trade management applications; David Ross, managing director of global transportation and logistics at investment and business consulting firm Stifel Nicolaus; Beth Peterson, president of the training and global trade consulting firm BPE Global; and Robert Voltmann, president and CEO of the Transportation Intermediaries Association (TIA).



With new, complex regulatory obstacles on the horizon, our panel says that improving relationships with intermediaries should be a top priority for global shippers heading into 2014. Want to stay ahead of the game? It's time to listen up.

Logistics Management (LM): *The “mega” forwarders just seem to be getting bigger. Is there a significant barrier to entry for new players?*

Robert Voltmann: Yes, there are some barriers, including knowledge, software, cash flow, and the ability to develop customers. However, we also see a growing striation in the market with the biggest shippers seeking to work with bigger third-party logistics providers (3PLs) and the mid-sized shippers working with mid-size 3PLs.

David Ross: I agree. The biggest barrier to entry is scale. Without significant buying power in a certain lane, it's very difficult to add value for shippers whether they're big players or small to medium-sized players.

Bryn Heimbeck: Breaking old models requires new thinking. The mega forwarders have the strongest claim to unified processes because of the extent of their networks. However, in a global environment, manual management processes can only go so far. There's room for

new forwarders to hurdle these barriers if they have the right technology.

LM: *Given the increasing complexity of global trade, do shippers have enough choices when it comes to finding the right forwarder?*

Beth Peterson: I believe that they do. Successfully overcoming the complexity of global trade is not the responsibility of the forwarder, it's the responsibility of the shipper. The shipper must ensure that the goods are correctly valued, classified, and the correct country of origin is identified.

These tasks are not something that the forwarder should be asked to do. The shipper must also make sure that the proper authorizations—import licenses, affidavits, certifications—were obtained prior to shipping. If the shipper gives all the necessary data and documentation to the forwarder, any forwarder should be able to clear the goods through customs.



Voltmann: I say yes. These service providers bring expertise, the ability to hire people, and the power to deploy technology to meet the needs of shippers. The 3PLs are also working with their software providers to automate and meet new challenges. We're also seeing industry leading domestic 3PLs move into or buy industry leading forwarders to create door-to door solutions.

Heimbeck: Well, there certainly is enough choice in the market and there multitudes of forwarders in every location. The question is, do they all have the capacity to handle business requirements at a unified or standardized level to meet the requirements of a shipper or consignee?

This is especially important in the ever-expanding frontier where local experience and expertise is critical, but where process sophistication has not yet been embraced. In short, if the shipper is pushing the frontier and buying or selling in far-flung areas, then reliance on locals will be increasingly important.

LM: *The business also seems fraught with risk when choosing a partner. How do you advise shippers when it comes to managing risk mitigation?*

Ross: We advise shippers to look outside the simple transactional costs when trying to determine the optimal mode or supply chain. We also suggest that they consider any potential disruption in the supply chain. How fragile is it? How resilient can it be?

Voltmann: Shippers should have written procedures for

hiring carriers and 3PLs, and they must be aggressive in their due diligence. Membership in industry organizations, credit, and performance are all key metrics.

Peterson: I probably sound like a broken record here, but shippers must get their Incoterms right. I can't tell you how many times we see invalid Incoterms on shipping documents. This guarantees additional cost and delay.

LM: *What would you say is the most common mistake shippers make when looking for a capable forwarder?*

Voltmann: The biggest mistake is when a shipper buys on price. The other pitfall is not using a written agreement that is fair to both parties.

Ross: Bob is right. Shippers should not be looking for a discount. Peace of mind comes from choosing the most reliable forwarder. I'll stress that shippers can avoid headaches and save expenses in the long term with this type of strategy.

Peterson: We all seem to be in agreement here. Many shippers only consider the rates. It is equally important to

consider capability, such as having a network of partners who can support clearance and transportation at all of their destinations.

LM: Will reliance on information technology continue to become crucial in this business, or will we eventually reach a plateau?

Ross: IT is always changing and improving, so we don't see a plateau ahead. Forwarders and shippers will need to keep up with the latest trends to make sure that they're still adding value. It's an ongoing process.

Heimbeck: If there's a plateau, it's a long way off. The capacity of information technology to change the nature of

logistics as we know it is epic, and we're just at the beginning of this major transformation. Many like to imagine that we've already seen such massive improvements that there is little left to come, but that thinking is wrong. In tomorrow's collaborative environment, using the cloud will be the norm.

Peterson: The only way to reach a plateau is to have all of the product and shipment information available in real time. For this to happen, shippers need to step up and proactively provide product and invoice data.

LM: How does the shipper work with the forwarder when it comes to making modal choices? Air versus ocean, for example.

Peterson: The biggest driver is cost. If cost can be reduced through a modal change without an impact on shipper satisfaction, then it's a good choice.

Ross: Sometimes it's the shipper that dictates modal choice to the forwarders, whereas in other cases a forwarder can advise on the optimal mode—it just depends on the relationship. Because the forwarder does not own the assets, they should be able to offer objective advice. But I'd

say that the best forwarders should take the initiative to propose modal changes to its clients, especially when it sees inefficiencies in a shipper's supply chain.

Voltmann: Generally, air freight is a mistake. The shipper should review its acquisition and manufacturing processes to see if timing can be changed, but usually the 3PL is capable of bringing that level of move management expertise to the process.

LM: When does it make sense for a shipper to rely on multiple forwarders in the global marketplace? Can the job be handled by just one or two?

Heimbeck: There are a variety of reasons why a shipper could be faced with the decision to select several forwarders, such as specific regional strengths, expertise in air versus ocean, or specialized product movements. The key is to see what commonality they can secure with each one.

Ross: Multiple forwarders should be used on big operations, as different forwarders have various strengths either in lane or product. Sometimes niche forwarders are the best solution in certain industries or lanes, whereas



a large, global forwarder may be able to get a shipper the best box rate in a larger, generally commoditized ocean lane.

Peterson: All sound advice. We should also note that specialized forwarders should be sought out when you have sensitive products such as chemicals, oil, and gas and for highly regulated products such as military or licensable goods and shipments that require other government agency review. Fortunately, this is a vibrant marketplace, and today's shipper is going to win in the global arena if good sense and caution is exercised.

—Patrick Burnson is Executive Editor of Logistics Management

Protect your global logistics budget from hidden costs

International freight transportation can be overwhelming, especially when calculating shipping costs from a freight forwarder. Nelson Cabrera, international business development manager for Lilly & Associates, maintains that when shippers are comparing or gathering freight forwarding proposals, it is imperative to beware of line items that could be hidden charges.

Here is a checklist of items that shippers should keep a close eye on:

Carrier GRI/GRR/PSS: Carriers have been implementing general rate increases (GRIs), general rate restorations (GRRs), and Peak Season surcharges (PSS). However, some freight forwarders are not informing the customer of these charges until after the cargo is booked. If your cargo ready date falls into surcharge period, be sure the fee is shown up front.

China VAT: Chinese authorities have begun charging transportation companies within the country a value added tax (VAT). If freight forwarders are charged this directly from the carrier, the charge will be added as an extra line item. Verify with your freight forwarder if you do not see China VAT on your proposal for freight that touches China—or risk being charged an extra 6 percent when you are invoiced.

Cargo ready date: If the cargo ready date the freight forwarder is quoting you is not accurate, the transportation proposal could vary by hundreds of dollars per container. In the current ocean freight rate market, it's imperative that the accurate cargo ready date is quoted upfront to avoid any changes in rate.

Cargo insurance: Be sure that cargo insurance is included as a separate line item. Most times if cargo insurance is not included on a transportation proposal, it's not included in the quotation. When reviewing international freight shipping proposals, also be sure to verify that the insurance covers freight from origin door to destination door.

Often times, insurance offered by the forwarder only covers the goods from port to port, making all drayage claims ineligible. Most damage and pilferage happens from origin door to origin port, or from destination

port to destination port and can be when the cargo is most susceptible to claims.

Courier/documentation fees: When looking at an international freight shipping proposal, it is important to see if any courier/documentation fees are included or offered as a separate line item. Many freight forwarders could tack on this fee to the invoice, even though it was never included as a line item in the original transportation proposal.

Pallet fee: When shipping loose cargo, it's important to provide your own pallets or risk being charged a fee to have the cargo packaged on forwarder-owned pallet. If you will not be providing your own pallets, it is imperative to know all charges up front.

Inland delivery: If you don't specifically ask to be quoted from door-to-door with zip codes included, the forwarder might be charging you from port-to-port. If you are looking for an all-inclusive quote, including inland transportation, be sure to verify that the charge is included on your transportation proposal.

Max cargo weight: When shipping a full container load (FCL) of a heavy commodity, it's necessary to verify the max load amount with your carrier of choice. Overweight cargo is subject to additional fees.

Container management fee: Some carriers in some select routes have begun implementing a container management fee (CMS) to cover the operational cost in managing container turn time.

Free time at destination port: If you're shipping to a country with higher than average hold times at the port, it's imperative to ask the forwarder how much free time the shipper has at the port. Extra free time at the port can save the customer hundreds of dollars per day—per container in some cases.

Finally, Cabrera insists that shippers ask the freight forwarder to supply carrier options based on your preference. "Is it an issue of price? Then ask for the cheapest carrier options," he says. "Is it an issue of transportation time? Then ask for the most reliable carrier with the lowest transport time."

—Patrick Burnson, Executive Editor

The big picture on **BIG DATA**

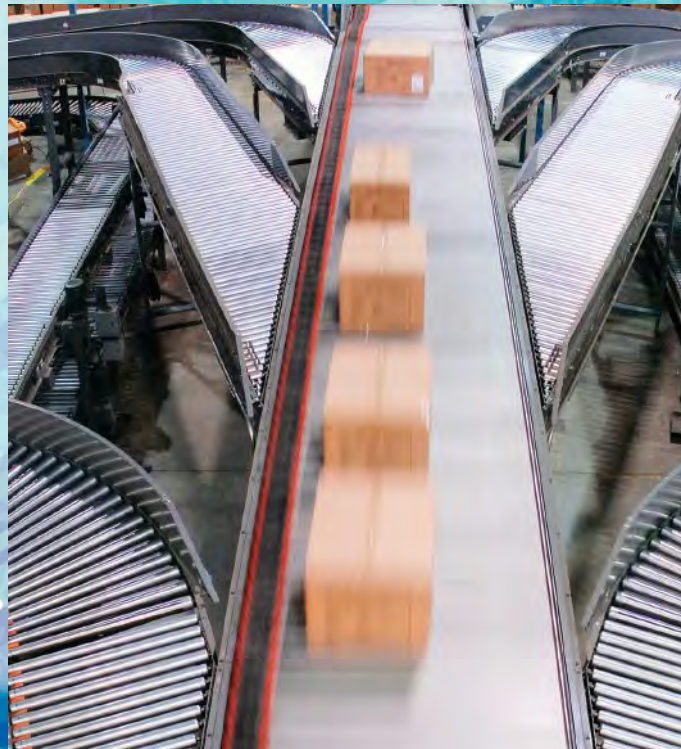
It's early in the game, but warehouses and distribution centers are looking at new ways to use Big Data to maintain equipment, deliver services, and manage processes.

BY **BOB TREBILCOCK**, EDITOR AT LARGE

If you think Big Data is all about Big Brother, it's time to recalibrate your thinking. True, Big Data is all over the news thanks to the National Security Agency. The concept, however, is about more than monitoring hundreds of millions of telephone calls—or billions of status updates and tweets. For this industry, it's also about looking for new ways to use data to maintain equipment, deliver services, and manage order fulfillment processes.

After all, information is ubiquitous. We are collecting more information, in more ways, and from more nodes in the supply chain than ever before. Are we doing much with that data at this

Retail customers transitioning to e-commerce are requesting live data from materials handling systems to track buying patterns.





Today's lift trucks use sensors to monitor conditions on the truck and send a fault code to a technician when a component needs service.

point? Maybe not yet, says Richa Gupta, a senior analyst with VDC. However, she adds, "bar codes and other Auto-ID technologies are the first step toward enabling a Big Data strategy because you have to start with data collection."

The challenge is to translate that data into information that can be used for operational decisions or to get more from processes and equipment. The ultimate point isn't so much Big Data as it is Relevant Data.

By all accounts, the warehousing industry is at the early stages in the development of Big Data applications, but it's a topic that a number of industry leaders are discussing. Some of that discussion is around initiatives that are here today, such as smart lift trucks, and some of the discussion is around what we might do in the future with the information being collected by data capture technologies, sensors, PLCs and software systems. Here, we take a look at the big picture on how a number of industry leaders are approaching Big Data.

The connected lift truck

Like other manufacturers, Crown has been installing sensors on its lift trucks for years. Until recently, that information was used as a fleet management tool to track the repair history of a truck or fleet of trucks for a specific customer. Today, Crown is broadening its view. "When we began our telematics program, we looked at the information in a silo," says Jim Gaskell, director of global insight products. "A customer got a repair and we tracked that information for the dealer. No one thought to look at all of the trucks maintained by that dealer or across dealers." Now, Gaskell adds, "we're aggregating and analyzing data from every customer across the planet that has our trucks."

The next step in that equation is to connect the vehicle to the technician who is going to perform service. "If the truck has a problem, it will send an e-mail to notify the service provider that there's a fault code that needs to be looked at," Gaskell says. "That allows the technician to bring the parts and tools that will be required for the repair."

By analyzing the fault codes from across Crown's complete fleet of vehicles, the manufacturer can look for trends and patterns of wear that can be addressed in a design change in the next model. "If you think about it, we're connecting the truck to the operator, the truck to the technician and now the truck to our design engineers," Gaskell says. "We know so much more about the truck than we ever knew in the past, including the actual repair costs."

Big customers drive Big Data

"Conveyors and sorters have become a commodity," says Greg Cronin, executive vice president of Intelligated. That doesn't mean that all conveyor and sortation providers are



By analyzing real-time operational data, a systems integrator can often determine whether a system is operating as designed or if operating conditions have changed.

Five steps to leverage Big Data

For many companies, the question isn't whether to launch a Big Data project; the tougher questions are where to start and how to create a framework for using Big Data. "In most instances, the data you need is in your system in some form, but it needs to be tamed," says Robert Nilsson, vice president and general manager of software and supply chain intelligence for Dematic. Nilsson offers several steps to get there.

1. Use an organized process to build your analytics solution: Visualization of the data brings a quick understanding of where things stand. For that reason, Nilsson advocates for simple dashboards with targets to be achieved rather than spreadsheets.

2. Aggregate consistent data in a common spot: Information collected from multiple systems needs to be normalized so that everyone is using a common definition. For example: In one instance, a pick may be counted by the lines picked. In another instance, a pick may be counted by touches or eatches. "This could result in very different pick rates," says Nilsson.

Without information in one spot and using one definition, it's hard to determine root causes and identify patterns or relationships.

3. Apply analytics: Nilsson urges companies to start with a statement of the problem they want to solve. Once the problem is identified, a company can apply processes, tools, a team and the relevant data to fix the problem.

4. Develop predictive analytics: "You have to understand why something is happening before you can understand what is going to happen next," Nilsson says. Once a company is aggregating relevant data for the problem it wants to solve, that data can be run through a modeling tool that allows a team to test what-if scenarios that might predict what will happen in the future based on different decisions.

5. It may be Big, but it doesn't have to be complex: "Small projects can provide quick successes that create momentum to the initiative," says Nilsson. "For that reason, it's important to break a project down into smaller chunks using a plan so that the team is all on the same page."

then apply to the e-commerce business they're in the process of building out."

That retailer is not alone. "We have another customer that wants to know how many packages we're scanning, how they're being diverted in the warehouse, and how labor is being deployed and utilized to fill those orders," Cronin says. While he doesn't always know why Intelligrated's retail customers want to capture the data, the interest is there. "These types of conversations are coming up with a number of customers. It's a whole different world than it was just a few years ago," Cronin says.

Distribution is all about the data

In distribution, we often talk about SKU proliferation. With an increase in the number of sensors on automated systems, we now have data proliferation. That change has been accompanied by a new ability to store and analyze data, says Doug Pickard, president of RMT Robotics. "We've always had sensors to detect what's going on," says Pickard. "What's different is the ability to access vast amounts of data in real time while a system is operational. We can look into a piece of equipment

alike. "The information generated by those systems has become the differentiator because the value is in the data that we can collect," Cronin says.

As with lift trucks, sensors are constantly monitoring belts, drives, motors and other key components of conveyors, sorters, and other mechanical equipment for signs of wear that can predict a problem before a machine breaks down. The larger and more interesting trend to Cronin is that customers—especially retailers transitioning into e-commerce—are asking for operational data collected by conveyor and sortation systems to drive internal Big Data projects. "We have one retail customer that retains 18 months of live warehouse data," Cronin says. "They're using it to develop seasonality and buying patterns in their retail stores that they can



Equipment providers capture real-time information off of components, such as the rollers on a motor-driven roller conveyor, to predict when a part may fail or need maintenance.



The next step in Big Data for lift trucks is to connect operator information collected by the truck to labor and warehouse management systems.

anywhere in the world and find out what's going on," he says.

What's more, end users have become far better at figuring out the value in that data than ever before. "In distribution today, it's all about the data," Pickard says. "When we talk to a distribution customer with a num-

ber of DCs, we talk to the data guys before we talk to the mechanical or electrical engineers."

At the design stage of an engagement, RMT may look at up to five years of data to understand the real problem they're trying to solve and the situations that have arisen in the past. That

same data can be used to simulate how the solution will perform based on real-world operating conditions.

Once a system goes live, real-time and historical data allows RMT to determine whether the system is operating as designed or whether the end user is operating the system differently than planned. "If a system isn't performing as designed, we can dig deep into the data to understand what's happening and how to get around a problem," he says. "The ability to do analysis online and in real time is invaluable."

From reactive to predictive

A materials handling system is a microcosm of Big Data in a self-contained area. While a pharmaceutical company may be tracking data on thousands of patients around the globe to identify patterns and trends, a materials handling system supplier can track data from thousands of sensors, bar code scans, and PLCs within the four walls of a facility. As we get smarter about analyzing that data, the industry is evolving from reactive to proactive to predictive maintenance and operations, says John Dillon, president of client care at Wynright.

In reactive maintenance, a supplier comes out once a year to lubricate the system and check the voltage on the motors. Otherwise, they are only there if there's a problem.

Proactive maintenance involves site audits, site monitoring with camera systems and e-mail alerts when an anomaly is detected, such as a low battery level or a scanner read that is below threshold levels.

The industry has been doing reactive and proactive maintenance for years. In predictive maintenance, the system can track and analyze the performance of thousands of components of a system in real time to look for anomalies and patterns that may indicate problems in the future. "If you think of a motor-driven roller conveyor, we can track the amperage and duty cycle on every roller in a facility or across a network of facilities," says Dillon. "With that information, we could build maintenance schedules around rollers that we believe are going

to have a problem. We're not doing this today, but it is something we plan to do."

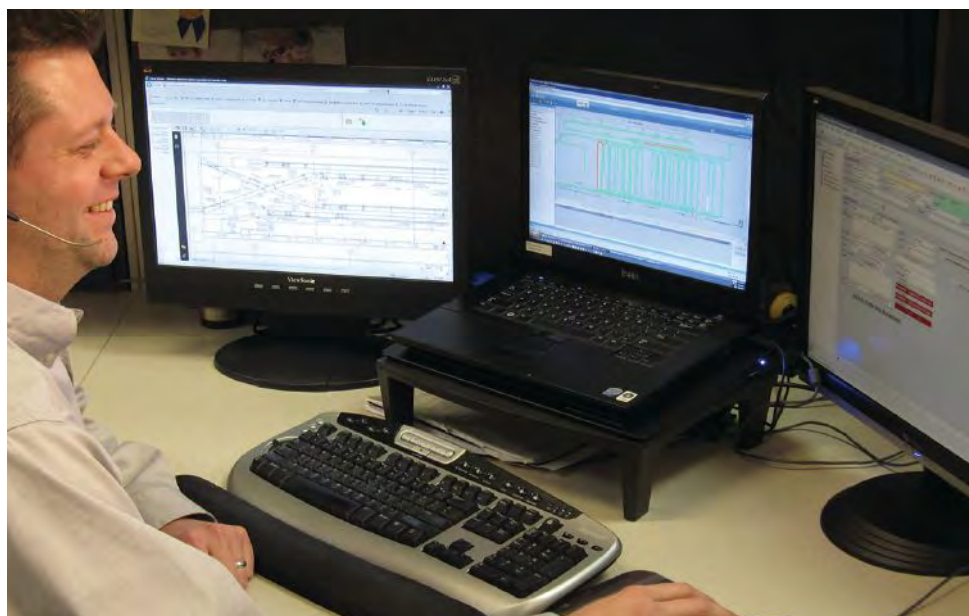
As more and more data becomes available, the real challenge is determining the right data to yield real operational insights and efficiencies. "In a big system, with multiple technologies, we could create hundreds of reports from the data that's now available. The challenge to us, and our competitors, is to find the actionable data that will yield results," Dillon says. "The company that figures that out first will separate themselves from the crowd."

Integrating the operator with the WMS

In recent years, lift trucks have evolved from a vehicle to move goods to a mobile information platform that can collect and send information about the operator, the truck, and the battery to other systems.

Lift trucks have been sharing data with vehicle management systems for a number of years. The next step is to integrate operator data from the lift truck with labor and warehouse management systems (WMS) to drive productivity improvements. "If you put a vehicle management system on a truck, you'll see a 5 percent increase in productivity by identifying bad behaviors on the part of operators," says Scott Craver, a product manager with Raymond. "If you combine that with a labor and WMS, we believe you can see productivity improvements in the double digits."

A vehicle management system, for instance, can provide accurate, real-time information about the travel distance, travel time, lift distance and lift time required by a lift truck operator to complete a task. That results in more accurate labor standards. What's more, the system can better capture what Craver calls activity time. "A typical operator is moving product about 4.5 hours a shift," Craver says. "We don't know what they're doing the other 3.5 hours, which could vary from sweeping floors to stretch-wrapping to putaway activity. With



Visualization of the data brings a quick understanding of where things stand. For that reason, Dematic uses simple dashboards with targets to be achieved rather than spreadsheets.

job coding, we can identify what they're doing when they're not on the truck."

Craver has customers who are currently integrating operator information with their warehouse software systems to increase productivity in measurable ways. "Our savviest users are sharing a portion of the savings," he says. "We're seeing operators who get a \$300 a month bonus, which is a real incentive."

The total cost to serve

Who is your most profitable customer? What are your most profitable products? Which are your most expensive transportation lanes? In other words, what is the total cost to serve a customer?

Those aren't questions that warehouse, labor, or transportation management systems (TMS) can answer in isolation. However, when aggregated and analyzed at a granular level, the data from those systems can provide metrics such as the cost per unit to deliver a product from the point of manufacture to a distribution center to the end customer. That cost can be apportioned in a rules-based way.

"If I'm a pharmaceutical wholesaler, a container may have crutches, latex

gloves, and pills," says David Landau, vice president of product management for Manhattan Associates. "Do I apportion the cost of that shipment across those products based on weight, volume or value? I can take information about that shipment and determine the rules that are most important to my company."

A retailer can take that information to look at the cost to serve each SKU across all of its different markets or sales channels. That can allow the retailer to identify the most profitable products, channels or geographic markets.

Finally, the data can be used to create what-if scenarios for planning purposes. A wholesaler, for instance, may compare whether it makes more sense to receive pre-paid shipments versus shipments where the wholesaler pays the freight. "If I'm a wholesaler, I may find that based on what I'm paying for freight on some lanes it makes more sense to let my vendors pay the shipping costs," says Landau. "All of these are bigger questions than a WMS or TMS typically address on their own."

—Bob Trebilcock is Editor at Large for Logistics Management

Special Report

By Patrick Burnson, Executive Editor

Top 30 Ocean Carriers: Getting back to BASICS

The combination of financial necessity and commercial reality is further forcing top ocean carriers to shed their integrated logistics offerings and return to their core competencies. Meanwhile, a new alliance promises to further disrupt the global marketplace.

According to analysts with Drewry Maritime Research, ocean cargo container lines continue to be squeezed out of providing “home grown” integrated logistics services and are now concluding that they can run smarter, more economically sound businesses by leaving ancillary services to third-party logistics providers (3PLs).

“Although partly driven by financial necessity, the trend appears to show that being a one-stop shop is not the way forward for ocean carriers,” says Neil Dekker, head of Drewry Container Research. “That expansion via vertical integration should be replaced by greater focus on the provision of core services.”

Industry analysts contend that this is hardly a new trend, but rather one that has only been gaining traction this year.

For example, last month Maersk announced that it has entered into an agreement to sell the assets of its U.S. trucking subsidiary Bridge Terminal Transport. In June, the world’s biggest ocean carrier also announced the sale of its European railway company ERS Railways to British rail operator Freightliner.

In May, Zim Line sold its holdings in two companies that own container manufacturing factories in China. In April, MSC announced the sale of 35 percent of its ports division Terminal Investments Limited to Global Infrastructure Partners. And in January, CMA CGM declared the sale of 49 percent of its container terminal operating company Terminal Link to China Merchants Holding (International).

Back in 2010, Maersk already sold its stake in the logistics company Trans Siberian Express Service to InterRail, while others started reducing their involvement in third party logistics services even before then.

The implication is that the provision of “home grown” integrated logistics services by ocean carriers is becoming a distant dream that is unlikely to be resurrected in the near future, says Dekker. “This will bring a smile to freight forwarders and independent third party logistics companies who have been arguing for years that ocean carriers should stay out of logistics,” he adds.

Rates in flux

After a strong start in the first quarter, container volumes in the trans-Atlantic trade have declined, and average vessel utilization has dropped sharply, eroding freight rates. As a consequence, container lines are likely to start canceling vessel sailings in October.

At the same time, however, ocean cargo carriers comprising the Transpacific Stabilization Agreement (TSA) Westbound section contend that there is an “urgent need” to begin rate restoration efforts in anticipation of fourth quarter cargo growth.

“Rates have drifted down even more than usual during the typical summer slack period to unsustainable levels,” says TSA

Westbound executive administrator Brian Conrad.

After months of uneven demand and gradually eroding freight rates in the U.S.-Asia trade lane, container-shipping lines argue that it’s time to begin reversing the trend.

Member carriers have announced plans to raise freight rates for all commodities and from all U.S. origin points by at least \$100 per 40-foot container (FEU) at the beginning of this month.

Several industry analysts suggest that this is a plausible move, including Walter Kemmsies, chief economist at the

Alphaliner - 2013 Top 30

(Operated fleets as of August 29, 2013)

Rank	Operator	Teu	Share
1	APM-Maersk	2,624,170	15.00%
2	Mediterranean Shg Co	2,379,276	13.60%
3	CMA CGM Group	1,511,963	8.6%
4	Evergreen Line	801,363	4.6%
5	COSCO Container L.	775,342	4.4%
6	Hapag-Lloyd	720,649	4.1%
7	Hanjin Shipping	634,624	3.6%
8	APL	628,622	3.6%
9	CSCL	603,334	3.4%
10	MOL	542,952	3.1%
11	OOCL	451,572	2.6%
12	NYK Line	443,590	2.5%
13	Hamburg Süd Group	440,445	2.5%
14	Yang Ming Marine Transport Corp.	385,352	2.2%
15	PIL (Pacific Int. Line)	373,562	2.1%
16	K Line	353,017	2.0%
17	Zim	341,565	2.0%
18	Hyundai M.M.	328,655	1.9%
19	UASC	286,458	1.6%
20	CSAV Group	250,489	1.4%
21	Wan Hai Lines	180,936	1.0%
22	HDS Lines	86,320	0.5%
23	X-Press Feeders Group	85,480	0.5%
24	KMTC	75,932	0.4%
25	NileDutch	71,662	0.4%
26	SITC	65,675	0.4%
27	TS Lines	62,148	0.4%
28	CCNI	49,194	0.3%
29	RCL (Regional Container L.)	47,456	0.3%
30	SIMATECH	45,140	0.3%

SOURCE: ALPHALINER



“Our study shows that P3, with a total of 255 ships and 2.6 million TEU, will not only have a significantly larger market share than all its competitors, but will also benefit from massive economies of scale that no one will be able to match.”

—Lars Jensen, CEO and Partner, Sealintel Maritime Analysis

coastal and civil engineering firm Moffatt & Nichol. “We’re forecasting a surge in out-bound demand for U.S. agricultural commodities,” he says.

A number of TSA-Westbound lines had already filed individual increases across the board or in key market segments last month, while other members are looking to that October 1 effective date. “Not only are we headed into the busiest time of year for the trade, but we are also seeing signs in the market that U.S. exports to Asia are poised for recovery in coming months,” says Conrad, who adds that lines view the \$100 per FEU general rate increase (GRI) amount as a minimum, given current rate levels.

“Anytime the lines undertake a GRI, they are mindful of the price sensitivity for many westbound cargoes and the need for an incremental approach in restoring rates,” Conrad adds. “At the same time, we need to be clear that the recommended GRI will not, by itself, raise rates to levels that make an adequate contribution to round trip revenue.”

While the GRI is voluntary and will be implemented by lines individually according to their specific needs at this time, Conrad says transpacific carriers remain under considerable financial pressure in the current environment and will be looking at further opportunities for revenue recovery in late 2013 and early 2014.

Carriers in all trade lanes are also trying to control capacity by ridding themselves of antiquated vessels. According to the Paris-based consultancy, Alphaliner, containership scrapping is expected to reach 450,000 TEU this year, if the current pace continues.

Stephen Fletcher, Alphaliner’s commercial director, says it would then surpass the record 381,000 twenty-foot equivalent units (TEU) deleted in 2009. In the first four months of this year, 93 units for 195,000 TEU have already been sold for demolition or de-celled, with the average age of scrapped ships falling to a low of 22 years compared to between 25 and 30 years historically.

“The rise in the capacity scrapped is mainly due to the surge in the deletion of 3,000 to 5,000 TEU ships,” says Fletcher. “Thirty units of this size have been sold for scrap so far this year, including the 4,714 TEU Maersk Malacca which is the largest containership ever to be scrapped, in TEU terms. Her sister ship, the Maersk Merlion, is also expected to be scrapped after she ends her current employment later this fall.”

Alphaliner says that more units of this size are expected to be scrapped later this year, including four of the five C-10 ships of 4,528 TEU owned by APL. These five ships were built in 1988 and were the world’s first over-panamax containerships.

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Carrier consolidation

But the real issue shaping the future course of ocean liner shipping is consolidation.

Lars Jensen, CEO and Partner with SeaIntel Maritime Analysis in Copenhagen, notes that if Maersk Line, MSC, and CMA CGM create a new partnership in the Asia-Europe trade lane next year, the marketplace will be severely altered.

The so-called “P3 Alliance” is set to begin operation in the second quarter of 2014, and will no doubt force the two competing alliances (G6 and CKYH) to merge if they are to remain viable.

“Our study shows that P3, with a total of 255 ships and 2.6 million TEU, will not only have a significantly larger market share than all its competitors, but will also benefit from massive economies of scale that no one will be able to match,” says Jensen.

According to SeaIntel, a merger between G6 and CKYH in a new G10 alliance is unlikely. Furthermore, analysts estimate that Japanese container carriers are facing a difficult choice if they want to continue their presence on Asia-Europe.

“Japanese carriers such as MOL, NYK, and K Line will be forced to order new ships of 10,000 TEU and beyond as their current fleets can’t compete in relation to unit costs,” says Jensen. “Without bigger ships, they may have to abandon the

major routes on Asia-Europe.”

Dr. Asaf Ashar, an independent maritime consultant based in Washington, D.C., says that this development suggests that carriers may finally be able to stabilize rates.

“In economic terms, we call this ‘tacit collaboration,’” he says. “It means that the alliance partners will not try to undercut each other on what they charge. At the same time, however, it means an end to differentiation of services. The industry is becoming increasingly commoditized.”

Panama connection

Ashar also observes that there’s widespread consensus on one aspect of the Panama Canal’s expansion on ocean liner shipping: size matters.

Once the widened Canal opens, ship sizes are anticipated to increase quickly from the current average 4,500 TEU up to around 8,000 TEU—similar to the size of ships presently deployed on All-Water Suez (AWS) services.

There is also general agreement that despite the considerable increase in ship size and the respective reduction in shipping costs, the All-Water Asia/U.S. East Coast (USEC) through All-Water Panama (AWP) route is likely to see only a modest increase in market share relative to its main rivals, the AWS and the U.S. West Coast (USWC) land-bridge.

“Not only are we headed into the busiest time of year for the trade, but we are also seeing signs in the market that U.S. exports to Asia are poised for recovery in coming months.”

—Brian Conrad, TSA
Westbound executive
administrator



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“Where opinions start to diverge is on North American service patterns,” says Ashar. “Many of us believe that direct port calls may be replaced by several hub and spoke systems.”

But considering that the deployment of 8,000 TEU ships on AWS, which began in

2011, has so far had no impact at all on the prevailing direct service pattern, any change is not likely to be swift, Ashar adds.

“A recent review of AWS rotations on the USEC indicates that they are still based on direct calls even at relatively small ports like Boston—handling

190,000 TEU a year—and at ports with relatively shallow channels like Savannah,” says Ashar. “It’s reasonable to expect that the deployment of similar ships on the AWP will have a minor initial impact on service patterns.”

The locks of the expanded Panama Canal are designed for New-Panamax (NPX) ships, which are forecast to initially have capacity of 13,500 TEU and eventually 15,000 TEU. Following worldwide trends, it’s quite likely that NPX will be deployed on AWP as well as on AWS services within five years or so following the expansion.

“It’s not unfeasible that that introduction of ships too large for USEC ports’ newly-dredged channels will trigger a change in the service pattern of both AWP and AWS to hub and spoke,” says Ashar. “In this case, USEC ports would find themselves hosting feeder services based on foreign hubs in the Caribbean region for AWP and Canada for AWS.

Ashar says that this change in service pattern could be avoided by further deepening of USEC ports’ channels. However, considering the arduous process of the recent deepening projects, the prospects for this happening look “pretty dim.”

If indeed the all-water service pattern is transformed into hub and spoke, it is reasonable to assume that the all-water feeders will call at smaller ports previously bypassed by direct all-water services.

The additional calls may have a limited impact on the traffic of ports with captive hinterland, such as New York/ New Jersey but could be a big blow to ports like Miami, which have invested heavily in water, road and rail accesses hoping to be a first-in and last-out for AWP traffic.

“It will be interesting indeed to hear what the industry makes of these various issues over the new few months,” Ashar adds.

—Patrick Burnson is Executive Editor of Logistics Management



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Pacific Rim Report

By Patrick Burnson

Patrick Burnson is Executive Editor of *Logistics Management*. If you want to contact Patrick with feedback or a story idea, please send an e-mail to pburnson@peerlessmedia.com.



Calgary's comeback

IT HAS BEEN NEARLY FOUR MONTHS since floodwaters devastated several communities around southern Alberta in one of the largest natural disasters to ever hit the province. But if there is any doubt about the resiliency of these Canadians and their will to rebuild, one has only to examine what has been achieved in Calgary.

Before the flood, Calgary's economy was considered among the fastest growing in North America. According to Tom Dixon, manager of business development, real estate, and logistics with the Calgary Economic Development Agency, the city's prime location at the intersection of two major highways helped with the rapid recovery.

"Our city lies next to the Trans-Canada Highway, which connects the Atlantic and the Pacific," Dixon says. "We also have the CANAMEX Corridor, which extends north/south from Canada to Mexico, making it attractive for distribution centers. Because we have so many multinational manufacturers and retailers relying on us, we had to make the protection of their supply chains a priority."

Walmart and Target have a major presence in the region, along with Costco and Canadian Tire. But the highway network is hardly the only reason Calgary is a logistical hub.

Canadian Pacific is headquartered here, and its intermodal rail yard is a key component to the city's southeast industrial sector. The main rail line connects downtown Calgary to Port Metro Vancouver. Sears Canada also operates its 24/7 National Logistics Center out of the facility.

Meanwhile, Canadian National Railway (CN) unveiled a new \$200 million Calgary Logistics Park last spring, which is home to its intermodal terminal located on 1,000 acres in Rocky View County, just outside of Calgary. The park has 170 acres available for CN's shippers to build their own warehouses and distribution centers. This not only eliminates additional trucking to off-site facilities, but can also provide shippers with better customer service and efficiency. An additional 300 acres is also ready for future development, if needed.

While Calgary is known principally for its energy sector, the city is rapidly gaining recognition for advantages it offers in the logistics management arena.

"Given our unique geographical position, we can leverage total landed costs for many shippers," says Reg

Johnson, president of the engineering consultancy RJ T&L Ltd. "It's important to note that Calgary International Airport is Western Canada's hub and fifty million people can be reached within 24 hours by ground transportation from here."

Jim Brown, president of JRSB Logistics, a third-party logistics consultancy, observes that the high concentration of freight intermediaries and integrators also speaks to the rapid investment in infrastructure. "All the multinational players are here, and they are only going to make a bigger footprint," he says. "Both the Pacific Northwest ports of Vancouver and Prince Rupert are naturally being used, as is Tacoma and Houston for energy-related project cargoes."



Finally, it's important to note that Calgary plays a leading role in executing the workforce strategy for Alberta's transportation and supply chain logistics industry. Over 100,000 students benefit from education programs offered through the University of Calgary, SAIT Polytechnic, Mount Royal University, and several other educational providers each year.

Maintaining a supply of young and available workers to meet the needs of the transportation and logistics sector is a top priority for here, too. Growth in Calgary's supply of skilled professionals is maintained by an "ecosystem" of industry stakeholders and educational institutions that have developed an effective strategy to support ongoing growth in this sector.

The city known for its annual summer "Stampede" is roaring back with a vengeance, and Pacific Rim shippers are hitching up for the ride. □



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