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November 2013

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LM management UPDATE

AN EXECUTIVE SUMMARY OF INDUSTRY NEWS

◆ **Large fleet driver turnover heads up in Q2.** In the second quarter edition of its *Trucking Activity Report*, the American Trucking Associations (ATA) said that the annualized turnover rate at large truckload fleets is now at 99 percent, up 2 percent from the first quarter. This marks the highest point for driver turnover at large truckload fleets since the third quarter of 2012 and is slightly ahead of 2012's annual rate of 98 percent. According to the report, turnover at truckload fleets with less than $30 million in annual revenue—at 82 percent—was flat compared to the first quarter. Turnover for less-than-truckload fleets decreased by 9 percent to 6 percent, a figure that the ATA said is at its lowest level in two years.

◆ **FTR says rail market conditions are solid.** FTR Senior Consultant Larry Gross said at his firm's recent conference that things have been relatively quiet in terms of year-over-year rail performance, with signs of improvement going forward. Gross observed that the "heroes" for rail commodities have been petroleum and petroleum products, specifically crude by rail (CBR) and crushed stone, sand, and gravel, with the latter benefitting from CBR activity due to frac sand movements and some increased activity in the construction sector as well. For all of 2013, Gross said FTR is calling for total carloads to be down 0.3 percent, excluding intermodal, and down 13.4 percent compared to pre-recession 2007. For 2014, it expects carloads to be up 3.0 percent, which would end up being down 10.8 percent compared to 2007. "There is a long way to get back to where we were from a fixed cost, network, and locomotive standpoint, which means there should probably be a fair amount of capacity out there if volumes should begin to increase," said Gross.

◆ **Big box theory.** According to Jones Lang LaSalle's (JLL) first *Big Box Velocity Index,* demand for U.S. industrial distribution centers, larger than 300,000 square feet (known as "big box" space), is high and rising. Improving economic conditions, the continuing growth of e-commerce, and a deep bench of tenants seeking space have all created this highly competitive fight for industrial and warehousing space. As a result, there is 96.7 million square feet of industrial construction underway, with nearly half speculative, with an average building size of 360,000 square feet. "With e-commerce sales expected to more than double over the next four years, we anticipate increasing demand for highly specialized facilities," said Craig Meyer of JLL.

◆ **Kewill completes Four Soft acquisition.** Following its mid-August announcement that it had signed a definitive agreement to acquire the assets of Four Soft, a developer of solutions for logistics services providers, manufacturers, and retailers, software provider Kewill has stated that the deal is officially completed. "The acquisition is part of our strategic plan to significantly grow the Kewill business over the next five years," said Evan Puzey, Kewill's chief marketing officer. "By bringing together two of the industry's leading organizations, Kewill will have a greater global presence with increased domain expertise allowing us to support a larger and ever increasing customer base with a broader set of products." He added that the deal will extend Kewill's product portfolio and further enhance its technology stack.

◆ **NRF calls for gains in 2013 holiday sales.** Despite the increasing flurry of economic headwinds currently blowing, retail sales for the 2013 holiday season are expected to be up on an annual basis. The National Retail Federation (NRF) said that it expects holiday sales to increase 3.9 percent to $602.1 million compared to the actual 3.5 percent growth in 2012, topping the 10 year average holiday sales growth of 3.3 percent. Holiday sales—as defined by the NRF—are sales in the months of November and December. Chuck Clowdis, managing director of transportation advisory services at IHS Global Insight, told *Logistics Management* that he agreed with NRF's forecast, but noted his firm's outlook for holiday retail sales is closer to 3 percent. "The consumer is feeling a bit better about spending as we enter this holiday season," said Clowdis. "And with employment slowly growing, pent-up demand is softening to the point that even a 3 percent increase may even be a bit conservative."

◆ **Truckload and intermodal rates are mixed.** Truckload and intermodal pricing was flat annually through September, according to the most recent edition of the *Truckload and Intermodal Cost Indexes* from Cass Information Systems and

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LM management UPDATE

AN EXECUTIVE SUMMARY OF INDUSTRY NEWS

Avondale Partners. Truckload rates were up 1.7 percent compared to September 2012 and up 2.7 percent compared to August. The report explained that demand for truckload capacity continues to increase, with mid-single digit pricing growth in recent months and tight capacity intact. Rates on the intermodal side were down 0.5 percent annually in September and fell 1.2 percent from August. Despite record volumes, partially due to mode shift from long-haul truckload, the pricing dynamic in intermodal remains very competitive, the report noted.

◆ **MHI debuts U.S. roadmap.** MHI, the organization representing materials handling in North America, unveiled the first draft of the *Material Handling & Logistics U.S. Roadmap* at its annual meeting in Orlando last month. The first draft is the result of four roundtable events in the spring of 2013 that brought together materials handling and logistics practitioners, suppliers, academia, associations, publications, and government. At each event, roundtable attendees contributed thoughts about the capabilities and resources that the material handling and logistics industry needs to develop between now and 2025. The report was introduced by Kevin Gue, a professor at Auburn University and the editor of the roadmap project. "We are on the cusp of real transformation in retail distribution and manufacturing," Gue said at the event. "The big changes will only happen if we come together in new ways."

◆ **Rent hikes ahead.** Prologis, Inc., a leading global owner, operator, and developer of industrial real estate, recently published an in-depth analysis of global rents for logistics facilities in a paper titled *Entering the Sweet Spot in the Cycle for Logistics Real Estate: An Extended Rental Rate Expansion*. In the report, the company's research team estimates that overall rents will grow by more than 5 percent per year from 2014 to 2017. This outlook is supported by a trend in structural drivers and a recovery in operating fundamentals. "Rents today still don't broadly support new construction, but tightening vacancy rates are reversing that dynamic," said Chris Caton, vice president and head, Prologis Research.

◆ **Leadership void.** The Port of Los Angeles executive director, Geraldine Knatz, announced her resignation after serving eight years in the position. According to recently elected Los Angeles Mayor Eric Garcetti, filling the role "will be a smooth transition," and he's put the city's chief engineer, Gary Lee Moore, in charge as interim director. But change at the top is rarely easy. Just ask the Port of Long Beach, which has been conducting an executive search for a new chief since last May. Both San Pedro Bay mega-ports have not only been facing increasing challenges from West Coast competitors, but also from East Coast ports seeking to leverage their position when the Panama Canal expands in 2015.

◆ **Global gap.** While many large companies are aggressively pursuing globalization of their products and brands, new research from The Hackett Group says that the large majority are able to actually see what's happening globally or make adjustments on the fly. Hackett's new *Global Operating Model Book of Numbers* found a strong acceleration of the trend towards globalization of business, with most companies moving toward high levels of globalization for their products and service lines and expanding the globalization of delivery of business services over the next few years. In large part, these trends are being driven by historically high growth rates in China and other emerging markets combined with stagnation in developed markets. But despite high levels of automation, most companies cannot quickly access much of the information required to truly understand their global performance.

◆ **Omni-channel pressures grow.** Logistics managers need to accelerate their teams' skills and capabilities if they are to meet growing expectations about the business value the function can deliver, according to the latest annual study conducted by *SCM World.* Along with its traditional role of delivering products to customers while containing or reducing operating costs, logistics managers in many companies are now also charged with harnessing innovation from suppliers, facilitating growth in new markets, and building new fulfillment channels. The study says that logistics managers are also held accountable for supply chain risks and the impact of sourcing and manufacturing operations on the environment and local communities.

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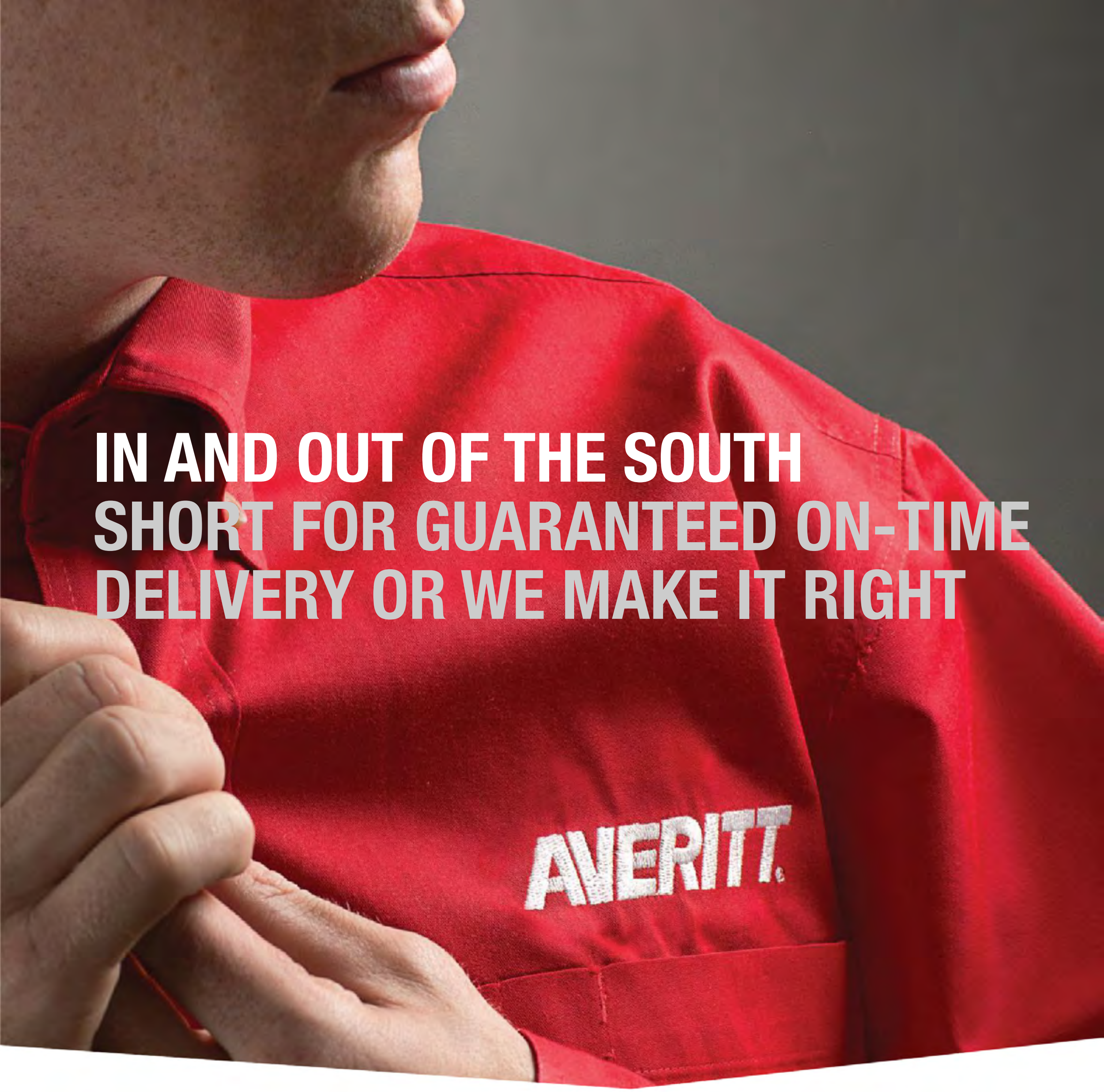
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LM management UPDATE

AN EXECUTIVE SUMMARY OF INDUSTRY NEWS

◆ **A capacity crunch is a-coming.** While obtaining trucking capacity is not a pressing issue at the moment, that is not likely to be the case long-term, according to Bob Costello, chief economist at the American Trucking Associations (ATA). The ATA executive said last month that there would eventually be a capacity crunch, with demand for freight services outpacing a growing supply of trucks and drivers. One main reason for this, he said, is that future consistent economic growth—in the 2.75 percent to 3 percent GDP range has to potential to "cause very tight capacity." Industry experts have also repeatedly pointed out that an already tight driver supply is likely to be exacerbated by myriad federal regulations, like hours-of-service, and will also result in tighter capacity availability as well.

◆ **Busy delivery days ahead in December.** The ongoing emergence of e-commerce is expected to result in high octane delivery days during the holiday shopping season, according to industry titans UPS and FedEx. UPS expects to pick up more than 34 million packages on Monday, December 16, which will represent its single busiest day of the year. With 26 shopping days between Thanksgiving and Christmas, which is six less days than in 2012, UPS said the 2013 holiday shopping season will be the most "compressed" one since 2002, with Peak Season daily volume expected to rise 8 percent this year. Meanwhile, FedEx expects Cyber Monday, December 2, to be the busiest day in its entire history, calling for more than 22 million shipments to be delivered globally, representing an 11 percent annual gain. And during the week of December 1-7, the company's busiest week of the year, FedEx said it expects more than 85 million shipments to move through its global networks, marking a 13 percent gain over the same period last year.

◆ **UPS third quarter revenue rises 3.4 percent to $13.5 billion.** Hitting its stride in the second half of year, UPS announced last month that third quarter revenue jumped up 3.4 percent to $13.5 billion. Quarterly earnings per share—at $1.16—increased 9.4 percent and edged Wall Street analysts' expectations of $1.15 per share. UPS cited strong e-commerce shipments and European export growth as drivers for the positive quarterly output. "Our third quarter business improved from the first half of the year even though our business faced similar market dynamics," said Scott Davis, UPS chairman and CEO, on an earnings call. "The U.S. domestic business continues to benefit from e-commerce, while international experienced strong demand for UPS deferred products. Performance in our supply chain and freight segment improved primarily though ocean forwarding, brokerage, and North American airfreight results."

◆ **Interesting index.** Widespread improvement in a number of indexes suggests optimism for the manufacturing sector in the next three to six months, according to the quarterly *Manufacturers Alliance for Productivity and Innovation (MAPI) Business Outlook*. The survey's composite index is a leading indicator for the manufacturing sector. The September 2013 composite index advanced to 66 from 58 in the June survey, the third straight quarterly advance and the highest level since the December 2011 reading of 66. For 16 quarters, the index has remained above the threshold of 50, the dividing line separating contraction and expansion. "Most indexes improved in September, and several rose significantly," noted Donald A. Norman, Ph.D., MAPI senior economist and survey coordinator. "In particular, the large increase in the Composite Index and the jump in the U.S. Prospective Shipments and the Backlog Orders indexes point to an increased pace of manufacturing activity in the fourth quarter."

◆ **Eco partnership.** Green Marine and the American Association of Port Authorities (AAPA) recently signed a Memorandum of Understanding underscoring a new collaboration to advance the environmental sustainability of port and terminal operators. The MOU, signed during AAPA's 102nd annual convention in Orlando, Fla., will serve as a framework for increased cooperation between the two parties to advance environmental protection at seaports in the Western Hemisphere. AAPA will encourage its members' participation in the Green Marine environmental program for ports that find it beneficial to their operations and sustainability initiatives. Both Green Marine and AAPA are seeking to establish a productive working relationship under this MOU. To that end, they've exchanged memberships, with Green Marine now a sustaining member of AAPA, and AAPA, in turn, now an association member. □

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2013 NITL EXECUTIVES OF THE YEAR

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Roy Slagle, president and CEO, ABF Freight, and Judy McReynolds, chairman of the board of ABF Freight System and president and CEO of Arkansas Best Corporation, parent of ABF Freight, are this year's co-recipients of the 2013 National Industrial Transportation League's (NITL) Executive of the Year Award.

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SPECIAL REPORT

2013 Warehouse/DC Operations Survey: Multiple paths, same goal

Whether their opening new DCs, improving inventory control, or turning to 3PLs to improve processes, survey respondents tell us that there's no one prominent way to keep costs in check while simultaneously improving service levels. Page 48S

+ 2013 WDC Operations Survey Webcast

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SPECIAL REPORT

LTL: Stability achieved, rates to rise

LTL executives are looking to drive relentless cost increases out of their operations—and they're telling shippers to prepare for rate increases in the 3-percent to 5-percent range. Here's why rates are rising and what shippers should expect in 2014. Page 58S

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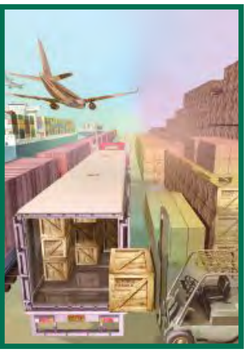
Results of the 22nd *Annual Study of Logistics and Transportation Trends* Study

Masters co-create value



According to the findings of our 22st *Annual Study of Logistics and Transportation Trends*, the true Masters of Logistics have developed strategic partnerships with carriers that enable them to keep costs low while providing innovative service to their customers—and our data show that this value-added perspective is leading to performance that is significantly better than their competitors. **logisticsmgmt.com/masters2013**

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LM VIEWPOINT

2013 Warehouse/DC Survey: Managing a “barely budging budget”

EVERY NOVEMBER we step inside the warehouse and distribution center (DC) facilities of *Logistics Management* readers to get a better look at how the activities and processes inside the four walls are affecting their overall logistics and supply chain operations.

Starting on page 48, Contributing Editor Maida Napolitano, a warehouse and distribution professional herself, takes a deep dive into the findings of Peerless Research Group’s (PRG) annual *Warehouse and DC Operations Survey*, the clearest view available of how U.S. facilities are being run. This year the survey received 530 qualified responses from operations managers, to upper-level managers, all the way to CEOs—all personally involved in decisions at the warehouse and facility level.

As Napolitano reports, we were somewhat surprised to find that, despite the positive vibes that U.S. business started feeling about a year ago, respondents are still stuck in the era of “barely budging budgets” that we saw solidified in the results gleaned during the recession.

“As the economy has been slow to recover, it’s become clear that reducing operating and transportation costs continues to be top priority,” says Napolitano. “However, managers are now under more pressure than ever to improve service levels with little to no capital to spend for improvements. This is a conflict of ideals that we saw develop five years ago, and one we assumed would begin to slightly erode this year.”

But that wasn’t the case. However, one could argue that this recently developed fiscal discipline is a good thing.

In fact, our findings reveal that the market will continue to witness the evolution of the logistics professional, one who has become more of a strategist, willing to carry out initiatives that don’t demand major systems changes and require little capital investment. They’re squeezing the best out of what they have, improving warehouse and DC processes, looking to step up inventory control, and sitting down with carriers—and even competitors—to maximize existing DC networks.

“It’s refreshing to see a significant number of respondents taking multiple actions to keep costs in check without major investment,” says Don Derewecki, senior business consultant at TranSystems, *LM*’s partner for this survey over the past eight years. “They’re taking time to ask customers to order less frequently, but in larger quantities, or using 3PL warehouses to get closer to customers.”

Peerless Research Group’s findings reveal that the market will continue to witness the evolution of the logistics professional, one who has become more of a strategist.

“There is no magic bullet,” says Norm Saenz, senior vice president and principal of TranSystems. “Whether opening new DCs, turning to a 3PL, or renegotiating with freight carriers, results show that there’s no one prominent answer.”

If you have specific questions or would like to go even deeper into the results to see how your peers are managing the “barely budging budget,” join me, Derewecki, and Saenz in our annual *Warehouse and DC Operations Survey Webcast* that will go live on Thursday, November 21, at 2:00 p.m. ET. Register now at **logisticsmgmt.com/wdc_2013survey.**

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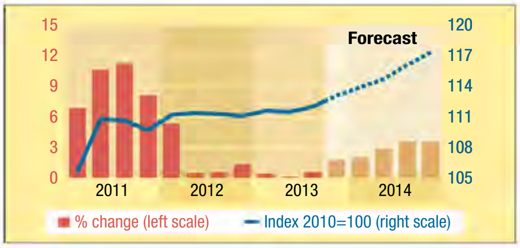
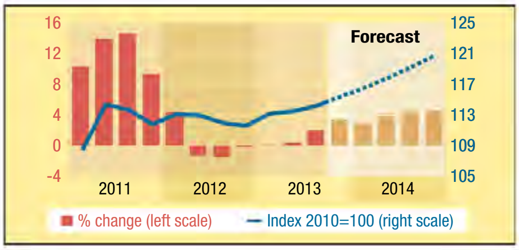


% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
General freight - local	0.0	0.0	2.7
TL	0.4	-0.1	0.0
LTL	-0.1	0.6	1.4
Tanker & other specialized freight	-0.2	-0.2	-0.1

TRUCKING

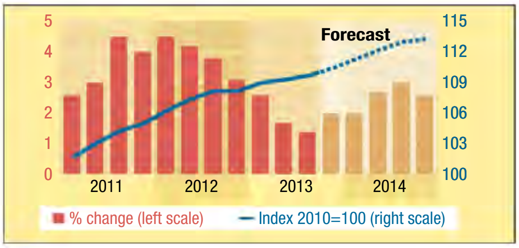
Average transaction prices in the trucking industry are forecast to increase 0.9% in the last three months of 2013 compared to same-quarter-year-ago and increase again by 3.3% in the final quarter of 2014. At the same time, trucking costs are forecast to rise 1.8% and 3.6%. With costs growing more quickly than prices, logistics managers might expect the negotiation terrain ahead to be rough. Industry margins, however, will remain under wraps. For every $100 worth of services sold, the trucking industry's gross operating surplus (before taxes) is forecast to stand at $20.07 in the fourth quarter of 2013 and $19.53 in the fourth quarter of 2014.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Air freight on scheduled flights	0.1	0.1	0.7
Air freight on chartered flights	0.0	-2.9	-7.2
Domestic air courier	0.5	-1.4	4.1
International air courier	0.3	-1.4	2.8

AIR

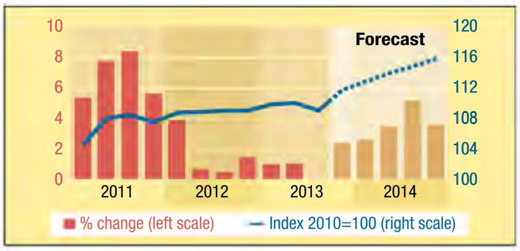
The U.S. airline industry has been cleared to take off with inflation again. In the final quarter of the year compared to year-ago, average transaction prices (for passenger and cargo) are forecast to increase 3.8% and 5.5%, respectively, in 2013 and 2014. Meanwhile, airliners' costs declined 0.2% in the last three months of 2012 compared to same-quarter-year-ago. Alas, costs are expected to keep pace with prices, up 3.4% in the final quarter of 2013 and up 4.6% in the final quarter of 2014. This price/cost inflation dance will keep the pressure on industry's tight margins and make logistics managers' negotiations as turbulent as ever.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Deep sea freight	0.9	0.3	-0.5
Coastal & intercoastal freight	-0.1	0.9	0.1
Great Lakes - St. Lawrence Seaway	-0.2	-6.9	0.4
Inland water freight	1.0	1.1	-3.6

WATER

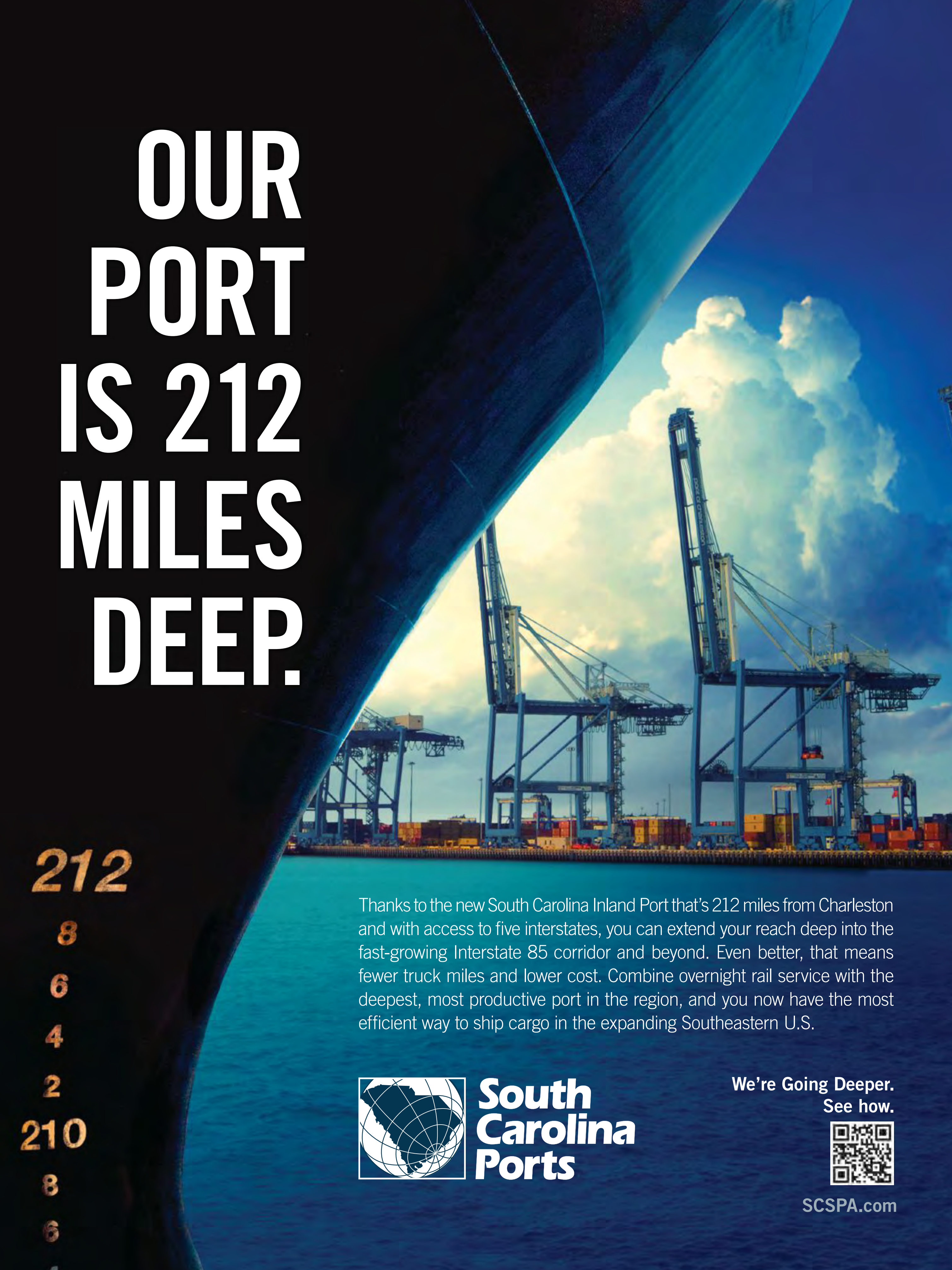
Transaction prices in the U.S. waterborne transportation market are forecast to increase at a slow 0.4% pace in the last three months of 2013 compared to year-ago. That slow inflation rate comes after a 3.7% price uptick in the final quarter of 2012 and before a 2.8% price hike forecasted for the final quarter of 2014. While prices float up and down, the underlying costs to operate barges and ships pushes inexorably higher, up 2% in the final quarter of 2013 and up 2.6% in the last three months of 2014. For every $100 worth of services sold, the industry's gross operating surplus (before taxes) is forecast to stand at $21.25 in the fourth quarter of 2013 and $21.33 in the fourth quarter of 2014.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Rail	-0.2	-0.1	2.9
Intermodal	0.8	-0.1	1.9
Carload	0.3	0.0	3.7

RAIL

The rail transportation industry's average transaction prices are forecast to increase 2.3% in the last three months of 2013 compared to same-quarter-year-ago and accelerate 3.1% in the final quarter of 2014. These inflation rates will seem tame after Q4 price hikes of 4.7% in 2012 and 8.9% in 2011. Per-unit costs in the rail industry, meanwhile, are forecast to increase 2.5% in final quarter of this year and grow 3.7% in the final quarter of 2014. Overall demand for hauling freight will continue to increase over the coming year, too. End-market demand for rail service is forecast to grow 2% in 2013 and 3.9% in 2014.



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NEWS analysis

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Trucking merger and acquisition activity starts to heat up

Analysts say increased pace of potential deals is a positive for the sector

By **John D. Shulz**, Contributing Editor

FRAMINGHAM, Mass.—Don't look now, but there was an eruption of merger and acquisition activity in the trucking sector as we rolled into the fourth quarter.

The largest potential merger recently reported was Phoenix-based Knight Transportation's proposed $242 million takeover of financially ailing USA Truck. That initial overture was rejected by USA, although Knight is hinting that it may proceed with a hostile takeover of the Van Buren, Ark.-based truckload (TL) carrier.

Other trucking merger and acquisition developments to recently hit the press include:

- Toronto-based Vitran's agreement to sell its money losing U.S. less-than-truckload (LTL) operations to entrepreneur Matthew Moroun for $2 million, plus debt assumption. Separately, TransForce is in talks to buy Vitran's profitable Canadian LTL operations for $74 million.
- Jack Cooper Transport Co., the largest U.S. auto hauler, was given approval by a U.S. bankruptcy judge to buy Allied Systems Holdings, once the largest U.S. auto hauler, for $135 million.
- Phoenix-based third-party logistics provider Radiant Logistics' purchase of On Time Express Inc., a time-critical domestic and international logistics company, for $20 million.

David Ross, trucking analyst for investment banking firm Stifel Nicolaus, sees the increased pace of mergers and acquisitions in trucking as a positive sign for the highly fragmented industry. "Some companies have cash or borrowing availability on their balance

sheet and are looking for growth that's not available organically in a lackluster freight market," he said. "So if they can find a company at a reasonable valuation, merger and acquisition makes sense for some."

Ross said that he believes industry consolidation should continue through merger and acquisition or carrier failures over the next year or so, although that might mean higher rates for shippers. "If trucking companies want to grow, it helps the pricing environment if they do so by buying existing capacity rather than by adding new trucks to their fleet," said Ross.

Officials at Knight, one of the most profitable TL companies, said it was "disappointed" that USA Truck rejected Knight's $9 per share, all-cash offer. That offer was for $95 million in equity, plus assumption of $147 million in USA Truck debt, making the total enterprise value of the failed bid $242 million. That would be one of the largest rejections of a purchase of a publicly held TL carrier since the Great Recession began in 2008.

The Knight-USA combination would have been the largest TL acquisition since Con-way Inc. bought Contract Freighters Inc. for $750 million in 2007. However, there are indications that Knight may not be finished with its pursuit of USA Truck.

Knight added that since making its proposal public, it held discussions with "several" of USA Truck's largest shareholders who have since indicated their support for its proposal. Knight said that based on those conversations, it took the necessary steps forward to acquire USA Truck.

"We continue to believe that a combination of Knight and USA Truck is better positioned to deliver value for and is in the best interest of all of Knight and USA Truck's stakeholders…and we are prepared to take the necessary steps to make this combination a reality," Knight said in its statement.

Benjamin Hartford, an analyst with Baird Research, called the upside potential for a Knight-USA Truck merger "significant." He said in a note to investors that it was indicative of industry consolidation and firming freight volume growth that could help pricing power for fleets and be an "important catalyst" for the entire TL sector—which has struggled with rate increases in the past year or so.

Rapidly growing Knight Transportation ranks as the nation's sixth-largest TL carrier and is solidly profitable, with revenue growth of 8.1 percent last year to $936 million. It's expected to exceed $1 billion in revenue this year, joining Schneider, Swift, U.S. Xpress, Werner Enterprises, and Landstar in the $1 billion TL club.

Knight, which has consistently posted operating ratios in the low to mid 80s, has an operating philosophy of buying smaller TL carriers as "tuck-in" acquisitions. It basically does this on a regional basis, acquiring key customers and quality drivers in the process to help it build freight density in east-west traffic lanes. □

TRADE

Despite government shutdown, *Port Tracker* report calls for strong import activity

WASHINGTON, D.C.—A moderate economic recovery and a U.S. federal government shutdown do not appear to be enough to prevent holiday season import activity from posting an annual gain, according to the most recent edition of *Port Tracker* from the National Retail Federation (NRF) and maritime consultancy Hackett Associates.

The report is calling for volumes at U.S.-based retail container ports in October—typically the busiest month of the year—to increase 9.1 percent annually, reflecting that retailers are

IMPORTS
WASHINGTON D.C.

gearing up for holiday shopping activity.

Authors of the report explain that Cargo import numbers do not directly correlate with retail sales or employment since they count only the number of cargo containers brought into the country, not the value of the merchandise inside them. They add that the amount of merchandise imported provides a rough barometer of retailers' expectations.

"With the holidays nearly here, retailers are making sure that their shelves are well-stocked," said Jonathan Gold, NRF's vice president for supply chain and customs policy. "Cargo is continuing to move through the ports, but the government shutdown has left some agencies shorthanded, so NRF will monitor the situation closely as the holidays approach."

Even with Customs and Border Protection (CBP) placing 6,000 staffers on furlough during the shutdown, the agency maintains that the subsequent import on trade activity will be minimal, with ports remaining open and inspectors on the job and processing cargo. However, the report stated that there is concern by retailers over how some government agencies that clear cargo at ports are not staffed at the same levels CBP is currently.

Port Tracker said that the 1.48 million TEU (twenty-foot equivalent units) handled in August (the most recent month for which full data is available) by U.S. retail ports represent a 2.5 percent increase compared to July and a 3.8 percent gain compared to August 2012.

The report estimates September volumes to be at 1.47 million TEU for a 4.9 percent annual decrease, and it is calling for October to be up 9.1 percent at 1.46 million TEU. November and December are expected to be at 1.33 million TEU and 1.31 million TEU for 3.4 percent and 1.8 percent increases, respectively.

Hackett Associates Founder Ben Hackett told *Logistics Management* that, to date, the government shutdown has negatively affected the stock market more so than trade to this point. "Our forecast has basically ignored what's happening in Washington," said Hackett. "But if the dysfunction in Congress and the White House continues, that could be another issue."

—Jeff Berman, Group News Editor

ALTERNATIVE ENERGY

UPS announces plans to build nine more LNG fueling stations

ATLANTA—Natural gas utilization continues to be a major action item for transportation and logistics bellwether UPS, with the company announcing last month that it will invest roughly $50 million to build another nine liquefied natural gas (LNG) fueling stations.

This follows an April announcement by the company that rolled out its plan to purchase roughly 700 liquefied natural gas (LNG) vehicles and build four refueling stations by the end of 2014. When these new stations are up and running, UPS said that it will have 13 LNG stations in total supporting one of most extensive LNG private fleets in the U.S.

The nine new LNG fueling stations will be based in Florida, Illinois, Indiana, Mississippi, Missouri, Ohio, Pennsylvania, and Texas. The four stations announced last April are in Knoxville, Nashville, and Memphis, Tenn., with the fourth one in Dallas, Texas. UPS is already operating LNG tractors in Las Vegas, Nev.; Phoenix, Ariz.; Beaver and Salt Lake City, Utah; and Ontario, Calif.

UPS has been actively involved on the LNG front for more than a decade and is making a major investment push to make it part of its domestic delivery network due in large part to the price disparity between LNG and diesel fuel. To date, LNG is on average 30 cents to 40 cents cheaper than diesel, while U.S.-based natural gas production on the rise.

"The natural gas industry needs companies to commit to using natural gas to help establish a reliable alternative to traditional fuel, and that is just what UPS is doing," said David Abney, UPS chief operating officer. "LNG is becoming more readily available, plus it's more insulated from market volatilities than diesel fuel. Because vehicles represent approximately 35 percent of UPS's carbon footprint, a cornerstone of the company's environmental strategy is to support the development and use of lower-emission alternative fuels."

Abney added that UPS aims to reach one billion miles driven by an advanced technology fleet by 2017.

UPS' sustainability efforts are certainly well documented, with the company operating more than 2,700 alternative fuel and advanced technology vehicles, including all-electric, hybrid electric, hydraulic hybrid, compressed natural gas (CNG), LNG, liquid propane gas, biomethane, and light-weight fuel-saving composite body vehicles.

The company said that between 2000 and the end of 2012, its alternative fuel and advanced technology fleet totaled more than 295 million miles, with the fleet in 2012 driving 49 million miles—a 43 percent annual increase over 2011.

"UPS considers itself to be a leader in testing and investing in LNG for transportation," said Brittain Ladd, a global supply chain consultant and expert on green transportation. "What UPS has been able to do is convey to corporations that have fleets of similar size that LNG is not only a viable source of fuel, but it is becoming good business."

—Jeff Berman, Group News Editor

TRUCKING

Keep a watchful eye on capacity, say trucking industry stakeholders

INDIANAPOLIS—When addressing if and when motor carriers plan to increase capacity, it's pretty clear that there are many issues standing in the way of doing so.

The top issues include the economy; driver hiring and training; demand; as well as the increasing amount of regulation the trucking industry continues to face. However, this is just the short list. At the recently concluded FTR Transportation Conference in Indianapolis, there were widespread views regarding market factors germane to capacity expansion and the remaining factors keeping the answer in the balance.

According to Annette Sandberg, CEO of TransSafe Consulting LLC and former Deputy Administrator of the Federal Motor Carrier Safety Administration, small-to-mid-size carriers are feeling the impact of regulations like the hours-of-service (HOS) regulation that kicked in last July and CSA. And on the capacity side, Sandberg noted that this has led to carriers in this size range having concerns over losing loads to larger carriers.

"Even with slow economic growth, coupled with the federal government shutdown, capacity availability has been tight, but predictable due to the moderate recovery," said Jim Tucker, COO of Tucker Worldwide, a global freight brokerage services provider. "However, available pockets here and there make it more predictable in helping to find trucks."

John Vesco, executive vice president for Comtrak, a subsidiary of intermodal services provider Hub Group, explained that with a capacity crunch likely coming down the road, it's imperative to be prepared for it, especially as owner-operators exit the business due largely to cost pressures.

"Drivers are a precious commodity that we want to hold on to, especially the good ones," said Vesco. "With HOS and CSA, it's clear that things are going to tighten up, and you want to have the best drivers out there for service and reliability."

Stifel Nicolaus analyst John Larkin observed that strong driver recruiting is the best way to keep driver capacity utilization at bay, with the largest and most sophisticated carriers doing the best job to recruit experienced drivers, as well as offer driver training programs.

Ways to increase capacity cited by Larkin include getting them home regularly, new trucks, and a competitive pay scale.

—Jeff Berman, Group News Editor

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INTERMODAL

Railroad sector is stable with room for growth, says FTR

INDIANAPOLIS—Looking at the current state of the U.S. railroad carload market, the overall take from FTR Associates Senior Consultant Larry Gross is that things have been relatively quiet in terms of year-over-year performance, with signs of improvement going forward.

Speaking at his firm's recent transportation conference, Gross explained that based on data from the Association of American Railroads (AAR), the four-week moving average until just recently had been quiet while the overall environment has been stable in terms of total railcars.

"There was some softness [mid-summer], and we seem to have recovered from that and are back in the black fairly consistently," said Gross.

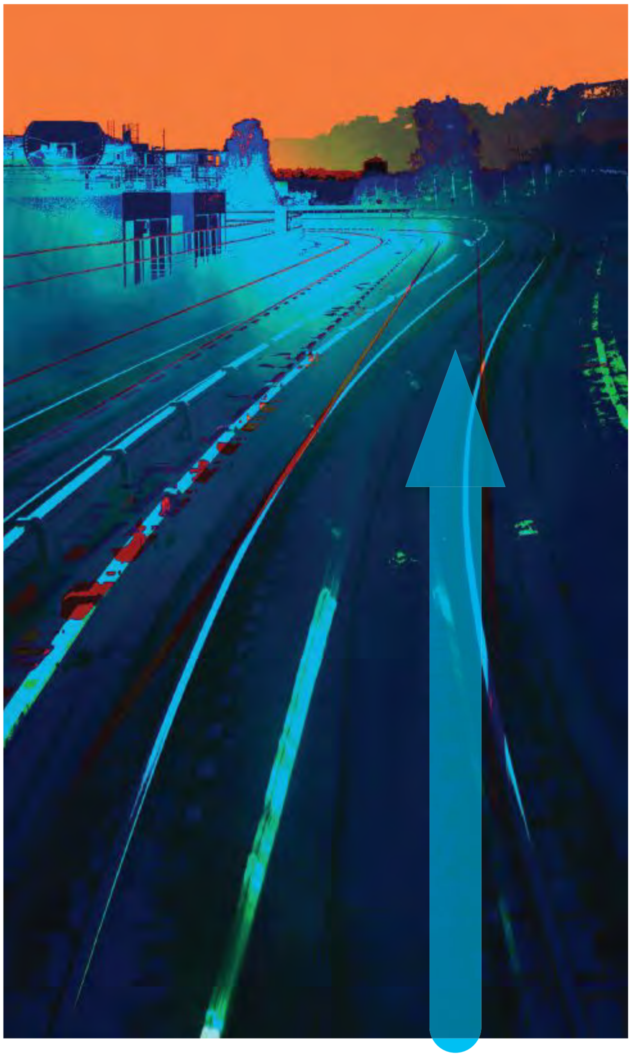
However, one thing that has been holding things back, Gross explained, was coal's ongoing volume decline, adding that when coal is removed from the equation there's a divergence between total rail carloads and coal. Another drag, according to Gross, is agricultural output due to the fact that when grain and coal are excluded from carload data, the sector's total output looks much improved.

"It's obvious that this data provides a window into the industrial economy," said Gross. "The coal and agriculture situations are not reflective of the industrial economy and what is going on with overall performance."

Year-to-date, Gross observed that the "heroes" for rail commodities have been petroleum and petroleum products, specifically crude by rail (CBR) and crushed stone, sand, and gravel. What's more, he pointed out that most commodities are seeing annual gains, coupled with the fact that coal and grain volumes are showing slight improvements, with coal especially starting to see gains from more positive annual comparisons.

Also helping overall output, said Gross, are motor vehicles and equipment loadings that have seen impressive traction over a four-week average with the outlook still improving.

Addressing agriculture and grain: "With the drought the big story last year, we've been waiting for this year's harvest to come. So far, there has not been as much of a rebound as we had hoped for. We still think that grain is going to be there in the fourth quarter from a net drag to a positive and total carloads will look better."



Gross described chemical loadings year-to-date as a "good story." However, he cautioned that growth might not be as dramatic since the annual comparisons now look to be more moderate and conditions have eased by about ten percent from the peak.

Forest products appear to be a mixed bag, according to Gross, with lumber expected to show growth with modest housing progress, but pulp and paper are being negatively impacted on by secular changes due to ongoing technological advances as more people read newspapers and magazines on smart phones and tablets than print versions.

Shifting to rail service, Gross said that prior to the flooding in Boulder, Colo., service had shown remarkable stability, but added that it was an aberration, as the rail network has been stable and resilient in its ability to recover. He added that dwell times are lower and railcars are moving more quickly through rail yards, which points to stability.

As for total cars, Gross said that railcars online are down by nearly three percent at a time when there is a relatively small increase in rail cargo. "The story of improving productivity in the car fleet is good news for shipper and carriers, but not for rail car suppliers," he noted.

For all of 2013, Gross said FTR is calling for total carloads to be down 0.3 percent, excluding intermodal, and down 13.4 percent compared to pre-recession 2007. For 2014, it expects carloads to be up 3.0 percent, which would be down 10.8 percent compared to 2007.

"There is a long way to get back to where we were from a fixed cost, network, and locomotive standpoint, which means there should probably be a fair amount of capacity out there if volumes should begin to increase," added Gross.

—Jeff Berman, Group News Editor

NORTH AMERICA

NAFTA blowback fueling used truck boom south of border in Mexico

WASHINGTON, D.C.—Ever wonder where the trucks that hauled your freight of the past decade have gone? Look no further than Mexico.

Thanks to liberalization of Mexico's used truck rules, there has been a stunning increase in the number of six-to-10-year-old, U.S.-manufactured trucks that are being sold at auction to Mexican fleets.

According to ACT Research, this year, exports of used Class 8 heavy trucks to Mexico will hit 11,000—at least triple the number of such trucks exported to Mexico last year. At this rate, Mexico is replacing Nigeria and Russia as the No. 1 destination for used U.S. truck sales worldwide. A according to ACT, it's all pretty much due to the boom in Mexican manufacturing.

"Mexican fleet owners are looking for trucks, and the Mexican government has relented and allowed for newer trucks to be sold on the used truck market," said Kenny Vieth, president of ACT.

Vieth said that the genesis of the increase goes back to the passage of the North American Free Trade Agreement (NAFTA) in 1991 when Bill Clinton was president. Under the original terms of NAFTA, the three major North American countries (U.S., Mexico, and Canada) were supposed to enjoy a "seamless" cross-border trucking network—but that never really came to be.

Opposition by organized labor, safety groups, and environmentalists blocked entry of any large scale "invasion" of Mexican fleets into the U.S. And while the Federal Motor Carrier Safety Administration (FMCSA) has approved some Mexican fleets for operation in the U.S., NAFTA has not resulted in a tidal wave of U.S. business for Mexican fleets.

In the past, Mexican fleets were only allowed to buy trucks that were at least eight years old. About a year ago, the Mexican government changed the law so that six-year-old trucks were allowed for sale. "That's when we saw the explosion of used U.S. trucks sold in Mexico," Vieth said.

To help this movement along, the U.S. Environmental Protection Agency changed emission rules for heavy trucks in 2004 and 2007. Now, 2004-compliant trucks are allowed in Mexico under Mexican laws. That change has coincided with tougher environmental regulations in the U.S. Starting next year, fleets can no longer drive a truck in California without a diesel particulate filter—meaning that trucks built in 2007 or later will have to be retrofitted to meet the new standard.

"That's probably squeezing used truck prices and putting downward pressure on 2004 to 2006 model-year trucks," Vieth explained.

—*John D. Schulz, Contributing Editor*

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Newsroom Notes
with Jeff Berman

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Gas tax issues still linger as the revenue shortfall grows

I KNOW WE'VE MENTIONED IT in these pages many times in the past, but let's consider it again: The federal gasoline tax has not increased from its current levels of 23.4 cents for diesel and 18.4 cents per gallon of gasoline since 1994. And keep in mind that diesel taxes represent about 90 percent of Highway Trust Fund (HTF) net revenues that are allocated for federal highway, transit, and highway safety programs. The current HTF tax levels have not been increased since 1993.

Even though the federal gasoline tax situation remains muddled, there are positive steps being made on a state level in Maryland, Virginia, and Wyoming to increase taxes on their own. And other states are starting to follow suit, vetting the possibility of raising their gasoline taxes to address their respective transportation infrastructure issues.

At a July hearing hosted by the House Subcommittee on Highways and Transit entitled "How the Financial Status of the Highway Trust Fund Impacts Surface Transportation Programs," Representative Tom Petri (R-WI), the chairman of the House Subcommittee on Highways and Transit, said that in 2008 the HTF had insufficient revenues and cash balances to meet its obligations, which resulted in an $8 billion transfer from the United States Treasury General Fund.

That transaction came at a time when the future of the HTF was dire, as it was facing the prospect of running out of money entirely. Petri added that by the end of 2014, a total of $54 billion will have been transferred from the General Fund into the HTF in order to remain solvent, including an $18.8 billion transfer signed off on by Congress as part of the federal transportation bill, MAP-21, which is set to expire in September 2014.

The Congressional Budget Office (CBO) stated this year that the HTF will have a $15 billion shortfall in 2015.

Not surprisingly, no movement has been made on the fuel tax front, but a hearing hosted by the Senate Environment and Public Works (EPW) Committee at the end of September revisited the issue as part of a hearing entitled "The Need to Invest in America's Infrastructure and Preserve Federal Transportation Funding."

Senate EPW Committee Chair Barbara Boxer (D-Calif.) floated the idea of replacing the tax with a fee that is paid by oil wholesalers, akin to what is currently being done in Virginia and Maryland, according to a report in *The Hill*.

Boxer explained that eliminating that tax in lieu of a wholesale oil tax increase would help close an approximately $20 billion shortfall in transportation spending that Congress is looking to solve.

"There are many ideas out there, and the one that I'm leaning toward myself, although this is going to be a decision of the [Senate] Finance Committee… is to do away with the per-gallon fee at the pump and replace it with this sales fee as they've done in Virginia and Maryland," Boxer said during the hearing. "It would fund the highway program for six years…and it would do that by doing away with all the other fees. It's a very exciting idea."

> **Keep in mind that diesel taxes represent about 90 percent of Highway Trust Fund (HTF) net revenues that are allocated for federal highway, transit, and highway safety programs. The current HTF tax levels have not been increased since 1993.**

The CBO's projected $15 billion shortfall is viewed as "the tip of the iceberg," said Janet Kavinoky, executive director of transportation and infrastructure for the U.S. Chamber of Commerce, at the recent EPW hearing.

The reason for this, Kavinoky said, is that the cumulative shortfall in the highway and mass transit accounts of the HTF will exceed $80 billion by 2020 if spending levels are not dropped significantly.

It's easy to see that these are serious numbers that need a serious solution. Given the juvenile antics getting in the way of progress in Washington, are we asking for too much? □

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 Partner in Supply Chain Visions, a consultancy. Peter can be reached at pete@scvisions.com.

Other dimensions affecting network cost optimization

MANY OF US THINK IN TERMS OF THREE DIMENSIONS, but I believe we need to broaden our horizons.

I am referring to distribution network optimization (DNO) and the big three "dimensions" that transportation-centric models optimize—transportation cost, time, and labor rates. These factors are important, but there are others that should be in your calculations when laying out a new distribution strategy.

If we make a wrong decision about the location of our distribution facilities, we can end up paying a premium for transportation services, or other expense areas, for the life of the facility. Getting DNO right takes skill, tools, and a creative approach to supply chain building.

Many DNO models focus heavily on a least-cost transportation solution for the network given a known set of demand volume by zip code. You input rates for inbound and outbound lanes and volumes and you get a suggested optimum geo location—often with a radius of several hundred miles. This is then further filtered for transit time and local labor rates. For the sophisticated optimization team, this is just too simple.

I was recently called in to help a specialty chemicals manufacturer supplying a chip fabrication facility near Phoenix. Their models told them to be near Phoenix to meet just-in-time (JIT) delivery requirements that carried a service delay penalty of $5,000 per hour.

They located near Phoenix, but failed to consider the lack of availability of truck trailers for rush orders on their side of town—not to mention the significant traffic delay crossing the city. They nearly lost the business in the first few months of opening the new warehouse, as they very quickly realized that this problem will be a long-term condition requiring expensive supplemental arrangements to provide JIT service.

Some more sophisticated models allow for even more variables. Here are a few that you'll need to take under serious consideration:

Specific site location is critical. While the real estate folks are talking incentives with the city, the transportation team needs to research the availability of service at the site for rail, intermodal, and highway. Talk to neighboring shippers and get the real scoop on their experience with local- and long-distance carriers—and make sure to ask about how many carriers are available so you can have competitive bids.

Learn the strategic plans for key carriers the area. Are these providers expanding or contracting in your market? What investments are they making in people, facilities, and technology in the region?

Is driver turnover high locally? Or are conditions favorable for a stable team of operators that get to know your operations and your customers?

Understand local infrastructure. You'll need to fully understand the current and future infrastructure plans, including local highway construction or upcoming developments near your new location that could affect traffic, rates, and competition for the best providers.

> **"If we make a wrong decision about the location of our distribution facilities, we can end up paying a premium for transportation services, or other expense areas, for the life of the facility.**

What's the state of intermodal locally? Intermodal container inventories are important for exporters, but increasingly for domestic mid- and long-distance carriage as well. Talk with local intermodal shippers and your forwarder to get some service level benchmarks.

Do you have the standard weather conditions? Bad weather can bring power outages and delays. Very bad weather can mean highway closures that stop outbound loads and cut empty trailer inventories overnight. The location should have alternate access routes and the potential of mutual aid from local service providers and fellow shippers.

It's hard to model everything while doing a distribution network optimization sitting in a conference room. After tweaking the models to get a general area for your new sites, it's time to put the model down and get out to see what only a knowledgeable logistics professional can see.

Some critical factors can only be seen when you step away from the computer screen. Find out about the tactical details that can really hurt your chances of getting to the cost and service targets you've set for your DNO project. □

Pearson on Excellence

Mark Pearson is the managing director of Accenture's Supply Chain Management practice. He has worked in supply chain for more than 20 years and has extensive international experience, particularly in Europe, Asia, and Russia. Based in Munich, Mark can be reached at mark.h.pearson@accenture.com

Product and process innovation: Getting back to moving forward

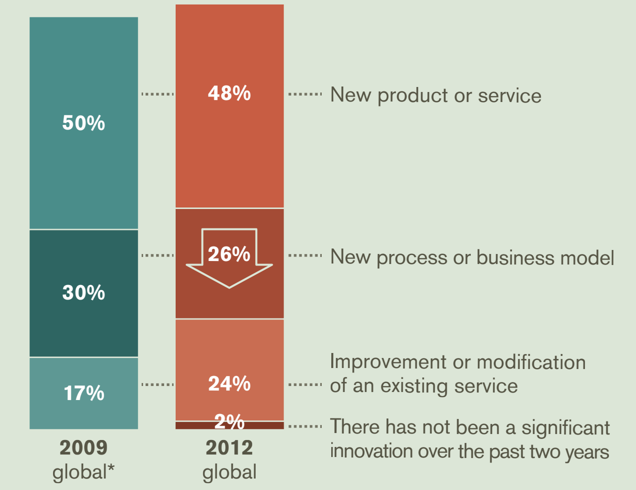
INNOVATION ISN'T THE ONLY PATH to prosperity. However, a growing number of companies have come to think that innovation's risks outweigh its benefits. Thus they've opted to retain their "safe" business models and also focus more on product line extensions than real breakthroughs.

This "more of the same" approach is somewhat understandable, given recent years' economic travails. But timidity can also be dangerous. Innovative enterprises may be taking a chance. But they're also raising their potential to dominate and prosper in new and existing markets. Companies that stick to more of the same rarely get ahead.

So how can companies be innovators without exposing themselves to unacceptable levels of risk? Two imperatives come to mind. The first is acknowledging that innovation is as much about processes and business models as it is about products and services. Out-of-the-box thinking in supply chain management is a great example. Re-conceptualizing third-party relationships, launching collaborative design and manufacturing initiatives, and developing flexible capacity and flexible pricing programs can be just as rewarding as creating breakthrough products. Unfortunately, a recent Accenture survey of 519 vice presidents, directors, and managers at large U.S., U.K., and French firms reveals that investing in new process and business models has fallen by more than 10 percent in the last three years.

The other catalyst is a formal, holistic innovation program. According to the aforementioned survey, nearly half of companies with this method are very satisfied with their idea generation capabilities, while less than one quarter are similarly pleased with their informal approaches. In addition, companies with formal innovation approaches are almost twice as likely to be very satisfied with the returns or profits that innovation spawns.

Investment in new process and business models down



*Includes "Don't know/NA" responses.

Source: Accenture

Investments in new products and services have remained more or less static since 2009, while innovations to processes and business models have fallen by more than 10 percent.

Accenture also has observed that "very satisfied innovators" are big fans of speed and flexibility. Both of these have become more essential as product life cycles shrink and consumers become more demanding, capricious and well informed. Speed and flexibility speak directly to the importance of supply chain (i.e., process and business model) innovation. Breakthroughs such as developing rapid sense-and-respond capabilities and designing variable (rather than fixed) cost structures are all about speed and flexibility.

Survey results confirm that successful innovators also use advanced risk management practices to identify future opportunities and consistently evaluate their innovation portfolios. Innovation-centric risk management is about identifying the most opportune moves and quantifying the value of entire portfolios by "category of initiative."

A final tenet is thinking more broadly about how innovation happens. New models, processes, and products are great. But to ensure ongoing revenue streams, innovations also should emphasize customized consumer experiences and services. The supply chain's ability to segment and support customers is obviously key. Nearly 90 percent of survey respondents stated that personalization is a major part of their company's innovation strategy.

Technology is obviously central to innovators' development of customized experiences and services. One example is social media—an increasingly core source of the Big Data companies need to understand and connect with customers. Unfortunately, less than one third of innovation survey respondents currently invest in social media. Equally important is integrating Big Data with analytics. Without the latter, companies have little chance to leverage the huge quantities of potentially valuable information they've gathered. Successful innovators use analytics to identify their most profitable customers; discover the real drivers of financial success; identify and prioritize innovation options; right price new products and services; and optimize cross selling and post sale support.

> **Only one third of respondents believe their company has a well-defined innovation strategy: One that focuses as much on processes and business models as products and services.**

The most noteworthy takeaways from the Accenture survey may be twofold: Two thirds of executive respondents believe that innovation is a "Top 5" priority, and an equal number note that their organization is extremely dependent on innovation for its long-term success. Yet barely half have upped their funding of innovation initiatives in recent years. Given this contradiction, it shouldn't be surprising that a majority have opted to pursue product line extensions rather than develop totally new products or services.

But here's the crux: Only one third of respondents believe their company has a well-defined innovation strategy: one that focuses as much on processes and business models as products and services; one that positions speed and flexibility as key innovation contributors and outcomes; one that leverages advanced risk-management practices to make smart, balanced decisions. Perhaps if more companies had these innovation strategies in place, unsatisfactory returns would be far less common. □

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Re-shoring: Is it fab or fad?

Re-shoring activities are underway, that much is for sure. But is this part of a larger trend that brings the fabulous news that the U.S. economy is anxiously awaiting? Or is re-shoring just a fad?

By Patrick Van den Bossche

BEFORE RE-SHORING BECAME IN VOGUE, companies like Caterpillar and General Electric had already started moving some of their production back to the U.S.

Faster than you can say *tsunami*, a wave of re-shoring announcements rolled into press rooms: Motorola's Moto X became the first smartphone made in the U.S. in years; Apple announced plans to produce the Mac Pro in Texas; and Lenovo ThinkPads started rolling off the line at a plant in North Carolina. More recently, the chemical industry became a hotbed of re-shoring activity when Dow announced plans to restart and build new plants in Louisiana and Texas, while LyondellBasell and several fertilizer producers launched their own expansion and construction activities to meet domestic demand.

With marquee corporate names jumping on the bandwagon, re-shoring has all the makings of a trend. But despite the publicity, the trade value of these re-shoring examples is Lilliputian when compared to the Gulliver that is the U.S. trade deficit.

While the trade deficit recently stopped growing, the balance between the U.S. and China didn't exactly swing back in our favor. Exports of goods made in America and shipped to China still only amount to about 20 percent of what Chinese manufacturers send to the U.S., according to the Manufacturers Alliance for Productivity and Innovation.

Yet, several factors point to a landscape that's changing in favor of U.S.-based manufacturing. They include abundant and affordable energy in the form of natural gas; a technically well-educated and increasingly productive workforce; and cheap capital provided by the Fed. Other non-U.S. factors are bolstering the case for re-shoring—everything from rising Chinese labor costs and ever-present concerns around IP protection to a desire for shorter supply chains that reduce risk, transportation costs, and inventory. Finally, there are intangibles such as the marketing power of the Made in America label and the way positive publicity builds goodwill in Washington. Taken together, these factors add up to as much as a 2 to 3 percentage point drop in U.S. unemployment, according to some experts.

> **“Much of the re-shoring activity so far seems to be assembly-related, not true manufacturing-from-scratch. As a result, the bulk of the value-added activities may still reside with parts and components manufacturers located outside of U.S. borders.**

Is re-shoring here to stay?

Despite the good news, there are skeptics. Case in point: Much of the re-shoring activity so far seems to be assembly-related, not true manufacturing-from-scratch. As a result, the bulk of the value-added activities may still reside with parts and components manufacturers located outside of U.S. borders. Also, two-thirds of the companies that re-shored did so by bringing activities back to existing facilities. In other words, they re-opened mothballed plants rather than expand their footprints, even though they are flush with cash and old plants are less efficient than new plants.

One explanation could be that manufacturers are not all that confident that re-shoring is here to stay. In that light, restarting old facilities may be the most prudent stance in the re-shoring debate, especially if many of the factors that drive the trend are still in flux. For instance, although the labor cost gap between the U.S. and China is shrinking, U.S. labor costs may also rise as companies struggle to fill the skilled positions being relinquished by retiring baby boomers at a rate faster than new talent enters the field.

Energy costs are another big factor on which the last word hasn't been spoken. Yes, we are benefiting now from the shale gas boom, but other regions, including China, are sitting on sizeable shale gas reserves, even if they are more difficult to extract with current technologies. Decisions about how much gas to export and about whether to build the Canada pipeline will impact energy costs and could alter the equation.

Among the "intangibles," Made in America is fashionable, especially after Wal-Mart's pledge to buy $50 billion of U.S.-made products. But whether consumers are willing to pay a premium for Made in America is still untested. Finally, the political stalemate in Washington has delayed important policy decisions on issues such as immigration and taxes, which creates uncertainty. It is therefore not surprising that many companies are not comfortable to go "all in."

Making it stick

Still, there are a few things that could determine whether re-shoring is the real thing. For one, governments can do its part, particularly at the federal level, by creating legal and fiscal frameworks that remove uncertainty and allow companies to make sound business plans.

State and local governments can create the right business environment through tax incentives, accelerated permitting, and through increasing the ease of doing business. For example, Greek yogurt maker Chobani built a $450 million plant in Idaho in record time because state government was always two weeks ahead with permits and other documents.

State governments can also facilitate the creation of "business eco-systems," networks of suppliers, service providers, 3PLs, academia, stable and well-run unions, and R&D centers that manufacturers require to be successful. And they can work with local universities to modify the curriculum to better fit the requirements of manufacturers.

Government can't solve these problems alone. Companies need to chip in as the current U.S. education system is not set up to develop talent quickly enough to fill the shortage of skilled labor on its own. They can do this by working with community colleges, tapping into "new" overlooked talent pools such as veterans and women, and by working together within their industry to develop common, industry-specific skills in much less time than the traditional education channels. In short, companies need to develop a human capital strategy to address worker shortages and help workers evolve their skills in line with the advanced technology that they will be operating.

At this point it's still unclear whether re-shoring is only a temporary fad or something more fabulous for the U.S. economy. Maybe U.S. manufacturing's recovery is only part of broader economic cycle. Or it's primarily linked to the low dollar exchange rate and as such is a short-term phenomenon. Or maybe China's manufacturing base is just a giant on clay feet, stuck in a swamp of labor inflation that even strong backing from the Chinese government can't pry loose.

Before jumping on the re-shoring bandwagon, you should carefully assess the timing, effort, and benefits as part of a thorough re-shoring business case. This includes understanding the underlying conditions that drive re-shoring attractiveness in your industry and testing multiple future scenarios that make assumptions on how those conditions will change. Only then would you know if re-shoring is the right decision for you.

Patrick Van den Bossche is a partner in A.T. Kearney's Washington, D.C., office and leader of the Americas Operations Practice. He can be reached at patrick.van.den.bossche@atkearney.com.

2013 McCULLOUGH | NITL Executives of the Year

Agents of change

ABF duo chosen to receive the prestigious 2013 NITL Executive of the Year Award.

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

Roy Slagle, president and CEO, ABF Freight, and Judy McReynolds, president and CEO of Arkansas Best Corporation, parent of ABF Freight, and Chairman of the Board of ABF Freight System are this year's co-recipients of the 2013 National Industrial Transportation League's (NITL) Executive of the Year Award, also known as the McCullough Award.

DAVID MCNEESE/GETTY IMAGES

One has held leadership posts at virtually every segment of operations at the company. The other is a financial wizard who broke the glass ceiling by becoming one of just a handful of women to hold the CEO title at a major transportation holding company. Though they came to their leadership positions through different routes, Roy Slagle and Judy R. McReynolds share the same vision for their company.

McReynolds, president and CEO of ABF's parent, Arkansas Best Corp., and Slagle, president and CEO of ABF, are this year's co-recipients of the 2013 National Industrial Transportation League's (NITL) Executive of the Year Award, also known as the McCullough Award. The award is named after John T. McCullough, a former chief editor of *Distribution* magazine, a predecessor of *Logistics Management*. McReynolds and Slagle will receive the award on Monday, November 18, at the opening session of the 106th Annual Meeting & TransComp Exhibition in Houston, Texas.

McReynolds has spent 23 years of her career working with trucking companies either as clients or as a leader within the Arkansas Best organization. She has been at helm of Arkansas Best Corp. since January 2010. Her career there began in 1997 when she took the director of corporate accounting position following a career at Ernst & Young. From 2006 until 2009, McReynolds served as senior vice president and CFO for Arkansas Best, directing the treasury, accounting, and executive compensation functions. She served as vice president and controller from 2000 until 2006.

Slagle comes to his president and CEO post through a lifetime of service ABF. During his 37 years with the company, he has served as senior vice president of sales and marketing, vice president of administration and treasurer, vice president and treasurer, as well as regional vice president of sales. □

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Network Design: Embrace the

In order to manage through the new complexities of the global economy, our consulting team suggests that shippers need to establish new processes that consistently reassess supply chain and transportation networks. Here's how to get it done.

BY **STEVE ELLET** AND **GARY GIROTTI**, CHAINALYTICS

We recently helped a consumer products manufacturer take a closer look at its supply network for a family of products being manufactured in China and shipped via ocean container for distribution in the U.S.

The cost savings of "re-shoring," or shifting production to North America, was not apparent until a number of complex and interconnected factors were considered, namely increasing ocean freight rates, the shrinking differential of labor and other manufacturing costs, as well as the true cost of in-transit and safety stock inventory.

Today, there are a number of "new normals" that are causing transportation and logistics managers to rethink their supply chain networks. The top five are listed below.

1. Re-shoring: Macroeconomic shifts like the ones described above coupled with increased pressure to position production and inventory closer to points of market consumption, are making re-shoring and near-shoring a more viable supply chain configuration.

2. Global transportation infrastructure: Transportation infrastructure investments like the forthcoming expansion of the Panama Canal are changing the cost and speed of global freight movements and introducing new logistics options.

3. Carrier capacity and freight rate trends: Transportation regulations aimed at safety, like the new hours-of-service (HOS) rules issued by the U.S. Federal Motor Carrier Safety Administration, are affecting carrier operations.

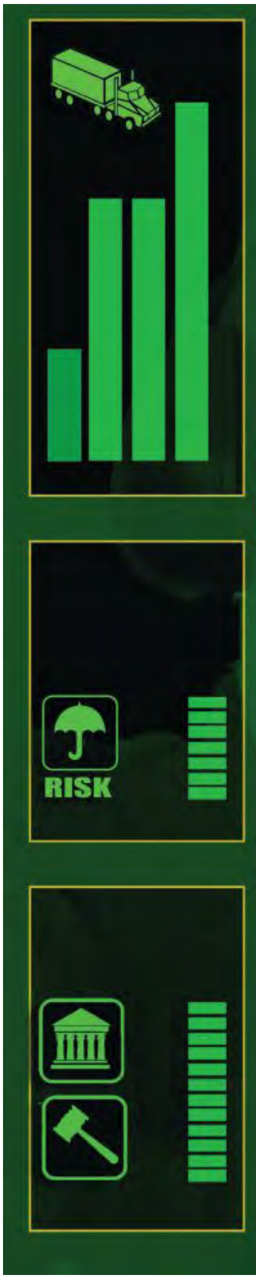
4. Energy: Continued fuel cost fluctuations are affecting modal choice and spurring investment in technology innovations. Alternative fuels like natural gas are becoming more widely available and redefining the operational landscape.

5. Omni-channel fulfillment and the "Amazon Effect:" Customer-focused fulfillment initiatives that are designed to make products available to buy or return anywhere in the distribution or retail networks are introducing new drop-ship, direct-ship, replenishment, and reverse logistics paradigms.

A fresh perspective

An attempt to internalize these realities within a specific industry or business environment quickly reveals what we intuitively know: We are not very good at predicting seemingly straightforward changes and their effects on our supply chains.

Consider, for instance, the new HOS rules. It was widely touted by the carrier market that reducing the number of on-duty hours would tighten capacity and increase transportation costs by as much as 17 percent. According to an analysis conducted by Chainalytics' Freight Market Intelligence Consortium (FMIC), rates have not increased much if at all since the rule went into effect earlier this year, and have even decreased in some markets.



culture of modeling

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Jean-Francois Podevin

The study examined actual freight costs of more than 100 shippers who altogether purchase $18 billion in freight each year. Any incremental change can largely be attributed to inflation and fuel surcharges.

And let's not forget the fool's game that is forecasting fuel prices. The chart below that tracks the forecast for the price of highway diesel fuel against the actual shows the best efforts of the U.S. Department of Energy over the last five years. Simply put, the system is too complex to get it right.

To make matters worse, changes don't happen in isolation—they occur in conjunction with other complex changes. For this reason, supply chain and logistics managers should focus not on predicting the future, but instead preparing their network for a range of possible outcomes.

Think about the forthcoming Panama Canal expansion and its effect on global transportation movements. How much the new Asia to Eastern U.S. port rates and canal transit fees will be—which are still unknown and subject to market fluctuations—are not the only questions worth considering. When will the various port-deepening projects be ready? How will it affect the price of alternative modes or routes? What will the overall economy look like?

The future as it relates to online and omni-channel commerce holds just as many hard to answer questions. Consumers continue to demand customized products and fulfillment services, and retailers are rapidly experimenting with and deploying alternative supply chain networks to meet this new demand.

We assume that these forces will eventually converge on a small number of dominant designs, but we don't know what this new era of e-commerce will look like yet. The bottom line: A company must establish an ongoing, scenario-based business process to effectively manage its network.

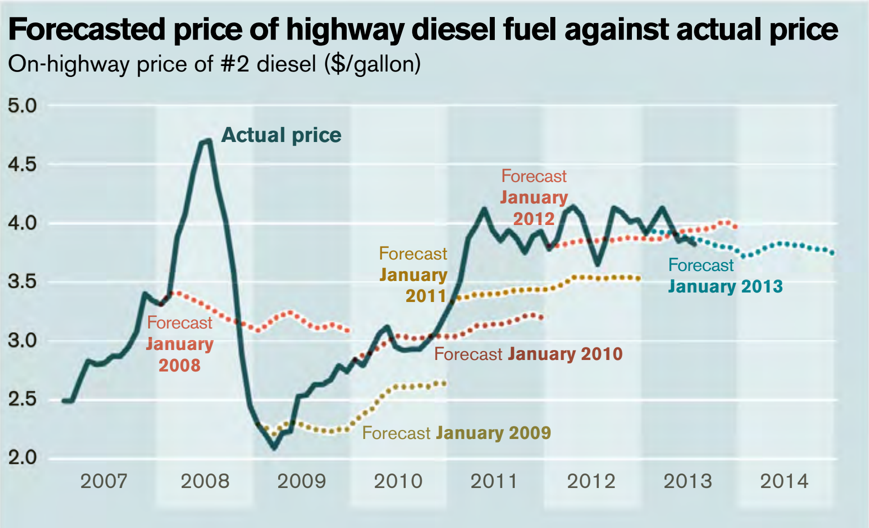
How to get started

Supply chain and logistics managers should be constantly reviewing their network infrastructure and transportation flows and testing them in a modeling environment. The goal is to develop an agile network that is robust, provides low cost and high service under the widest possible range of business conditions and can be easily transformed once a key tipping point is reached.

We recommend the following steps to get started:

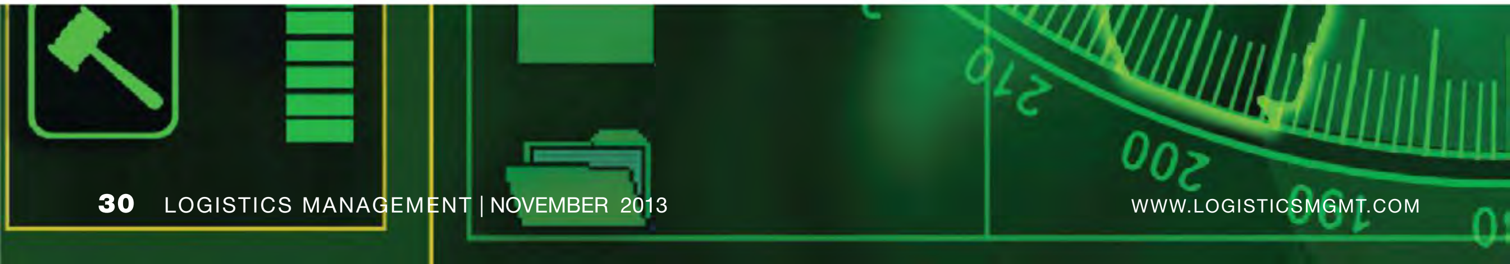
1. Set yourself up for success. Consider using an independent partner, one that is deeply familiar with supply chain design, your industry challenges, and the various tools available in today's technology marketplace. Strategic and tactical planning is too important to skimp on.

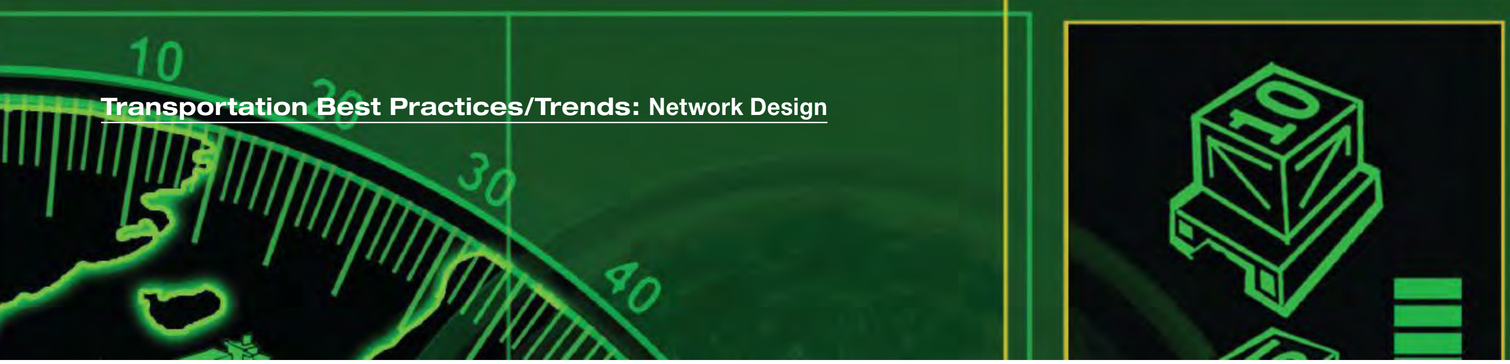
2. Build an ongoing, stable competency. Whether it's in-house or outsourced, the team needs to have enough critical mass to support organizational change management, training, and mentoring. Generally, internal groups are sustainable with five or more people. Groups with fewer than that have a much higher risk of being set back with the promotion or departure of key team members.



Source: U.S. Energy Information Administration
http://www.eia.gov/forecasts/steo/outlook.cfm

Tracking the forecast for the price of highway diesel fuel against the actual shows the best efforts of the U.S. Department of Energy over the last five years. Simply put, the system is too complex to get it right.





3. Use high quality design data. This type of data describes new options in the network. It is data that did not exist historically, such as the costs and capacities of new warehouses and the freight costs of new lanes. Despite the fact that freight accounts for nearly 80 percent of the costs in a supply chain network analysis, many companies still lack the ability to accurately estimate these costs on a large number of lanes. Freight rate benchmarks, like those provided by the FMIC, are increasingly being used as reliable estimates for this critical input.

The best modeling and analytics money can buy are of little value if the management team lacks confidence in the recommendations.

4. Generate executive support and buy-in. Build confidence in the process, data, and models so executives and managers alike will come to trust and rely on the dynamic tool to support strategic and tactical decision making. The best modeling and analytics money can buy are of little value if the management team lacks confidence in the recommendations.

5. Keep the process and supporting models current with frequent refreshes. The rule of inertia that says "objects at rest tend to stay at rest, and those in motion tend to stay in motion" applies to supply chain and transportation network modeling. Also, keep in mind that jump-starting a discarded model and process is much more difficult and costly than maintaining one. An ongoing, refreshed model can be used to answer *ad-hoc* questions as well as conduct periodic reviews and planned network analyses. It can also provide differentiated support to sales and operations planning (S&OP) and other cross-functional planning teams.

Case Study: From silos to a culture of modeling

In the absence of a standard, repeatable process for supply chain design, decisions are made in decentralized silos, often with sub-optimal results. One manufacturer of consumer goods realized that it lacked cross-silo decision making. Its procurement, manufacturing, and distribution decisions were being made independently, each with a different set of constraints and data assumptions.

As an example of this separation, one plant in the company's network had negotiated a tiered pricing arrangement for its inbound resin products. While the topmost tiers provided substantial discounts, the associated quantities were far above the individual plant's historic volumes. We worked with the manufacturer in building a repeatable process and culture of modeling that incorporated all the relevant stakeholders from procurement, manufacturing, and distribution.

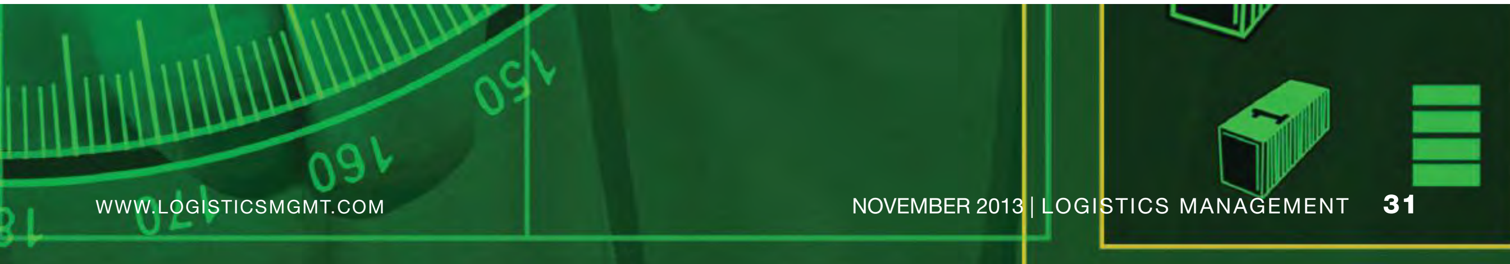
The network model demonstrated that it was beneficial to leverage the top-tier of resin pricing even if it meant substantially increasing the plant's production and service territory and scaling back the other plants in the network. This originally seemed counterintuitive to the planners within each silo, but it made sense when the entire network was considered. The savings from material procurement more than offset the increase in freight costs due to the reconfiguration of the manufacturing network.

Today, the company uses supply chain modeling to frequently analyze network alternatives. It can shift production and distribution on a monthly or quarterly basis as necessary to take advantage of cost and service opportunities. And its in-house modeling team has demonstrated the importance of cross-silo analysis and how a culture of modeling can support and inform strategic and tactical decisions.

Facing the new realities

The realities of the new global economy are a reminder that we operate in a complex and dynamic environment. The future is unpredictable, and the best way a company can manage uncertainty is to continuously assess its supply chain and transportation networks. By establishing an ongoing business process that evaluates a supply chain's design and its ability to respond to changing market forces, a company can have confidence in its plans, even under uncertain conditions.

—Steve Ellet (sellet@chainalytics.com) is vice president of the supply chain design practice at Chainalytics. Gary Girotti (ggirotti@chainalytics.com) is vice president of the transportation practice at Chainalytics.



TMS:

Trends driving adoption

The fastest growing enterprise application market is on track to continue its double-digit growth trend over the next 12 months. Here are eight key trends that supply chain software analysts say are shaping the TMS landscape—and pushing more logistics managers to finally put it to work.

BY **BRIDGET MCCREA,** CONTRIBUTING EDITOR

Characterized as one of the fastest growing enterprise application markets by ARC Advisory Group, the transportation management systems (TMS) sector has been growing at a double-digit rate over the last couple of years—and isn't showing signs of letting up anytime soon.

A technology solution that helps companies efficiently, reliably, and cost effectively move freight from origin to destination, TMS includes both planning and execution solutions (systems for freight moves involving carriers) and fleet management solutions (for freight moves involving transportation assets owned by the company). Shippers are embracing both sides of TMS, according to ARC analysts, thanks mainly to the strong ROI offered up by such solutions.

"The simple, bottom line is that TMS can save companies money by lowering their freight spend," says Steve Banker, ARC's service director of supply chain management.

Banker points to an ARC survey as proof of that point, adding that over 40 percent of respondents felt that if they were forced to give up their TMS and go back to more manual processes for planning and execution, their total freight costs would increase by 5 percent to 10 percent. "In fact, 23 percent felt their total freight costs under the control of the TMS would increase by over 10 percent if they were to stop using it," he adds.

For logistics professionals charged with the movement of freight, TMS can also help create transportation efficiencies, provide real-time dashboards, enable better decision making, and handle myriad other tasks that can't be adequately addressed with phones, faxes, and spreadsheets.

Over the next few pages, we'll take a closer look at eight key trends that supply chain software analysts say are shaping the TMS landscape—and pushing even more logistics professionals to put it to work.

1 The omni-channel retailer needs support

No longer able to compartmentalize their various business channels, today's retailers need help running seamless, omni-channel systems that incorporate bricks-and-mortar, online, mobile, catalogue, and other sales channels under a single umbrella.

Transportation plays a key role in this streamlining, which means TMS also plays an important part in creating the omni-channel environment. Banker says that the trend is applicable mainly on the fleet management side of TMS right now. "As the omni-channel retailers mature," says Banker, "their logistics organizations are going to be looking for fleet management solutions that have special capabilities in the area of last-mile delivery from their stores."

2 Transportation management is going global

As TMS use has grown, the application's global footprint has increased exponentially. "A software market that originated in the U.S., and that has historically had a sort of 'trucking flair' to it," says Banker, "is now growing and more effectively handling modes like ocean and air." As a result of these growing capabilities, TMS is gaining ground in European and Latin American markets. "What we're seeing now in terms of global TMS growth will continue to radiate out and encompass more markets," Banker adds.

3 Systems can handle tactical planning

Historically, a TMS is a great tool for determining the best way to ship, say, 2,000 orders over a 24-hour period. But larger shippers want more than just a deterministic view of *how* to ship those orders—they want to also be able to do effective forward-looking planning.

"By adding tactical planning to the mix, shippers can figure out the impact of fuel charges, carriers going out of business, or how to manage around a strike at a major port," says Dwight Klappich, research vice president for Gartner, Inc. He says large TMS providers like Oracle and JDA have already started offering such capabilities within their platforms. "Smaller shippers may not have the wherewithal to do this type of tactical planning," says Klappich, "but for the firm that spends $100 million or more on transportation in a year, it's just going to become more and more important."

4 Vendors add freight forecasting to the mix

Up until now, most attempts to marry product-forecasting systems with transportation have failed. That's changing, says Klappich, as vendors like Terra Technology produce solutions that help companies manage market volatility by using demand sensing, inventory optimization, and transportation forecasting.

"Terra is really the only vendor that's doing this," says Klappich, who sees real potential in the combination of freight forecasting with transportation management. "However, I think we're going to see more innovation in this area going forward."

Third-party logistics providers are especially interested in adopting end-to-end, holistic TMS that can handle optimization, dedicated fleet management tasks such as driver invoicing and payroll, and traditional brokerage operations.

5 Embedded analytics are in high demand

Bombarded daily by terabytes of digital information, shippers need a way to wade through the data, select its most useful components, and then use that information to make the best possible transportation decisions.

Klappich says TMS packages that effectively embed analytics—help to discover rich and meaningful patterns within the data—will remain in high demand. A TMS that includes carrier score-carding, for example, should be able to cross-pollinate that rating information for application during the vendor-selection process. "Embedded analytics allow shippers to come up with useful key performance indicators and actually consume and utilize the data as they go about their other activities," says Klappich.

6 Big Data sets get more manageable

From his vantage point as principal of supply chain consultancy Chainalytics, Matthew Harding keeps a close eye on what's going on in the TMS sector. One of the trends Harding has picked up on recently involves the Big Data sets being generated by TMS.

According to Harding, these large, messy sets of data tend to get in the way of good execution and planning due to the fact that shippers simply haven't figured a way to effectively wrap their arms around them yet. "There is embedded data or intelligence in that data, and it is not structured consistently against the objectives that the shipper may be searching for," says Harding.

To make that unstructured data retrievable and useable, shippers must first clean it, harmonize it (identifying commonalities among the data that warrant them being combined, or harmonized, into a single data component), and standardize it. "We're seeing a real opportunity to use the structured data to improve the visualization of the data itself and how it's being used in the transportation segment," says Harding.

7 Shippers want systems that help them utilize backhauls

Retailers and grocers are particularly interested in not hauling empty trucks back to their DCs after the goods have been delivered, says Rishi Raina, principal of North American supply chain technologies at Capgemini. "They want to be able to utilize their networks more efficiently, and they're looking to their TMSs for help in this area," Raina adds.

And while some of the more established vendors have historically incorporated backhaul capabilities into their platforms, the challenge lies in tying carrier contracts, agreements, and negotiations into the equation. "If a shipper can get through those hurdles, there will be a lot of savings to be unlocked on the backend," says Raina.

8 Planning and execution could get a place at the TMS table

Right now, TMS vendors are looking for ways to better tie planning and execution systems into their platforms. "Traditionally, those systems have operated within their own silos—and with no tie-in to transportation," Raina points out.

He says large TMS providers like Oracle and JDA are beginning to integrate those processes in a way that will allow shippers to more efficiently monitor manufacturing and production cycles as part of the distribution process. "There has to be a better way of managing the flow and synchronization among transportation, planning, and execution," says Raina. "In fact, there's a huge amount of interest in this from the shippers' perspective right now, but none of the TMS platforms are fully there yet."

Trend tracking into 2014

Other trends unfolding in the TMS space include the continued interest in cloud-based solutions that require low upfront fees and minimal IT infrastructure; an ongoing push to upgrade older systems and replace them with state-of-the-art platforms; and the need for holistic TMS that can do more than just track transportation movement and spend. Raina adds that the latter will likely help drive TMS growth and innovation well into 2014.

Third-party logistics providers are especially interested, for example, in adopting end-to-end, holistic TMS that can handle optimization, dedicated fleet management tasks such as driver invoicing and payroll, and traditional brokerage operations.

"There hasn't been a strong case for a TMS that can do all three of these things well," adds Raina, "so it's an area that software vendors are examining more closely based on the market demand that we're seeing for it."

Bridget McCrea is a Contributing Editor to Logistics Management

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SUPPLY CHAIN MANAGEMENT REVIEW

Optimizing 3PL Relationships: A big step toward

BY **PATRICK BURNSON,** EXECUTIVE EDITOR

In today's dynamic global marketplace, increasing logistics flexibility is critical as shippers look for greater collaboration with their third-party providers on the way to seamless integration of supply chain activities.

Third-party logistics providers (3PLs) have gotten the message: Shippers expect seamless, value-added logistics services or they're taking their business elsewhere.

Today's ideal, optimized offering will need to do more than simply address the bottom line of a shipper's transportation budget. To make this happen, most major 3PLs are investing heavily in Big Data capabilties to ensure direct-to-consumer customization, and they're asking shippers to join them in "gainsharing" relationships as they move forward in the global arena.

"Shippers should not be put off by a 3PL who brings in a team of experienced executives, nor should they feel threatened by this tactic," says Peter Moore, partner at the consultancy Supply Chain Visions and a *Logistics Management* columnist. "The shipper should embrace this as a valuable resource that will reduce risk as the joint shipper-3PL team develops innovative solutions."

Moore advises shippers to empower the people who will be responsible for the planning and

more VALUE

Randy Lyhus

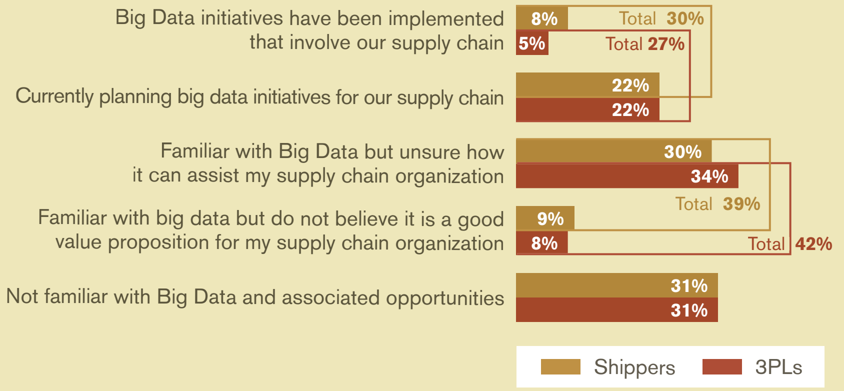
execution of global strategies to lead the team in joint solution development. "Get facilitation help if you need it, but don't leave the table with less than a fair solution that incentivizes both parties to continuously improve the logistics of the shipper and their customers," Moore adds.

Evan Armstrong, president of 3PL market research firm Armstrong & Associates, endorses Moore's position, and says optimization tends to be the most important aspect of strategic 3PL relationships.

"Of the total 6,398 shipper-3PL relationships we track in our database, 1,184, or 18.5 percent, are strategic, with the 3PLs performing supply chain management or lead logistics provider services," says Armstrong.

And while large automotive and technology shippers have dominated these types of relationships in the past, Armstrong says that his firm is now seeing an increasing number of strategic partnerships cropping up within the retail and industrial sectors. "To the extent that lead logistics provider relationships have been formed, they're most likely to occur with those that are more 'partnership-based' and often involve larger 3PL accounts," he says.

Shippers and 3PLs report similar Big Data experiences



Source: *18th Annual Third-Party Logistics Study*, Capgemini Consulting

According to Armstrong's research, leads logistics services are prevalent in 35 percent of the 3PL customer

Are you fully leveraging your current 3PL relationships?

Joel Anderson, president and CEO of the International Warehouse Logistics Association, believes that every shipper needs a "check list" when selecting a 3PL that promises that services will be optimized. Here are some suggestions and questions that Anderson says every shipper should think through before signing on the dotted line.

1. The shipper/customer needs to clearly define its market and service expectations. For example, if the shipper does not have any trading patterns outside of a defined area, look for someone with a proven track record of services and promises kept within that service area.

2. The shipper should always be able to get answers to the questions of inventory in storage, in transit, expected delivery dates, immediate notification of any delays, and expected resolution of the delays.

3. Did the 3PL, when presenting responses to an RFP, also ask deep questions about the shipper's supply chain and the shipper's customer requirements? Third-party providers provide substituted services for the shipper and to provide at the same level or better, the 3PL must know all the "ins and outs" of the shipper's supply chain, including what the shipper's customers expect.

4. Does the 3PL bring innovation to the shipper's supply chain? After examining the deep questions in No. 3, does the 3PL mull it over and then respond with an alternative approach that can reduce the time and cost, and improve the reliability and efficiency of the supply chain.

5. Does the shipper have the commitment of the senior management of the 3PL? Often, the most successful 3PLs that secure new business contracts are the ones where senior management participates in the service offering. Nothing says "I care" better than senior management participating in making the proposal a reality.

—Patrick Burnson, Executive Editor

relationships it tracks, while another 35 percent are evolving to become strategic.

"Where you have that 18.5 percent that represent a pure strategic relationship, 3PLs tend to be managing significant parts of customer supply chains," says Armstrong. "Therefore, they are expected to have significant systems, process engineering and control, and transportation planning and execution capabilities. These capabilities provide for truly optimized supply chain networks."

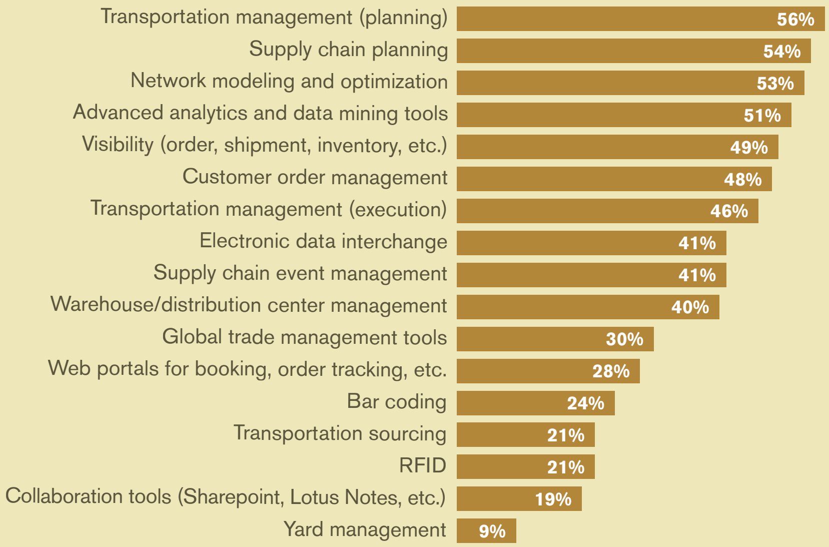
> **"While other surveys have reported higher levels of participation, ours found that only 30 percent of shipper respondents and 27 percent of 3PLs indicate that they're planning or currently undergoing Big Data initiatives."**
>
> *—Melissa Hadhazy, analyst, Capgemini Consulting*

Armstrong views the ability to systematically optimize transportation networks as a key differentiator between those companies that are just freight brokers and those that are large scale network transportation managers. Good examples of this differentiation, according to Armstrong, are C.H. Robinson's TMC division; Menlo Worldwide; Transplace; Transportation Insight; and Ryder SCS. "Each of these providers has invested heavily in in-house and off-the-shelf modeling as well as supply chain execution systems," he adds.

Armstrong maintains that in any strategic supply chain and logistics outsourcing initiative, it's critical for the shipper to determine the requisite capabilities and best operational fit for a 3PL.

"We start by performing an internal analysis of a client's current supply chain network," says Armstrong. The firm then works with the shipper to identify its domestic transportation, international freight forwarding, and

Shippers report a variety of technologies/systems/tools for Big Data supply chain initiatives



Source: *18th Annual Third-Party Logistics Study*, Capgemini Consulting

Lead logistics provider relationships by industry category

Major industry	Number of relationships
Technological	248
Retailing	191
Industrial	153
Automotive	147
Food, groceries	122
Consumer goods	105
Elements	83
Healthcare	80
Other	55
Total	**1,184**

Source: Armstrong & Associates, Inc.

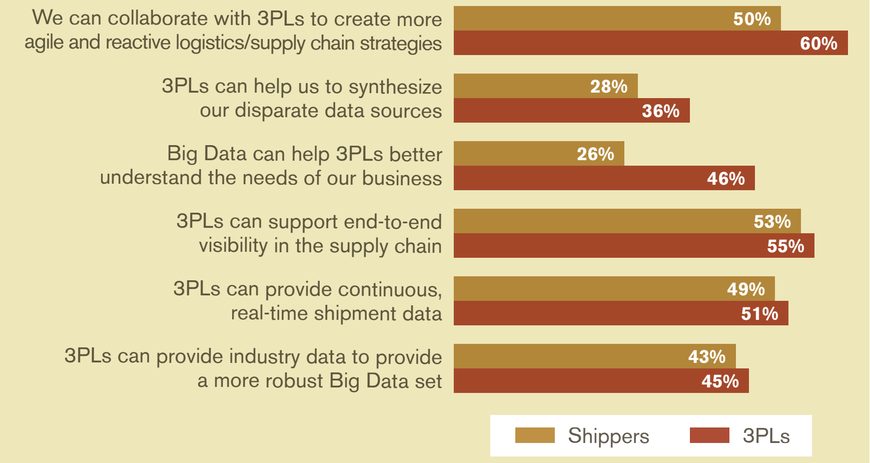
value-added warehousing and distribution requirements. “In addition, based upon our 3PL research and benchmarks, we develop a recommended ‘future state,’ which combines leading operations capabilities with 3PL pricing benchmarks,” he adds.

> “As a general trend, we see that retailers are constantly evolving to direct-to-consumer service, thereby bypassing the middleman. But 3PLs must evolve right along with them, working with retailers like Cosco through their websites for parcel delivery service to ship direct.”
>
> —Mike Stark, president and CEO, Pacer Distribution Services, Inc.

The consultancy then supports the development of a comprehensive request for proposal (RFP). Armstrong then uses that knowledge base and future state forecast in evaluating 3PL candidates and facilitating the final provider selection.

“Warehousing and transportation key performance indicators are a must,” says Armstrong. Other critical elements include IT requirements, network optimization skills, international and domestic transportation management capabilities, specific industry requirements, warehousing expertise, proposed pricing, and, of course, contract terms. “Cultural fit criteria should also be evaluated and never overlooked,” he adds.

Opportunities abound for 3PL-shipper Big Data collaboration



Source: *18th Annual Third-Party Logistics Study*, Capgemini Consulting

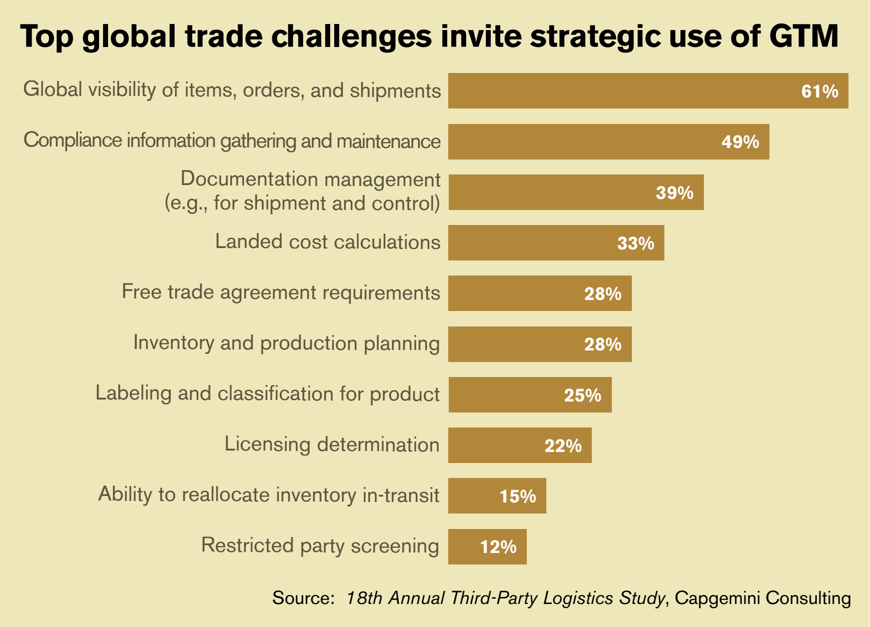
Role of Big Data

More market intelligence on the importance of building the 3PL-shipper dynamic is expected to be forthcoming at Armstrong & Associate’s “3PL Value Creation 2013” conference in Chicago this month. Among those giving presentations is Mike Stark, president and CEO of Pacer Distribution Services, Inc.

According to Stark, Pacer has grown its global presence thanks in part to its management of Big Data. He maintains that when systems integration is optimized, data savings are made—for the small shipper as well as giants like Walmart.

“As a general trend, we see that retailers are constantly evolving to direct-to-consumer service, thereby bypassing the middleman,” says Stark. “But 3PLs must evolve right along with them, working with retailers like Cosco through their websites for parcel delivery service to ship direct.”

The contention that we’ve clearly entered the Big Data era was among the major themes surfacing at the recent Council of Supply Chain Management Professionals convention in Denver. When Capgemini analysts unveiled the *18th Annual Third Party Logistics Study*, they emphasized that


Global visibility of items, orders, and shipments
61%
Compliance information gathering and maintenance
49%
Documentation management (e.g., for shipment and control)
39%
Landed cost calculations
33%
Free trade agreement requirements
28%
Inventory and production planning
28%
Labeling and classification for product
25%
Licensing determination
22%
Ability to reallocate inventory in-transit
15%
Restricted party screening
12%

Top global trade challenges invite strategic use of GTM

Source: *18th Annual Third-Party Logistics Study*, Capgemini Consulting

shippers (97 percent) and 3PLs (93 percent) feel strongly that improved, data driven decision making is essential to the future success of their supply chain activities and processes.

But shippers differ widely in their levels of interest, understanding, and adoption, says Capgemini Consulting analyst Melissa Hadhazy. "While other surveys have reported higher levels of participation, ours found that only 30 percent of shipper respondents and 27 percent of 3PLs indicate that they're planning or currently undergoing Big Data initiatives," she says.

Interestingly, about half of each group disagree that Big Data currently fuels these decisions. Despite this, shippers and 3PLs concur that the concept can be leveraged in both functional and strategic aspects of supply chain operations—as well as to support visibility and the ability to create agile supply chains.

Gainsharing gaining steam

The 18th Annual Third Party Logistics Study—conducted in collaboration with Penske, Penn State University, and Korn/Ferry International—also showed the continuing and overall positive nature of shipper-3PL relationships.

According to the report, both parties view their current relationships as being "successful," while shippers report that they're seeing encouraging results again this year due to the work of their 3PL. By putting their 3PLs to work, shippers say they're seeing an average logistics cost reduction of 11 percent; an average inventory cost reduction of 6 percent; and an average fixed logistics cost reduction of 23 percent.

According to the results, shippers agree that 3PLs provide new and innovative ways to improve logistics effectiveness, and that they are sufficiently agile and flexible to accommodate future business needs and challenges.

And despite ongoing churn in shipper-3PL relationships, shippers report that they're increasing their use of outsourced logistics services, while both parties now say that they're about equally satisfied with the openness, transparency, and communication in their relationships. As suggested in last year's report, however, several ongoing factors are having an impact on the progress toward the advanced end of the maturity model for shipper-3PL relationships.

While "gainsharing" and collaboration with other companies—even competitors—to achieve logistics cost and service improvements would appear to be markers for advanced relationships, it seems that these approaches are more preferred in certain shipper-3PL relationships, and less in others. Capgemini says that there are some encouraging results that suggest a slight increase this year in the outsourcing of strategic, customer-facing situations, as well as IT-intensive logistics activities.

Hadhazy and others involved with the survey observed that innovation—when it finally surfaces in the optimization process—is fast, but not disruptive. "And disruption is often precisely what we need," concludes Hadhazy.

—Patrick Burnson is Executive Editor of Logistics Management

Conveyors and sortation: Turning up the volume

With intelligent circuit boards, dexterous handling, and ultra-low maintenance, new technologies illustrate how what's underneath the product can help a company stay on top.

BY **JOSH BOND,** EDITOR AT LARGE

To meet the needs of the high velocity world of e-commerce, conveyors and sorters must be a smart, fast, and efficient component of a production or order fulfillment engine. Driven by the need for flexibility, speed, and maximum uptime, customers are turning to a new generation of technologies—and new ways to minimize and optimize conveyor and sortation solutions—that enable nimbleness while cutting costs.

"A successful warehouse now is about flow control and pulling levers at individual processes to keep the whole facility in balance," says Lance Anderson, director of sales, sortation, and distribution for Beumer Corp. "Going toward this sort of 'flow control' requires less conveyance and more flexible conveyor technologies that can re-route things in creative ways."

E-commerce could reasonably be credited for the dismantling of conventional thinking about conveyors. When automated materials handling systems were first introduced years ago, they were a way to move things easier and faster without back-breaking labor. "Equipment got its start handling large items," says Tim Kraus, product management supervisor for Intelligrated. "It's now shifting to smaller orders, smaller items, and piece handling instead of full cases. Conveyor and sortation designs have evolved to match this shift."

But the evolution of conveyors extends beyond the multi-channel paradigm. Product tracking and visibility is becoming essential to many operations, and the pressures to do more in less space are universal. Conveyors therefore must be intelligent, more reliable, and less maintenance-intensive—all while collecting data about product movement at every opportunity. Trends in packaging such as the increased use of poly bags can also challenge conventional conveyors, even as new solutions allow for the effective handling of a wider variety of materials.

Similarly, sortation technologies have traditionally worked best with predictable packaging in large volumes. But as everyone from Amazon to Mom and Pop work to achieve speed, efficiency, and visibility, sortation solutions become more scalable, reliable, and flexible. And because downtime is not an option, new sortation systems are built with redundancy and ease of reconfiguration in mind.

"I see the industry, with e-commerce and parcel handling, going toward lots of smaller, single-line orders," says Mitch Johnson, director of systems development for Hytrol. "It's changing the way we think about sortation. We used to think about sorting faster and in higher quantities. Now, it's better to be able to sort smaller things and greater numbers of orders."

Conveying information

The conveyor industry is seeing an increased interest in 24-volt or motor-driven roller technologies according to Johnson, who says 24-volt systems are now Hytrol's No. 1 product. Unlike

Modularity and ease of maintenance enable the latest conveyor systems to sustain maximum uptime.

traditional conveyor, these new modular systems don't rely on centralized, hardwired controls to direct the system components. Instead, the intelligence driving each conveyor segment is distributed throughout the facility. Paired with intelligent software, these technologies allow smart routing, energy efficiency, and the ability to easily rearrange modules or sections of conveyors and sorters with minimal disruption.

"Each 24-volt motor has a circuit board with embedded intelligence," says Johnson. "Each conveyor segment can look at upstream and downstream traffic, communicate with other segments, make decisions on the fly or send detailed information to management. The more we can move the brains from a distant location to a very specific location, that's a direct increase in flexibility."

A brainy circuit board might be located every 30 inches or 10 feet, depending on the application, and decisions are made on the conveyor rather than 500 feet away on a panel. Each segment can then adjust speed, monitor the movement of label-free product, or activate diverts. This modular approach enables easy installation and reconfiguration as well as more targeted diagnostics. Management can respond to precise areas if problems arise, and the intelligence of each motor can provide proactive information about wear rates or other potential issues.

Intelligent circuit boards at each section of the conveyor or sorter also send data back to the equipment supplier, who can remotely monitor wear indicators to reduce unplanned downtime. The ability to monitor the overall flow of a facility in real time is also a powerful tool for efficiency and uptime, according to Ken Lento, strategic business unit manager for unique products for FlexLink.

"People will say they achieved 85 percent efficiency in production and consider it a victory," says Lento. "But they can't explain why they lost the 15 percent because they're not gathering the data. Now, they can start to analyze when and why a conveyor was down and how long it took to reset. They can respond and react in real time instead of looking at a report the day after."

The management of real-time, case-level data throughout a warehouse is driving the development of mobile solutions for managers, according to Mike Khodl, vice president of solution development for Dematic. For example, a manager can use a mobile app to see if voice-enabled pickers are meeting standard rates, while another screen can illustrate sortation rates, conveyor status and overall productivity. "They can remotely see the flow of a system," says Khodl. "Traditionally, they might focus a lot on the physical flow, but not on the data flow that goes with it. Now they are one and the same."

Sorting it all out

When people think of sortation systems, many envision a massive 600-foot linear shipping sorter with dozens of inducts and destinations. Just as with conveyors, says Khodl, the tendency now is to work with point-solution sortation systems. "Maybe you want a divert point for a replenishment process or inside of a pick module," Khodl says. "You now have the ability to drop a modular sorter component into a standard conveyor in an hour or two. In the past you couldn't do that without open-heart surgery."

In the midst of the e-commerce

boom, unit sortation systems designed to handle eaches are more common. Whatever the size of the sorter, this equipment plays a critical role in speedy, intelligent product movement. In a flow-based facility, any downtime of any step in the process will disrupt the entire fulfillment engine. Therefore, sorters are increasingly geared toward scalability, redundancy, and ease of maintenance.

Scalability is essential when working to cost-justify a sortation system that will meet peak seasonal demand while scaling back for the remainder of the year. During peak volumes, the sorter might direct totes to temporary stations with specific packaging or value-added specialties. "Off-peak, one order might go to a multipurpose station where it is packed to an outbound shipper right there," Anderson says. "That's one touch instead of three. That sort of flexibility is one of the ways to justify this capital equipment. Putting in a sorter that extends the life of a building is never as expensive as a new building or a third party."

On the induction side, sorters can get bogged down when workers are paired one-to-one with inducts. The first person in line will always have an empty tray, whereas the fifth person might have to wait for an opening. Instead, five workers could continuously induct into short segments of conveyor that feed the sorter continuously, ensuring a balanced workload and optimal use of sorter locations. If fully automatic induction is not viable, this semi-automatic approach to induction is gaining popularity,

The impact of conveyors and sortation on downstream logistics

Whether to serve e-commerce or not, service levels and responsiveness are critical, and are rooted in the efficiency and nimbleness of production and fulfillment operations. Smart conveyor and sortation systems contribute to balanced product flow through a facility, but their impact doesn't stop at the dock door. In fact, the dock is a good place to gauge the effectiveness of upstream processes, because minutes and seconds count when working to meet shipping deadlines.

Mike Khodl, vice president of solution development for Dematic, says even the smallest ripples in product flow can become big problems by the time orders reach the dock. "A simple jam on a merge somewhere can cause a batch to not meet its shipping cutoff time," Khodl says. "With smart conveyors, all those real-time interaction points are now available to help an operator control his destiny before he's in a situation he can't recover from."

Traditionally, managers would look at equipment for operational data, then at the warehouse management system for inventory information. "We're working to bring harmony to all of that info to control the warehouse in a different way, and conveyors play an important role," Khodl says. Conveyors can even begin to impact labor management when paired with increasing levels of visibility into individual worker performance. "If picking is an hour ahead of shipping, that's a sign of inconsistent flow through the warehouse. When conveyor and pick rate data is overlaid, it allows the movement of labor from one module to another," says Khodl, "or conveyor speed can increase for one hour to move product out of picking, then slow back down with no manual intervention required."

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From a maintenance perspective, Khodl says every conveyor and sorter product should offer a 15-minute average time-to-repair window, including the induction belt, sorter motor, or photo eye. "To change out a belt in the past could take two hours to four hours. Quick-access modularity means four screws and a lever, and you can pop in a new belt in 15 minutes."

The multi-channel challenge involves using creative conveyance and sortation techniques to allow a common inventory to serve multiple outbound processes.

"If you're trying to blend five lines of flow into a single sorter, you have to be sure the sequence of events at a specific dock door are managed properly. It's not just about bulk movement of cases onto the sorter," says Khodl. "You need to be smart and fast, not just fast."

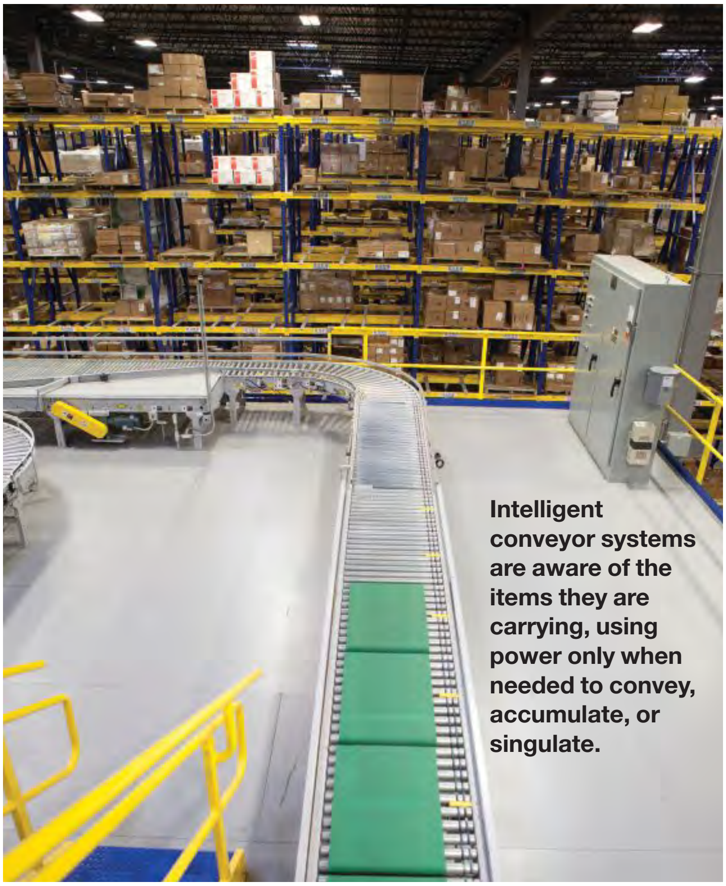
Smaller, modular sorters come into play in a multi-channel methodology, enabling some product to be routed direct to the trailer and some through packout or value-add to a cart for UPS, Fedex, DHL, or all three. "What's changing is we are being forced to be more dynamic in our shipping process depending on the type of outbound flow," Khodl says. "Say suddenly you want to do quality control checks for a new e-commerce approach. You can drop in a small module to pull one in 10 cases to QC. Use a tablet to perform the check, and no hardwired terminal is needed."

Once product reaches the trailer, the right picking approach, software and sortation solutions can ensure the product is properly sequenced for quick loading of the trailer and optimal utilization of the space. "In transitioning to a well-balanced facility, you can take three trailers a week off the road for each store the DC serves," Khodl says. "That obviously has a huge impact on transportation costs."

Track and trace capabilities are also critical to effective shipping. Sorters and conveyors that monitor product movement become an important piece of that verification.

according to Stephen Cwiak, vice president and general sales manager for Interroll.

On the discharge side, sorters might feature double- or triple-level destinations that transition between batches. Between the sorter and the packer, a divider door stops product from flowing down until the order is ready. This also ensures a steady workload while taking up less space by stacking orders vertically instead of linearly. "What tends to be forgotten is how many cases per hour you can induct and how many you can close," says Steve Schwietert, vice president of integrated systems sales for TGW Systems. "Closing is the choke point and can drop rates from 1,000 cases per hour to 500."



Intelligent conveyor systems are aware of the items they are carrying, using power only when needed to convey, accumulate, or singulate.

To further minimize downtime, two sortation loops might be layered on top of one another, says Cwiak. This also addresses issues of SKU proliferation, as one sorter might be designed for larger, heavier items while a second handles smaller items. Or, one could handle fulfillment while the other handles returns. If either goes down for any reason, the second sorter can take up the slack, providing redundancy and continuity of operations. Additionally, new sorter systems allow for quick repairs to individual trays or belts even as the rest of the system continues to operate.

Handling whatever may come

With the intelligence and flexibility to react to changing volumes, conveyor and sortation solutions must also adapt to changing product characteristics. Piece handling lacks the predictability of cases, and can be difficult or impossible to manage with conventional conveyor systems.

"The industry is reaching out to things previously considered nonconveyable," says Johnson. "Cartons are a cinch, but bags of dog food or grass seed, for instance, have been a problem in the past. The more you can convey those things, the better the return on investment."

This might include the deployment of specialized conveyor zones for certain product types, a process made easier by modular systems. Nonrigid items like poly bags or envelopes also prefer more continuous conveyance surfaces to prevent jams, Cwiak says. Belts are therefore replacing rollers in certain applications.

New sensor technology must also work with conveyors to detect irregular items. "A carton's front and back edges are easily and consistently detected," says Intelligrated's Kraus. "With something shaped like a pillow, you have to detect where it starts, ends, and comes in contact with the rollers."

Similarly, sortation technologies must allow for gravity in the case of light products sliding from tilt trays, or sensitive systems for the smooth discharge of light items from a crossbelt or sliding shoe sorter. "I have seen customers successfully adapt a sliding shoe sorter to sort poly bags, which was previously considered a recipe for disaster," says Schwietert. "But people are starting to stretch the limit of what

Modular sortation systems allow for quick reconfiguration without lengthy downtime.

New twin DCs feature two unique sortation systems

When Germany-based Adidas Group purchased British-based rival Reebok in January of 2006, the company decided to examine its combined U.S. distribution network. When consolidating DCs, the company installed a range of customized sortation systems to handle 18,000 units per hour.

The new campus in Spartanburg, S.C., would become the largest Adidas Group distribution site in the world at more than 2 million square feet. Two DCs, set on a 258-acre site, receive and ship hundreds of thousands of units of footwear and apparel each day. DC1 handles apparel and provides value-added services (VAS), such as hangers and price tags, while DC2 handles footwear and hard goods.

According to facility manager Bob Henriques, planning for the DCs began with three overall goals: improving service levels, reducing operating costs and preparing for future growth, particularly in e-commerce. “Our direct-to-consumer business is growing significantly,” says Henriques. “The ability to fulfill these types of orders was an integral part of our planning process.”

The company selected a system integrator and an equipment supplier to develop specialized conveyor and sortation systems. Two custom materials handling concepts were engineered. For poly bags and irregular garments, a “waterfall” induction in DC1 replaces manual sorter induction with a gaylord dumping system. Belt conveyors then lift garments into induction stations nearly 20 feet overhead. A “domino” system for DC2 uses conveyors to singluate shoe boxes into the cross-belt sorter. Boxes are manually inducted in groups of as many as eight at a time, oriented vertically on edge, like a domino. The boxes are then toppled one at a time onto the incline conveyor to the sorter.

In DC2, full cases of shoes are distributed to workstations in a round-robin pattern. The company completes emergency waves (e-waves) two or more times per day, once in the morning for those orders that were placed after 3 p.m. the previous day, and once around 4 p.m. to fulfill the guarantee of same-day shipping response.

Another key difference between DC1 and DC2 is how and where individual cartons are packed. The unit sorters can sort both apparel and footwear, up to 18,000 units per hour, and are very similar in each DC. In DC1, totes are packed off the unit sorter and sent to the mezzanine level for packing and VAS. Because footwear in DC2 requires significantly less VAS, cartons are sorted directly from the chute to a final shipping carton.

After a carton is complete in both DC1 and DC2, it is then transported through the print-and-apply area, where boxes receive up to three labels. Cartons move onto the central packing merge and are routed to shipping via a sliding shoe sorter. In both shipping departments, Adidas has the ability to load parcel, less-than-truck (LTL) or full truckload (TL) trailers. Each DC’s shipping area also processes consumer and associated returns.

The adidas team was able to bring both DCs online on-time and on-budget. “We are happy to report that we’re meeting our productivity numbers,” says Henriques. “Our savings are on track as calculated and we improved our service levels.”

was thought of as a no-no.”

Maintenance is also a concern, says Johnson. “In the near future, each conveyor section might have a specific QR code label, which you could scan with a mobile app to pull up everything about the conveyor, or even order the parts right from there.”

Schwietert says 24-volt rollers tend to be easier to service, taking only five minutes to change as opposed to as much as an hour when working with a drive and reducer. He adds that in sortation systems it is now possible to add or move a divert without system downtime. “Say you have four diverts for UPS, and the next day you want to add four for FedEx. That doesn’t need to be disruptive.”

Another way to minimize disruption is to plan ahead. Traditional conveyors feature fixed guide rails, heights, and widths. New systems—that can also be retrofitted to make use of existing conveyor—use adjustable guide rails to make for quick manual transitions or even software-directed automatic transitions.

“In the past, if you wanted to switch products on a length of elevated conveyor, you would have to use a ladder, deactivate the equipment, and complete the change in a day or two,” says Lento. “Now you can go to a control panel and switch over an entire line in a matter of minutes.”

“A lot of customers ask for solutions based on what they’re doing today, just to get the line running,” Lento adds. “It’s always more expensive to make changes later than to do it during the initial project. And who today knows what their packaging will look like in two years?”

—Josh Bond is Editor at Large for Logistics Management

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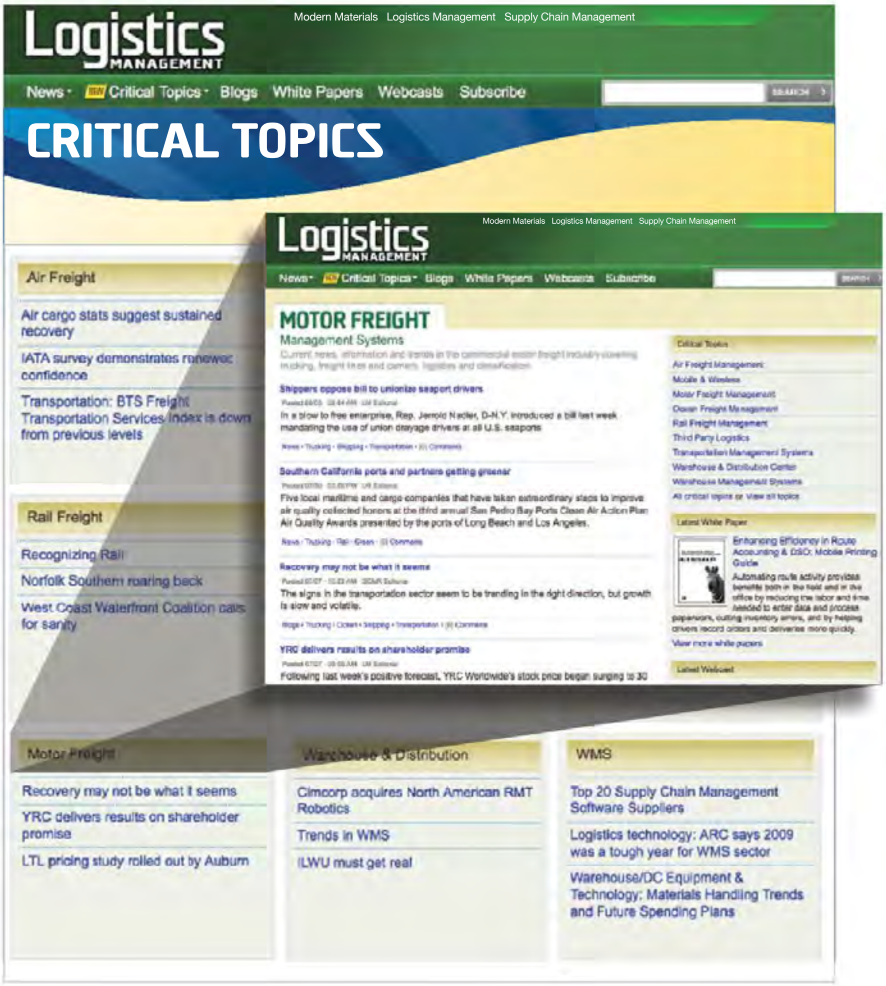

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2013 Warehouse/DC Operations Survey: Multiple paths, same goal

Whether they are opening new DCs, improving inventory control, or turning to 3PLs to improve processes, survey respondents tell us that there's no one prominent way to keep costs in check while simultaneously improving service levels.

By Maida Napolitano, Contributing Editor

According to the findings of our *Warehouse and Distribution Center (DC) Operations Survey* over the last four years, it's been tough going for logistics professionals looking to expand on their capabilities inside the four walls. In an economy that's been slow to recover, reducing operating and transportation costs has continued to be the top priority—with little or no capital to spend.

This year's survey results are only slightly more encouraging. Fifty-two percent of responding companies are planning to spend $250,000 or more for equipment and technology to improve their warehouse and DC operations—just a few points over last year's 48 percent.

Designed to gauge activities and trends in warehouse and DC management, our annual survey offers a first-hand look into how U.S. operations are currently being run. In September, a survey questionnaire was sent via email invitation to *Logistics Management* (*LM*) magazine subscribers. The survey gleaned 530 qualified responses, from upper-level managers all the way to CEOs—all personally involved in decisions regarding their company's warehouse and DC operations.

2013 Warehouse/DC Operations Survey Webcast
Multiple paths, same goal
Thursday, November 21 @ 2:00 p.m. ET
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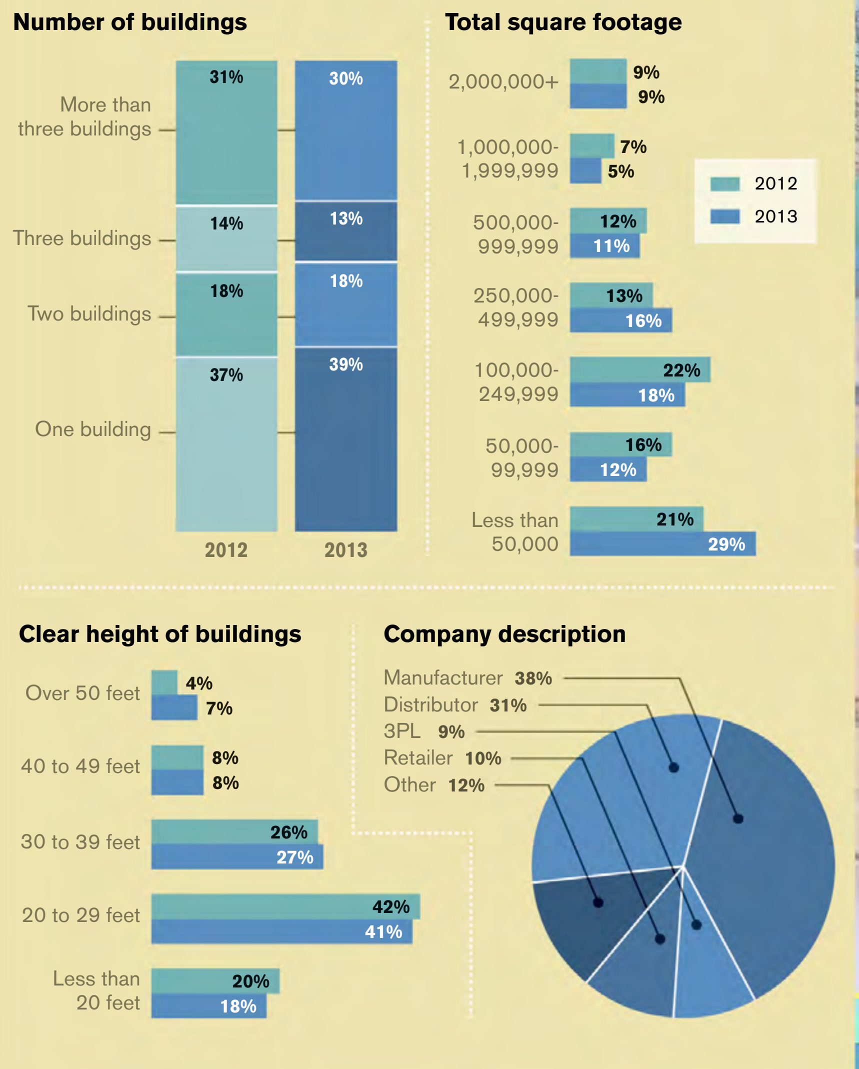
Most participating companies came from manufacturing (38 percent), followed by distributors (31 percent), third-party logistics providers (9 percent), and retailers (8 percent). A broad assortment of products handled in the DC was once again well-represented, with food and grocery leading the pack at 14 percent, followed by paper, packing and office supplies at 7 percent, and electronics and automotives/aerospace tied for third at 6 percent each.

In this new normal of barely budging budgets, how exactly are today's logistics professionals planning to keep costs in check while simultaneously improving service levels?

"There is no magic bullet," says Norm Saenz, senior vice president and

Size of distribution center network

- Distribution network made up of **3 or less buildings**
- Total area of network: **less than 250,000 square feet**
- Most common clear height: **20 to 29 feet**
- DC supports a **manufacturer**



Source: Peerless Research Group (PRG)

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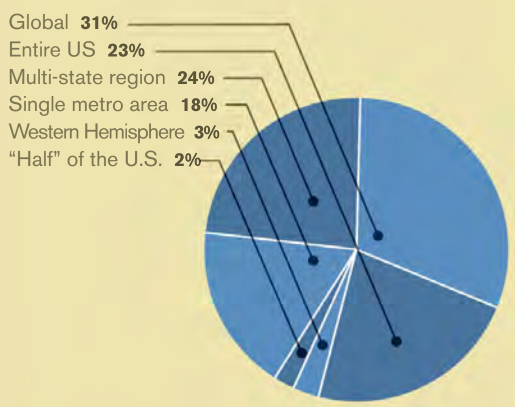
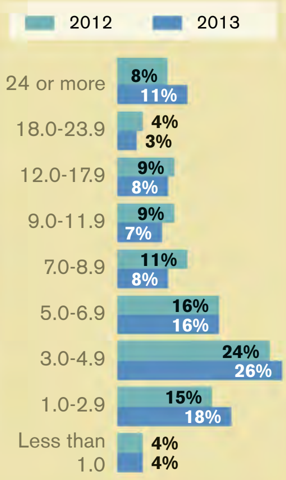
Scope of distribution center operations

- Area of service: **global**
- Annual inventory turns: **3 to 4.9**
- Number of SKUs: **less than 2,500 SKUs**
- Total people employed: **less than 100**

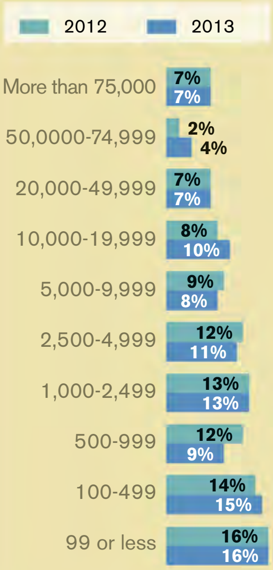
Area of service



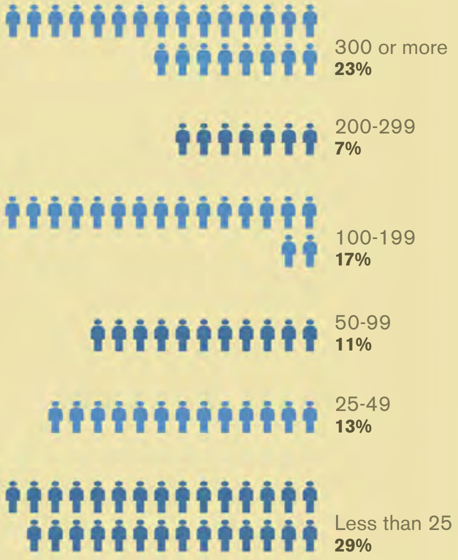
Annual inventory turns



Number of SKUs



Number of employees



Source: Peerless Research Group (PRG)

principal of TranSystems, a supply chain consulting firm and *Logistics Management's* partner for this survey. "According to the findings, everyone's doing multiple things. Whether opening new DCs, turning to a third party logistics provider, or renegotiating with freight carriers, results show that there's no one prominent answer among this year's respondents."

Don Derewecki, senior business consultant also from TranSystems, agrees: "A significant number of respondents are taking multiple actions—and that's the key. Most are carrying out initiatives that don't involve major system changes and require hardly any capital investments, such as improving warehouse processes and improving inventory control."

Over the next few pages, we'll present how the warehousing and distribution landscape has changed over the past year, track critical measures of warehousing activities, and interpret results against a backdrop of current industry practice. We'll also highlight emerging trends in warehousing and supply chain management as we tack on another year's worth of results. Now, let's see how your operations measure up.

What's trending?

While the top priority remains reducing operating costs, it's encouraging to note that 94 percent of respondents tell us that they are doing something to achieve this goal. In fact, companies are favoring not just one, but two top initiatives: improving warehouse processes (67 percent) and improving inventory control (61 percent).

Derewecki questions if this latter push to control inventory is really working. "There's an emphasis on controlling inventory, but it doesn't seem to be translating into improved turns." In fact, results show that average inventory turns are holding steady at about seven turns per year over the past two years.

Derewecki speculates that this may

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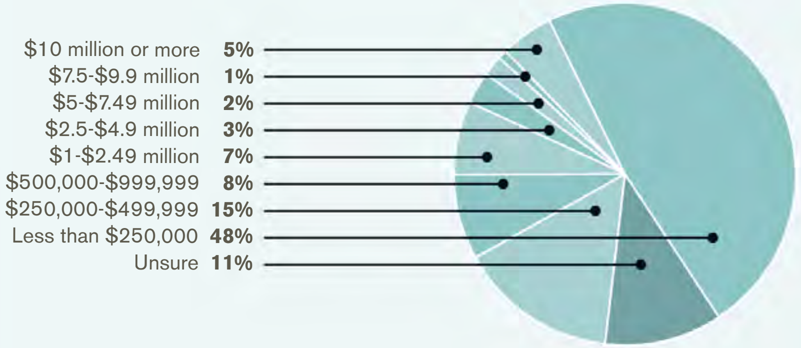
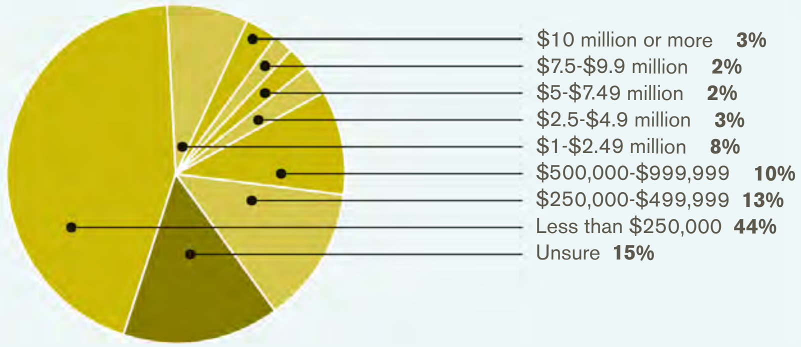
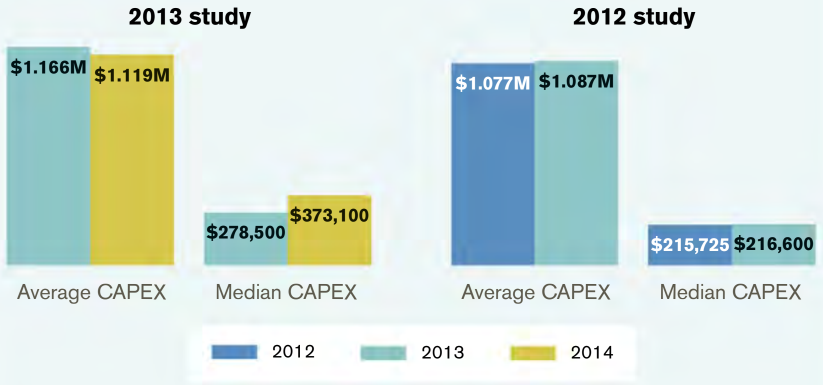
2013 capital expenditures for warehousing equipment and technology



Estimated capital expenditures for warehousing equipment and technology in 2014





Source: Peerless Research Group (PRG)

stem from the continued "silo" mentality between buyers and warehouse managers. "The buyer gets a huge discount off a case of product, so he buys an entire rail carload without considering the negative impact it has on the warehouse manager who is incented to reduce costs. The warehouse now has to deal with the increased costs of this overstocked inventory."

To reduce transportation costs, the majority (60 percent) of companies are "renegotiating freight rates," followed by "shifting the mix of common or contract carriers" at a distant second (26 percent). Saenz points out that renegotiating rates is relatively easy to do. "It doesn't require any systems or any capital investments," he adds.

But more importantly, Derewecki notes how respondents are also "asking customers to order less frequently, but in larger quantities" and "using 3PL warehouses to get closer to customers."

"Again, there is no one single right thing you have to do," says Derewecki. "Companies are trying out multiple initiatives to achieve the ultimate goal."

Saenz and Derewecki believe that there's even more evidence of optimism to found in this years data, with 72 percent of respondents reporting that they plan on expanding their distribution operations in some way in the next 12 months—versus only 60 percent last year.

While most are planning to "increase their SKUs" (30 percent), some respondents (14 percent) are opting to "increase the number of buildings" in their network. Saenz believes that these firms are trying to reduce outbound transportation costs as a result of high fuel prices.

"Strategy projects that we're currently working on involve businesses that have an East Coast presence with a growing number of West Coast customers," says Saenz. "These companies

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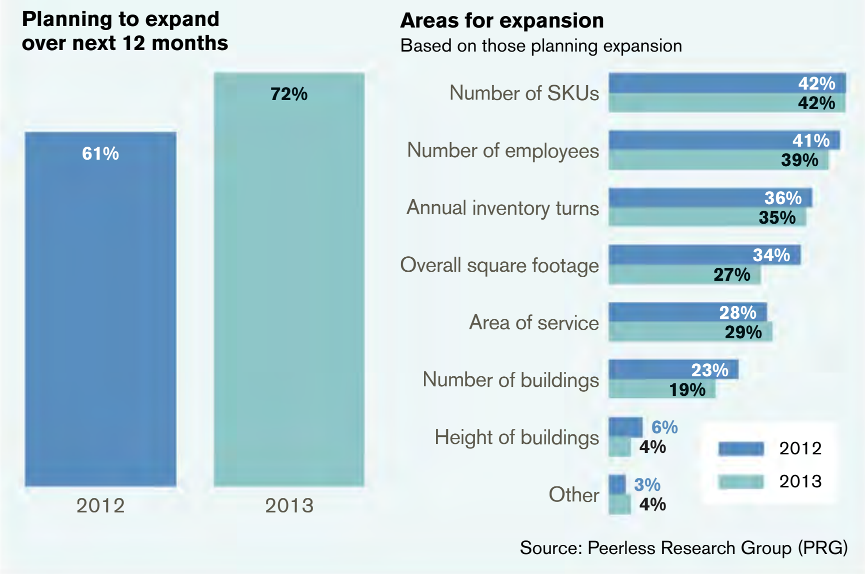
are contemplating opening a West Coast facility not only to control shipping costs, but also to improve service by getting closer to their customers."

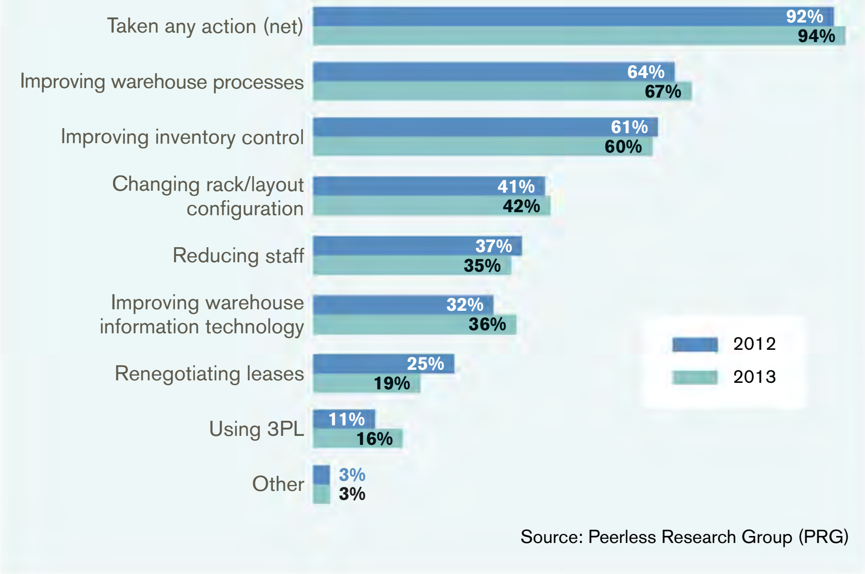
Our findings also show that warehouse software solutions continue to radically change how we do business in the DC. Results reveal a slightly upward trend in respondents using cloud-based technology—1 percent in 2011 to 5 percent in 2013. Derewecki expects the use of cloud-based solutions to increase particularly among smaller and midsized companies. "They will be able to afford these software solutions without the need for a considerable up-front investment in hardware and software," he adds.

Distribution center expansion plans



Source: Peerless Research Group (PRG)

Actions taken to lower DC operating costs



Source: Peerless Research Group (PRG)

This year, a slightly higher percentage of respondents (17 percent versus 15 percent) experienced catastrophic events compared to last year. Open-ended responses show Hurricane Sandy as one of the main culprits, shutting down power and flooding warehouses in the Northeast.

To protect against these particular threats, many survey takers are undertaking multiple initiatives, including creating more robust disaster recovery plans; installing on-site generators along with satellite and critical communication backup and data retrieval systems; setting up alternate sources and logistics lanes; establishing offsite IT infrastructure; investing in diesel fuel stock piles; and upgrading cooling capacity and redundancy to their on-site data centers.

Blurred lines for e-commerce

The growth of omni-channel marketing finds us keeping a close watch on the different channels respondents are servicing. Derewecki says he's surprised by the very slight uptick in e-commerce over the past year—from 29 to 30 percent. "This is a growth area among our clients in all areas," he says. "And as time goes on, that 30 percent will likely increase considerably. If you're not servicing e-commerce now, you're going to be."

Saenz points out that even more manufacturers are offering their products online. "The line has blurred between retailers, manufacturers, and e-commerce," he says. There is also a decrease—from 40

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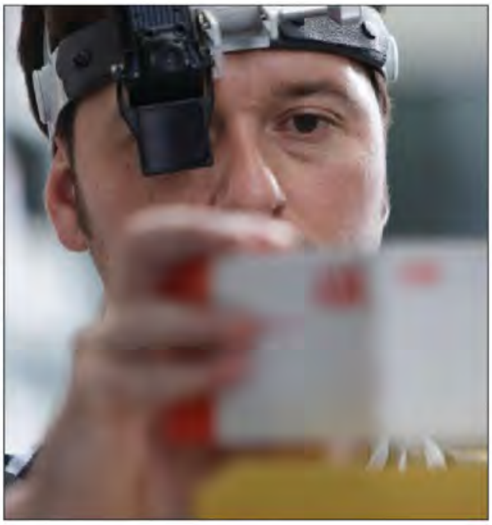

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percent to 35 percent—in companies carrying out e-commerce fulfillment on their own from within their existing DC. "When e-commerce starts out, it's all in-house, squeezed into a corner somewhere," Saenz adds.

"As it grows, then it becomes an entity unto itself," say Derewecki. "The e-commerce business becomes very protective, not wanting the retail business to 'steal' e-commerce inventory. Thus the e-commerce business wants to be in a total separate facility—perhaps run by a 3PL."

Saenz says that he anticipates that the biggest future trend will be retailers trying to service e-commerce from their stores. "It's happening now, where they're taking inventory out of the DC and processing those orders from their own storefronts—which makes sense from a geographic perspective in many cases as well," he adds.

2013: Profile of a DC network

All in all, the DC profile across North America has remained consistent over the past few years. About 70 percent have three or fewer buildings in their distribution network, with 59 percent operating less than 250,000-square-feet of space in their distribution network.

While most DCs still have clear heights of 20 feet to 29 feet, Derewecki points out how there is a slight increase in buildings over 50 feet. "As time goes on, new, taller buildings are being added to the stock," he says.

More respondents are planning periodic distribution network optimization and location studies—in exchange of the "as-needed," reactionary study. Saenz says he's seeing this firsthand. "These studies have become a regular activity for firms looking to stay competitive and make a profit."

"When e-commerce starts out, it's all in-house, squeezed into a corner somewhere"

—Norm Saenz, senior vice president and principal, TranSystems

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Derewecki concurs, but notes that companies may sometimes require a mid-term update. "As companies make acquisitions, as they tack on new product lines, their needs change," he says. "We've been called back within relatively short periods of time just because they want to validate a study they completed recently."

And while recycling continues to dominate sustainability efforts at 71 percent, our experts also noticed a growing trend in "solar panels" and "LEED certification" coming out of this year's data. LEED (Leadership in Energy and Environmental Design) certification is a rating systems developed by the U.S. Green Building Council (USGBC) to rate a facility's environmental friendliness.

According to the USGBC, LEED-certified DCs continue to command higher rents because of its energy-saving features. And in good news for those facility operators, the push to go green remains a hot topic, with only 7 percent of companies "not at all likely" to evaluate green or environmental issues.

The last word on full pallets

The days of forcing customers to receive full pallet quantities of a SKU are few and far between.

According to this year's data, most are receiving and shipping product in a mix of full pallet, case, and split case quantities. Saenz points out that regardless of the inbound unit of measure, the outbound trend will be in smaller quantities, such as split and full case.

Derewecki agrees, recalling a project he completed for a New York-area hospital where storage space was at a premium: "If patients needed something tomorrow, the hospital would order it today and they expected their suppliers to deliver it to them the next morning. They depended on their suppliers' supply chain to deliver. Now, as a manager of your own logistics and operations, do you think your customers could depend on you?"

—*Maida Napolitano is a Contributing Editor to* Logistics Management

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LTL: Stability rates to

LTL executives are looking to drive relentless cost increases out of their operations—and they're telling shippers to prepare for rate increases in the 3 percent to 5 percent range. Here's why rates are rising and what shippers should expect in 2014.

By John D. Schulz, Contributing Editor

The $35 billion less-than-truckload (LTL) industry is enjoying a buoyed rate environment even as it continues to manage through new regulatory red tape and fight against relentless cost increases in everything from labor to equipment.

In fact, David Ross, the LTL analyst for advisory firm Stifel Nicolaus, describes the current LTL environment as "stable," a word that's even been echoed by several top LTL executives.

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achieved, rise

For shippers, this newfound stability is translating into higher freight rates. Pricing has improved for LTL carriers, even though tonnage levels are still slightly below where they were in early 2008 before the Great Recession. Besides actual rate hikes, yields are improving as carriers are using newer equipment—with better fuel mileage—as well as technology to plan routes and cull their least productive freight.

And due to the fact that the top five carriers (FedEx Freight, YRC Worldwide, Con-way, UPS Freight, and Old Dominion Freight Line) control more than 55 percent of the LTL sector, Ross says that long-term pricing power should continue to remain with the carries. “Carriers need to continue to maintain price and capacity discipline in order for the industry to improve margins in a slow-growth environment,” says Ross.

The largest LTL carriers are making news in other areas. YRC is still fine-tuning its long-haul networks of the former Yellow and Roadway units. Canadian-based Vitran recently sold its U.S. operations for the bargain-basement price of $2 million, less assumption of debt. ABF Freight System, the sixth-largest LTL carrier, recently negotiated a 6.5 percent wage concession with the Teamsters, who have been balking at its final approval.

Others are reporting solid financial results. The market leader continues to be

Old Dominion, which regularly reports operating ratios in the upper 80s as it reaps benefits from a decade-ago decision to diversify away from its regional LTL base to become a national carrier offering multiple transportation solutions.

"I would say the current state is just fine—nothing great, but not bad by any stretch," says Chuck Hammel, president of privately held Pitt Ohio, a major multi-regional LTL carrier. "Our revenue is up around 8 percent and our yield is up around 3 percent. So the market is fine, but nothing great."

Based on the current business conditions, nearly every LTL executive contacted by *Logistics Management* said that they're telling shippers to gird for rate increases in the 3-percent to 5-percent range for next year. Here's why rates are rising and what LTL shippers should expect in 2014.

"Everything is up, and some of our costs are just skyrocketing. Shippers have to know their rates are going to rise, because that's the only way we're going to stay in business."

—Myron P. "Mike" Shevell, chairman of the Shevell Group, the operator of New England Motor Freight (NEMF)

Relentless cost pressures

What specific factors are driving up operations costs of the typical LTL carrier? Short answer: Everything. But the best-run carriers are doing their best to mitigate these rapidly rising cost spikes. Let's look into what's happening to costs where the rubber meets the road.

A new Class 8 tractor used by LTL carriers costs upwards of $125,000. Truck drivers, when carriers can find them, increasingly are getting higher pay. Insurance costs more, and because of environmental regulations, the cost of building a terminal has gone through the roof.

"Everything is up, and some of our costs are just skyrocketing," says Myron P. "Mike" Shevell, chairman of the Shevell Group, the operator of New England Motor Freight (NEMF), a $340 million Northeast regional carrier. "Shippers have to know their rates are going to rise, because that's the only way we're going to stay in business."

As if that isn't enough, the Obama administration continues to crack down on unsafe drivers. Its recent change to driver hours of service (HOS) effectively trims a half hour of productivity away from most trucking operations, while its Compliance, Safety, Accountability (CSA) initiative, supported by most LTL executives, is increasing carrier costs by reducing the number of eligible drivers available for hire.

"New regulations are having an impact on everyone and increasing our costs substantially," says Pitt Ohio's Hammel. But he quickly adds that there is no way the market place would absorb every cost increase if it were passed through as higher freight rates.

"The cost of running a trucking company is increasing way faster than (that)," Hammel says. "There is no way we can raise our rates enough to cover those increased costs. The market just won't accept that. So we need to lower our cost in order to maintain our margins."

Hammel adds that LTL carriers are now focusing on yield improvement and taking cost out of their operations—rather than price increases—in order to realize growth. "Many of us are experimenting with CNG [compressed natural gas] vehicles, and almost everyone is adding technology to either make themselves more efficient or help themselves understand their costs better," he says.

The federal government doesn't appear to be helping many truckers, either.

O'Kane stepping down after strong run as A. Duie Pyle president

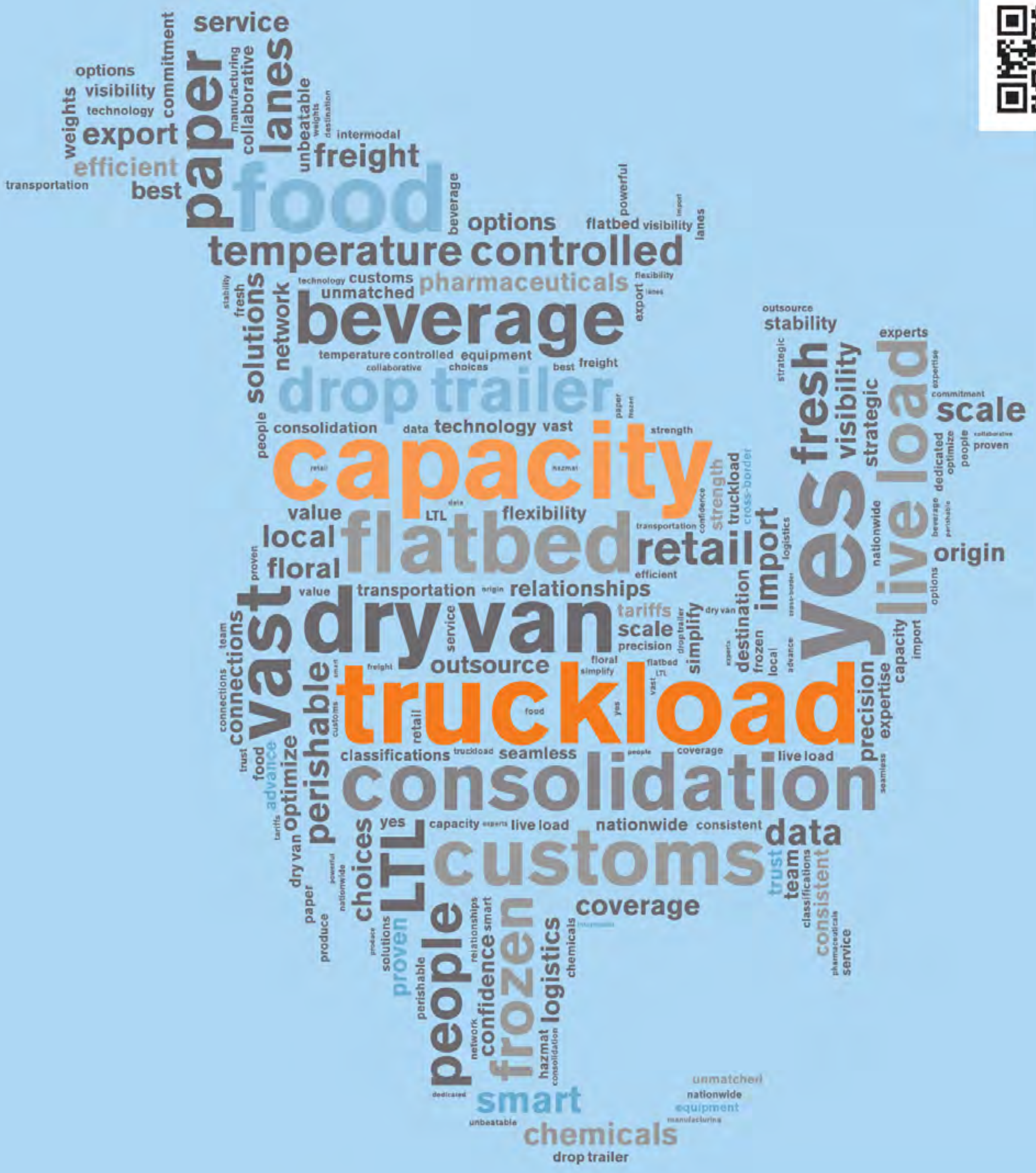
Steve O'Kane, a veteran trucking executive who has served as president of Northeastern regional LTL carrier A. Duie Pyle during a time of unprecedented financial growth, is retiring effective Jan. 1, 2014.

O'Kane joined Pyle in February of 2006 as its 4th president, and first non-owner to hold the position. During his years at the helm, privately held Pyle doubled revenue. O'Kane says that the carrier has been profitable every year, including during the Great Recession.

"We also increased wages and salaries of our employees every year except 2009, when we did freeze compensation, and were a winner of *Logistics Management*'s Quest for Quality Award for outstanding service in the Northeast in each of those years," O'Kane says.

Prior to Pyle, O'Kane spent more than 20 years at New Penn Motor Express, starting at a terminal manager in Reading, Pa., and ending as company president from 2001 until his resignation in January of 2006. He began his trucking career back in 1975 as a trainee with Spector Freight System in Needham, Mass., after graduating from Tufts University.

—John D. Schulz, Contributing Editor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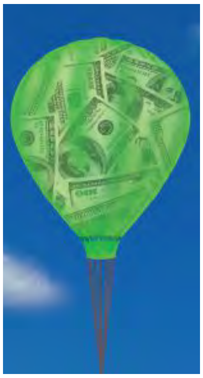

Many executives say the new Affordable Care Act will exacerbate their already rising employee health care costs. The government also just tweaked truck driver hours of service, causing a slight loss of productivity.

"Our cost of fleet insurance is increasing in spite of our phenomenal safety record," says Steve O'Kane, president of Northeast regional carrier A. Duie Pyle. "The cost of new equipment continues to rise, and when the pressure we'll experience on driver wages is added into the mix, there is an absolute certainly that costs will increase—and that rates will have to rise to retain capacity."

A wild card for the LTL industry is the role that third-party logistic providers (3PL) companies have increasingly taken in the past few years. Privately, some trucking executives say they've developed a love/hate relationship with 3PLs, adding that they don't relish freight controlled by 3PLs because they tend to be among the toughest rate negotiations they face. However, LTL carriers certainly can't ignore 3PLs because of the increasing amounts of volume they now control.

"It's getting tougher from a rate negotiation standpoint," says Chuck Papa, vice president of transportation management services for Penske Logistics, a major 3PL. "Volumes have been slow, and consolidation has made (the rate environment) stronger for the remaining players."

What Papa sees in his day-to-day dealings with the LTL sector is that carriers are increasingly targeting their lowest-yielding customers and getting away from generic, general rate increases. "Those shippers who aren't easy to do business with are seeing the largest increases," he says. "Carriers are more selective in pricing models than in taking price increases across the board, and we're seeing them walk away from business that didn't make sense for them."

Capacity tight

Most carrier executives say that the current lackluster growth in Gross Domestic Product does not inspire much confidence in the U.S. economy—but it's actually been a positive for shippers. If the economy were growing any faster, it would likely result in a true capacity shortage in LTL due to the lack of available drivers.

"The capacity shortage is a concern, and it comes down to drivers," says Papa. "CSA is not nearly having as much impact as we thought. However, the impact has been from HOS. It's affecting the line haul operations, and carriers are being forced to run either team or relay operations that are affecting overall capacity."

One possible solution to ease the capacity situation is for LTL shippers to consolidate their freight through use of 3PLs to create more "closed loop" collaborative networks. "This is absolutely an opportunity for the LTLs," Papa says. "It's fully variable pricing. It's not an open network, but rather how you fit into our network."

The driver shortage continues to keep a lid on capacity even in the LTL sector where driver pay can be as high as $32 an hour. "It is not a question of if an acute driver shortage is going to occur, so much as it is a question of when it will occur," O'Kane adds. "As the driver supply continues to tighten, driver wages will rise."

Rates up

Coming off four consecutive good years, LTL carriers expect that trend to continue in 2014. But there is always a concern over the fragile state of the economy. An economic downturn could lead to a degradation in pricing discipline—and the 2008-2009 spiral could begin all over again, carriers say.

NEMF's Shevell says that unless LTL rates improve substantially, the LTL industry could soon resemble the airline industry in some markets. "There might only be one or two financially viable carriers left in some regions," Shevell says. "This industry needs help, and rates are the only way to get it."

Many executives called the current rate environment "rational." Pyle's rates, net of fuel surcharges, are up 10.6 percent from their low point in the second quarter of 2010. While a 10.6 percent increase over three years sounds pretty good, its the second quarter of 2010 that was its low point. Rates had actually declined by 8.2 percent from their peak during the fourth quarter of 2007.

"So, while rates are up over 10 percent in three years, they are up less than 2 percent from their peak in 2007," says O'Kane. "Without significant cost reductions and efficiency improvements, we would be struggling."

Pitt Ohio's Hammel says that, generally, customers are accepting 3-percent to 4-percent rate increases. "Many shippers understand the need for carriers to take rate increases, but they work hard to keep those increases within their budgets."

Another year of 3-percent to 5-percent rate increases are likely, carriers and analysts believe. Analyst Ross says that rates are just one component of carriers' yield—the others are fuel surcharges, freight commodity class, shipment size, and length of haul. Another issue affecting reported average yield is business mix, or the percentage of freight that comes from traditionally low-yielding national accounts verses high-yielding, small field accounts.

"When small shippers decide to outsource transportation procurement management to a 3PL, even if the LTL carrier is handling the same business afterwards, it's typically at a lower yield and thinner margin," Ross adds.

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

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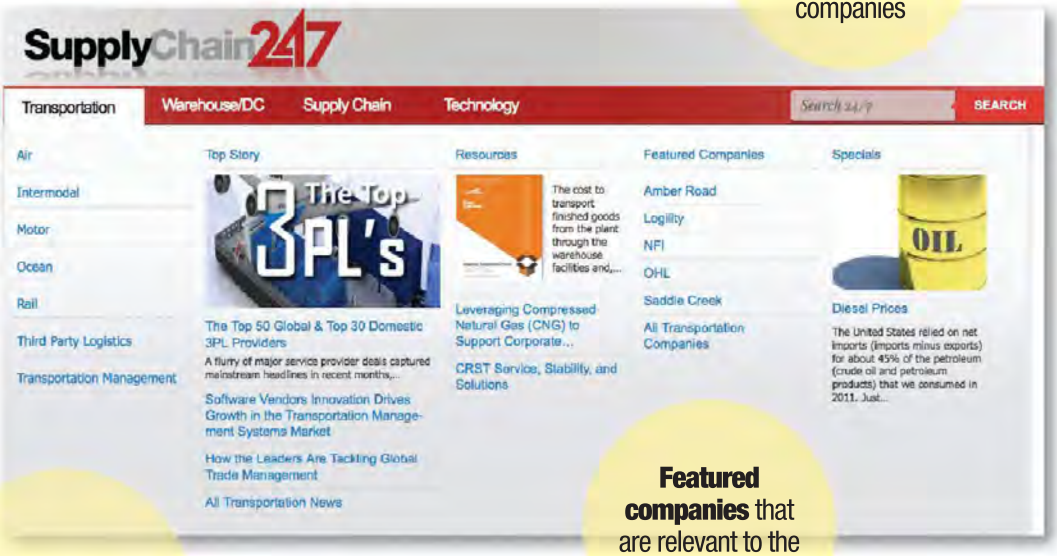
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Moment of truth for pending trade pacts

ASIA-PACIFIC ECONOMIC COOPERATION (APEC) forum leaders met in Bali, Indonesia, last month to build upon the progress made so far by the World Trade Organization (WTO) to reduce tariffs in the region's least developed countries. The promising theme was "Resilient Asia-Pacific, Engine for Global Growth."

One would assume that U.S. leadership in this effort would be supremely evident, but that hardly proved to be the case. In fact, we barely showed up. With the government shutdown still underway at the time, President Obama stayed in Washington, sending Secretary of State John Kerry instead.

The message was not lost on President Susilo Bambang Yudhoyono of Indonesia, who noted that the talks risked collapse: "We are now at the 11th hour to put the negotiating function of the WTO back on track."

Many trade analysts feel that the Obama administration has another agenda, however. It's been championing the controversial Trans-Pacific Partnership (TPP)—a group of 12 countries comprising what would be the largest trade deal in the world. Government analysts say that this could generate an estimated $28 trillion per annum in goods and services. To put that in perspective, consider that The North American Free Trade Agreement (NAFTA)—currently the largest trade area—produces an estimated $17 trillion per year.

However, there's only one major problem: The TPP does not include China. Understandably, that huge player has proposed its own trade grouping—the Regional Comprehensive Economic Partnership.

TPP advocates say "good luck with that," noting that their trade agreement would be a platform for economic integration and government deregulation for nations surrounding the Pacific Rim and facilitate free trade to counter China's financial influence. The negotiating TPP parties include Australia, Brunei, Canada, Chile, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam, and the United States. Japan also announced its intention to join the agreement last spring.

Because the TPP is intended as a "docking agreement," other Pacific Rim countries could join over time. The Philippines, Thailand, and Colombia, are among those expressing interest.

So where does that leave APEC? Analysts agree that the WTO's influence is on the wane and stands little chance of advancing if the U.S. does not show greater interest in the cause.

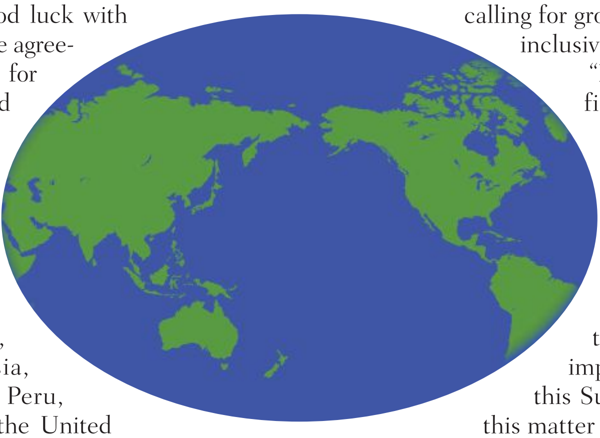
Chinese President Xi Jinping and the U.S. Secretary of State say that they would both work with countries to boost investment and trade. Kerry also seeks to offer reassurance that the U.S. remains committed to its "Asia pivot"—one of our government's central foreign policy initiatives.

> **"Analysts agree that the WTO's influence is on the wane and stands little chance of advancing if the U.S. does not show greater interest in the cause.**

This comes at a time when the Asian Development Bank has revised its regional forecast to a four-year low in 2013, reflecting economic contractions in China and India.

Meanwhile, APEC leaders look to shore up trade ties and economic volatility threatens emerging markets. Indeed, President Yudhoyono is stridently calling for growth that is sustainable and inclusive.

"In view of the scarcity of our finite resources, we agreed to cooperate in enhancing regional food, energy, and water security," Yudhoyono stated at the meeting in Bali. "This effort is also aimed at responding to the challenge of population growth and the adverse impact of climate change. At this Summit, we began to look at this matter in a holistic manner." □



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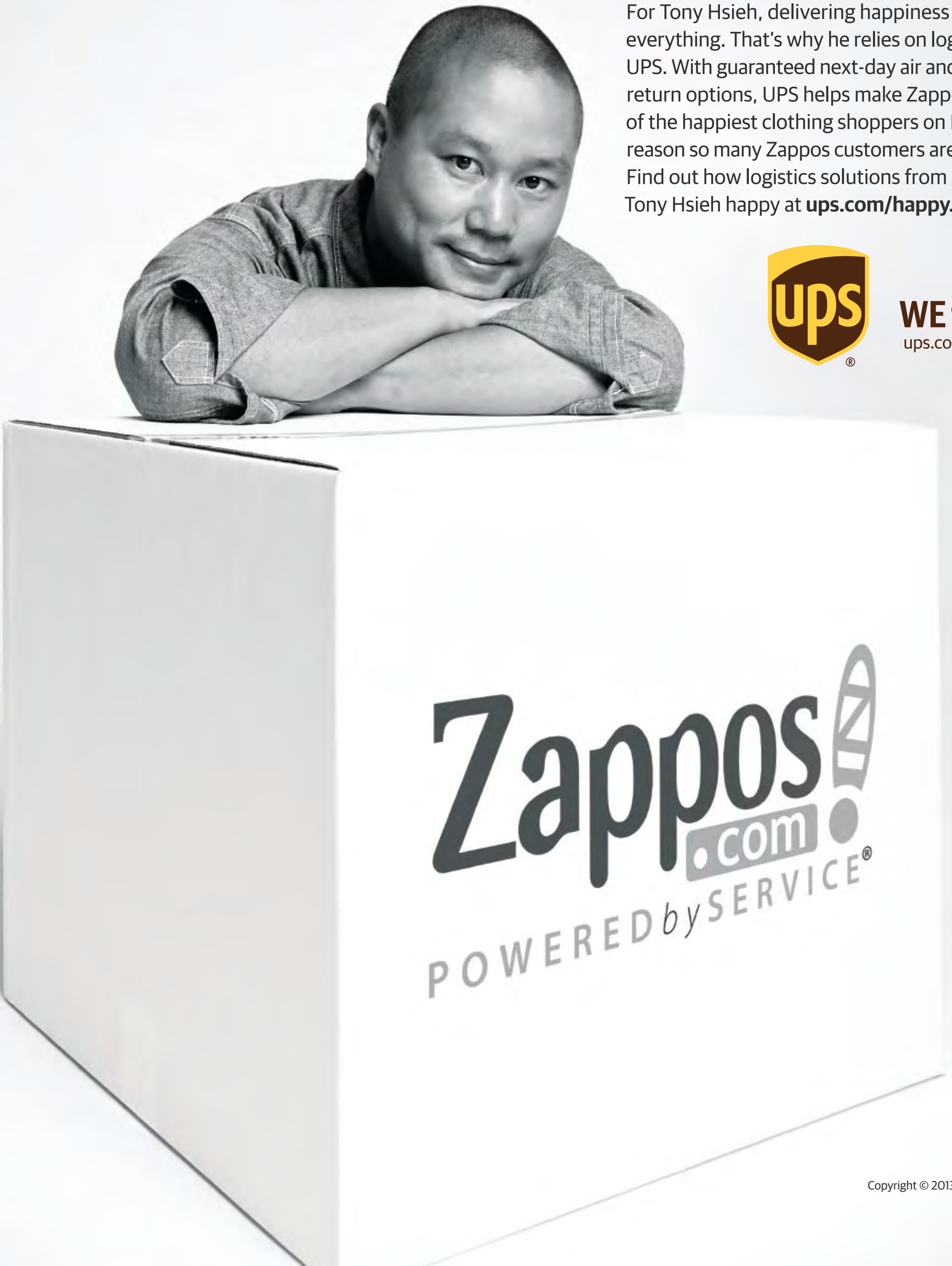

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