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MARCH 2011

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WAREHOUSE/DC EQUIPMENT AND TECHNOLOGY SURVEY

Cautious spending reigns

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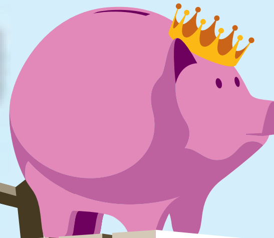

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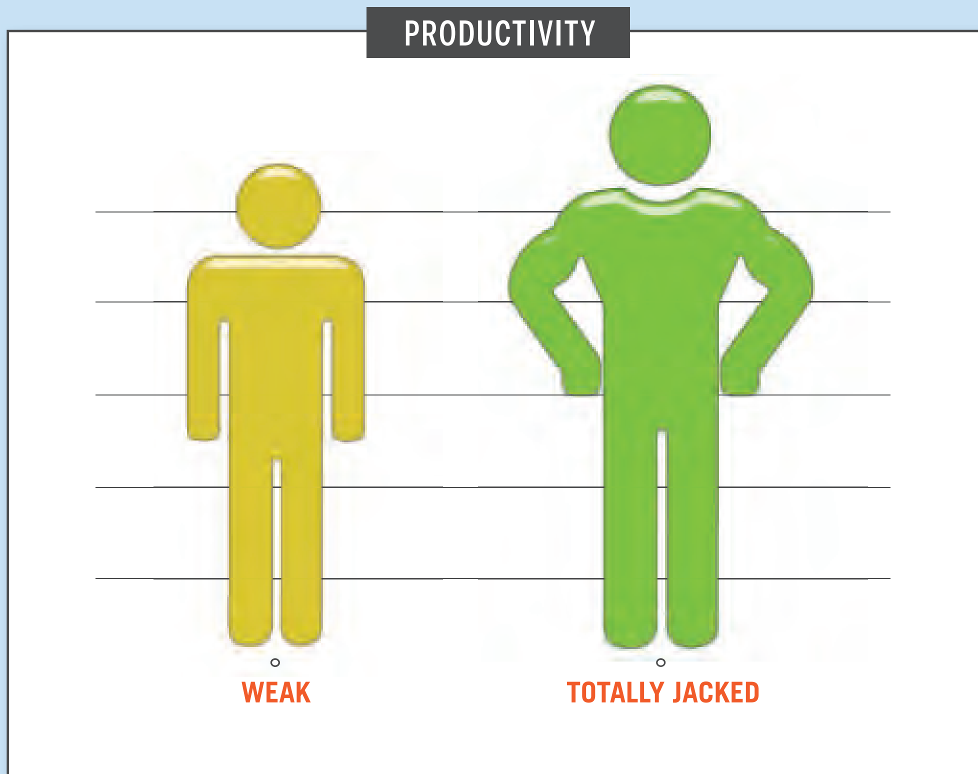

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Management UPDATE

AN EXECUTIVE SUMMARY OF INDUSTRY NEWS

Suez threat still looms. A potential closure of the Suez Canal caused by the political unrest in the Middle East would have a serious impact on container shipping, note analysts at Alphaliner. Although a closure of the Suez Canal is improbable, the risk of a disruption of vessel traffic in the canal cannot be totally excluded, they say. This would have a huge impact on container shipping which represents the largest vessel segment currently transiting the canal. Containerships currently account for 55 percent of the net tonnage and for 38 percent of the total number of vessels transiting the Suez Canal. The high tonnage share of the containership transit is due to the larger size of container vessels that pass the canal compared to other vessel types.

House T&I Committee signs off on FAA reauthorization. The leadership of the House Transportation and Infrastructure Committee last month signed off on the Federal Aviation Administration FAA Reauthorization and Reform Act of 2011. The four-year bill, which covers fiscal years 2011 to 2014 with an overall funding level of $59.7 billion, is comprised of various measures, including providing approximately $4 billion in savings compared to current funding levels. But absent from the bill is a labor-related provision that has served as a bone of contention between parcel industry heavyweights FedEx and UPS. In previous versions of this legislation, a measure in the House version that called for “express carrier employee protection” that has the potential to change the labor status for FedEx Express employees—except for pilots and aircraft maintenance workers—from Railway Labor Act (RLA) to the National Labor Relations Act, which applies to UPS employees. If this bill with this provision were to be signed into law, many industry experts said that it would have made it less challenging for the Teamsters Union to organize FedEx Express workers.

Supply chain concerns and uncertainty are growing. A survey from the Tompkins Supply Chain Consortium noted that supply chain leaders are overwhelmingly more uncertain now than they were last year or the year before, with nearly two-thirds of survey respondents predicting more future risk than the previous two years. The main sources of uncertainty included: adding cost; increasing inventory levels; increasing lead-times; and reducing speed to market. What’s more, 83 percent of respondents are experiencing at least moderate cost increases as a result of uncertainty; 69 percent show a higher than average increase in lead-time; and 62 percent see their speed to market either moderately reduced or greatly reduced. And 60 percent to 80 percent of companies responding indicated that there is a high to medium impact from a cost and time standpoint due to uncertainty.

Whirlpool makes supply chain waves. Appliance manufacturer Whirlpool reported last month that it loaded its 3,000th box car in late 2010, citing a milestone in its re-designed supply chain operations that focused heavily on rail transportation. Launched in 2009, Whirlpool said its rail-based focus has helped the durable goods maker overcome a lack of transportation accessibility, adding that it built 10 new distribution locations, with rail docks in key locations near mainline or short haul tracks.

Bigger, greener, cleaner. In a move signaling confidence in renewed demand for capacity, Maersk Line has signed a contract with Korea’s Daewoo Shipbuilding & Marine Engineering Co. to build 10 of the world’s largest vessels in the global container fleet. The vessels on order are scheduled for delivery between 2013 and 2015, and the Danish carrier also has an option for an additional 20 vessels. Called the “Triple-E” class for the three main purposes behind their creation—economy of scale, energy efficiency, and environmental improvements—the carrier claims that these new container vessels will surpass the current industry records for fuel efficiency and CO2 emissions per container moved held by the Emma Mærsk class vessels.

Cass Freight Index sees another decline. Following a decline in December freight shipments, the first month of 2011 continued that

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Management UPDATE

continued

trend, according to the most recent edition of the Cass Information Systems Freight Index. January shipments at 1.010 were up 12.3 percent year-over-year and down 4 percent compared to December's 1.049. Shipments remained above the 1.0 mark for the ninth straight month, with May 2010's 1.014 shipment mark being the first time shipments eclipsed 1.0 since November 2008. January shipment expenditures at 1.859 were up 27.2 percent over January 2010, and expenditures were down 3 percent compared to December's 1.912 expenditure reading.

■ **Outbound, ho.** California's exporters nearly clawed their way back to pre-recession levels of trade with a strong performance in 2010, according to an analysis by Beacon Economics of foreign trade data released by the U.S. Commerce Department. The Golden State's $143.3 billion merchandise export trade last year represented a 19.3 percent gain over the $120.1 billion in exports recorded in 2009. It was also California's second highest export total ever, coming in just shy of 2008's inflation-adjusted total of $149.9 billion. "Compensating for inflation, this was our best December ever, exceeding even the previous all-time high achieved during the peak year of the dot.com boom in 2000. December also marked the 14th consecutive month of year-over-year increases in California's export trade," said Jock O'Connell, Beacon Economics' International Trade Adviser.

■ **Manufacturing surge.** More good news surfaced recently in an industrial production report released by Manufacturers Alliance/MAPI recently. According to MAPI president and CEO Thomas Duesterberg, industrial production, led by manufacturing and mining, finished the year on a strong note and is poised to sustain growth in 2011. Expansion in manufacturing, meanwhile, was led by information processing equipment, up 14 percent for the year and 1.8 percent year-to-date; machinery, up over 15 percent for the year and over 4 percent for the final quarter; and plastics, up over 9 percent for the year and 1.5 percent. Duesterberg noted that specific areas to look for improved performance in 2011 include aerospace, where production was down by 0.1 percent last year, and the auto sector, where stronger consumer spending, attractive new models, and an aging car fleet suggest continued growth.

■ **Cross docking is still in style.** A recent study from Florida-based 3PL Saddle Creek Corp. found that more companies are leveraging cross docking to reduce supply chain costs, manage inventory levels, increase efficiencies, and accommodate unpredictable customer demand. According to Tom Patterson, senior vice president of warehouse operations at Saddle Creek, "companies are realizing that cross docking can help them increase speed to market and improve service levels while reducing warehousing and transportation costs. Outsourcing the function allows companies to leverage outside expertise and integrated logistics capabilities without making an overhead investment." The report explained that the biggest benefits of cross docking are improving service levels (37.9 percent), reducing transportation costs (32.4 percent), and consolidating shipments to destination (32.4 percent).

■ **Hidden cost.** A report recently released by the International Chamber of Commerce (ICC) on combating counterfeiting and piracy stated that the global economic and social impact of counterfeiting and piracy will reach $1.7 trillion by 2015 and put 2.5 million legitimate jobs at risk each year. The report updates a 2008 Organization for Economic Cooperation and Development (OECD) report that showed more than $250 billion in counterfeit and pirated goods move through international trade alone. The new ICC study also examines additional impacts not quantified in the OECD report. These include the value of domestically produced and consumed counterfeit products, the value of digital piracy, and the negative affects on society, governments, and consumers. "By filling in the gaps left by the OECD, we have been able to paint a more comprehensive picture of the negative economic and social impacts of counterfeiting and piracy," said spokesmen.

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Cautious spending reigns

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Cover illustration: John Pirman

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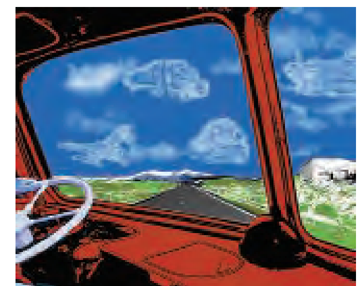

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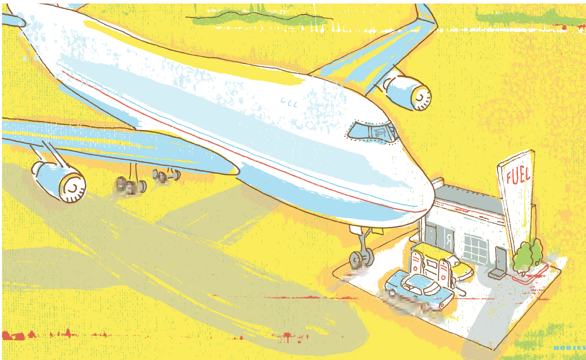
QUARTERLY TRANSPORTATION MARKET UPDATE :

LTL Ready for a rebound

Coming off a "brutal" three-year survival test, the LTL sector is just now beginning to earn enough profit to recapitalize. However, analysts and carrier executives agree that the pace of this rebound will be determined by three unstable factors: the economy, unresolved regulation, and a looming capacity crisis. 52S



SPECIAL REPORT: 2011 STATE OF AIR CARGO

Will fuel determine the course?

Today, fuel and capacity issues continue to loom large for air cargo carriers, while shippers are being told that tactical adjustments, especially in the growing Intra-Asia trade, will need to be made at a moment's notice as carriers re-adjust their networks. 60S

WEBCAST

First Quarter 2011
News Roundup

Date: March 31, 2011

Now that the rebound is clearly underway, shipper uncertainly is on the rise: Where's capacity heading? How fast are rates going to rise? What's the price of oil and fuel going to do to my budget?

Today, keeping up with the news is important; but understanding how the news will affect your logistics operations is imperative.

Join Group Editorial Director Michael Levans and Group News Editor Jeff Berman as they put all the top news stories of the first quarter of 2011 into perspective for the readers of *Logistics Management*.

As part of this 30-minute event, key analysts, shippers, and carrier executives will join Levans and Berman in discussions that will put the top news stories into context. By attending the Q1/2011 News Roundup, logistics professionals will gain a better understanding of:

- the top news stories of Q1/2011;
- how this news is changing the landscape of logistics management; and
- how to prepare logistics operations for the remainder of 2011.

Speakers: **Michael Levans**, Group Editoral Director, Supply Chain Group and **Jeff Berman**, Group News Editor, Supply Chain Group

Go to www.logisticsmgmt.com for registration information

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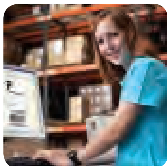

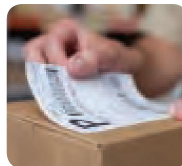

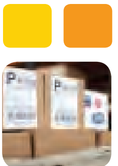

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VIEWPOINT

Throw caution to the wind

MARCH MARKS THE MONTH when we turn our attention inside the four walls to gauge how much logistics professionals are preparing to invest in their warehouse/DC operations over the coming year.

In fact, the timing for our annual *State of Warehouse/DC Equipment and Technology Survey* is particularly good this year because ProMat 2011, the premier materials handling show in the U.S., is taking place March 21 – 24 in Chicago. If you happen to be charged with making these buying decisions and find yourself on the show floor, the results of this study will certainly give you a better idea of how much—or how little—your peers around the country are spending and in what equipment and technology they have the most interest.

I have to admit, I was surprised to find the results of the 2011 study still showing signals of cautious optimism—apparently the new state of the U.S. business psyche. While we found 36 percent of respondents reporting that they're ready to increase their spending in 2011—up from just 16 percent in 2010—the median amount they're planning to spend ($77,000) dropped 8 percent from last year's findings.

"With that level of investment you're just making marginal improvements," says Don Derewecki, a business consultant with TranSystems and one of the expert panelists Contributing Editor Maida Napolitano assembled to put context around the findings for the cover story (page 26). "When we dig deeper into these findings we find that only 12 percent of the respondents are planning to spend a million dollars or more; so, to me that says that only 12 percent say they're doing something significant."

And while a lingering sense of caution pervades the study (51 percent say they're moving "slowly"), more respondents are leaning toward investment, and that's indeed an improvement over last year.

Napolitano and her panel offer an explanation for this year's low earmarked spending: Though economic growth started to turn a corner at the end of 2010, they found that there's still plenty of available capacity in respondents' facilities. In fact, utilization averages came in at 64 percent this year, a decline from 2010's 65 percent.

Though economic growth started to turn a corner at the end of 2010, they found that there's still plenty of available capacity in respondents' facilities.

The panel suggests that this low utilization rate has quite a bit to do with the fact that U.S. companies have gotten better at demand planning and controlling their inventories. And while that is a positive indicator of growing operations intelligence, it's certainly not going to help buttress the argument for investing in upgrades or new equipment. "Corporate management is guaranteed to question the need for additional investments when operating at such low capacity utilizations," adds Derewecki. "People don't even think of investing until capacity constraints start biting them."

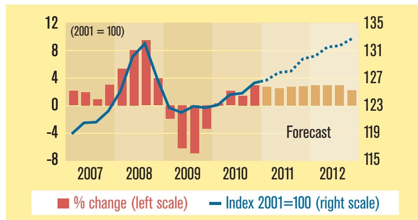
With the economy slowly but surely strengthening, your new challenge then is twofold. First, you must assess whether or not the equipment and technology operating in this existing capacity supports your future needs. Second, you must determine the argument for making the investment necessary to meet these new capabilities.

It's only after you've made your case that you can throw caution to the wind.

Michael A. Levans, Group Editorial Director

Comments? E-mail me at mlevans@ehpub.com

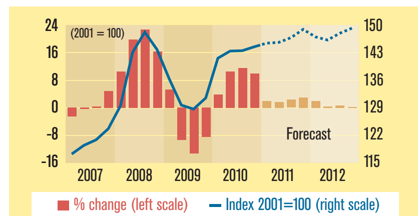
Pricing Across the Transportation Modes



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
General freight - local	0.1	-0.2	-0.2
Truckload	0.2	2.8	5.3
Less-than-truckload	0.4	3.6	7.1
Tanker & other specialized freight	0.7	1.8	2.4

TRUCKING

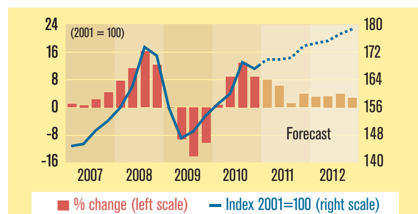
Interruptions in Middle Eastern oil supplies could quickly translate into upward revisions in forecasts for trucking prices. One reason, according to ALERTdata cost/price analysis, operating margins already took a big hit last year when gross operating margins in the trucking industry fell by $4.35 for every $100 of services sold. With only January 2011 price data reported so far, overall trucking industry prices increased 0.3% from a month ago and 3.9% from same month a year ago. TL and LTL price tags likewise were up by 5.3% and 7.1% from year-ago (January 2010) price levels. If February and March Labor Department surveys of transaction show fuel surcharge activity, then expect increases in inflation forecasts.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Scheduled air freight	1.0	2.9	6.4
Chartered air freight & passenger	2.2	4.4	11.3
Domestic air courier	6.5	8.6	9.6
International air courier	8.1	10.1	11.1

AIR

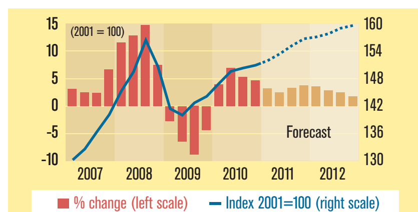
The airline industry also stands poised to increase fuel surcharges in response to sharply higher fuel costs as well. For every $100 worth of services sold in December 2010, more than $27 in fuel cost outlays immediately detracted from the bottom line for the U.S. airline industry. Even without a major oil shock, air cargo prices (for flying on scheduled flights) were forecast to meet the previous peak price level set in the third quarter of 2008 by the end of 2011. As for the first month of the year, prices for cargo on scheduled flights increased 1% from a month ago and 6.4% from same-month-year-ago. Shipping via cargo-only chartered planes jumped 2.2% and 11.3% over the same time periods.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Deep-sea freight	0.4	-0.3	11.7
Coastal & intercoastal freight	3.2	1.5	11.0
Grt. Lks.-St. Lawrence Seaway	3.1	3.9	0.1
Inland water freight	7.3	4.4	5.0

WATER

Average transaction prices for shipping over water slipped its mooring a bit this past January too. In a surprise jump, operators on inland U.S. waterways reported a 7.3% price hike from a month ago and a 5% gain above year-ago rates. U.S.-owned deep sea freight transport companies likewise said their prices increased 0.4% and 11.4% at the same time. The forecast has not been altered yet, but higher fuel costs make an upward forecast adjustment more likely here too. Unlike some of the other transportation modes, however, fuels makes up a significantly lower portion of the industry's total costs. Spending on worker wages and benefits accounts for a larger share of this industry's budget.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Rail freight	0.4	1.0	4.3
Intermodal	1.1	2.7	5.3
Carload	0.4	0.9	4.2

RAIL

Showing the least exposure to volatile fuel costs of all the transportation modes, railroad operators may grouse about the cost of fuel, but do not be deceived. According to the ALERT* data cost model, spending on financial insurance and capital management services far out paces the dollars spent on fuels, though escalation rates for the former appear much more sedate and predictable than the latter. Competing vigorously with long-distance trucking, rail transport companies told survey takers that their total costs grew 4.7% in the 12 month period ending December 2010. In contrast, average industry priced picked up at the same time with a 4.7% gain.

Source: Elizabeth Baatz, Thinking Cap Solutions. E-mail: ebaatz@alertdata.com
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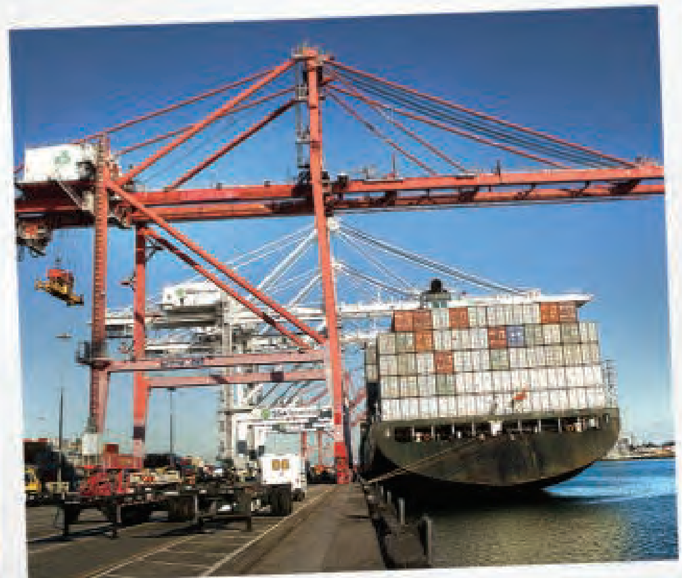

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LTL carriers seize pricing with rising yield, rates

Rate increases in the mid-single digits, absent of any fuel surcharge increases, are being reported by many shippers and carriers as contracts renew.

By John D. Schulz, Contributing Editor

WASHINGTON, D.C.—There is a not-so-subtle change in pricing power away from shippers and toward carriers in the less-than-truckload (LTL) sector. Shippers may have already noticed discounts are falling and rates are rising.

After about four years of cut-rate pricing due to the recession and trying to punch out financially ailing LTL giant YRC Worldwide, rival carriers are finally regaining pricing power even over their best customers, top executives and analysts say.

In fact, it may be this way for a while. Rate increases in the mid-single digits, absent of any fuel surcharge increases, are being reported by many shippers and carriers as contracts renew. Many analysts are predicting LTL tonnage (and rates) will steadily rise not just this year, but through 2012 as well. But that still would not get LTL tonnage levels back to the peak levels of 2005-2006.

"It's generally improving," said David Ross, trucking analyst for Stifel Nicolaus. He's predicting 2 percent to 3 percent annual LTL revenue growth levels in 2011 and 2012, which is in sharp contrast to the heavy discounting that most LTL shippers enjoyed during the slump of 2007-2009.

In fact, Ross said that if you had owned a basket of LTL stocks from 1985 through today, you would have underperformed the S&P 500 most years. That's because of changing shipper patterns, modal share shifts (LTL has lost significant share to truckload and parcel since deregulation of the trucking industry in 1980), the Internet bubble (which left all asset-based companies behind for a few years around the turn of the century), and the continuing consolidation of trucking, he says.

The LTL sector is now about a $27.5 billion sector, down from $33.8 billion in 2008 because of the recession, modal diversion (mostly to truckload), and other secular pattern changes, according to Satish Jindel who tracks the sector as principal of SJ Consulting.

As the sector recovers, LTL pricing is due for a power shift back to the carriers, analysts say. Pricing in the LTL industry has been moving higher (even excluding fuel surcharges) since mid-2010 after YRC rivals "found religion on rate increases," Ross said in a recent note to investors.

In fact, this shift has been in place since last summer with LTL carriers in total showing higher yields month over month. Ross sees this trend continuing throughout this year and "likely" through 2012, especially if carriers do not bring active capacity (people and trucks) back to the industry.

Though Ross is predicting 2 percent to 3 percent annual growth in volume in the LTL sector, that could

rise even higher if truckload capacity is squeezed by any changes to hours of service (HOS) rules or by the implementation of the government's CSA 2010 safety initiative.

After several years of "advantage-shipper" in rate negotiations, Ross said that the pendulum is turning and pricing power is returning to the carriers. In fact, major LTL carriers did an unprecedented thing last year, taking two general rate increases (GRIs) in the same calendar year.

"We believe that is demonstrative of pricing power now shifting back to the carriers," said Ross, who is predicting annual rate increases of between 4 percent and 5 percent this year and in 2012. That's without any increase in fuel surcharges, currently running about 22 percent to 24 percent when fuel costs $3.15 a gallon, as it is currently.

Ross believes "active" capacity in the LTL sector—trucks, drivers, dockworkers—is currently "fairly tight" and would only get tighter as the nation enjoys higher levels of economic activity. That would seriously tighten if the government were able to win greater regulation in HOS and as its CSA 2010 initiative to crack down on unsafe drivers is further rolled out this year.

Based on our reporting, carrier executives are girding for higher costs for everything—but especially for recruiting and retaining qualified drivers.

"The great recession took it out of the spotlight, but driver availability is the biggest issue facing the industry and will change several dynamics," said Steve O'Kane, president of A. Duie Pyle Co., a major Mid-Atlantic regional LTL carrier. "Driver wages will need to increase."

Bill Logue, president and CEO of FedEx Freight, the nation's largest LTL carrier, said that the supply/demand equation in the industry is "improving," and carriers are openly courting rate increases from their customers.

"As volumes grow, we are working the yield side," said Logue. "We're asking ourselves, 'Is this a good long-term solution for this shipper?'" □

CONTAINER VOLUMES

Intermodal volumes finish Q4 and full-year strong

CALVERTON, Md.—Intermodal volumes continued the solid trends that occurred throughout 2010 by posting a strong fourth quarter, according to the recent Market Trends report from the Intermodal Association of North America (IANA).

Fourth quarter intermodal loadings—at 3,451,011—were up 12.8 percent year-over-year. And for all of 2010 they came in at 13,390,104 for a 14.7 percent gain.

The four major intermodal categories IANA tracks were up on a quarterly and annual basis. Domestic containers—at 1,163,707—were up 8.9 percent for the quarter. International containers—at 1,841,451—were up 16.9 percent (marking the third time since the second half of 2006 that international topped domestic containers). All domestic equipment—at 1,609,569—was up 8.4 percent, and trailers—at 445,853—were up 7.3 percent (trailers have been down 19 of the last 24 quarters).

For all of 2010, trailers were up 3.7 percent at 1,664,064; domestic containers were up 13.3 percent at 4,488,311; all domestic equipment was up 6,152,375 at 10.6 percent; and international containers at 7,237,729 were up 18.5 percent.

The growth on the international side was the best output for a full year since 1996, with international containers leading overall gains as the intermodal network digested rebounding imports, the report explained.

"The fourth quarter was much stronger than anticipated," said Tom Malloy, IANA's vice president of member services. "The year-over-year comparisons in 2011 will be more difficult. January 2010 was a down month, so it will be somewhat easier to 'look better' in January 2011. It will likely take until April to get a strong year-over-year comparison, due to ebbs and flows in the front part of the year tied to Chinese New Year, with factories shut down for 20 days to 30 days and affecting the import flow."

IANA reported that domestic container volumes remained strong during the recession and benefited from an ongoing conversion from trailers to more efficient containers and healthy growth in transloading of imported freight.

Another bright spot cited by IANA is the surge in domestic container volume, with tight driver capacity and increasing fuel prices helping to further that trend, which resulted in railroads and their partners delivering in the form of improved service, expanded lanes, and significant investment in new container capacity.

"Throughout 2010, private box owners were anticipating a sustained demand, because the amount of domestic containers that will be in play in 2011 is about 20,000 to 30,000 more containers than there were at the beginning of 2010," said Malloy. "In December 2009,

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there were 165,000 domestic containers, and for the year-end forecast of 2011, we are hearing that number will jump to 210,000 for an extra 45,000 containers in a 24-month period."

Even with such a significant jump in domestic containers, Malloy said it's difficult to determine if the amount of domestic container production capacity in 2011 is already purchased and spoken for, because they are manufactured overseas and there is limited visibility into order activity and if manufacturers are capable of meeting those orders. He added that there is often a three-month to six-month lag from the time an order is placed to the time it is received, with domestic container owners anticipating increased demand to be sustainable.

—Jeff Berman, Group News Editor

RAIL

New legislation states reduced future traffic patterns should lower Positive Train Control costs

WASHINGTON, D.C.—Legislation recently introduced by Senator Kay Bailey Hutchison (R-Texas) vows to reform the Positive Train Control (PTC) regulatory mandate to reduce compliance costs and maintain a safe rail system.

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. And it calls for passenger and certain hazmat rail lines to take effect by 2015 and authorizes $250 million in Federal grants.

According to the Senate Commerce Committee, traffic patterns for shipping toxic chemicals are changing, in part, due to new Department of Transportation and Transportation Security Administration regulations.

This means that at least 10,000 route miles used to move chemicals in 2008 are no longer expected to transport these products in 2015, the committee said. By requiring that PTC be installed on lines used to transport passengers or certain toxic chemicals based on 2008 usage rather than 2015, the FRA has expanded the Congressional mandate beyond what was intended and dramatically inflated compliance costs, according to the committee.

The PTC requirement, often referred to as "the unfunded mandate" in railroad circles, has not been warmly received by the railroad industry, due primarily to the high price tag.

According to FRA estimates, installing PTC technology will cost more than $5 billion for the freight rail industry to install on more than 73,000 miles of tracks by the 2015 deadline, with total costs coming to more than $13 million when passenger trains are included. What's more, the FRA has publicly stated that the cost-to-benefit ratio of installing PTC is 20-to-1. And the FRA has stated that safety benefits of PTC coming in at between $440 million and $674 million over a 20 year period

Hutchison's bill was welcome news for the Association of American Railroads (AAR).

"Senator Hutchison has taken an important first step in bringing common sense to the implementation of PTC, and we urge her Senate colleagues to stand with her and the bill's original co-sponsors in fighting this excess regulation," said AAR President and CEO Edward R. Hamberger.

A report on PTC prepared for the AAR by management consultancy Oliver Wyman stated that without external funding the PTC requirement will remove capital away from capacity expansion and other programs required by railroads at a time when the economic recovery is going to require additional railroad infrastructure.

The report added that the $5 billion cumulative PTC investment required by Class I railroads equals what Class I's have doled out over the last four years, coupled with

them having to spend hundreds of millions of dollars per year to maintain the PTC system.

Oliver Wyman Managing Director Bill Rennicke said the PTC legislation is essentially a safety mandate that ultimately will be paid for by shippers in the form of increased rates.

"If there are 10,000 unneeded miles and the government is now going back to provide a more accurate adjustment of the area in which the technology will be applied, it benefits everybody—not just carriers, but shippers, too—because it is a very expensive system being put in for safety reasons, not for economic or efficiency reasons," he explained.

—Jeff Berman, Group News Editor

BUSINESS

PwC report points to increased transportation and logistics M&A activity

NEW YORK CITY—There are signs that transportation and logistics merger and acquisition activity is continuing to rebound, according to PricewaterhouseCoopers (PwC).

PwC's quarterly report, *Intersections: Fourth Quarter 2010 Global Transportation and Logistics Industry Mergers and Acquisitions Analysis* stated that fourth quarter deal value increased 111 percent to $35.6 billion in the fourth quarter compared to the third quarter's $16.9 billion. This output dwarfs the second quarter and first quarter of 2010 at $13.1 billion and $15.9 billion, respectively. And total deal value volume and average deal value in the fourth quarter all exceeded the previous three quarters, said PwC.

PwC said there were 42 announced fourth quarter deals worth $50 million or more, with 37 of these deals excluding deals with U.S. targets and/or acquirers and five with U.S. targets and acquirers. Average deal value for deals $50 million or more came in at $848 million.

Deals cited by PwC represent all announced deals for the quarter—as opposed to completed deals only—and the report does not parse out deals that are withdrawn, intended, or pending.

"The third quarter pause in deal activity was not a dramatic slowdown, but it was a pause that had many of us scratching our heads about what was happening," said Ken Evans, PwC U.S. transportation and logistics sector leader. "There was a lot of talk in the summer and into the fall about the potential for a double-dip recession, but we were encouraged by activity in the fourth quarter, which is where we thought the whole year was going to be all along, as companies—and financial buyers—have gradually gained more confidence in the economy and are more willing to spend and borrow money, which is more available."

Total 2009 fourth quarter deal value was higher at $53 billion, due in large to the $36 billion acquisition of BNSF Railway by Berkshire Hathaway, but when that transaction is excluded, the total and average value of deals in the fourth quarter of 2010 represent the highest quarterly figures over the last three years, said PwC.

As deal value and volumes increased in the fourth quarter, PwC said much of this activity was driven by passenger deals as opposed to freight and logistics deals. But that should not be misinterpreted as freight and logistics deals not occurring. Instead, it speaks to the fact that they are often than not below the $50 million level PwC uses as a barometer for deal activity.

"If I had to speculate, the freight and logistics side is currently lagging behind passenger-related deals, but it may not be for long," said Evans. "Reasons for this include strong balance sheets, healthy companies, GDP growth, and consolidation on the price side in the next few quarters."

With deal making in the transportation and logistics sectors continuing to pick up, it reflects how the markets continue to improve, with the quantity and quality of deals improving, too, said Tom Connolly, managing director of EVE Partners, an Atlanta-based transportation and logistics M&A firm.

"Companies have healthier balance sheets, and financial buyers are making a return to the market," said Connolly. "These companies are also getting healthier and more stable as well, which is creating a much better deal market and could lead to an improvement in the first quarter of 2011 over the previous quarter."

—Jeff Berman, Group News Editor

OBAMA ADMINISTRATION

Funding questions are front and center in proposed surface transportation bill

WASHINGTON, D.C.—On the heels of President Obama's recently released proposed fiscal year 2012 budget request, there have been no shortages of opinions regarding the transportation components of the budget, especially the proposed six-year, $556 billion surface transportation reauthorization proposal.

This proposal, if enacted, would be more than 60 percent above the inflation-adjusted levels of SAFETEA-LU (The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) that expired on September 30, 2009.

White House officials said that this new authorization would "modernize the country's surface transportation infrastructure, create jobs, and pave the way for long-term economic growth," adding that President Obama will work with Congress to ensure the plan will not increase the nation's deficit.

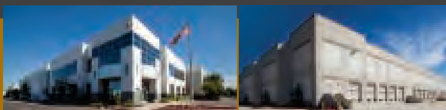
Included in this new six-year plan are:

- funding for highways, transit, highway safety, passenger rail;
- a National Infrastructure bank that would be allocated $30 billion in loans and grants to support individual projects and broader activities of significance for the

Nation's economic competitiveness; and

• a proposal to boost transportation spending by $50 billion above current law spending in the first year of the authorization for roads, railways, and runways, among other components.

From a fiscal perspective, this bill tops the one proposed by former House Transportation and Infrastructure Committee Chairman James L. Oberstar. And as was the case back then, how to fund such a large bill remains a quandary. The President is committed to working with Congress to ensure that funding increases for surface transportation do not increase the deficit. And officials said that this budget proposes to make all surface transportation reauthorization programs subject to PAYGO in which federal funding comes from available financing rather than borrowed sources of capital.



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The primary funding mechanism for surface transportation, the federal gasoline tax at 18.4 cents for gasoline and 23.4 cents for diesel, has not been increased since 1993.

"The White House has identified what the needs are and has some creative approaches for how to meet them," said Mort Downey, senior advisor at infrastructure firm Parsons-Brinkerhoff. "The big unknown is how they pay for it and they are very frank in that it will require some additional resources…but the budget is structured so that these proposed programs would be mandatory and therefore subject to PAYGO requirements, which means they are inviting a discussion with the Congress that basically says 'if you like this, let's talk about how we can get it paid for.'"

Leslie Blakey, executive director of the Coalition of America's Gateways and Trade Corridors, noted that even with the jury still out on funding options, there are good concepts and proposals pertaining to goods movement infrastructure in this proposal. "It is a question of how to deal with a need and where does the money come from?" said Blakey. "It is an ongoing conversation in progress. [Shippers] should be encouraged by the fact that the administration seems to care very deeply about trying to propose something that is going to make a huge difference in our ability to do business in the years to come."

Ken Orski, editor of *Innovation News Briefs*, said that this budget submission provides more questions than answers.

"The President has said that he is committed to working with Congress to ensure that funding for surface transportation does not increase the deficit," wrote Orski. "This vague expression of intent is hardly appropriate in a Budget message in which Congress expects the Administration to provide concrete proposals for deficit-neutral funding to accompany the President's programatic initiatives." ☐

—Jeff Berman, Group News Editor

FUTURE

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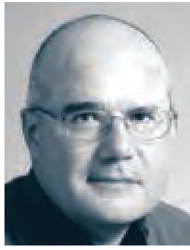

Improve intermodal prices: Make some noise

ACCORDING TO THE INTERMODAL ASSOCIATION of North America (IANA) web site, "every year, nearly 25 million containers and trailers are moved using intermodal transportation. Electronics, mail, food, paper products, clothes, appliances, textiles, and auto parts all take a ride on the country's intermodal network. In fact, intermodal is growing faster than any other mode of transportation."

Like most shippers, I couldn't agree more with the important role intermodal transportation is playing in today's transportation landscape. And, I believe we all need to support the continued development of this mode and be watchful of any threats that could bring service disruptions or rate increases that exceed the rate of inflation.

This public-private partnership of trucking companies, intermodal marketing companies, ports, ocean steamship lines, and railroads is in business to provide a cost-effective, seamless, reliable, efficient, safe, and environmentally friendly way to move freight from origin to destination.

The way to combat the relentless rise of fuel, labor, capital needs, along with consolidation of providers in our major trade lanes, is to have sufficient infrastructure so that many new and existing carriers and service providers can compete for your intermodal business. As you're well aware, capacity limitations will lead to monopolistic behavior by the remaining providers.

The revolution in international and domestic trade in the past 50 years has increased competition with traditional modes and has saved untold amounts of fuel. I think it's safe to say that there's a consensus that the international portion of intermodal drives the market. Last year those international volumes accounted for about 60 percent of the U.S. intermodal market.

In fact, it was the many containers produced for ocean moves starting in the 1960s that created capacity for a growing domestic use of intermodal. Further, the ports have become major depots for rail, highway, and water equipment that enables ever-improving reliable scheduled services.

To accommodate the 8,000 plus TEU ("post-panamax") container ships soon to transit the Panama Canal, and in some cases already calling on our ports (see the Aug. 27, 2010, attempt by the CMA CGM Figaro to enter Savannah, Ga.), we need 50-foot drafts at our ports. There is a battle underway between ports, environmentalists, and the politicos in Washington to get the ports ready in the next three years.

Nine years after Savannah wisely began planning to deepen its port to accommodate new post-panamax vessels, they still don't yet have a permit to dredge—a fact for which the Army Corp of engineers is to be chastised.

We need to insist that deeper channels, highway exits to ports, new rail clearances, better security technology, higher bridges, and new port capacity get support by our legislatures and regulators.

New York/New Jersey have the Bayonne Bridge height to contend with. Miami has permits but needs money. Each port has its issues and all need your help. In December, 600 longshoremen showed up to encourage the Army Corp of Engineers to grant the dredging permit in Savannah at a hearing. As the fourth largest port, Savannah serves 44 percent of the U.S. population. So, where were you?

We as shippers and service providers need to insist that deeper channels, highway exits to ports, new rail clearances, better security technology, higher bridges, and new port capacity get support by our legislatures and regulators. Call, e-mail, and write your congressional representative or talk to your professional association.

You need to help raise the volume—literally and figuratively. The message is simple: The canal opens in three years and it takes at least that long to perform a major dredge project. Tell them infrastructure investment (jobs) begets capacity (jobs), begets competition (jobs), and thus lower transportation prices. □

Peter Moore is a program faculty member at the University of Tennessee Center for Executive Education, adjunct professor at The University of South Carolina-Beaufort, and vice president of Celerant Consulting, a supply chain advisory firm. Peter can be reached at peter.moore@celerantconsulting.com.

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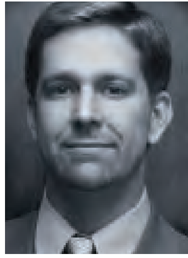

WikiLeaks documents suggest Saudi Arabia is running out of oil

ON FEBRUARY 8, *The Guardian* ran an article covering a series of diplomatic cables sent between 2007 and 2009 from the U.S. embassy in Riyadh, Saudi Arabia, to the White House. In these WikiLeaked communications, diplomat(s) expressed concern that Saudi Arabia is no longer able to lift oil production at a rate fast enough to prevent escalating oil prices.

These revelations came through private discussions with Sadad al-Husseini, former head of exploration and production at Saudi Aramco, the world's largest oil producing company. Of al-Husseini one of the cables states: "While al-Husseini fundamentally contradicts the Aramco company line, he is no doomsday theorist. His pedigree, experience, and outlook demand that his predictions be thoughtfully considered." For U.S. shippers, thoughtful consideration is exactly what needs to be done.

At the end of January, I participated in the *LM* Annual Rate Outlook webcast (logisticsmgmt.com/2011outlook). In my presentation on the state of the world oil market, the most salient point that I hoped to make was that the Energy Information Administration (EIA) has placed too much confidence in Saudi Arabia's willingness and ability to lift production as oil markets tighten through 2011.

According to the EIA's Short Term Energy Outlook, global demand for liquid fuels will increase by 1.5 million barrels per day by the end of 2011. Of this, OPEC is expected to supply 1.2 million barrels per day. The EIA data on surplus oil production capacity suggest that Saudi Arabia will be responsible for the vast majority of OPEC's increase in production.

As I explained in the webcast, while production rates are important, an even more important metric is the amount of oil that Saudi Arabia exports. Looking back at historic data we see that Saudi oil exports peaked in 2005. And despite the fact that exports were lower in 2008 by roughly 671,000 barrels per day than they were at the peak, the Kingdom's annual petro-income increased by more than $100 billion over this period of time.

Exports, of course, represent the difference between production and domestic consumption. Unlike the U.S. and other OECD economies, where oil is primarily consumed as transportation fuel, the Saudi Kingdom burns copious quantities of oil to generate electricity and desalinate water. Given that the population of Saudi Arabia is rapidly expanding and that prices, and therefore petro-income, have returned to Q1 2008 levels, it should come as no surprise that Saudi electricity demand is climbing rapidly and is expected to double by 2018.

The problem, then, is that oil production must increase at a rate that not only covers 80 percent of the projected increase in global liquid fuels demand, but at a rate that also covers the increase in Saudi Arabia's domestic consumption—which, by the way, is highly subsidized.

SEARCHING FOR NATURAL GAS

Alternatively, the Kingdom could theoretically shift from oil-fired power plants to natural gas-fired power plants, but this would require the massive expansion of natural gas production. And it is here that the Kingdom faces more difficulties. Back in September 2010, the *Financial Times* ran an article on the potential for the production of unconventional natural gas to free up much of the Kingdom's oil for export. While the *FT* article paints a somewhat rosy picture of the Kingdom's unconventional natural gas reserves, it also said that exploration efforts to discover conventional natural gas resources have produced "largely disappointing results."

The most prescient problem, then, is that in order to bring unconventional reserves online Saudi Aramco must overcome a number of technical challenges. Consequently, it is unlikely that unconventional gas production will supplant much (if any) of the oil used to generate electricity by year's end. And over the next few years, we should expect much of Saudi Aramco's investments to shift from oil production to unconventional natural gas exploration and production.

Looking forward, these WikiLeaked documents do nothing to unseat my belief that oil prices will continue to rise and become more volatile. And they do much to reinforce my unease with the EIA placing such confidence in Saudi Arabia's willingness and ability to increase production for the good of the world economy. The Kingdom didn't increase exports as the price climbed from $50 per barrel to nearly $150 per barrel in 2008, so what is different today? □

Derik Andreoli is a doctoral candidate at the University of Washington where the focus of his research is on the interactions between oil and the economy. He is also a faculty affiliate of the Harvard Business School through the Microeconomics of Competitiveness program. Derik welcomes questions via email at derik.andreoli@gmail.com.

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Pearson on

Wage increases in China: Time to rethink your manufacturing and sourcing strategies?

CHINA HAS LONG BEEN A CORNERSTONE of many companies' manufacturing and sourcing programs; and one of the main reasons is low wages. But things are changing.

Ironically, but not surprisingly, China's great success as a "low-cost country" has begun to make it less low cost. The average hourly wage rate in China is only about 9 percent of that in developed western economies. However, 13 Chinese provinces recently raised their minimum wage level by an average of 20 percent. In addition, China's wage rate is rising faster than other Association of Southeast Asian Nations (ASEAN) countries.

This naturally raises several important questions for supply chain decision makers: Will wage inflation threaten China's competitive position as a low-cost manufacturing destination? What are the implications for multinational corporations' (MNCs') manufacturing and sourcing strategies? How should MNCs respond?

A recent study conducted by Accenture drew several conclusions about Chinese wage inflation's effects:

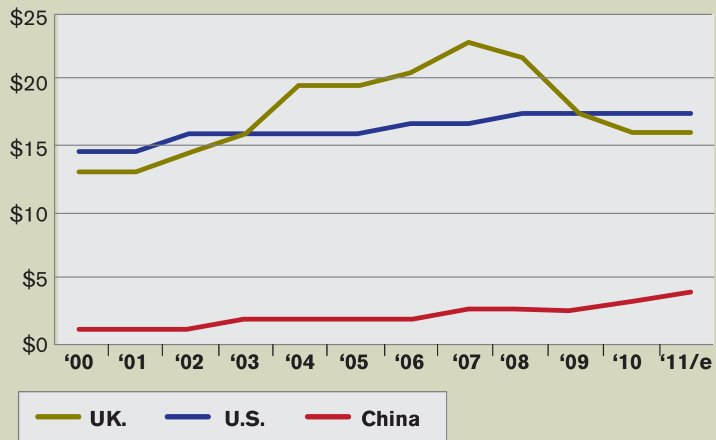
• Assuming a minimum wage increase of 30 percent, margins for companies with heavy production interests in China will likely fall by 5 percent or less. This is because labor represents a small portion of overall costs for these firms. Productivity increases, cost reductions, and supply chain process improvements could potentially cancel out those margin losses.

• Although China's wages have grown faster than in many other low-cost countries, its hourly wage rates are still more competitive than those in the developed world. In fact, the absolute wage differential between China and developed countries is continuing to widen.

• Despite higher wages, we expect that price increases relating to sourced goods and materials will remain minimal. However, with the growing purchasing power of domestic Chinese consumers, additional demand could boost prices longer term.

In net, wage increases in China shouldn't be too much of a worry for companies that source or manufacture there. However, labor cost increases should still inspire positive MNC changes in the form of productivity improvements or strategic shifts. For some companies that outsource large amounts of manufacturing to China, low-cost countries such as Vietnam, Thailand, Malaysia, and Indonesia may become increasingly attractive.

Average hourly wage: Developed economies versus China (in U.S. dollars per hour)



Source: Accenture analysis of International Labor Organization data

But these advantages need to be weighed against less-developed infrastructure in ports, roads, and facilities; shortages of skilled workers; and political instability. MNCs with their own manufacturing facilities based in China could locate more production in China's interior and western regions, where wage rates are lower than in eastern coastal cities.

Generally, we believe that manufacturers seeking to mitigate the effects of wage inflation in China

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have four strategic options:

Focus on Operational Excellence. To offset the impact of increased labor costs in China, MNCs should aspire to higher levels of operational excellence. For example, they could foster more collaboration among functional areas and tighten their focus on productivity, efficiency, and process optimization.

Expand across West China and the ASEAN. MNCs with their own manufacturing operations in China can adopt a "Chinaplus" model: locating more plants in West China and in other ASEAN member countries. Advantages to this include a lower cost structure and an opportunity to shift production and supply efforts closer to markets with higher demand potential.

Optimize across the Globe. Instead of moving production out of China, MNCs may wish to create centers of excellence. These centers can help optimize a company's manufacturing footprint globally and focus the organization more tightly on a total-cost-to serve model. With an optimized global manufacturing footprint, companies can more easily shift production activities among different facilities to keep costs low and serve their most demanding markets quickly.

Grow the Local Market. With strong demand growth in both business and consumer sectors, China is an increasingly important end-user market for MNCs. It therefore makes sense for companies with manufacturing operations in China to reconfigure their supply chain management strategies to distribute and sell more products to Chinese customers. To make this happen, changes such as higher capacities in outbound transportation, storage, and distribution will be needed.

ASEAN IS STILL THE PLACE TO BE

Labor cost is a major, albeit only one, influencer of multinational companies' operating margins. So as costs rise and consumer demand grows, MNCs and local manufacturers will need to refine their operational excellence and manufacturing strategies to stay ahead of the curve.

China specifically, and Asia more generally, will continue to shape the world's economic landscape as a leading source of goods and services. For this reason, it's essential that manufacturers strengthen their footprint in this region and make whatever adjustments are necessary to accommodate periodically inevitable wage hikes. □

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Cautious spending reigns

The number of supply chain organizations planning to spend on materials handling equipment and technology is increasing; but after being in "survival mode" for so long, budgets are small and decision makers are still wary.

BY **MAIDA NAPOLITANO**, CONTRIBUTING EDITOR

Last December, Washington lawmakers wrote a small provision into the new 2011 tax law allowing businesses to fully write off productive capital investments in one year, instead of amortizing them, giving companies lower taxable incomes and essentially freeing up more money to spend on labor or expansion.

If the government gets its wish, this year businesses will stop putting off the purchase of automated sortation systems and lift trucks and spend, spend, spend. Well, it seems that this wish could in fact come true.

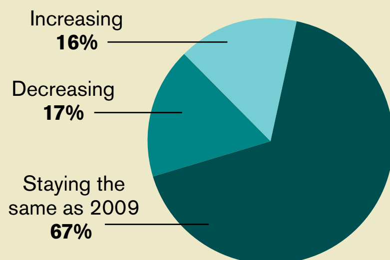
According to the 2011 State of Warehouse/DC Equipment and Technology Survey conducted for *Logistics Management* and sister publication *Modern Materials Handling* in January by Peerless Media Research Group, significantly more respondents—36 percent versus 16 percent last year—are planning to increase their spending on materials handling solutions in the coming year versus the previous year.

And while this finding most certainly sets an optimistic tone for the report, there is some data that may slightly temper the industry's enthusiasm. While more companies may be spending, the median amount each firm plans to spend over the next 18 months for both materials handling equipment and information systems solutions is just $77,000, or 8 percent lower than our 2010 findings when that number rang in at $84,000.

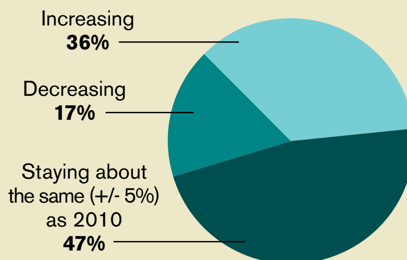
"That's the equivalent of two nice new lift trucks or one specialized truck like

Comparing spending on materials handling solutions for the coming year (2011 versus 2010)

How does your company's spending on materials handling solutions in 2010 compare with 2009?



How does your company's spending on materials handling solutions in 2011 compare with 2010?

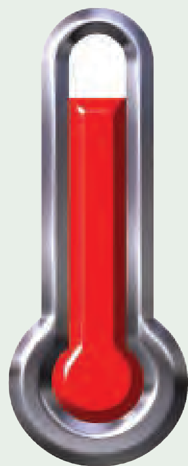


Source: Peerless Media Research Group

For 2011, 36% say their spending is increasing. Last year, only 16% said their spending was increasing.

John Pirman

Taking the temperature of the market



While the hard data builds the foundation of this annual report, reading open-ended responses often helps to fine tune the overarching temperature of a market. Here's a small sampling from the *2011 State of Warehouse/ DC Equipment and Technology Survey*

Open-ended question:
In what (if any) areas are you currently investing? If you are holding off on investing, what specifically are you holding off on?

Responses:
"Investing in only what is immediately needed..."

"We are investing more in machinery to make our production run more efficiently and are avoiding unnecessary spending on office equipments, cellphones, and other non-urgent supplies..."

"Heavily on manufacturing and holding off on distribution until our growth subsides..."

"We are holding off on buying new equipment and are upgrading our current equipment..."

"Adding an additional building to our distribution network, purchasing additional fork lifts..."

"We are moving forward with a new warehouse management system..."

"We're spending as the need arises, with a more cautious approach regarding actual ROI..."

"We invest in anything that saves money. ROI is immediate with a savings. Anything that has ROI of more than one year we have put off unless it's necessary to do business..."

"We're investing in order picking and storage automation..."

"Not holding off on anything specific, we're just being judicious..."

"Maximizing the productivity of the remaining workforce...capacity expansions might come later..."

"Investing in efforts to meet homeland security requirements including some materials movement equipment, some containers..."

"We have reduced every form of investment...Inventory, fleet, materials handling equipment, associates, payroll, and benefits..."

"Holding off on high capital expenditures if ROI is not less than two years..."

"We are holding off on all investments unless absolutely necessary..."

"Investing in racking, holding off on lift trucks..."

"Just completed installation of mezzanines and carousels..."

a turret truck," says Don Derewecki, senior business consultant for TranSystems, a supply chain consulting firm. "With that level of investment you're just making marginal improvements. Only 12 percent of the respondents are planning to spend a million dollars or more; so, to me that says that only 12 percent say they're doing something significant."

"The costs of the distribution and warehousing side of many supply chains have been so depressed over the past couple of years that there's really not a lot of movement you can make," says Scott Pribula, president of TranSystems' management and supply chain consulting group. "If buying two lift trucks is your budget, then that's just attrition to me. You're not really moving into the next level of efficiencies."

In fact, a sense of caution remains with 78 percent of our 2011 respondents saying that they're proceeding slowly until the economy becomes more stable. Most are keeping spending dollars to a minimum and only for those purchases critical to sustain ongoing business (see sidebar).

However, these findings are just the tip of the iceberg. Over the next few pages we'll go deeper into the data gleaned from the 2011 survey results while tracking changes in the materials handling market over the past year. We'll examine current utilization rates of manufacturing and warehousing facilities, zoom in on specific areas that warehouse and distribution managers are planning to invest, track which best practices are gaining importance, identify green initiatives currently in use, and explore how they're currently making materials handling purchase decisions.

Questionnaires were e-mailed to readers yielding 463 total respondents, mostly from manufacturing companies with revenues ranging from large (35 percent have sales of $100 million or more) to small (16 percent are under $5 million). Only those responses from management and personnel directly involved in the purchase decision process of material handling solutions were considered.

With such a broad representation of respondents, this is a great opportunity to gauge how plans for your warehouse/DC equipment and technology investment match up with those of your peers across the country. Here's what we found.

LOW CAPACITY = LOW MOTIVATION TO IMPROVE

There's one explanation for the low amount of spending dollars attributed for 2011: There's just too much available capacity. Even though growth and spending started turning the corner last year, there's still plenty of available capacity in our respondents' facilities with utilizations averaging only 64 percent, a continuing decline from last year's 65 percent.

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Logistics Manager, Houston, TX

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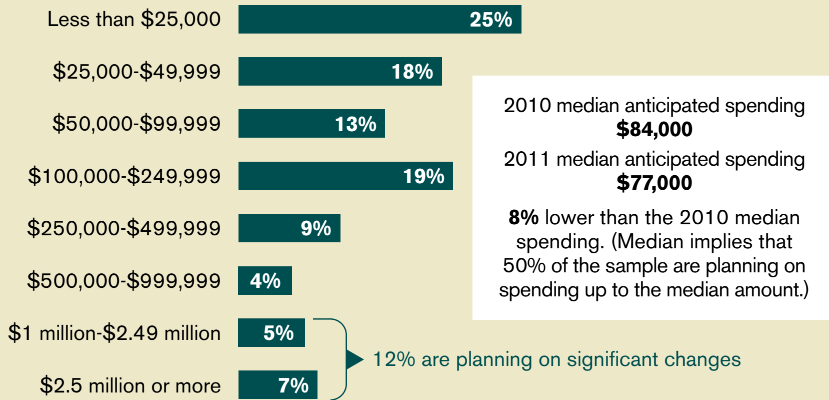
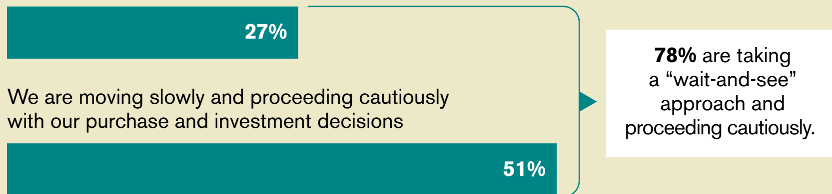
Amount to spend on materials handling equipment and information systems solution



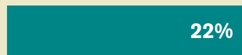
Source: Peerless Media Research Group

The economy and its impact on spending on materials handling equipment and technologies

We are taking a "wait and see" approach, and making only those purchases and investments that are critical to sustaining our ongoing business

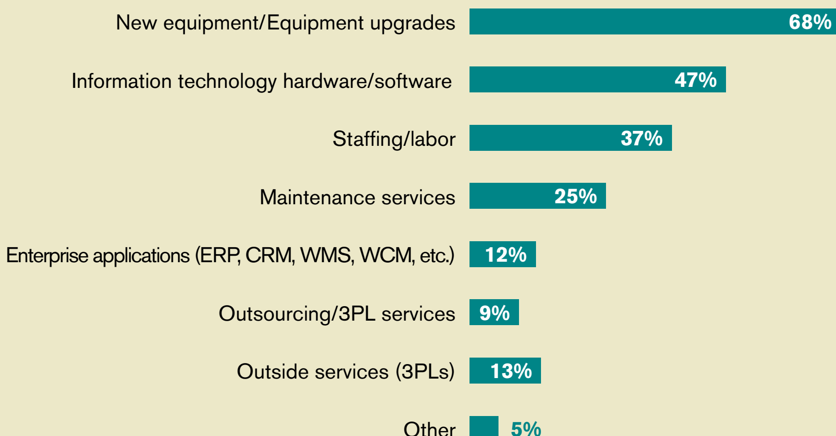


The economy is having little or no impact on our materials handling spending



Source: Peerless Media Research Group

Areas of investment in the next 18 months



Source: Peerless Media Research Group

"Corporate management is guaranteed to question the need for additional investments when operating at such low capacity utilizations," says Derewecki. "People really don't even think of investing until capacity constraints start biting them."

This continued downhill trend in capacity utilization for manufacturing is also baffling our experts. "Most manufacturers, in order to stay in business, had to really consolidate their manufacturing effort," notes Pribula. "With the optimism in the economy and the building of inventory, I would think it would rather be on the uptick, instead of going down." He cites a company with three plants that currently have very high utilization rates—but two years ago, it had five plants.

There is also continued low capacity in stand-alone warehouses (60 percent on average) and warehouses supporting manufacturing (56 percent on average). "This doesn't surprise me," says Pribula. He believes companies, in general, have gotten much better at demand planning and controlling their inventories.

SHOPPING LIST FOR 2011

While the budget for this year's materials handling spending may not be as big as many had hoped, let's examine the areas where supply chain organizations say they're going to spend their money over the next 18 months.

The top three items remain the same as the 2010 findings: (1) New equipment/new equipment upgrades (68 percent); (2) Information technology hardware/software (47 percent); and (3) Staffing/labor(37 percent).

For specific material handling equipment, results show continued high interest in RFID solutions/products and automated storage solutions (including carousels and vertical lift modules) for two years in a row. However, the percentage of respondents actually using RFID and automated storage has remained relatively unchanged from last year—at about 20 percent. "It doesn't surprise me that they are evaluating it," notes Pribula. "But when

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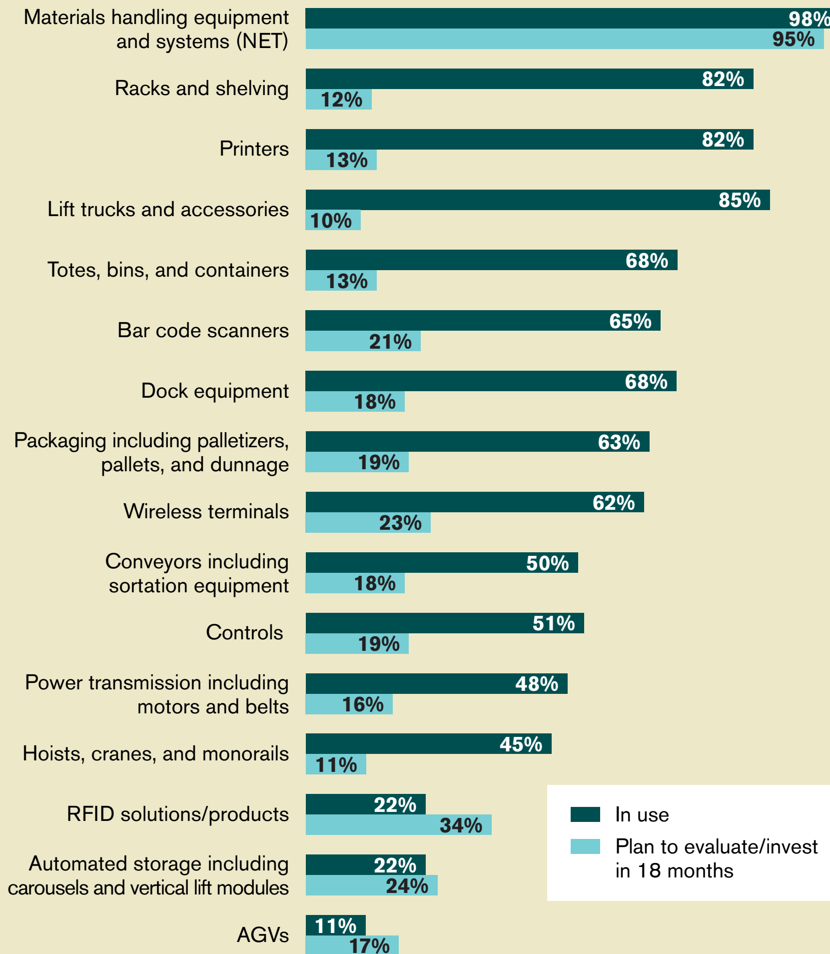


are they going to truly invest? Are they really going to implement it?"

Over in the information management systems aisle, with over 40 percent of respondents already using ERP and WMS, plans are to evaluate and invest mostly in warehouse control systems (WCS), transportation management systems (TMS), and voice systems. Derewecki predicts voice technology will gain even more traction in the coming years. "It's a means for significantly improving the execution and control of your operation without a huge hardware investment," he says. "While it's been used in picking for a long time, it could be used very flexibly in virtually every department such as receiving and replenishment."

BEST PRACTICES INSIDE THE FOUR WALLS

For two years in a row, both manufacturing and distribution sectors have considered (1) continuous improvement, (2) labor productivity, measurement, and management, and (3) "lean" operations as very important best practices inside their organizations. For manufacturing, results show a significant percentage increase in the importance of building to stock. Derewecki points out that when you build to stock, product rolls off the assembly line directly into a trailer for shipping to a customer. "In this case," says Derewecki, "you don't need warehousing."

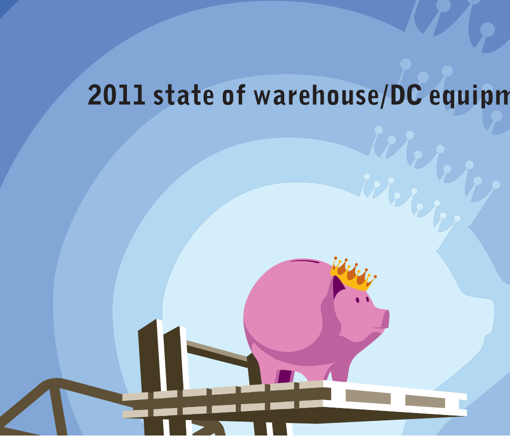
For distribution, same-day order shipping is gaining importance. "It's consistent with what we're seeing out there," reports Derewecki. "We just did a project for a healthcare company and their policy is if you order it by 5:00 p.m. it gets shipped that day."

Value-added services (VAS) are also gaining prominence. While a few companies may be doing it as a means of differentiating themselves, it's mostly because customers are demanding it, says Derewicki. "They're pushing more services back up the supply chain so you have more shelf-ready merchandise for retailers."

Pribula expects increasing focus in trading partner collaboration by 2014. "More companies are working together in such areas as distribution and transportation, sharing loads with their trading partners, or utilizing other people's networks to reduce their costs," he says. "I've heard other people sharing logistical costs based on capacity within certain players—even competitors—not only in rail but also trucking."

GREEN INITIATIVES CONTINUE TO BLOSSOM

Recycling remains the top green initiative in use at 78 percent, followed closely by lighting fixtures and/or controls (74 percent), and fans to circulate cool or warm air (51 percent). Pribula speculates that the reason these initiatives are so widely in use is because these are fairly inexpensive and quickly gets "green money back to me." He points out that the bottom three: upgraded insulation, LEED certification for new buildings, and solar panels require higher capital costs in order to execute them.



There is also a significant increase in respondents taking advantage of the benefits of being green by obtaining rebates from authorities and applying for tax incentives—from 50 percent in 2010 to 64 percent in 2011.

"There's more of a communication drive and more awareness into these incentives," notes Pribula. "With two of my biggest clients, there are actually people that have been hired to strictly have this responsibility. Yes, they have VPs of sustainability."

WHO'S DOING THE BUYING?

High capital investment projects—such as automation and software that extends beyond the four walls—have heavy involvement from corporate management, while the responsibility for purchasing lower cost solutions—such as lift trucks, racks, and packaging equipment—lies mostly with materials handling and warehousing/DC management.

Our experts were not surprised by the high level of loyalty given to existing suppliers, particularly with IT solutions market. "Many managers of warehouse/DC operations really do see themselves as captive to the information system supplier that they already have, just because it would be such a huge change for them to do something different," adds Derewecki.

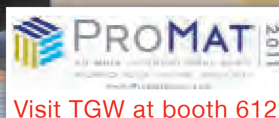
However, this sense of loyalty doesn't seem to apply to third-party logistics providers (3PL). Over 40 percent are planning a switch to a new 3PL supplier, instead of sticking with their existing one. "If your existing 3PL becomes non-competitive, there are many others," he adds.

TAKING IT ALL IN

The economy might be on a road to recovery, but not necessarily at the speed we all would like. The number of companies planning to spend on materials handling solutions is increasing, but after being in "survival mode" for so long, budgets are still small and companies are moving slowly and being cautious.

Despite these cautionary tales, however, the future is certainly looking brighter than it was just 12 months ago. "But I wouldn't call it exuberant…not just yet," adds Derewecki. ☐

I USE



PRIVATE FLEET MANAGEMENT

Are private fleets about to hit a wall?

What are the nation's private fleet managers doing to help mitigate the costs of two new expensive regulatory initiatives? We found some of the best private fleet operators and most knowledgeable industry insiders to discover how they're preparing their operations for this ongoing one-two regulatory punch.

BY **JOHN D. SCHULZ,** CONTRIBUTING EDITOR

The trucking world is about to be turned on its regulatory head. An aggressive and costly new truck safety agenda is being rolled out this year by the Obama administration that promises to increase costs for all fleets. Carriers will have to spend more on equipment, personnel, and planning in order to comply with the new regs.

While few are disputing that the potential changes in trucking enforcement will toss the "bad apples" out of the bushel of 4 million truck drivers, the cost of making the highways safer for all of us will eventually be paid through higher driver wages that carriers will be offering to a diminished pool of available, qualified, legal drivers.

The changes are coming in two major regulatory initiatives: CSA 2010 and truck driver hours of service, known as HOS.

CSA stands for "Comprehensive, Safety, Accountability," a program that's being rolled out in earnest over the course of 2011. It's a new initiative designed to improve the efficiency of the Federal Motor Carrier Safety Administration's (FMCSA) enforcement and compliance program to achieve the agency's stated mission of reducing commercial motor vehicle crashes, fatalities, and injuries.

How big of a change is this? American Trucking Associations' President and CEO Bill Graves has called CSA potentially the biggest change in the industry since trucking was economically deregulated in 1980.

Scott Willert, senior manager of private and dedicated fleets at Kraft Foods, calls CSA "a very significant change" in the way truck safety is measured and monitored. In fact, Willert says it has the potential to greatly reduce the availability of qualified drivers at Kraft, which operates more than 2,500 power units and 1,100 trailers. Willert says Kraft Foods "fully supports" the new initiatives because of their overall benefit to highway safety, but acknowledges the new system will be more complex, and expensive for all carriers.

In a nutshell, CSA uses a new safety measurement system that's more comprehensive and is better able to pinpoint specific violations to better identify high crash-risk behavior by drivers. It involves more interventions, and a wider range of inspections to try and match the government's enforcement efforts with fleet safety performance levels.

By their very nature, private fleets have a huge advantage over the for-hire sector when it comes to CSA 2010, industry officials and private fleet operators say: Their more stringent hiring and operational procedures are already in place.

"We don't think CSA will be a big problem for our members," says Gary Petty, president and CEO of the National Private Truck Council. "When there's an economic turnaround, truck capacity may not be available to shippers at any price. So, from the private fleet perspective, we feel that this has a pretty positive outlook."

The second half of the double-whammy about to hit trucking is proposed changes on the HOS rules. A highly-charged political issue, HOS has the potential to reduce available truck capacity by about 9 percent if the legal daily limit on driving is reduced from the current 11 hours a day to 10 hours.

"A change in the HOS rules is going to have some effect on how we operate," says Greg Whisenhant, a 16-year industry veteran and transportation safety manager for Shaw Industries, a Dalton, Ga.-based floor covering business that operates a sizable private fleet consisting of 900 drivers and 1,400 power units.

"We won't be able to get as many drop offs in a day if we went back to a 10-hour driving day," Whisenhant says. "It's going to be a financial hit in some lanes where we now run single drivers, but might have to use a team operation. Teams are a tougher dog."

In a typical Washington move, the federal government has not actually ordered such a reduction, at least not yet; although FMCSA has indicated it would like to make that change. According to our reporting, the trucking

Daniel Guidera

already above and beyond and over the top, it's not going to be a huge adjustment."

Still, there will be adjustments. Individual driving records will be available to both carriers and shippers. Private fleet drivers average about three more years of driving experience at their current companies, and managers say the advent of CSA will cause them to work even harder to keep the good drivers they already employ. "Drivers are going to be given better pay, better equipment, more sophisticated technology, and other incentives that make the job worth keeping," Petty predicts.

Fleet managers agree. Kraft Foods' Willert predicts that the shorter length of haul and more regular schedule that characterize many private fleet operations tends to attract very well qualified drivers and minimizes turnover—Kraft Foods' driver turnover is less than 5 percent, compared to around 100 percent for truckload sector in total.

"In that respect we would anticipate that private fleets as a group may be less affected than contract carriers," Willert says. However, this could change though with the aging workforce and eventual need to replace current drivers.

Kraft Foods is one of thousands of private fleets directly affected by the changes, however. As Willert explained: "The vast majority of our freight is handled by contract carriers. As such, we are putting in place enhanced monitoring of CSA scores as well as considering changes to our contract language to reflect the new expectations. In the case of our private fleet, the safety and compliance programs we've had in place—electronic logs, regular safety training, and incentives based on safety performance—mean that for the most part it has just been a matter of educating our team on the new expectations."

Jim Angel is a former private fleet manager with Atrium Co., a manufacturer of

industry is united in wanting to maintain the current 11 hours, though there will likely be reductions through greater mandatory off-duty time and other driving limits.

Again, while the private fleet sector is not immune from these changes, private fleet operators say that any changes in HOS will be mitigated by the very high-service, high-cost nature of fleet operations.

So, what are the top private fleet managers doing to help mitigate the costs of these expensive new regulatory initiatives? *Logistics Management* found some of the best private fleet operators and most knowledgeable industry insiders to discover how they're preparing their operations for this ongoing one-two regulatory punch.

NOT SINCE DEREGULATION...

Trucking veterans say CSA 2010 has the potential to be the biggest thing to affect the industry in three decades of deregulation. The ramifications of CSA are multifold—legal, operational, planning, and financial.

First, let's look at some of the myths associated with CSA: it will kill the trucking industry; that no one will make any money after CSA starts rating everyone; more "good" drivers will lose their jobs; that it was begun to create more government revenue; and that you have nothing to worry about if you're a carrier with a current "satisfactory rating."

It is none of that. In reality it's a sophisticated program that will use technology to gather data collected at roadside inspections and through crash reports to identify unsafe carriers and drivers in an attempt to pinpoint their exact problems.

In short, it gives the federal government and state enforcement personnel more accurate tools to cite and crack down on the estimated 150,000 "bad apples" who give truck driving a bad name and are involved in a disproportionately high percentage of accidents that lead to the 40,000 or so truck-related fatalities every year.

It takes the best points of the current audit system and enhances and supplements it with other tools in an attempt to improve truck fleet safety through a less intrusive, more focused fashion. Data involving fleets and individual drivers will be uploaded monthly, creating more visibility and accountability on both sides.

The system's methodology is complicated but can be summarized in three words—more, better, faster.

"It's just a new way of accounting for the rules," says Tom Moore, executive director of the NPTC Institute and vice president of public affairs. "It creates a minimum standard of truck safety compliance. But our members are so far beyond these minimum levels. If you're

aluminum and vinyl doors and windows. Angel currently is product manager of safety and compliance for PeopleNet, a provider of Internet-based and integrated onboard computing and mobile communications systems for fleet management. He sees a stark difference between the safety cultures at the top private fleets compared with the typical for-hire carrier.

"Private fleets have the name of their company on the side of the trailer in huge letters," Angel says. "They have much better control of their operations. They're willing to use speed governors. They're interested in better fuel mileage. On the flip side, the for-hire guys hanging on by a shoestring are just interested in survival."

If survivability isn't the main concern on the private fleet side, profitability surely is. Kraft Foods is one of many well-run private fleets taking early steps to educate its work force about CSA ramifications when it is fully implemented later this year.

"We're focusing on educating our management teams and driver groups," Kraft's Willert says. "Through these discussions our people have given us ideas on what we can do to help them—such as the development of a maintenance kit that drivers can use on the road for small repairs or quick fixes that will get them to a shop. The conversations have also allowed the drivers to ask questions and share their concerns."

Kraft has also developed computer-based training for employees and tied this to an incentive program where employees are awarded points to use for prizes for completing the training. "We are also monitoring our data and promptly addressing any issues that arise," Willert says.

THE MOST CONTENTIOUS ISSUE

No trucking topic evokes a hotter response than the proposed HOS rules that were formally proposed in a rulemaking set out by Federal Motor Carrier Safety Administration (FMCSA) on Dec. 23.

The government has been fiddling with HOS revisions since 1999. In that time, the industry has endured at least two changes, and the federal government has fought at least three lawsuits challenging the propriety of its proposed changes. Throw in three changes in administrations—with Republicans likely to be perceived as softer on the industry than Democrats—and the result is utter confusion when it comes to any type of long-term planning.

The federal government is due to come out with a final rulemaking this summer that could reduce the actual driving time of an operator from 11 to 10 hours. In addition, there are proposed changes requiring more half-hour breaks during a driver's on-duty time, current 14 hours in a day. That could also reduce productivity. But there are provisions that would allow the standard 14-hour window to be extended to 16 hours twice every eight-day driving period.

Just the thought of reducing driving time by one hour causes trucking executives to break out their pocket calculators to estimate the cost and inefficiencies that would result. That's because their networks are built typically on a series of regional distribution centers, serviced by TL and LTL moves, typically with "pedal runs" of about 200 miles to 400 miles—easily accomplished in one day's driving.

If that driving time is reduced, analysts say, it would be nothing short of chaos. Dick Armstrong, chairman of Armstrong Associates, a supply chain management consulting company, predicts a one-hour reduction would be "very disruptive."

The biggest immediate impact of HOS will likely be the cost and the increasing calls to end the 70-year-old outdated practice of paper log books, often called "comic books" by drivers and industry officials.

Shaw Industries was among the first private fleets to recognize that the government was going to crack down on HOS, forcing violators to use electronic on-board recorders (EOBRs) instead of paper logs to track hours. The company was an early adaptor and has used electronic logging for nearly a decade.

"I wish they were mandated for all carriers," Whisenhant says. "I'm already running legally, but am competing on backhauls with some drivers who are shaving a 30 minutes here and 30 minutes there off their actual driving time. It isn't fair."

HOW TO AVOID THE BRICK WALL

In NPTC surveys, the overwhelming reason for operating a private fleet was service. If HOS were reduced, that would strain available for-hire capacity even more, further tipping the service equation in favor of private fleets.

"As capacity is affected and some carriers fall to the wayside, rates are going to go up," says Peoplenet's Angel. A recent Morgan Stanley survey showed 84 percent of shippers expect rates to go up at least 5 percent because of CSA as capacity is going to get stretched. If an hour of driving time was also eliminated, that would effectively cut capacity by 9 percent and raise carrier costs.

Private fleet advocates say this all plays to their advantage. "Companies will make the investment to go to private fleets to get their product to market," adds Angel. "If loads are sitting on their dock for two days, somebody in C-level management is going to say, 'Enough of this, we're going to get our own trucks.'"

Other wild cards in the CSA equation are how the insurance companies and plaintiff lawyers will react to this flood of new safety data now available to all. If, say, a shipper is involved in an accident and knowingly used an unsafe operator, how much does that increase one's legal liability? The limit is bound only by the fertile imagination of plaintiff lawyers, insiders say.

"Negligent hiring lawsuits are possible," Angel says. "All these tentacles are out there. We've yet to see how the effects of CSA and HOS will rear their head. But on the other hand, it will make the highways safer for everyone."

Mostly everyone agrees CSA and HOS are works in progress. "Consistent enforcement across individuals and regions is a concern, especially in the "start-up" period," Kraft's Willert says. "We understand CSA is something of a work in progress that we expect will be refined over time. We would like to be involved in any conversations and forums that are taking place. This will give us a chance to hear what is being experienced so far and to share our thoughts and ideas."

There doesn't seem to be any shortage of thoughts and ideas, but the real concern is the significant costs for everyone. ☐

John D. Schulz is a Contributing Editor to Logistics Management

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There's POWER

Our contributing technology editor documents how far SaaS has infiltrated the SCM software space and then introduces us to a shipper that's partnered with its 3PL to leverage a hosted solution that's managing its domestic and international moves.

RAPHEL RICOY

in the cloud

BY **BRIDGET MCCREA**, CONTRIBUTING EDITOR

Software-as-a-Service (SaaS), now more commonly referred to as "cloud computing," has a lot going for it. The need for less capital expenditure out of the gate, minimal implementation time, and the fact that such systems don't require robust IT infrastructures (human, equipment, or otherwise) to run, are the top selling points for these hosted solutions.

There are also challenges to contend with, as we'll touch on a little later; but it's safe to say that, at this point in the evolution of supply chain management (SCM) software, SaaS has already made a significant imprint.

Shippers have taken to the SaaS delivery method, which finds software being deployed over the Internet instead of being installed from a box and onto the user's servers or computers. Using a subscription model, SaaS providers "license" the use of their software to customers who pay low or no upfront implementation costs. That's because all of the technology resides in the "cloud," and is accessed via the Internet as a service.

SaaS is being used across many business applications including accounting, customer relationship management (CRM), enterprise resource planning (ERP), content management, and human resource management (HRM). It's also taken hold in the supply chain space, where transportation management systems (TMS) and global trade management (GTM) systems—both of which rely heavily on collaboration to run smoothly—claim the highest use of on-demand systems.

Over the next few pages we'll explore just how far SaaS has come in the supply chain software space during the last few years, and then introduce you to a shipper that's partnered with its third-party logistics provider (3PL) to successfully manage its internal and external logistics operations.

JUMPING INTO THE CLOUD

Greg Aimi, director of supply chain research at Gartner, estimates that 25 percent of TMSs will be delivered on demand by 2013, and that the penetration of both the TMS and GTM markets currently stands at about 20 percent. Some of those on-demand solutions are standalone, while others are served up as part of larger solutions developed by companies like Oracle, Manhattan Associates, and Red Prairie, says Aimi.

Aimi says that TMS and GTM work particularly well in the cloud environment because each revolves around "multi-party management" programs that can be fragmented and difficult to manage without a centralized system that all entities can access.

"Transportation involves a lot of working parts, and when you get into the international scene you also have to factor in freight forwarders, consolidators, and multi-modal carriers," says Aimi. "SaaS' single repository system is valuable, and different than traditional software systems that require software installation, servers, hardware, data centers, and the development of [individual] connections with all of the parties who are acting on your behalf."

Ben Pivar, vice president and North American supply chain lead for consulting firm Capgemini, says that much of the business case for SaaS can be traced back to the packaged software revolution, when shippers realized that software development wasn't their core competency.

"A similar movement is happening with SaaS, with shippers looking hard at whether they really want to set up and manage hardware and software in-house," Pivar says. "Through the on-demand model, companies can work with vendors that leverage their expertise across multiple clients, and for a better price."

SaaS systems also require less upfront investment, says Aimi, although some shippers do question the value of paying subscription fees over the long term, versus writing one check for a professional license. "The initial cost of SaaS is definitely attractive," says Aimi, "because anytime you have lower capital expenditure upfront, the investment tends to be less risky."

That selling point has attracted companies of all sizes to SCM SaaS options, which are no longer relegated to budget-conscious shippers who lacked robust IT infrastructures and support systems. Even large corporations like Proctor and Gamble (P&G) are tapping the option, says Aimi, who points out that the consumer packaged goods firm is using a SaaS-based program for its global transportation rollout. "That's a really big deal," says Aimi. "You don't get any bigger than P&G."

NOT ALWAYS FLUFFY

SaaS isn't all easy. What happens, for example, if the software vendor's system goes down, leaving the shipper and all of its constituents in a lurch?

It can happen, says Adrian Gonzalez, SCM technology analyst and director of Logistics Viewpoints, and it's something to consider before making the move to a hosted SCM solution.

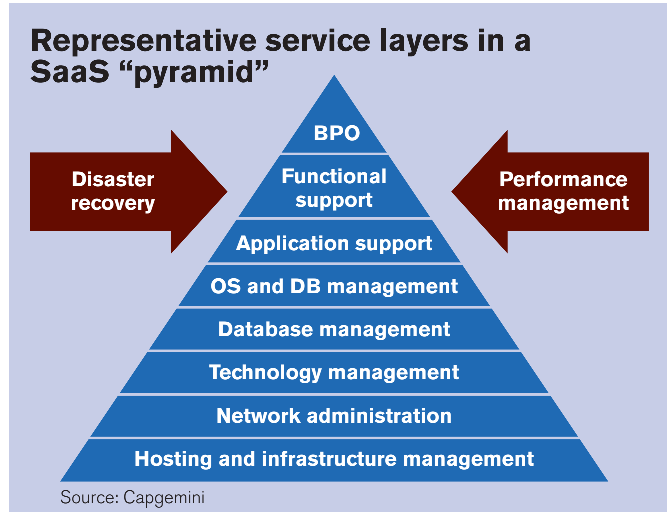
Gonzalez advises shippers to ask vendors the tough questions like, what happens if your system goes down? What type of backup and recovery methods are in place to ensure that this doesn't occur? What other risks do I need to be concerned about? "The key is to understand what types of systems and processes your vendor has in place," says Gonzalez, "and to take these risk-related issues into consideration when you're shopping around for a solution."

Geography is another challenge, particularly on the TMS side, where many of the SaaS solutions available on the market are U.S.- or North American-centric, says Gonzalez. The shipper who is seeking a single, enterprise-wide, TMS platform that can span multiple geographies, and company divisions should think twice before investing the time and energy in an on-demand TMS, says Gonzalez.

Data integrity issues should also be considered, says Pivar. "Security is one of the biggest things that's holding SaaS adoption back right now," he says. Of lesser concern, but still an issue, he adds, are performance issues.

"If you're relying on a hosting environment and accessing it through the web, that system had better be running in an optimal manner," says Pivar, who advises shippers to ask for service level guarantees that govern the vendor's use of proper hardware sizing, as well as the reliability and continuity of the application.

"Shippers want assurances about continuity and security," says Pivar, who expects SaaS' popularity to grow, despite those challenges. "Hosted solutions are definitely becoming more mainstream and we expect them to continue to expand," he says. "I also think that we're going to see other SCM applications playing in this space, such as warehouse management systems (WMS). There's no reason why a SaaS model wouldn't work in that arena."



Source: Capgemini

LOOKING PAST THE CLOUD

Like Pivar, Aimi also sees potential for SaaS in the WMS space, where the concept of running multiple DCs on a single system is fairly new. Because a warehouse exists within "four walls," says Aimi, the notion that a single, hosted system can handle the activities going on inside is still foreign for most shippers. However, he says the idea that multiple DCs can be connected at an enterprise level through a common system that doesn't require, say, four different reports from four different facilities, should be a major selling point for the hosted WMS.

And while SaaS still makes the most sense for systems that are inherently network-centric, says Gonzalez, the low upfront investment and faster implementation times afforded by such systems will help drive the hosted software movement across new categories, including WMS.

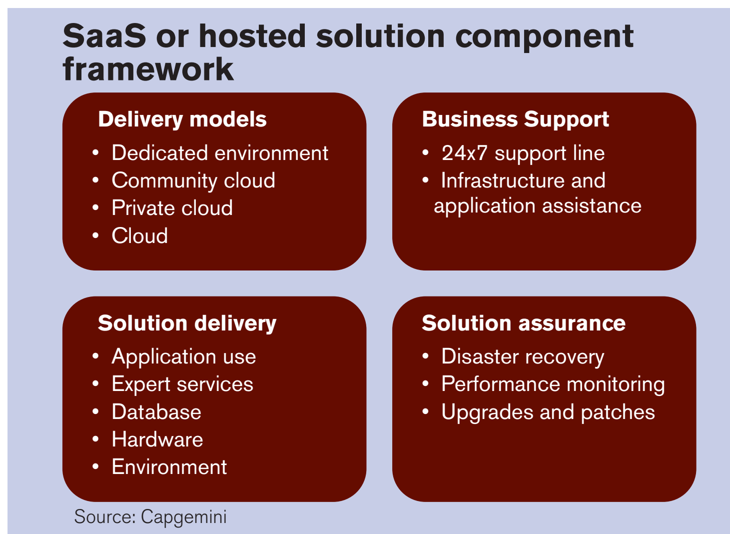
"If you had asked me a few years ago if SaaS made sense in WMS and ERP, I would have said not as much as it does in TMS and GTM," says Gonzalez. "However, we're now seeing some traction in other software areas due to the fact that shippers are looking for quick time-to-value, and/or wanting to replace their existing spreadsheets and fax machines. SaaS could be a good starting place for them."

EVERGREEN PACKAGING: HEAD IN THE CLOUD

When Evergreen Packaging Inc., and Blue Ridge Paper Products Inc., joined to form Evergreen Packaging Group in 2007, it didn't take long for the new company to get on the growth path. Soon, the new company realized that it needed to centralize its supply chain and leverage more aspects of its existing transportation network, which was geographically dispersed and fragmented.

David Friedson, director of logistics and distribution for the Memphis-based firm, which makes paperboard packaging solutions that can be found in consumer products like microwavable trays, envelopes, and even lollipop sticks, says the search for a TMS was rooted in the company's need to centralize its transportation component.

"As the company grew, we realized that our logistics were highly decen-



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Key processes best suited to cloud computing

By Thomas Schramm, Sergio Nogueira, Derek Jones: Accenture

Cloud computing is particularly applicable to supply chain activities where extensive customization is not required, or when the activity is performed sporadically (such as a sourcing "event"), or is not a "core" part of what makes the company unique. These activities are likely to be the first to make the transition to the cloud. We will now examine four of them in detail.

1. Planning and Forecasting. Cloud-based tools are now available for capturing itemized spend data, performing basic analytics, planning manufacturing runs, and executing statistical demand forecasts. Applications focused solely on retail supply chains are also prevalent, with capabilities that include planning and allocation, assortment and space, pricing and promotion, and forecasting and replenishment.

In the near future, many more cloud service providers will add planning and forecasting applications to their offering. A primary reason is that planning and forecasting are rarely core components of companies' ERP systems. This means companies can run one manufacturer's ERP application internally, while simultaneously leveraging another's best-of-breed planning/forecasting application via the Internet.

2. Logistics. Some core warehouse and transportation management applications already are available online from cloud providers. Over the coming years, more and more cloud computing applications for functions such as network strategy, inventory management, warehousing, and transportation will become available. Processes such as global trade compliance, replenishment planning, order processing, transportation load building, fleet management, and transportation route planning are likely candidates.

3. Sourcing & Procurement. Cloud computing represents a great opportunity to reduce total cost of ownership—the most commonly cited success metric in sourcing and procurement. A key reason is that cloud-based tools are inherently collaborative and accessible, creating major benefits for companies that deal routinely with thousands of suppliers. For example, cloud-based collaboration allows multiple parties to jointly develop supplier contracts, dramatically enhancing contract management.

Myriad sourcing and procurement capabilities are rapidly coming online, including procurement report generation, database centralization, and supply chain visibility. Retail potential is particularly strong.

4. Service and Spare Parts Management. Many companies underperform in service and spare parts management, despite the fact that this area often generates a high proportion of an organization's profits. Companies can gain significant advantages by using cloud computing to upgrade their capabilities and implement new processes rapidly without extensive capital expenditure costs.

Tools such as warranty validation are already available to service operations, and cloud applications for reverse logistics/returns processing, technician dispatch and tracking, and spare parts inventory pooling and distribution are expected soon.

Thomas Schramm is a managing director in Accenture's Supply Chain Management practice. Sergio Nogueira is a senior executive in that practice who focuses on supply chain technology. Derek Jones leads research and development for Accenture Supply Chain Management.

For Accenture's exclusive paper, *Cloud computing and supply chain: A natural fit for the future*, go to logisticsmgmt.com/accentureSaaS

tralized and taken care of at the facility level," says Friedson. "We were doing an excellent job handling everything that way, but we really weren't taking advantage of the complete network that we had in place."

Evergreen manufactured 15 billion milk and juice cartons in 2009 and served them up to a globally dispersed customer base. Working from nine domestic manufacturing plants and eight more that are located around the globe, the company has a complex supply chain that includes "many different parts and pieces that are moving around the globe at any given time," says Friedson.

Those moving parts aside, the merger between the two companies and the formation of Evergreen went smoothly. Working in the new company's favor were the reputations already created by its two predecessors, because both companies had already established themselves as world-class manufacturers, says Friedson. To maximize this unique position—and to make that reputation carry over to the new entity—the firm set its sights on a new logistics strategy that covered both the supply chain execution and the strategies behind it.

The first step involved looking at 10 different supply chain solution providers, according to Friedson, and then narrowing that list down based on a few key criteria. Topping that criteria list were the solution's value proposition, the client-vendor relationship, the vendor's knowledge of Evergreen Packaging's business, as well as the vendor's project management skills.

Perhaps most importantly, Friedson says that the manufacturer wanted to be able to manage its supply chain on a 24/7, ongoing basis within a dynamic environment that "wasn't just a static, optimized picture of what had happened in the past, but rather, a look at what was going on during the journey itself."

After a rigorous selection process that included both on-demand and purchase-and-install options, Evergreen Packaging selected a managed TMS from Transportation Management Center (TMC), a division of C.H. Robinson Worldwide, Inc. Friedson says SaaS

was selected after a thorough market search revealed that it would "get us there faster, in terms of really creating value over time and allowing us to focus on strategy, while leaving the execution issues up to the vendor."

The TMS implementation started in May 2010. Over the eight months that followed, the new system would be rolled out to a total of nine domestic locations, with the last two added in January 2011. "We moved at lightning speed," says Friedson. "The fast pace alone illustrates just how successful the implementation has been."

The manufacturer is using the TMC TMS for its North American logistics operations, the bulk of which is handled by truckload and less-than-truckload carriers. The system's order management component handles all freight-related activities, from tender right on through to payment. "We also use it for business intelligence, to help us improve both our cost and service," says Friedson. The TMS also captures Evergreen Packaging's rail transportation activities, although Friedson points out that it's not being used for the tendering of rail freight.

Because the shipper was previously using a highly fragmented approach to transportation management, there were naturally some cultural issues to work through with the new system. "The challenges were mainly around change management," says Friedson, who points out the manufacturer's choice of a hosted solution helped ward off some of those issues right out of the gate.

"Using the hosted model helped us mitigate the change management issue because it allowed us to focus on the change that is going on in our operations, and not worry about how to install and configure a TMS," says Friedson. "We were able to concentrate on interfacing with the system, and centralizing our transportation management process."

So far, Evergreen Packaging has seen positive results from its TMS investment with its 3PL. Friedson says carrier performance has improved, although no solid savings or cost cuts have been detected yet. "We're still in the process of looking at the financial benefits," says Friedson, who sees hosted solutions as a good bet for shippers of all sizes who are looking to save money and get up and running quickly.

"Compared to the SaaS solutions of 10 years ago, today's hosted options are fully vetted and very powerful," says Friedson. "They're viable options that should be evaluated along with all of the other solutions that are available on today's market." ☐

Bridget McCrea is a Contributing Editor to Logistics Management

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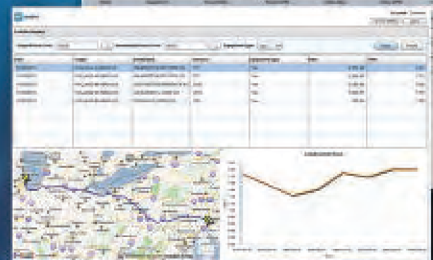

2011 Cross-Border Roundtable: Neighborly trading

Given the escalating offshore labor and energy costs, hemispheric trade has never been more attractive to U.S. shippers. But are they prepared with the global trade management strategies needed to navigate this regulatory landscape? Our panel weighs the risks and rewards of doing business with Canada and Mexico.

BY **PATRICK BURNSON**, EXECUTIVE EDITOR

The concept of trading with immediate cross-border neighbors—"near-shoring"—is in vogue again, and thanks to the North American Free Trade Agreement (NAFTA), shippers may be ready to reconfigure their supply chains.

However, our panel of analysts advises that before shippers abandon off-shoring, diligence is due before making such a move, especially because this shift in strategy will have a profound impact on long-term supply chain operations.

Joining our "roundtable" discussion this year are four prominent international trade and compliance experts. Beth Peterson is president of BPE, Inc., a San Francisco-based consultant specializing in software applications for Customs compliance. Thomas O'Brien is director of research for Center for International Trade and Transportation at California State University, Long Beach. Luciana Suran is an economist with CB Richard Ellis Economic Advisors, a global real estate consultancy serving shippers with market intelligence on sourcing opportunities. And Virginia Thompson is director of import/export operations and international trade compliance for Crate and Barrel.

> **"There's been a lot of talk about the impact of the Panama Canal expansion and how shippers will reevaluate their supply chains regarding cross-border trade. We think it's a toss up at this point."**
>
> —Thomas O'Brien, California State University, Long Beach

Logistics Management: **Given that most of our readers have had some exposure to cross-border trade, what do you regard as the biggest challenges facing shippers already in the game?**

Beth Peterson: I would say that the biggest challenge is getting their products correctly declared to the various customs regimes for importing and exporting. Incorrect declarations result in additional costs, shipment delays, customer service issues, and possible seizures—and any global trade issues tend to increase government scrutiny, which results in more delays. Most companies don't even have visibility to the fact that they are having issues, so they don't even know they need to fix anything.

Virginia Thompson: Probably the biggest challenge I see is keeping on top of the changes and positioning ourselves to respond to them; or, better yet, predict them when possible. We have, of course, seen significant changes in terms of capacity over the last two years that have forced us to negotiate new terms in our steamship line contracts to protect against possible problems that never seemed like an issue in the past.

In addition, the changes regarding a carriers' willingness to supply a chassis with containers is going to add a new wrinkle to negotiations in 2011. We will need to make sure that we have clear agreements with our carriers regarding chassis,

and also that we are working with drayage providers to fill the gap in service in a way that will not negatively affect our total transportation cost. Of course, changing governmental regulations in areas such as supply chain security and product safety present an ever-increasing book of knowledge that the global shipper today must master.

Tom O'Brien: I'll add that a lot of shippers are concerned about how the cross-border trucking issue is going to be resolved, too. Once the Obama Administration works to fix that situation we may see more players enter the game.

LM: **What barriers to entry exist for shippers wishing to enter this cross-border marketplace?**

Peterson: Unfortunately, there aren't many to exporting and importing. Pretty much anyone can ship anything anywhere. And because it's so easy, people don't even realize that there are many regulations with which they must comply. And if they have any awareness of the fact that they need to satisfy import/export regulations, they tend to assume—often incorrectly—that their freight forwarder will ensure compliance.

Thompson: That's true, there really aren't many true or complete barriers to entry into today's market, but new parties will be at a disadvantage if they are not well informed about what to expect today. Having resources for sound advice that you can trust, whether from a freight forwarder, a broker, or perhaps an advocacy organization, is critical.

Luciana Suran: Virginia is correct in advising shippers to join advocacy groups. Some are strongly opposed to changes in the Ocean Shipping Act, for example. If more rules are imposed there, it could mean added compliance expense.

LM: **Luciana brings up an interesting angle. We've been talking principally about the surface modes. Let's examine, for**

a minute, the tactical and strategic advantages for ocean shippers.

O'Brien: There's been a lot of talk about the impact of the Panama Canal expansion and how shippers will reevaluate their supply chains regarding cross-border trade. We think it's a toss up at this point. They have to arm themselves with reliable schedule information and decide if the near-term move will make sense when they are ready to expand.

Thompson: That's right, Tom. One of the most strategic advantages that a shipper can leverage is accurate forecasting. The more capable a shipper is of knowing exactly what equipment they will need, on what lanes, and on what sail dates, the better negotiating power they will have with carriers. Not only will they be able to negotiate more competitive rates, but they will do a better job of ensuring that their space needs are met, even during periods of tight capacity.

> **"Unfortunately, there aren't many barriers to exporting and importing. Pretty much anyone can ship anything anywhere. And because it's so easy, people don't even realize that there are many regulations with which they must comply."**
>
> —Beth Peterson, president of BPE, Inc.

Peterson: The tactical part is easy: Your product costs less to sell. The strategic advantage is that you can get to markets quicker, you can keep your customers happier, and you can design your products in ways that allow you to enter new markets.

***LM:* What roll is software and technology–global trade management (GTM) systems for example–playing in meeting these challenges?**

Peterson: GTM software does not magically fix these issues. However, GTM solutions play a huge role in providing visibility to the issues; and once you have that visibility you can chip away at the root cause of the problems and you can audit your transactions to ensure that they are compliant.

Thompson: For a shipper of any size, the use of the technologies available can make a significant difference in how well they meet these challenges. Some of the tools that can make the biggest impact are contract negotiation systems and international transportation management systems (ITMS).

The contract negotiation tool, for example, can allow you to leverage more effectively your usage across all lanes to ensure the lowest possible total transportation spend. An ITMS, on the other hand, is tremendously valuable in terms of providing the visibility to know when your supply chain is not performing the way you need it to. By this I mean learning about rolled bookings, delays at transshipment, and contract fulfillment.

***LM:* One would think that supply chain management software sales would be on the rise during this sourcing shift. Is that the case?**

Suran: Let's remember that a number of firms decreased their inventory holdings in response to the credit crunch following the Lehman Brothers collapse of 2008. How many companies use short-term credit to fulfill vital day-to-day business activities like payroll? With no access to credit, firms were forced to liquidate inventories—one of the few remaining current assets besides cash. Lean inventory practices have continued, however, as firms have reaped the financial benefits associated with leaner inventories. As a consequence, supply chain-related software sales have jumped.

***LM:* Can you provide a forecast for growth in cross-border trade?**

Peterson: It's only going to increase. If I see a product on a website—I can buy it. And more people are going to be doing just that. They might just be really shocked that they have to get a customs broker, obtain a bond, and pay duties and taxes when it gets to them.

Thompson: I like to tell my staff that they are in the right place at the right time. Working in international trade today means job security, because more and more avenues are opening up to encourage global business.

At the federal level, of course, we see the National Export Initiative that is providing incentives and support for shippers wishing to export out of the U.S., and further moves to encourage import trade as well, such as with the negotiations on new Free Trade Agreements. Within Crate and Barrel, we consider international expansion a major priority. We're actively looking to expand both our foreign store presence and the ease of international on-line fulfillment. All these conditions lead me to believe that, despite the many challenges facing shippers today, we will continue to see a significant increase in cross-border trade in the near future.

> **"One of the most strategic advantages that a shipper can leverage is accurate forecasting abilities. The more capable a shipper is of knowing exactly what equipment they will need, on what lanes, and on what sail dates, the better negotiating power they will have with carriers."**
>
> —Virginia Thompson, Crate and Barrel

***LM:* What kind investment in infrastructure here in the U.S. and abroad will be needed to make this sustainable?**

O'Brien: I think there's more general agreement on what infrastructure improvements need to be funded than on how to fund it. A tremendous amount of power over federal transportation funding, including the next transportation authorization bill, rests with the ranking Republican member of the House Committee on Transportation and Infrastructure, Florida's John Mica.

One thing to watch will be transportation stimulus funding.

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>
> —Luciana Suran, CB Richard Ellis Economic Advisors

In 2009 and again this year, the U.S. Department of Transportation awarded discretionary grants known as TIGER Grants (for Transportation Investment Generating Economic Recovery) to a number of projects across the country. Goods movement projects fared well, particularly in this most recent cycle. The fate of a third cycle could now be in question given Republican concerns over stimulus spending.

Thompson: Depending on the particular country and specific region therein, improvements to infrastructure will need to be anywhere from minor to very major. If a country does not anticipate the growth and invest in the port, rail, and highway infrastructure to support it, they will be left behind.

We saw this happen on a small scale in our own sourcing out of Brazil a number of years ago. There seemed to be a sudden boom of interest in Brazil, but the infrastructure just wasn't there to support it. The significant delays on getting containerized goods out of Brazil led many importers like us to move sourcing back to China or to other nations that were better prepared to handle that volume. The dependability of the supply chain is too important to risk with an uncertain origin.

***LM*: Who are the major modal players in this arena? We keep hearing about the advantages of using a 3PL or 4PL, or going directly to the carrier. What's your take on the issue?**

Thompson: Every one of these types of parties play a significant role, because there are almost as many models for handling one's global shipping as there are shippers. Depending on your volume, locations, and your own infrastructure in terms of warehouses and distribution centers, there are needs for any or all of these parties.

We feel that one of the most important goals we have is to make sure that we are using the best possible combination of providers. We try to balance leveraging costs by not diluting our business across too many providers with the age-old "not putting all our eggs in one basket" philosophy when looking at the many options available to us.

O'Brien: In a recent forum we held at the university about the impact of the Panama Canal expansion on West Coast trade, it was clear that the shipper and the shipper's agent will have a lot to say about where the goods flow.

Decisions about which ports to use and which trade lanes to use are more often in their hands. At the same time, regulators will also play a critical role in determining how and where trade occurs. Sometimes it's only a perception that a state or region is unfriendly toward business, but that has an impact, particularly when it comes to discretionary cargo that is looking for the path of least resistance. ☐

Patrick Burnson is Executive Editor of Logistics Management

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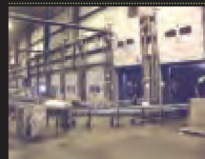
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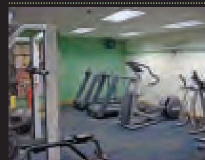
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RFID Update: Back on growth track

Seven years after the Wal-Mart RFID mandate, the technology is alive and growing in logistics and supply chain operations. While most companies are not attempting to track cases and pallets through an open supply chain—which was the idea back in 2003—a new vision for RFID is taking hold and driving real value for early adopters.

By Bob Trebilcock, Contributing Editor

"Wal-Mart Radio Tags To Track Clothing."

That was the headline of a story in *The Wall Street Journal* back in July 2010. For many in the materials handling business, it was a déjà vu moment. After all, seven years earlier Wal-Mart announced what came to be known as "the mandate," the goal to have all suppliers tagging cases and pallets with RFID smart tags by the end of 2006.

Anyone who ships to Wal-Mart knows how that worked out. But, let's give the retailer credit where credit is due: Without that mandate, we might not be talking about RFID today. And make no mistake about it, when it comes to tackling problems in the supply chain, leading companies of all sizes are talking about RFID.

"The euphoria around Wal-Mart spurred a lot of innovation by the RFID industry," says Kerry Krause, vice president of marketing for Impinj, a provider of RFID readers and silicon chips. "You saw investments in reader technology, chip technology, and software that arguably accelerated the

Retailers are still adopting RFID, but now the emphasis is on item-level tagging in the store. That information can be used to drive replenishment from the DC.

progress of the technology."

Those innovations led to pilot projects that are now rolling out across the organizations of the early adopters in a big way. The result is that the market for RFID technology is projected to grow at a compound annual growth rate of 19.5 percent through 2014, according to VDC Research Group.

Where then is RFID today and how does it look compared to what we expected back in 2003? To find out, we talked to analysts, hardware and tag manufacturers, and solution providers. We learned that while most companies are not attempting to track cases and pallets through an open supply chain, which was the idea back in 2003, a new vision for RFID is taking hold and driving real value for early adopters.

BEHIND THE GROWTH

So, what's behind the growth? For starters, the technology had to overcome three important hurdles involving perception, functionality, and price.

First, there was a hype cycle. RFID's evangelists promised to replace bar codes and deliver real-time, end-to-end visibility across the supply chain for pennies. That was unrealistic. "At the top of the hype cycle, you would've thought RFID could solve world peace," says Chris Schaefer, director of global market development for RFID at Motorola. "There was a set of expectations that were impossible to deliver."

Second, it didn't work so well. Radio waves are finicky. RFID, for instance, did not work well around metal or liquids. Given the prevalence of steel racks, lift trucks, and metal truck trailers, that described most manufacturing and distribution environments. "The technology was in its infancy, and there were high failure rates," says Carolyn Ricci, senior product manager of RFID for Zebra Technologies' specialty printing group. "That made it a difficult sell to the business side of the house."

Last, but certainly not least, it was expensive. The goal back then was the 5-cent RFID tag. But when a bar code cost a fraction of a penny, those nickels would add up across the billions of cartons and pallets that are shipped every year in the retail supply chain.

What happened? In a nutshell: The technology now works. "On the tag side, we've got better silicon that can be read more accurately, at increased ranges, and requiring less power to excite the tag," says Phyllis Turner-Brim, director of RFID strategy and licensing for Intermec. "On the reader side, there has been a real focus on eliminating spurious reads and making sure that you're only reading the tags that you've selected to read." They've even come up with solutions to reading in environments with lots of liquids and metals.

The price of the technology has also come down. Part of that is the result of Moore's Law. But part is also the result of the role of standards, says Helge Hornis, manager of intelligent systems group for Pepperl + Fuchs, a provider of RFID solutions to manufacturers. "In the past, we'd have a chip manufacturer develop a chip that would work for our solutions, which resulted in an expensive RFID tag," says Hronis. "Today, we can develop solutions utilizing one of the open standards available on the market. That is a significant advantage to our customers."

The result of these technological developments is that perceptions have also changed. "There are still nuances in an operating environment because RFID is tied to physics," says Michael Liard, practice director for RFID at

ABI Research. "But it's now part of the solution tool kit. RFID is real. It's here and people are using it. That's the most important change."

RETHINKING RETAIL

Perhaps the biggest example of the change in perception is in the retail supply chain, where the hoopla began. The starting point in 2003 was to tag cases and pallets at the point of manufacture with inexpensive passive RFID tags to track cases and pallets flowing through retail distribution centers and transportation networks. That would allow retailers to know just what inventory they had and where they had it.

The retail supply chain, however, is an open loop. There are any number of participants that are out of the retailer's control and are only going to handle the merchandise once, including manufacturers, distributors, third-party logistics providers, and transportation providers. Unless every one of those players agreed to read and share data, there were still dark holes along the way.

Today, the starting point is the individual items on the retail shelf, especially apparel. That's because the retailer's store is a closed loop that begins at the retailer's distribution center, with stops at the back room of the store, the shelf, and the point of sale. The retailer controls each of those stops and can ensure compliance. What's more, it's not just Wal-Mart following this script.

"We are seeing department stores and we are seeing closed loop brands—apparel makers that own their own stores—doing item-level tagging in their stores," says Prasad Putta, general manager of merchandise visibility for Checkpoint Systems. "Their value proposition is the reduction of out of stocks to increase sales."

Without RFID, a retailer may know what inventory it has in the store, but it doesn't know whether the size, style, and color it needs to make a sale is on the shelf or in the back room. "Retailers we talk to will tell you that their inventory in the store is only about 60 percent accurate," says Zebra's Ricci. "The labor it takes to go out and count all the merchandise in a store is expensive."

By tagging the merchandise and then reading it in the stock room, when it leaves the stock room and through daily or weekly audits at the shelf, a retailer can fill in that gap. "Many of the retailers we work with are putting an RFID read point at the door between the back room and the sales floor," says Putta. "When the product leaves the back room, they can automatically update their inventory levels." Likewise, they may audit the shelves with a handheld reader to see what needs replenished, or use information from a point-of-sale system to drive replenishment.

In these cases, the RFID tag isn't just a replacement for a bar code; it can also provide information that isn't contained on a bar code. "With apparel,

RFID technology boosts asset control

Thanks to an asset management solution, Mission Foods saves big on returnable containers.

As one of the world's leading tortilla producers, Texas-based Mission Foods is an industry innovator in manufacturing quality tortillas, chips, salsa, taco shells, and more for consumers throughout the country and around the world. Daily operations in three Texas warehouses require accuracy and proficiency as they process and prepare nearly 20,000 containers of product on a daily basis for a vast network of independent distributors.

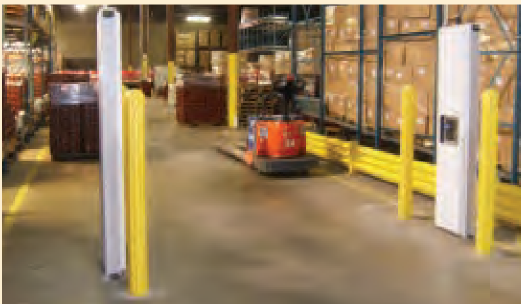
As part of the distribution process, Mission Foods places all of its packaged products in returnable plastic containers (RPCs), which independent distributors then load onto trucks. The independent distributors then are supposed to return these RPCs after sales are complete. However, Mission Foods found that after the RPCs left the warehouse for deliveries, they were likely never seen again.

With a paper-based tracking process that wasn't streamlined across the various warehouses and distribution centers, Mission Foods workers had no way to track if RPCs were returned to a different facility or if they were ever returned at all. Because of this, Mission Foods lacked basic asset tracking, and the results were staggering. Nearly 100 percent of its RPCs were being replaced each year at an annual cost of nearly $3.5 million.

The solution was an RFID-based asset management and tracking system. In the new process, the packaged products are picked and loaded onto the RPCs, which are tagged with RFID labels. The RPCs are then loaded onto pallets and the RFID label is encoded by a smart printer before it's applied to the pallet wrap.

An RFID reader records these pallets and associated RPCs as a forklift drives though an outbound portal prior to the loading dock. When the delivery trucks return, the RPCs are again processed through an inbound portal, offering an easy, immediate reconcile of inventory. Even if the containers are returned in batches or to a different warehouse, they are still scanned in as "returned," allowing Mission Foods to see in real-time where they are all located.

With the new system, Mission Foods now budgets a 20 percent replacement rate for damaged or unreturned boxes, instead of the 100 percent replacement rate it once experienced. In reality, the company now has closer to an impressive 4 percent replacement rate as a result of the RFID technology.



RFID technology is used to track nearly 20,000 returnable containers a day at Mission Foods.

you have all the different permutations of style, size, and color that can't be captured by a bar code," says Impinj's Krause. "You know you've sold a pair of jeans, but you don't know if you need to replenish the 32-inch by 32-inch jeans, or the 32-inch by 30-inch jeans. With RFID, you can grab a handheld reader, walk up to a wall of jeans, and know what you've sold through."

The next step is to integrate those in-store systems with the back-end systems in the warehouse to automate the replenishment system.

"We're clearly at an early adopter phase," says Krause, "but the growth is explosive."

RFID GETS ACTIVE

The retail supply chain uses passive RFID tags. Some of the most exciting applications and solutions today use more expensive active RFID technology. These are tags that incorporate a battery in the tag as a power source. This allows them to broadcast information at scheduled times.

Most of these solutions are in closed loop applications that are controlled by an organization, especially manufacturers. "Once people began thinking about RFID, they began to look at other ways to get involved with the technology," says Motorola's Schaefer. "The starting point was inside the four walls of their plants, their distribution centers, or in the transportation nodes that they control."

Manufacturers, for instance, are applying RFID technology to keep track of the manufacturing process. "The No. 1 application is fault and process step tracking," says Hornis of Pepperl + Fuchs. "You may have 100 small but different steps in a process and you want to be sure that it passed each step. That information can be written to a tag." Likewise, Hornis adds, a manufacturer may use the tag as a mobile database that is read when a product like an automobile assembly, reaches a workstation. The tag tells the equipment, or an operator, what work needs to be performed or what component needs to be added to that particular vehicle.

The Department of Defense was an early adopter of RFID technology, including active tags that are used to track assets and equipment in the field.

Generically, the industry groups theses solutions under the asset management umbrella. They want to know what assets they have, where they are, and whether they can get them to the place where they're needed at the right time. The pay off is better utilization of the asset.

And while RFID is part of the conversation around asset management, it's not the sole conversation, says David Shannon, senior vice president of strategy and corporate development for Savi Technology. Increasingly, technologists are combining RFID technology with other data collection technologies and application systems for a richer experience.

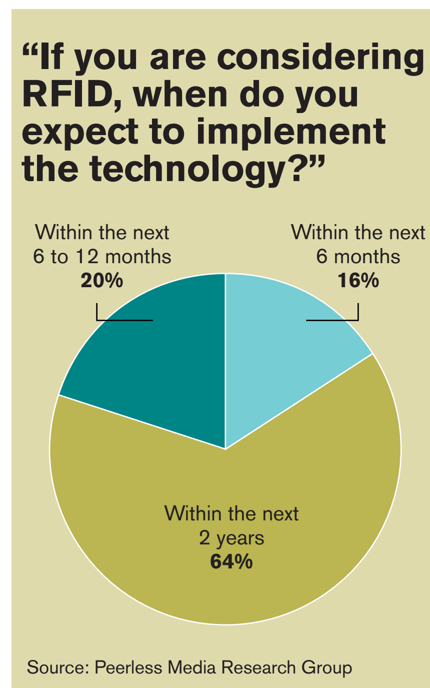
"RFID now touches bar codes, it touches sensors, it touches WiFi, and it touches GPS," says Shannon. "It may be associated with data collected directly by a sensor or it may be connected to data that's found in a database."

What Shannon is getting at is a notion called convergence. The idea is that many automatic data capture technologies work best when they're used in conjunction with other complementary technologies. The Department of Defense, for instance, is not only interested in the location of an asset, but also in the condition of the products, or their readiness for use.

"The solutions we're developing now can monitor the location of an asset in the supply depot," says Shannon. "But we can also track the progress of a repair during the maintenance processes and then track the asset as it flows into the theater of operations."

While Savi is focused on military applications, the private sector is applying similar solutions to critical assets. Aircraft maintenance organizations, for instance, are using RFID to track the location of critical tools required for repair operations and to associate that information about whether the tool has been inspected or calibrated and is ready for use. Other organizations are using active RFID as a resource management tool to keep track of people working in hazardous environments to make sure they're safe.

"There are so many interesting things going on," says Liard of ABI Research. "They're far reaching. They're broad. And, they're real." Seven years after the Wal-Mart mandate that may be the most important message of all. ☐



A SPECIAL SUPPLEMENT TO
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Ready for a rebound

Coming off a "brutal" three-year survival test, the LTL sector is just now beginning to earn enough profit to recapitalize. However, analysts and carrier executives agree that the pace of this rebound will be determined by three unstable factors: the economy, unresolved regulation, and a looming capacity crisis.

By John D. Schulz,
Contributing Editor

Considering that this is March Madness season, it's wise for less-than-truckload (LTL) shippers to think of their carrier partners like a basketball team that has spent three years rebuilding its roster and is now hoping to make a serious run at the title. Except in this case, the LTL carriers are chasing sustained profitability rather than simply cutting down the nets after a championship.

"We're pretty bullish on the sector, and have been for quite some time," says David Ross, trucking analyst for the financial firm Stifel Nicolaus, which has "buy" ratings out on several LTL carriers, including Old Dominion Freight Line (ODFL), Saia, Vitran, Roadrunner, and Arkansas Best Corp., parent of ABF Freight System.

Overall, Ross has been recommending that investors "overweight" their portfolios with stocks from LTL trucking companies as a way to "play" the nation's economic rebound. With Gross Domestic Product (GDP) rising 2.9

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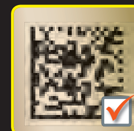
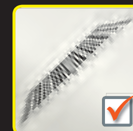

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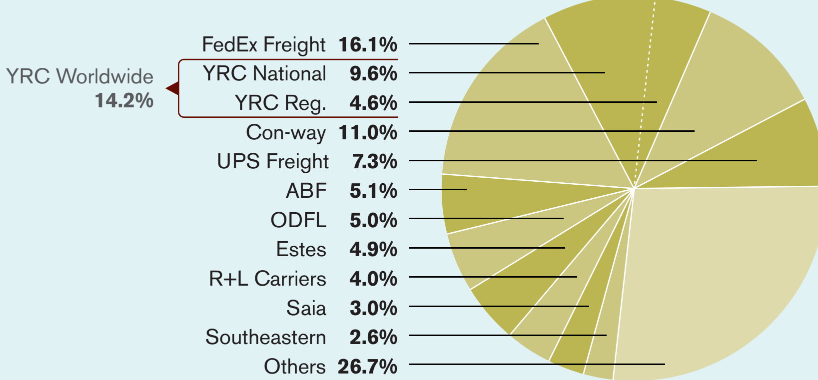

percent in 2010 (including 3.2 percent growth in the fourth quarter), that marked the largest single-year increase since 2005. And it was in sharp contrast to the negative 2.6 percent growth in GDP during 2009.

LTL carriers have been capitalizing on this growth. Late last year, major LTLs took the unprecedented step of taking a second round of annual general rate increases (GRIs). Why? The short answer, analysts and carrier executives both say, is because they could.

GRIs usually only apply to small shippers—perhaps 20 percent to 40 percent of an LTL carrier's total customer base. But they are a useful indicator of overall pricing levels in the sector.

Some LTL carrier executives say, however, that while pricing has improved somewhat, there is still not the robust economic rebound necessary for a full industry recovery. After three years of small or nonexistent profits, those executives say that the LTL sector is just now beginning to earn enough profits to recapitalize in the most capital intensive sector of the trucking industry.

"We have just come out of a multi-year freight recession whereby all carriers had to reduce rates for our customers or risk losing the business," says Pitt Ohio President Chuck Hammel. "So carriers today are concentrating on trying to get some of the rate cuts back."

So in that context, what can LTL shippers expect from their carriers in the next nine months? Leading carrier executives and analysts identified the major market drivers—the economy, regulation, and capacity—that will certainly make an impact on carrier profitability and shipper bottom lines.

1) It's the economy

First, carrier executives say, forget the rosy view coming out of Washington. On the ground, where truckers earn their living by gauging the economic activity on a daily basis, they're telling us that the economic rebound is not nearly as robust as the Commerce Department's quarterly GDP reports would indicate.

"We are hearing a lot about the economy entering a recovery, but the freight environment isn't really reflecting anything robust," adds Hammel. "While we're increasing sales, it's very tepid at this point."

Others agreed. Myron P. "Mike" Shevell, the longtime chairman of the Shevell Group, parent of New England Motor Freight (NEMF), says that while there's a slight improvement in the overall economy, it's fragile. So much so that any unforeseen circumstances—such as the wicked weather in the Northeast and Central States this winter—can cause a wipeout in carrier profits in a hurry.

"There's a little uptick, but the manufacturing base in this country has shrunk so severely that any improvement must be taken in context," says Shevell. "When we came out of the last recession in 2002, manufacturing was 35 percent of our GDP—today it's 12 percent. This is affecting things dramatically."

The LTL sector is unique because of its extensive terminal networks, which are virtually impossible to reproduce due to the prohibitive capital expenditures. That cuts both ways: It creates high barriers to entry for competition; but the existing carriers must endure higher costs to maintain and operate such an infrastructure of terminals, breakbulks, and other facilities.

Because of the expense of these terminal networks, carriers are seeking compensation through higher rates, starting this year. In fact, nobody involved in the LTL market is even bothering to couch it with code words any longer: LTL rates are going up, and you better get used to it.

"If rates don't go up, you're not going to survive," said Shevell. "All our costs are going up. Everything is going up. Nobody is building terminals because they can't afford to build them. Until

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LTL yield trend has been rising

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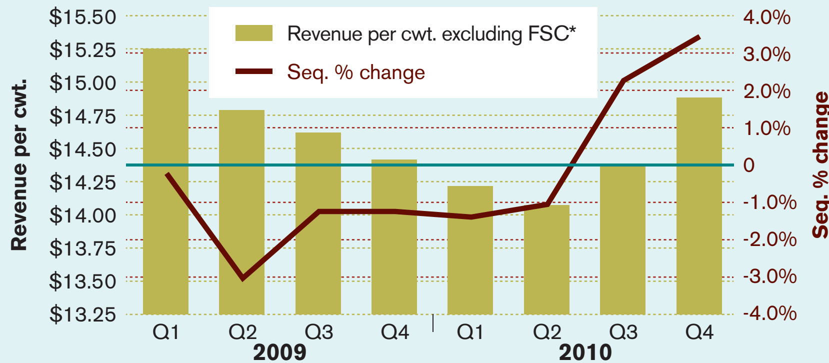

*Weighted average of public LTL carriers (excluding VTNC, RRTS)

Source: Company reports, SJC estimates

pricing gets to where it has to be, you're going to see a terrible scene."

That's because, as Shevell says, "the only people making money are Old Dominion and a couple of smaller guys." ODFL, the nation's eighth-largest LTL carrier last year, is admired by industry rivals for its diversification, operational execution, and pricing discipline. All those factors translated last year into an operating ratio of 90.7, the best of any large LTL carrier. The carrier also posted a 116 percent gain in net income last year of $75.7 million on $1.48 billion revenue.

2) Regulation, regulation, regulation

The Obama Administration may be the single toughest group of regulators to affect the trucking industry in the 31 years since the industry was economically deregulated. There's a concerted effort to crack down on unsafe drivers, through the rollout of the CSA 2010 initiative, which could eventually lead to as many as 10 percent of drivers being disqualified.

At the same time, the government is threatening to reduce the active hours-of-service (HOS) a driver can actually drive from 11 hours to 10 hours. That 9 percent capacity constriction would further exacerbate the quest to find new, qualified drivers, and, carrier executives say, drive up their costs even further.

"We think driver supply is likely to become the perfect storm of this industry," says Steve O'Kane, president of A. Duie Pyle Co., a major mid-Atlantic LTL carrier.

O'Kane is predicting three major effects from the heightened level of trucking regulation:

1. Driver wages will have to rise. If the housing construction market rebounds, O'Kane believes that the situation will be much worse as trucking often competes with that industry for qualified drivers.

FedEx Freight delivers a game changer

LTL pricing is already undergoing some revolutionary moves. Recently, FedEx Freight (FEF), the largest LTL carrier with nearly 20 percent market share, announced what it called a "game changer" in operating two distinct systems—economy and priority—over the same network at new, simplified pricing levels.

FedEx Freight President and CEO Bill Logue says shippers should be prepared for more of that as carriers try to differentiate themselves in the market place through improved service and pricing simplicity.

"The LTL business has been very complicated in the past," Logue says. "We're trying to simplify the carrier selection process through our priority network and our economy network."

What FedEx did in early February was revolutionize its former FEF Freight and FEF National units into one network, offering both premium and economy LTL service. It's able to do this through a network redesign that allows for full 48-state coverage through a hub and spoke system that also allows for premium, expedited service.

FedEx Freight, which is the largest LTL carrier by revenue, is benefiting from the background of Logue, who replaced the retired Douglas Duncan, last year. Logue came to the freight side after a long career at FedEx Express, its small package unit. He says that he's trying to copy some of the Express unit's signature initiatives—namely simplicity and high service—and take them to the staid LTL sector.

FedEx Freight President and CEO Bill Logue

"The LTL business has been very complicated," says Logue, referring to its roots back in the 1930s when the business was tightly regulated economically. "We're trying to simplify it. We're trying to make carrier selection simple. A customer can choose a level of service appropriate to what is required for that piece of freight. If it's a crucial skid, it can go priority. If it's replacement inventory, it can go economy. It will be priced accordingly."

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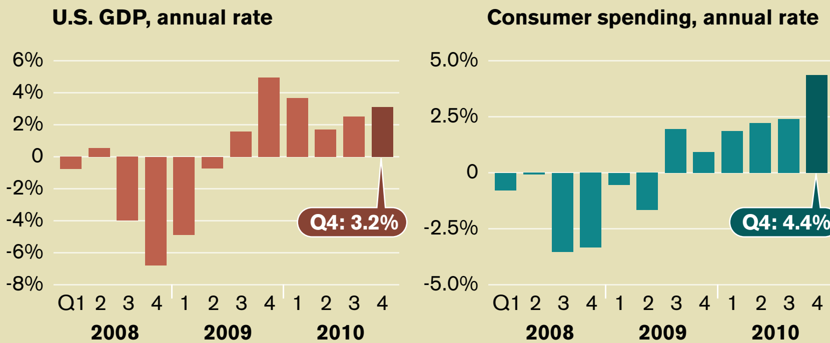

2. Lack of drivers will tighten the supply side of the trucking equation. Wage increases will be necessary, which will raise the cost side for LTL carriers. O'Kane adds that this could combine for rate increases of a magnitude not previously experienced by the shipping public.

3. Carriers will become far more sensitive to driver preferences other than wages. That means changing schedules to allow more home time and greater capital expenditures to ensure a younger overall fleet.

"All these things have a cost for the carriers," says O'Kane. "If the supply of drivers is constrained, those costs of retaining and keeping drivers will be passed onto the customers."

Shevell and O'Kane agreed that shippers will be seeing some of those changes this year, as old contracts expire and are replaced with newer ones that more accurately reflect carriers' true costs of operations. "What we see in the future with all the new DOT regulations is going to cost a fortune," says Shevell. "There is no question that there's going to be a major shortage of drivers and that's going to drive up the cost of moving goods."

For example, there are approximately 3,000,000 long-haul truck drivers on the highways today. Analyst firms and the carrier executives are estimating that as many as 5 percent—150,000 drivers—will exit the industry through normal retirement, attrition, or by not qualifying under the new, tighter regulations.

3) Capacity concerns

Considering the potential driver shortage, lack of new entrants in the LTL market, and no major existing LTL carrier expanding fleet size appreciably, what impact will tighter capacity have on shippers utilizing the $28.5 billion LTL market?

"Even without the driver crunch, which I think is unavoidable, capacity is a wild card," says O'Kane.

That's because during the three-year recession, LTL carriers deferred most capital expenditures on replacement trucks. However, those trucks are now eight or nine years old; and instead of replacement trucks costing $65,000 apiece as they did in 2006, they now cost more than $100,000 due to federally mandated emissions equipment and other improvements.

"Some providers simply are not going to have access to capital to invest," says O'Kane. "The cost of doing business is going to continue to drive out marginal players. As that attrition occurs, price increases are bound to follow."

O'Kane says that the timing of that attrition is the "wild card," and he adds that it could come "very soon." The most likely candidate would appear to be LTL giant YRC Worldwide, which has lost in excess of $2.6 billion in the last three years while working to survive through a series of employee wage and pension give-backs, loan renegotiations with its consortium of lenders, and price discounting from shippers.

YRC operates more than 20,000 power units in its long-haul and regional divisions. YRC National has about a 9.5 percent market share, its regional carriers about 4.5 percent, so any reduction or cessation of YRC's operation is bound to have a major impact on capacity and rates, analysts and rival carriers agree.

"We think there will be capacity constraints—and that's good for the carriers," analyst Ross says.

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Feeling the pinch

The bottom line for shippers is that *their* bottom lines are most likely going to be affected by higher LTL rates over the next 12 months—that's nearly a foregone conclusion. How high those rates go depends on several factors, including the shipper's freight characteristics, how their freight fits into a particular carrier's network, and the importance of that shipper's freight to a carrier's overall network, equipment utilization and internal load balance.

Ross says that the shippers most likely to feel the pinch are those that "beat their carriers up" and took advantage of bagain discounting during the recession.

"Leaving fuel surcharges out, the size of the rate increase will depend on what rate base a shipper is coming from," Ross says. "If you're a shipper who's been working with your carriers to help them stay in business during the recession, you might not see a rate increase. But if you've been aggressive in using the excess capacity that's been in the market place, you're going to get a big rate increase."

Any changes in the HOS rules could also raise rates; though it's unlikely that any changes will occur before 2012, or even later. But Satish Jindel, principal of SJ Consulting, a firm that closely tracks the LTL sector, said it's worth watching how LTL carriers react to any HOS changes.

"The legal limit used to be 10 hours of driving a day and the supply chain worked," says Jindel. "My concern is that when it increased from 10 hours to 11 hours, carriers did not capitalize. They gave it away in rates. If it goes from 11 hours to 10 hours, they will realize reduced productivity that will affect their costs. But I fear they will not be as quick in recovering it through higher rates from shippers. They will be able to raise the rates, but the rate increase will come at a slower pace than the decline in productivity."

NEMF's Shevell admits that shippers have been taking advantage of excess market capacity, but those days are over. "You have to get paid for what you do," he says. "If you don't get paid for what you do, you can't survive this market."

Shevell adds that the era of "bottom feeders having a picnic at the expense of all the carriers in the LTL business" are over.

David Ross agrees: "Shippers who were all about price, price, price during the recession are going to be hurt the most. Rates are going up." ☐

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

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A SPECIAL SUPPLEMENT TO
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Today, fuel and capacity issues continue to loom large for air cargo carriers, while shippers are being told that tactical adjustments, especially in the growing Intra-Asia trade, will need to be made at a moment's notice as carriers re-adjust their networks.

Will fuel determine

By Patrick Burnson, Executive Editor

There's a very good reason that the theme for the upcoming Air Forwarders Association (AFF) annual conference in San Diego will be "A World of Opportunities: Asia 2011," says Brandon Fried, the association's executive director.

"Simply stated, Pacific Rim growth has been driving the global economic recovery," adds Fried. "Granted, the transpacific lanes were the first to feel the negative impact of the recession, but our constituents are very bullish on the strengthening prospects in this region."

Indeed, an entire general session at the AFF event will be devoted to examining this dynamic market. Meanwhile, other major air cargo associations are banging the same gong, heralding the Lunar New Year as an auspicious one to begin investing in new routes and distribution strategies in the Asian market.

The International Air Transport Association (IATA) notes in its most recent report that the economies of China and India continue to lead the region's recovery. Asia Pacific airlines—with a 45 percent market share of the entire market—grew by 24 percent year-to-date in December 2010, and that trend is predicted to persist. One needs only to examine the upcoming calendar of global industry events to see that shippers are seeking new intelligence for market penetration.

The International Air Cargo Association's (TIACA) Executive Summit and Annual General Meeting 2011 is taking place in Bangkok, Thailand, this April, with organizers telling constituents that the time is right to begin regional investment again.

"Intra-Asia traffic had grown as big as the Europe-Asia trade lane did by 2008," says TIACA's Secretary General Daniel Fernandez. "So, airfreight flows change. Today, Thailand, Cambodia, and Vietnam are all major links in this supply chain."

Fernandez notes that products earlier in their life cycle—new evolutions of technology such as tablet computers and e-books—could expect to have a positive impact on airfreight for many years. "Still," he says, "carriers face major decisions about their future fleet needs."

the course?

With shippers so keyed up on finding new business in Asia, it comes as scant surprise that the airlines are bringing on new capacity. And according to the airline executives we interviewed, there will not only be more lift, but better efficiencies coming on line over the next few years.

Airlines bring it on

While Asia remains the focus, demand for global air cargo transport in general rebounded sharply in 2010 after a calamitous 18-month decline that began in May 2008. Boeing executives insist that in spite of this downturn, world air cargo traffic will triple over the next 20 years, compared to 2009 levels, averaging 5.9 percent annual growth.

"The number of airplanes in the freighter fleet will increase by more than two-thirds over the same period," says Thomas Hoang, Boeing's regional director of cargo marketing in Seattle. "China is the main engine for this growth, but nearly every developed country in Asia will be a factor."

Boeing analysts note that in 2009, world air cargo traffic declined 11.3 percent after declining 1.8 percent in 2008 and growing 3.3 percent in 2007. The 2008-2009 period marked the first time that air cargo traffic has contracted in two consecutive years. The decline affected nearly every geographic market; however, regions connected to industrial freight flows generally fared worse than regions that are less dependent on these flows. Remember, it was the rising price of fuel that diverted air cargo to less expensive road transport and maritime modes beginning in 2005.

Although the tepid rate of world air cargo traffic growth between 2005 and 2008 can be attributed in part to rising fuel prices, the nearly 13 percent drop in cargo traffic during the two years ending in 2009 reflects the steep plunge in industrial activity connected to the global economic downturn.

According to Hoang, new orders for larger, newer, and more fuel-efficient aircraft are in the offing to help offset some of those fuel-related concerns.

"We began our drive for more fuel-efficient models as we discovered that industrial activity started to recover, particularly in Asia," says Hoang. "The pace of air cargo traffic contraction, which had approached 30 percent in the first half of 2009, began to ease. Monthly air cargo traffic statistics turned positive in November 2009, and the first eight months of 2010 saw an estimated 24 percent growth in traffic, compared to the same period in 2009."

Hoang says that the strong rebound is expected to propel world air cargo traffic to regain the peak it attained in 2007 by the end of 2010. Indeed, anecdotal evidence suggests that many industrial shippers have turned to air cargo in response to the overcorrection that constrained capacity in the other modes of transport—particularly in containerships.

"But this does not mean we'll see a reduction of sea-air distribution strategies," says Hoang. "On the contrary. Some shippers will opt for a dual-mode solution for commodities like consumer electronics and appliances that are not as time-sensitive or in such great demand."

Should the air cargo industry feel threatened by such a plan? An emphatic "no" comes from Huang. "We regard sea-air as a compliment to any supply chain—not as a competitive element at all," he says. "Our commodity study indicates that a systemic change in the way cargo is moved is not underway. Some goods must always move by air."

Asia's air cargo markets will continue to lead the industry in average annual growth, according to Boeing research. Their findings also reveal that the Intra-Asia market alone is expanding 7.9 percent per year, and markets connecting developing economies to established economies will equal or exceed the average world growth rate.

Furthermore, Boeing says that over the next 20 years, the number of airplanes in the freighter fleet is forecast to expand by more than two-thirds, from 1,755 airplanes in 2009 to 2,967 airplanes in 2029. Large freighter aircraft will lead fleet additions, growing from an overall share of 27 percent to 33 percent as traffic continues to build on long-haul, international trade lanes.

Boeing says that over the next 20 years, the number of airplanes in the freighter fleet is forecast to expand by more than two-thirds.

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>
> *—Robbie Anderson, president, United Cargo*

Fuel costs loom

Robbie Anderson, president of United Cargo, notes that China leads all current and future cargo growth forecasts.

"Our strategic direction is determined by our shippers—we follow their lead," says Anderson. "They are making the business decisions to invest and conduct business in Asia's burgeoning economies, and we provide the bridge for their logistics." United Cargo operates more than 159 wide body aircraft to 378 worldwide destinations.

Anderson says that during 2010, Asia was a key driver of United's cargo growth, spurring combined revenue up 28.6 percent, to more than $1.1 billion. But energy costs are still a major concern, says Anderson, who adds that fuel is United's largest expense at 26.6 percent of operating costs; and, as a consequence, is a constant focus for efficiency. The rising drumbeat of fuel prices created an increase of $517 million in United's fuel costs in the fourth quarter alone.

"Consider that each run up of one dollar in the price of crude carries a $100 million incremental cost to United," he says. "That's pretty startling."

Matt Buckley, Southwest Airlines' senior director of cargo and charters, concurs that rising fuel costs will make a significant impact on the bottom line, thereby ultimately increasing shipping costs. Fuel is Southwest's second largest expense behind salaries, wages, and benefits.

"But considering the tremendous amount of manufacturing being done throughout parts of Asia, and the volume of

those goods being imported to the U.S., Asia will continue to be a strategic focus for many of our shippers for years to come," adds Buckley. At the same time, he says that "near-shoring" is becoming a practical alternative to doing business overseas.

"We are seeing many forwarders working with manufacturers that are near-shoring in places like Mexico," says Buckley. "As the costs of doing business in places like China continue to rise, I would expect near-shoring to increasingly become a more viable choice."

Cautionary perspective

The escalating fuel picture has industry analysts concerned, too, and not everyone in the air cargo arena is completely sold on Asia being the engine for economic growth. Given a longer time frame—say 20 years—one prominent expert feels that there will be a profound shift in shipping and sourcing.

Brian Clancy, managing director of Logistics Capital & Strategy, LLC, insists that Boeing and Airbus may be over-building in anticipation of demand that will begin to diminish by 2021.

"Airline manufacturers would have shippers believe that because of slow steaming, ocean freight providers can't deliver time-definite service. But that's not the case," he says.

Clancy says that ocean carriers have been "bifurcating" their strings into slow steaming mega-vessels, with faster, more nimble ships providing point-to-point service in the major trade lanes. "APL's Ocean Guaranteed model is a perfect example, as are the transpacific shuttles introduced by Horizon Lines and Matson," he says. "Take the cargo off the ship, put it on a fast train or truck, and your supply chain has all the velocity it needs."

The real issue, says Clancy, is not speed, but reliability. Ocean carriers have demonstrated that they can adhere to schedule integrity while operating at a lower cost. Air cargo has not grown as fast as the ocean container industry, and that trend will continue, he adds.

"Airline manufacturers, who like to provide analytics in their forecasts to sell planes, will take issue with this, but they can't argue with the facts," Clancy says. "Does this mean a reduction in air cargo services? The short answer is no."

According to Clancy, it means we'll see a shift in weighted line haul segments and a redistribution of aircraft. Manufacturing origin points will change, and the flow patterns will follow.

Which brings him to address the real object of his passion these days: the so-called "BRICs."

"First, let's take China and India out of the long-term equation," he says. "China's manufacturing springs are winding way down, and we see a marked decline in their goods being consumed locally. Remember, only a relatively small percentage of its population is sharing any of the perceived prosperity of this huge economic upheaval."

According to Clancy, U.S. demand for cheap goods is not going to be enough to sustain China's growth, and he sees it as a "conveyor belt" that will be feeding fewer boxes to the West beyond the next decade.

Meanwhile, says Clancy, India will never have the transportation infrastructure to become a manufacturing powerhouse.

"So far, that country has done a good job of elevating its profile as a service industry provider," he says. "They have the Internet super-highway, and this is a great advantage for outsourcing knowledge-based services. But when it comes to moving goods overseas or even domestically, they don't have the real physical highways to achieve that."

So that leaves Russia and Brazil, notes Clancy, and both have enough natural resources to remain viable GDP leaders.

"But the same can be said for the NAFTA (North American Free Trade Agreement) countries," he says. "Mexico and Canada have tremendous stores of minerals, fuels, and other raw materials that can make this a dominant trading block again. And with more near-sourcing, you'll see a new direction in airline scheduling."

And while the aviation industry continues to be a leader in innovation, and has been a major driver of economic growth worldwide, its resiliency will be sorely tested in the coming years. The consensus seems to be that a unique set of challenges is most surely shaping the future of the air cargo industry. □

"Airline manufacturers would have shippers believe that because of slow steaming, ocean freight providers can't deliver time-definite service. But that's not the case."

—Brian Clancy, managing director of Logistics Capital & Strategy

Patrick Burnson is Executive Editor of Logistics Management

SAGE ADVICE

A talk with Emily about fuel prices

By Wayne Bourne

PETROLEUM BASED FUEL PRICES are increasing again. That's hardly breathtaking news. Except that this time around it seems that this increase progressed steadily, yet somewhat quietly. Even though I track the price drivers for petroleum, I've heard very little outcry from the general public—that they were either aware of the gradual increase or that they even cared.

This time around it's as if the price increases were expected and therefore accepted as the new norm. The past two years saw gasoline plummet to about $2 a gallon from around $4 a gallon. The $2 number seemed like it was the "new" standard price and we were all happy. However, paying $4 a gallon was ridiculous and caused quite a stir in the economy; so, when it went back to $2 all seemed right with the world.

Well, that was short lived. Each week it crept up a few pennies, slowly but surely. It stayed out of the mainstream economic turbulence and basically slid under the radar. Then last week, my daughter came home and exclaimed that gas went up today 35 cents a gallon. What is wrong with the world?

She had been very content to ignore the price creep of the past 24 months because it appeared somewhat uneventful; but 35 cents in one day? Well that was not only a remarkably visible hike, but also a calculable drain to her limited expense budget.

She asked me what was going on, like it was my fault or something. How could something like this happen so quickly, so unannounced?

The next discussion didn't go as well as I thought it might. I confirmed with her that fuel currently in the Midwest was between $3.49 for low-grade gas and $3.79 for the highest-grade gas, and that it has been going up all year. And to make the issue clearer, I explained that if she were living in California she would see both ends of the gas range to be at least $1 more per gallon. In fact, the previous week in Southern California I saw gas at $4.39 per gallon on the Pacific Coast Highway.

I tried to explain that it wasn't really unannounced, and when gas was at its low two years ago, people didn't notice the price "creep" because it was so minor each week—3 cents or 4 cents per gallon.

The gradual increase is what fools us into buying inefficient sport utility vehicles and other less efficient large automobiles, because we as a society still don't get it. We get a little relief from high gas prices and we think it's gone forever.

There have been hundreds of books and articles written and classes are taught in fine schools, all in an attempt at creating a culture of conservation. Well, we did that for a few months, then gas became affordable again and we subsequently lost interest in sacrificing any further. We went right back to consuming copiously, even through a worsening recessive economy.

Fuel prices are based not so much on what we know to be real, but more on what we think will be real in the short term. There is no shortage, for all I know there never has been one.

I told Emily to dig in, that this is just the beginning of the gas price explosion; and quite frankly for any other commodity that is reliant on petroleum as a base element of production. Pundits are suggesting $5 a gallon this summer, but I bet it will reach $6.

Who knows, maybe this will be a good thing, maybe it will stick in the minds of consumers longer and more emphatically that we need to conserve.

Fuel prices are based not so much on what we know to be real, but more on what we think will be real in the short term. There is no shortage, for all I know there never has been one. It all appears to be a game played out in the board rooms of the large companies, hedging prices, sometimes taking into consideration actual and/or anticipated disruption in certain oil producing nations.

I asked Emily if she had earmarked any current expenses that she would eliminate to accommodate the significant rise in gas. She said, "Not really, not yet, but I am still mad." □

Wayne Bourne is founder and president of The Bourne Management Group, a consulting firm specializing in supply chain, logistics, and transportation network creation, economics, organizational development, and process analysis. A recipient of several industry awards, he has nearly three decades of experience in transportation and logistics management. Mr. Bourne may be reached at WLB1144@aol.com.

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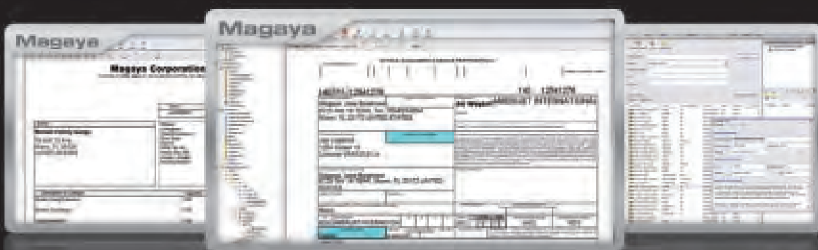

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