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JUNE 2012

Logistics MANAGEMENT®

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Management UPDATE

AN EXECUTIVE SUMMARY OF INDUSTRY NEWS

■ **CP management rails rocked.** Class I railroad carrier Canadian Pacific Railway (CP) reported last month that Fred Green, president and CEO, has left the company. This move comes in the wake of a proxy vote by activist investor Bill Ackman, head of Pershing Square Capital Management, and the single largest CP shareholder with a 14.1 percent stake in the company. Tension between CP and Pershing Square had been brewing for several months, with Ackman calling for a proxy vote when the CP board declined to replace Green as CEO, according to a *Wall Street Journal* report. It has been widely speculated that Ackman plans to tap Hunter Harrison, former CEO of Canadian National Railway (CN), as Green's replacement. Harrison stepped down from CN in 2009. But for the time being, Stephen Tobias, a 40-year veteran of the railroad industry and former vice chair and chief operations officer of Norfolk Southern, will take the reins as interim CEO.

■ **Hedging its bets.** Delta Air Lines wholly-owned subsidiary, Monroe Energy LLC, has reached agreement with Phillips 66 to acquire the Trainer refinery complex south of Philadelphia. As part of the transaction, Monroe will enter into strategic sourcing and marketing agreements with BP and Phillips 66. The acquisition includes pipelines and transportation assets that will provide access to the delivery network for jet fuel reaching Delta's operations throughout the Northeast, including its hubs at LaGuardia and JFK. "Acquiring the Trainer refinery is an innovative approach to managing our largest expense," said Richard Anderson, Delta's chief executive officer. "This modest investment, the equivalent of the list price of a new widebody aircraft, will allow Delta to reduce its fuel expense by $300 million annually and ensure jet fuel availability in the Northeast."

■ **TransCore data points to strong spot market.** With trucking capacity tight and expected to remain that way, freight brokerages are reaping the benefits, says TransCore. A recent report by the transportation data firm stated that freight brokers in business for at least two years saw an average 18.9 percent increase in loads per month, from 645 in 2010 to 766 in 2011—with non-asset based brokers reporting gross margins of 15 percent per truckload, which was essentially flat compared to 2010. In 2011, brokers took in average revenues of $1,847 per load, which was 9.5 percent better than 2010's $1,687. The report said that the combination of increased loads and higher rates paved the way for a 31 percent improvement in total revenue per company, increasing from $9 million in 2010 to $11.7 million in 2011. The spot market grew by 36 percent in 2012, according to the firm, while the average length of haul of 899 miles in 2011 was 1.4 percent better than 2010's 887 miles.

■ **The Unbearable Weight of Idling.** The end of the current container shipping downturn is still not in sight according to analysts at the Paris-based consultancy Alphaliner. In its latest report called *The Unbearable Weight of Idling*, analysts note that even improving market segments have not earned enough to reverse the trend. Carriers have started to reactivate their idled fleets for the summer peak shipping season, resulting in a sharp fall in the idle containership fleet—which is down from 913,000 twenty-foot equivalent units (TEUs) in mid-March to 620,000 TEUs at the end of April. Furthermore, say analysts, new service launches in the next three months are expected to bring the idle fleet below 350,000 TEU by July. "The reduction of the idle fleet provides some relief for the charter market, which has suffered from depressed rates for most of the last three years," said Stephen Fletcher, Alphaliner's commercial director.

■ **Achtung baby.** Logistics and transportation companies in Germany are planning to hire up to 50,000 workers this year, according to a new study by German industry association BVL. The logistics industry has been a key barometer for the health of the German economy. Despite ongoing uncertainty in Europe, exports are expected to remain a driving force of economic strength, and German ports are helping to drive this growth. Hamburg's container

continued, page 2 >>

Management UPDATE

continued

traffic alone jumped 14 percent last year, recapturing the number two spot in Europe. The North Sea port of Bremerhaven also claimed the top European spot for shipping of automobiles. Over 2.1 million cars passed through this port, destined for overseas markets that favor German quality.

■ **U.S. import/export numbers set new records.** The United States Census Bureau reported that March import and export numbers—the month for which data is most recently available—both set new all-time records. Imports, at about $238.6 billion worth of cargo, were up 5.2 percent sequentially and 8.4 percent annually. And exports, at $186.8 billion worth of cargo, were up 2.9 percent sequentially and 7.3 percent annually.

■ **Healthy global trade.** Building off of the positive momentum from February to March, global trade activity continued heading in the right direction from March to April, says Panjiva, an online search engine with data on global suppliers and manufacturers. Following a 14 percent gain in U.S.-bound shipments from February to March, April shipments kept the strong trade groove flowing, with April shipments up 11 percent compared to March and up 6 percent year-over-year. Panjva also reported a 6 percent increase in the number of global manufacturers shipping to the U.S., with April's 148,246 running ahead of March's 136,286. "To be 11 percent ahead of where we were last year [for shipments] is fantastic," said Panjiva CEO Josh Green. "And if you ignore the effects of Chinese New Year, it seems clear now that we have basically had six straight months of healthy trade activity."

■ ***Port Tracker* report points to summer volume gains.** The most recent *Port Tracker* report by the National Retail Federation and Hackett & Associates suggests that gradual economic growth patterns continue to be the norm. As in past years, that growth is expected to level off in May's numbers, with the report calling for flat annual growth before annual gains are expected to occur in the summer months through back-to-school season. *Port Tracker* indicated that the first half of 2012 is expected to total 7.3 million twenty-foot equivalent units (TEU), which would represent a 1.9 percent annual gain. May is expected to be flat at 1.28 million TEU before seeing projected increases of 4 percent, 1.8 percent, and 7.2 percent, respectively, in June, July, and August. Hackett Associates President Ben Hackett commented in the report that this most recent set of data shows firm signs of economic recovery and improvement over 2011, which was replete with uncertainty and no meaningful import volume growth.

■ **Pilots or pirates?** The Port of Oakland, which has been besieged by anarchists, arbitrarily taxed by city government, and held hostage by dockside labor during wildcat strikes, now faces a new challenge: San Francisco Bay bar pilots demand more money. A bill currently pending in the California state legislature would permit the Bar Pilots to earn more than half a million dollars a year for working at what some critics say is a part time job. Despite Oakland's strategic advantage for outbound calls, ocean cargo carriers may opt out of using the gateway if it becomes even more expensive. Beneficial Cargo Owners are also among those objecting to the raise demands. Meanwhile, state regulators have initiated investigations of the pilots pricing policies in the bay and other Northern California waterways.

■ **TMS market post-recession rebound remains intact.** New research from ARC Advisory Group indicates that the transportation management system (TMS) market has "bounced back strongly." ARC said that revenues have recovered very well since the end of the recession, with pent-up demand leading to robust growth next year. But in Europe, the forecast is less optimistic. ARC expects European TMS revenues to decline for the next two years, as the region is in danger of slipping back into recession. ARC also noted that the TMS market is seeing growing demand in Latin America as well. □

Logistics MANAGEMENT

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VIEWPOINT

How automation is changing logistics

IN EVERY ISSUE OF *LOGISTICS LANAGEMENT* (*LM*) we devote an article to the growing importance that warehouse and distribution center (DC) operations are playing in transportation and overall logistics management. In fact, more and more of our case studies highlight the benefits of a truly integrated logistics operation, where transportation staff is working in unison with an automated warehouse and DC operation to ensure an uninterrupted flow of goods.

The driving force behind much of this improved collaboration and the growing interest in materials handling automation is the concept of multi-channel retailing.

In this emerging, multi-channel environment, flexible retail warehouse and DC operations are now handling a variety of functions out of one facility—direct-to-consumer order fulfillment, store replenishment, wholesale distribution, and global distribution. And, of course, any retailer worth its salt today has to fill orders in all of these channels, even though each has distinct order profiles, order quantities, and inventory requirements.

This move toward multi-channel order fulfillment and the related importance of piece picking is having a game-changing effect on how quickly retailers are turning to automation to do more with less in smaller facilities. But not only is this automation helping to fill the variety of complicated orders more accurately, it's also collaborating with transportation management systems to solve the new freight challenge that comes along with multi-channel fulfillment.

In many cases, smaller more frequent deliveries are now going to store fronts, smaller regional DCs, or customer homes. In turn, retailers are moving to smaller trucks and vans due to the nature of these shipments and congestion in more urban areas, putting greater emphasis on proper trailer loading and speed to market.

To put context around the exciting materials handling automation developments for *LM* readers, we've turned to Bob Trebilcock, executive editor of *LM*'s sister publication *Modern Materials Handling*. According to Trebilcock, both the conveyor and automatic guided vehicle (AGV) sectors posted impressive year-over-year growth numbers despite the fact that much of the materials handling industry has yet to get back to pre-recession peaks. However, the growth of these sectors should come as little surprise.

Not only is automation helping to fill the variety of complicated orders more accurately, it's also collaborating with transportation management systems to solve the new freight challenge that comes along with multi-channel fulfillment.

"The multi-channel mandate has forced the hand of any reluctant retailers," Treblicock told me as he wrapped up his article "The State of Automation." "Today, the best retailers are implementing goods-to-person order fulfillment solutions that are flexible enough to pick 'eaches' and cases in one facility. Now, with retailers pushing the envelope even as far as fully-automated, 'lights-out' facilities, the manufacturing sector will soon benefit from these developments."

Starting on page 22, Trebilcock offers a comprehensive look at the state of materials handling automation and the impact these developments are sure to have on the future of transportation and logistics management.

Michael A. Levans, Group Editorial Director

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

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Cover illustration: Harry Campbell

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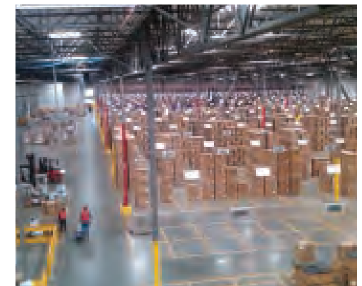

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SPECIAL REPORT: TOP 50 3PLS

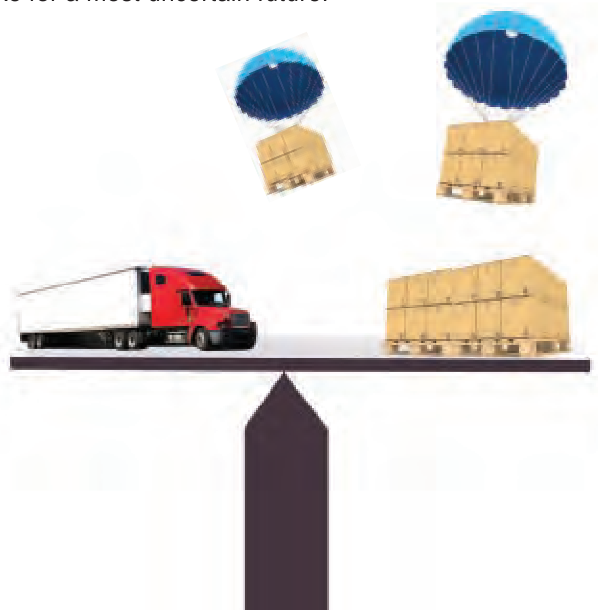
Will mergers and acquisitions alter the landscape? 44S

A flurry of major service provider deals captured mainstream headlines in recent months, but the consequence of this activity has yet to be measured by domestic and international shippers. Meanwhile, the EU flounders, Asia remains strong, and emerging nations may represent the next great opportunity for the major 3PL players.

QUARTERLY TRANSPORTATION MARKET UPDATE

Truckload: Near perfect balance…for now 74S

Truckload carriers are aiming for that "sweet spot" when the market hits supply and demand "equilibrium." It's close right now, but carrier executives fret that the hunt for drivers, rising fuel costs, and regulatory restraints make for a most uncertain future.



Logistics Management **OnDemand**

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Harnessing the waves of data

As supply chain organizations evolve technologically and do a better job of collaborating with both their internal and external partners, the next challenge is the integration and interpretation of the waves of data that are now washing up on logistics and transportation manager's computer screens as a result.

With this in mind, we've collected four leading supply chain software and technology analysts to examine the latest trends, tools, strategies, and best practices available for better capturing and utilizing the new onslaught of data on the way to realizing an improved level of visibility across your logistics operations.

Our panelists will be discussing:

- The rising importance of business analytics in logistics operations
- RFID's rapid market resurgence
- How ERP providers continue to expand their logistics offerings
- The rise of social media in logistics career development.

Panel:

Jerry O'Dwyer
U.S. Sourcing and Procurement Leader, Deloitte Consulting

Mike Liard
Director, RFID, VDC Research

Ben Pivar
Senior VP and Supply Chain Lead, Capgemini

Adrian Gonzalez
Director, Logistics Viewpoints

Moderator:

Michael Levans: Group Editorial Director, Supply Chain Group

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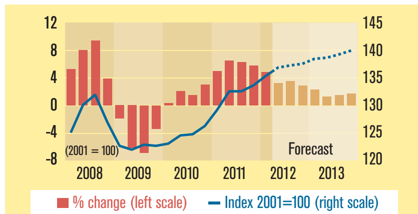
PRICE TRENDS

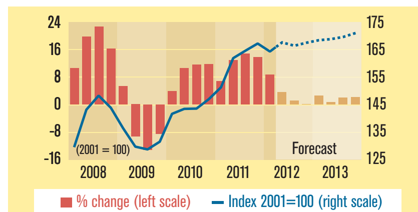
Pricing Across the Transportation Modes



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
General freight - local	0.2	1.2	1.2
TL	0.4	4.5	5.3
LTL	-0.6	3.0	5.7
Tanker & other specialized freight	0.3	1.3	1.0

TRUCKING

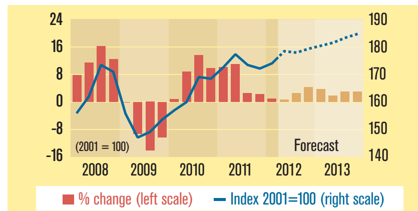
Average transaction prices in the U.S. trucking industry inched up 0.15% in April. Long-haul LTL truckers of general freight reported a 0.6% price drop, while TL haulers increased tags 0.4%. LTL truckers of special freight also hiked prices 0.6%. The rate of inflation in trucking services had been forecast to peak in Q1. The next two months of data are expected to confirm this trajectory shift. Regardless, the trucking industry's average annual inflation rate forecast has been raised to 3.6% in 2012 and 1.7% in 2013. The primary reason for this forecast revision: stronger-than-expected demand for trucking services, especially for trade between Mexico, USA, and Canada.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Air freight on scheduled flights	7.7	4.7	8.7
Air freight on chartered flights	6.0	2.1	4.7
Domestic air courier	1.6	6.3	7.4
International air courier	-0.9	4.8	6.0

AIR

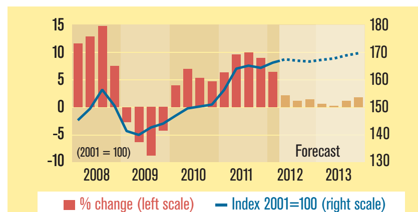
After the 2008 recession, airliners extended pricing muscle every way possible. Ticket cancelation and extra baggage fees, for example, added $5.7 billion to U.S. industry revenues in 2010, up from $1.4 billion in 2007. Looking at airfreight, U.S.-based carriers in April 2012 pushed a 7.7% one-month price hike for flying cargo and mail on scheduled flights. That's the largest monthly price increase on record. In the nonscheduled freight services business, airfreight charter companies raised prices 8.2% for domestic service. Our revised forecast incorporates April's big price increase in scheduled air cargo prices. Now the outlook for this market calls for an average annual inflation rate of 3.2% in 2012 and 1.8% in 2013.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Deep sea freight	-0.2	5.6	-4.5
Coastal & intercoastal freight	5.0	5.1	6.2
Great Lakes - St. Lawrence Seaway	-1.3	11.0	17.2
Inland water freight	2.8	1.5	7.0

WATER

On average, water transportation service providers are still assertively pumping up their transaction prices. Latest survey of U.S.-owned barges and vessels indicate coastal and intercoastal freight prices jumped 5% from month-ago, while tags for inland waterways freight service (excluding towing) increased 3.4%. After adding data from deep sea and Great Lakes/St. Lawrence seaway, average prices for the entire water transportation industry increased 1.6%. Looking ahead, our forecast for the U.S. water transport market had been forecasted to push average annual price increases of 0.5% and 2.4% for 2012 and 2013, respectively. Revising upward, our new forecast calls for respective 2.1% and 2.8% annual gains.



% CHANGE VS.:	1 month ago	6 mos. ago	1 yr. ago
Rail	0.6	1.7	3.5
Intermodal	0.6	3.6	2.8
Carload	0.6	1.5	3.5

RAIL

Data from AAR.com shows carload rail freight traffic down 5.5% in April 2012 from same-month-year-ago levels. Meanwhile, average transaction prices for carload freight service increased 3.5%, according Labor Department's survey of U.S.-owned railroads. At first glance, this demand/price disconnect doesn't make sense. But look deeper and you'll see carload traffic actually increased 3.2% once a decline in coal shipments is subtracted. For line-haul railroads overall, average transaction prices increased 0.6% from month-ago and 3.5% from April 2011. A revised forecast calls for average annual inflation rates for rail service to hit 2.7% in 2012 and 0.9% in 2013.

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

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3 WAYS LOGISTICS CAN TRANSFORM RETURNS INTO RETURNING CUSTOMERS.

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- IANA reports strong Q1 2012 volumes
- LTL execs discuss industry challenges at NASSTRAC

NEWS & ANALYSIS

TSA sets new deadline for 100 percent cargo screening

TSA says that the new December 3, 2012, deadline is firm and will allow the air cargo industry time to develop the systems and procedures necessary to comply.

By Jeff Berman, Group News Editor

WASHINGTON, D.C.—The Department of Homeland Security's Transportation Security Administration (TSA) said last month that it has set a December 3, 2012, deadline that will require passenger air carriers to conduct 100 percent cargo screening on international inbound flights.

This initiative is mandated as part of the Implementing Recommendations of the 9/11 Commission Act that was put forth when former President George W. Bush signed the act into law in August 2007. This legislation required the Secretary of Homeland Security to establish a system to enable the airline industry to screen 100 percent of the cargo transported on passenger aircraft commensurate with the level of security used for checked baggage.

The legislation requires all air cargo to be screened at the piece level prior to transport on a passenger aircraft for flights bound for the U.S., according to TSA. Included in this endeavor is TSA's Certified Cargo Screening Program (CCSP) that enables Indirect Air Carriers (IAC's), shippers, and Independent Cargo Screening Facilities (ICSF's) to screen cargo for outbound flights originating in the U.S.

According to TSA, most shippers involved in CCSP have readily incorporated physical search for outbound cargo into their packing/shipping operation at minimal cost without needing to invest in screening equipment.

This has been happening on the passenger side for domestic aircraft since August 2010, when TSA announced the airline industry met a key requirement of the 9/11 Act by screening 100 percent of air cargo on domestic aircraft and is continuing to utilize a multi-layered approach to air cargo security.

The original deadline for 100 percent cargo screening on international U.S.-bound flights was December 31, 2011, but TSA pushed it back last October. TSA spokesman Jim Fotenos told *Logistics Management* that the new December 3, 2012, deadline is firm and will allow the air cargo industry time to develop the systems and procedures necessary.

TSA officials said that the screening requirement "builds additional risk-based, intelligence-driven procedures into the prescreening process to determine screening protocols on a per-shipment basis." This process, added TSA, requires enhanced screening for shipments designated as higher risk, while lower risk shipments will undergo

other physical screening protocols. For security reasons, Fotenos added that TSA does not disclose physical screening requirements and procedures.

"Harmonizing security efforts with our international and industry partners is a vital step in securing the global supply chain," said TSA Administrator John Pistole. "By making greater use of intelligence, TSA can strengthen screening processes and ensure the screening of all cargo shipments without impeding the flow of commerce."

Brandon Fried, executive director of the Washington, D.C.-based Airforwarders Association (AfA), applauded TSA's efforts, adding that it is an enormous undertaking that will require agreements to be harmonized between the U.S. Department of State and nearly 200 countries.

"TSA is starting with the low-hanging fruit and dealing with the countries that ship most of the freight into the U.S.," said Fried. "It won't disclose which countries there are agreements with, but we have been told there are four of them, with another 20 in the pipeline—and those 20 comprise approximately 80 percent of the cargo coming into the U.S."

AfA's primary concern is that freight tender times will be increased with airlines forced to do screening; however, in the U.S., Fried said that a vast majority of screening is done off airport grounds by parties not associated with carriers.

"When I ask TSA what percentage of freight is arriving at airports prescreened before departure, I am told it is in excess of 60 percent," said Fried.

"That is an enormous number. If a country is not going to permit a supply chain screening solution like we have here, that means that burden is going to shift to the airlines and be problematic for us. We will see that in the form of missed flights and delayed shipments, which are our biggest concerns at this point," he said. ☐

CAPITOL HILL

ATA Chief calls for Congress to go with "obvious" solution for road bill

WASHINGTON, D.C.—According to Bill Graves, president and CEO of the American Trucking Association (ATA), the nation's sharply divided political landscape is harming the country because of Congress's inability to pass a long-term highway bill and its unwillingness to raise federal fuel taxes.

"We seem to have two extremes," said Graves as he addressed the National Industrial Transportation League (NITL) freight transportation policy forum in May. "At the two extremes the word 'compromise' is not in their vocabulary. However, the highway bill and infrastructure is a very big deal for this country, and if we're not careful, we're going to be in a position where we impede the economic development of this country."

One of the reasons we've had a problem getting a highway bill, said Graves, is that some Republicans feel the federal government should have no role in financing the nation's highway and bridges. "They feel the federal government should devolve its responsibility in funding highways, which is a terrible idea," said Graves. "All that does is send everything downstream to 50 states, and the last thing we want to see is a patchwork of 50 states which have pluses and minuses on infrastructure.

Over the next 10 years, Graves estimates that the nation needs to spend $140 billion on infrastructure. The nation's No. 1 trucking advocate says that the solution is obvious—raise the federal tax on motor fuels (18.4 cents on gasoline, 23.4 cents on diesel) that has remained unchanged since 1993. But Graves concedes that "that's the last thing that's going to happen on Capitol Hill in an election year."

Truckers like the fuel tax because it can be easily passed through to shippers, who then pass it onto consumers. The ATA is dead set against raising tolls (or, worse yet, starting them on existing highways) because of higher administrative costs.

Administrative costs in collecting the fuel tax are two-tenths of 1 percent, Graves said. He estimates administrative costs on toll roads run between 15 percent and 25 percent, which would siphon off much revenue needed for highways.

At press time, House and Senate conferees were in negotiations to pass a two-year highway bill with spending at about $55 billion annually—roughly the same levels as in the past. The current highway bill is stalled over how best to pay for it.

But Graves said that he's not optimistic about what comes out of that conference committee. The best that can be hoped for, he said, is a two-year bill when trucking and transportation advocates would much prefer a five- or six-year bill.

"I don't think there is any scenario that has that happening," Graves said. "Kick that can down the road."

Truckers have been hit with sharply higher equipment costs partially because of a string of tough environmental initiatives in the past decade. They are also reeling from the impact of CSA, a tough safety initiative that could eliminate as many as 150,000 unsafe drivers over the next decade.

Graves called upon Washington to ease off the industry for an unspecified period to allow trucking to help recapitalize the industry.

"I don't know of any regulation that is adding capacity," said Graves. "They all add cost to what we do. A slightly less robust regulatory agenda would not hurt right now. Maybe we need a regulatory timeout."

—John D. Schulz, Contributing Editor

INTERMODAL

IANA reports strong Q1 2012 volumes

CALVERTON, Md.—Intermodal volumes started the year strong, according to data released by the Intermodal Association of North America (IANA).

In its quarterly Intermodal Market Trends & Statistics report, IANA stated that first quarter intermodal loadings—at 3,476,500—were up 5.8 percent annually and represent the best first quarter output for loadings ever recorded by IANA, topping the first quarter of 2007, which hit 3,408,500.

And three of the four major intermodal equipment categories tracked by IANA also showed growth. Domestic containers led the way at 1,290,139 for a 14.9 percent gain, while trailers fell 6.9 percent to 383,034. All domestic equipment was up a healthy 9.1 percent at 1,673,173, and international containers were up 2.9 percent at 1,803,327.

Even though intermodal, particularly on the domestic side, has been strong for the past several quarters, the report's authors said that in light of some encouraging economic signs in the first quarter, including job growth and an uptick in consumer confidence, a fair amount of domestic intermodal increases are due to market share growth. What's more, they explained that trucking capacity was tight in the first quarter and diesel prices saw steady gains throughout much of the quarter.

"We expect domestic intermodal to continue this output and be strong," said Joni Casey, IANA president and CEO. "But now that we have had a little bit of a break in fuel prices it will be interesting to see if this type of pace for container growth is maintained, especially if diesel prices hold at the levels they have been at over the last week or so."

And while international containers posted nearly a 3 percent improvement, IANA noted that international intermodal was up 9.6 percent in the first quarter, due to retailers replenishing inventories following a better-than-expected holiday sales season. Intermodal marketing companies (IMC) realized mostly strong annual percentage gains in the first quarter, with intermodal loads—at 303,551—up 10.8 percent, highway loads down 4.2 percent at 136,771, and total loads up 5.7 percent at 440,322.

IANA said that this marked the first quarter of double-digit intermodal gains since the third quarter of 2010. Regarding the decline in IMC highway loads, Casey said that the data reflects the current truckload market. The report pointed out that it's likely that warm winter conditions and an early Easter tightened available truckload capacity and limited supply available to IMC brokerage operations.

"When it comes to over-the-road capacity, regulations, and the driver shortage, it's likely that intermodal will continue its growth rate," said Casey.

—Jeff Berman, Group News Editor

TRUCKING

LTL execs discuss industry challenges at NASSTRAC

ORLANDO, Fla.—While the freight economy is faring better now than it was during the depths of the recession, there are still many hurdles to cross, especially for the less-than-truckload (LTL) industry. That was the general consensus among LTL executives at last month's NASSTRAC Logistics Expo & Conference held here.

"We're hopefully emerging from the most challenging time we have had in my 35 years in the industry, aside from de-regulation in 1980," said Rob Estes, president and CEO of Estes Express. "The years 2007 through 2010 was certainly challenging for the industry and has made all LTLs stronger."

With roughly 60 percent of LTL costs labor-related with fixed costs for schedules, pickup and delivery, and overhead, Estes said that the recession created an environment that forced LTLs to look at different ways to make operations more efficient and be more productive. "And with improved business conditions comes increased competition," added Estes.

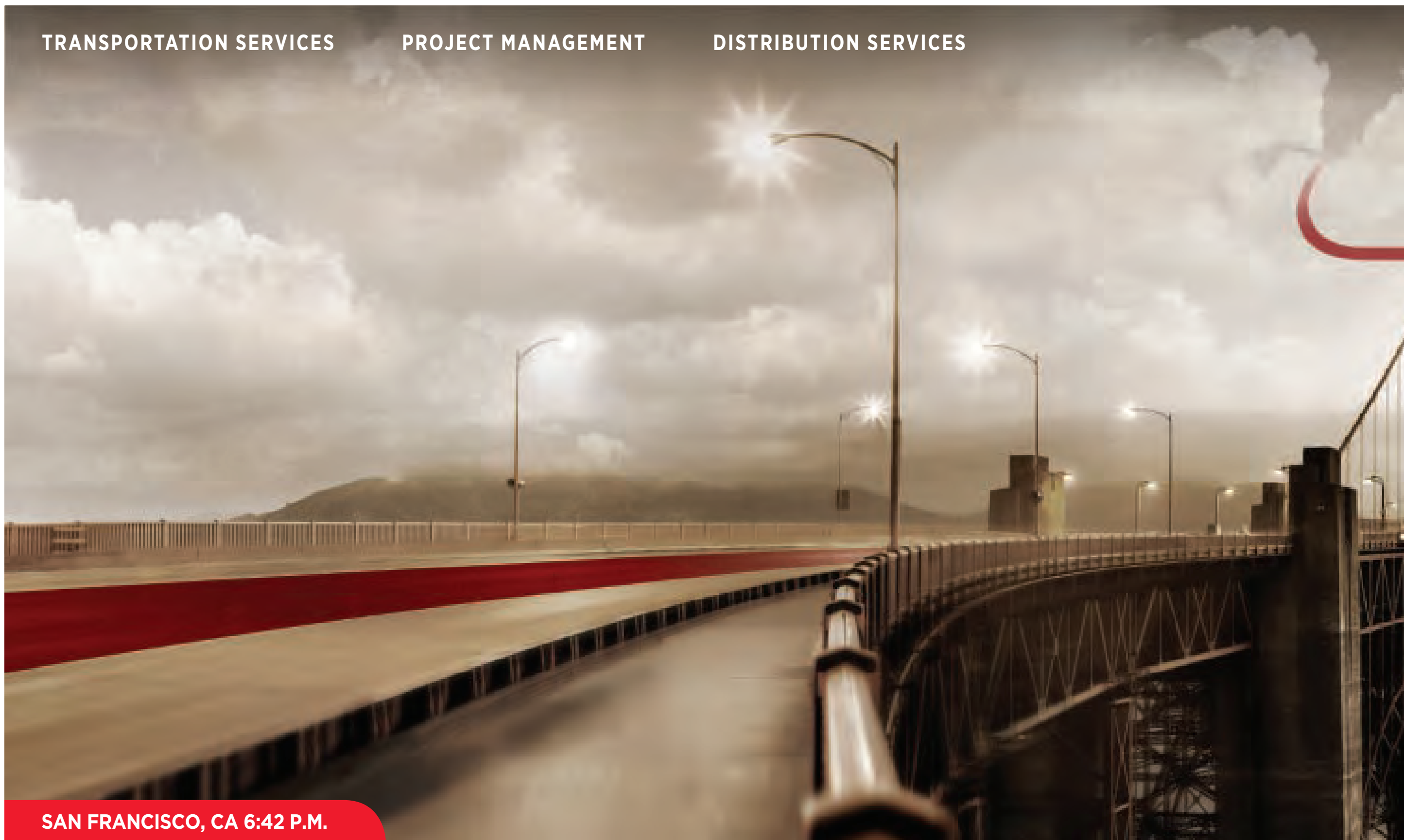
UPS Freight President Jack Holmes explained that the last five years in the freight transportation sector has been an interesting ride. Today, said Holmes, there remain a lot of revenue-related challenges for both shippers and carriers.

"We were forced to do a lot more with a lot less during that period," said Homes. "And what you hear now is that companies came out stronger because they had a lot of capabilities they didn't know existed."

The topic of industry regulations was prevalent throughout the panel, with FedEx Freight President Bill Logue noting that overregulation is straining the ability of carriers and providers to make changes and move towards progress. "Taking time to educate legislators on how over regulation in the transportation industry affects the real world is an important responsibility for shippers and carriers," said Logue.

Logue also delved into sustainability and energy security, adding that getting off of foreign oil and using fuel more effectively are vital for the transportation sector.

"Another area we need help in is long-term efficiency for things like 33-foot trailers, which we have pushed hard for," added Logue. "We have tested 33s, and our drivers have found them to be very effective, and it brings 18 percent more capacity to the highway with the



same amount of trucks. This is akin to double-stack trains and wide-body airplanes, and it could be a breakthrough opportunity to reduce congestion and emissions."

Regarding the urgent need for a new federal transportation bill, Logue said that the national supply chain is at risk without needed improvements in the form of a new bill, with the current system showing signs of wear.

ABF CEO Roy Slagle said that the trucking industry is willing to pay higher taxes for diesel to repair its crumbling infrastructure and build new lanes. "In some cases, Washington gridlock can be viewed as a good thing, but in this case it's not," said Slagle. "We need to see rule makers and agencies get engaged with our industry and convince them to listen to industry experts to come out with a better plan. We need to let our voices be heard."

—*Jeff Berman, Group News Editor*

THIRD PARTY LOGISTICS

3PL market shows decent gains from 2010 to 2011, says Armstrong & Associates

Data from supply chain consultancy Armstrong & Associates showed that total global third-party logistics (3PL) gross revenue in 2011 at $133.8 billion was up 5.2 percent over 2010.

Net revenues-at an estimated $61 billion posted a 5.9 percent annual gain.

Armstrong said that domestic North American transportation and value-added warehousing (VAW) had strong years, while a still difficult economic environment in Europe and a "cooling" Asian economy tempered results in those locales.

Individual market segments showed:

- domestic transportation management gross revenue at $41.3 billion was up 12.2 percent year-over-year, and net revenue at $6.3 billion was also up 12.2 percent year-over-year;
- international transportation management gross revenue at $46.1 billion was up 0.8 percent year-over-year, and net revenue at $17.7 billion was up 2.1 percent year-over-year;
- dedicated contract carriage (DCC) gross revenue at $11.1 billion was up 4.7 percent year-over-year, and net revenue at $10.9 billion was up 4.7 percent year-over-year; and
- value-added warehousing and distribution (VAWD) gross revenue at $34.0 billion was up 8.2 percent year-over-year, and net revenue at $26.6 billion was up 8.4 percent year-over-year.

Chairman Dick Armstrong said in an interview that this growth pattern in the global 3PL sector should remain intact over the next few years even while various global economies, including Asia, Europe, and Brazil, continue to have difficulties.

—*Jeff Berman, Group News Editor*

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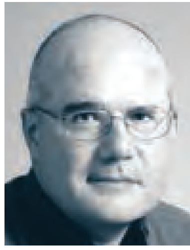
PRICING

Moore on



Put air cargo costs under surveillance

BRIAN PIERCE, CHIEF ECONOMIST at the International Air Transport Association (IATA), recently reported that there are mixed signals for air cargo shippers during this year and heading into next. Air cargo shippers need to be aware of the current and future challenges that are facing air carriers in order to better position themselves for the service levels and capacity they'll need if their companies are going to compete on a global level.

Significant changes in the air cargo market can impact the ability of supply chains to remain timely and efficient, so let's consider the four most pressing issues facing air shippers.

Fuel. Fuel prices and availability are risks that carriers must deal with more strategically. The recent announcement by Delta that it's buying a jet fuel conversion plant is a significant signal to air shippers that this vital resource is under scrutiny at the corporate board level of the carriers. New aircraft are also sporting new fuel-efficient engines, so air shippers should begin asking about their carrier's strategy in regards to supply and cost of fuel.

Capacity. There are hundreds of new aircraft with greater capacity on order for delivery within the next 12 months according to the IATA. "Freight load factors [as measured by freight ton kilometers (FTK)] were 6 percentage points lower in January this year than the 2010 peak, and average hours flown by freighters were down 11 percent," according to an IATA report.

At the same time, IATA also noted that the far eastern export of semi-conductors is predicted to flatten or drop as they did this past year—meaning that carriers will be anxious to attract cargo to fill new and existing capacity. The addition of carrier capacity is usually a good thing for shippers; however, industry consolidation of routes can mean competition for limited space serving secondary markets. Shippers should be investigating who is adding capacity and which lanes may be affected by the arrival in new aircraft.

Regulation. Economic regulation in the form of carbon taxes is threatening to again jolt the air cargo industry with another layer of oversight and expense. The European Union has announced an Emissions Trading Scheme (ETS) that would impose taxes on aircraft flying to and from the EU.

The tax scheme is particularly onerous to long-hall carriers since it's calculated based upon total flight distance, not just the portion over the EU airspace. While it's not yet clear what the impact will be for carriers, shippers will be hearing from carriers about weight and cube costs as reflected in carbon emissions.

Economic regulation in the form of carbon taxes is threatening to again jolt the air cargo industry with another layer of oversight and expense.

Global risk. New attempts to introduce explosives onto aircraft by terrorist organizations have again raised the specter of supply chain interruption and the slowing of clearances at airports. Carriers have to invest in more equipment and security resources, while shippers have to work on recovery and redundancy plans for their supply and distribution routes.

The cost of automation to make manufacturing plants in the Americas competitive with Asian sources will be offset for some shippers by reduced risk and lower transportation costs with air cargo being the highest on a FTK basis. Just as car makers have established North American plants to improve their cost-to-serve the Americas market, other manufacturers are building primary and secondary sources of supply in key domestic markets, reducing the reliance for extended supply chains dependent upon air cargo.

These price factors need to be put under surveillance by shippers as the air cargo market undergoes yet another series of surges in capacity, fuel costs, taxes, and risk. ☐

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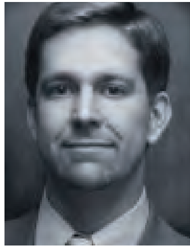

Don't blame the speculators

Part II: Can speculators profit from declining oil prices?

AS A LOGISTICS MANAGER, understanding that oil and fuel prices are a function of supply and demand rather than the rogue actions of "evil speculators" is important.

If speculators are driving prices above a level supported by the fundamentals, the solution is government regulation of futures markets. If, however, prices are supported by the fundamentals, mitigation through supply chain re-engineering is called for.

My motivation is not to defend speculators or their actions. Surely there are rotten apples among the bunch, and their existence justifies regulatory vigilance. Rather my goal is to show that speculators can profit from declining prices just as easily as when they rise—thus, the entire premise that speculators are to blame for high prices is called into question.

Turning to the markets, we see that speculators have driven the price of crude futures down from $109 per barrel to just $97 per barrel in just a few weeks, and politicians have largely silenced their misinformed anti-Wall Street rhetoric.

Recall, however, that back in April, Senator Bernie Sanders (I-Vt.) said that "the function of these speculators is not to use oil, but to make profits from speculation, drive prices up, and sell." Such a statement reflects a common misperception of how oil traders can earn a profit through buying and selling "paper barrels" (futures contracts).

While it's true that speculators are driven by the profit motive, speculators do not need prices to rise in order to make a profit. They just need prices to change—to move up and down—preferably while following an identifiable trend.

To be clear, a futures contract is an agreement to purchase a defined quantity of a commodity to be delivered on a predetermined date for a specified price. "Going long" or taking a "long position" describes the act of buying a futures contract. Traders can, of course, earn a tidy profit by purchasing a futures contract, but only if the price rises above the level specified in the contract. If the market price falls below that level when the contract reaches expiry, the trader will lose money.

What seems to be lost on Senator Sanders and others is that traders can also profit from taking a "short position," or by betting that prices will decline. If a trader believes that the price is going to fall, they will sell a futures contract; and if the price does indeed fall, the trader can then re-purchase an equivalent quantity of oil for less money, pocket the difference, and play another round.

In addition to going long and going short, oil traders have another option—they can take a spread position in which they simultaneously buy and sell futures contracts. There are a number of common spreads, including crack spreads, arbitrage spreads, relative value spreads, and time spreads. The vast majority of the increase in futures trading over the last decade has been concentrated in spread positions.

While it's true that speculators are driven by the profit motive, speculators do not need prices to rise in order to make a profit. They just need prices to change—to move up and down—preferably while following an identifiable trend.

To understand how a spread works, imagine that you're a trader and you believe the price of heating oil is going to rise relative to West Texas Intermediate (WTI) crude. In this case you would play the crack spread by shorting WTI and going long on heating oil. If the spread increases, you can then sell heating oil then re-purchase an equivalent amount of WTI for less than you sold it, pocket the difference, and play another round.

It is important to understand that this isn't really a bet that heating oil is going to rise in absolute terms. Rather, a profit will be made so long as the price difference between heating oil and WTI increases, which can happen even if the absolute price of heating oil falls.

As you can see, traders can profit when prices decrease just as easily as when they increase. Furthermore, pointing the finger at speculators ignores the fact that there is a trader on both sides of every transaction; and as a consequence, whatever one trader gains, another loses. Only the trader that correctly forecasts the direction that the market is going earns a profit.

Derik Andreoli, Ph.D.c. is the Senior Analyst at Mercator International, LLC. He welcomes any comments or questions, and can be contacted at dandreoli@mercatorintl.com.

We can pull two important conclusions from this. First, Sanders insinuated that speculators are motivated to manipulate the market, drive the price up, and sell. Of course by the same logic, other speculators (i.e. those with short positions and many of those playing the spread) would be motivated to drive the prices down.

Think about it: If speculators could control the market, they could make just as much money by driving the price below the level supported by fundamentals, purchasing paper barrels at that time, and sell them when the price bounces back up.

This brings us to the second point. Prices are not random. Market fundamentals exert a strong pressure on every commodity. This is true even in uncompetitive markets. Consequently, every trader has the incentive to gather, analyze, and interpret as much information about the market fundamentals as can be garnered.

The real problem with the oil futures market is that the information available to oil traders—hedgers and speculators alike—is often poor or incomplete, and sometimes the most important factors are unknowable, especially when you consider demand forecasts for the Eurozone or production forecasts for Libya, Iraq, Sudan, or any number of other unstable countries.

In short, every trader evaluates the information at hand to determine whether markets are set to tighten or loosen, and it's in their best interest to correctly forecast the future balance of supply and demand. Over the course of May, the European economic outlook took a turn for the worse to a predictable result: oil traders have lowered their forecasts of future oil demand, and the price of oil futures has fallen.

Because every transaction requires a buyer and a seller, every transaction reflects the fact that the buyer and seller have opposite opinions regarding where the price is likely to go. Clearly some traders are more bullish about European demand than others, but an increasing number of bulls have become bears, and as they have shifted sides, oil prices have fallen.

Basing the price of physical crude on paper transactions made by speculators may sound crazy or chaotic, but this process ensures that the market price reflects the collective wisdom of the group. In a way, each purchase/sale represents a vote, and the price is set democratically. There is no better, more reliable, or more robust way to determine the value of oil to be produced and consumed at some point in the future. ☐

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Warehouse/DC Technology and Innovation Roundup: The State of Automation

BY **BOB TREBILCOCK**, EDITOR AT LARGE

Something is happening in the world of materials handling automation. Just look at the numbers. While the industry has not yet recovered to its pre-recession peaks, both the conveyor and automatic guided vehicle (AGV) sectors posted impressive year-over-year growth numbers. In fact, the Material Handling Industry of America (MHIA) is anticipating 12 percent growth in 2012.

But it's not just the numbers. Mainstream business publications, like the *Wall Street Journal*, have written stories about automation projects at a Sunny Delight beverage plant in Massachusetts and a Stihl chainsaw factory in Newport News, Va. AT&T has run a national commercial highlighting lift trucks that operate without drivers.

What's behind the interest in automation? And, what might the future of automation look like based on the products and solutions in development today? To find out, we posed those two questions to 10 leading materials handling automation and integrated systems suppliers. Here's what they had to say.

Moving toward lights-out automation

Manufacturing has been moving toward lights-out automation for years—that's a factory that operates with minimal human intervention. Distribution systems are now moving in that direction as well, says Ross Halket, director of automated systems for Schaefer Systems International.

"We are implementing systems where pallets are automatically put away into storage and are then de-layered, singulated, and stacked in sequence on a pallet that is then transported to a place where it will be picked up by a lift truck," says Halket. "With piece picking, we are working on vision-guided robots." Schaefer only has two piece-picking robotic systems running, he adds, but it is working with partners to refine the technology.

Halket believes at least four trends are behind the demand for more complex, automated solutions.

The first is that the cost of automation has come down, putting it in reach of more end users. "In the wholesale pharmaceuticals industry, a company automated when they reached $1 billion a year in sales or 25,000 lines picked a day," Halket says. "Today, that industry can justify automation with $500 million in sales and 14,000 lines a day."

The second is the variability of the workforce. "In places like Calgary, Edmonton and Alberta, everyone goes to work in the oil fields when the price of oil goes past $100 a barrel," Halket says. "Automation is being used in places like that to stabilize the workforce."

A third is the absolute need for accuracy. "The cost of handling an inaccurate order is pretty high," Halket says. "If you ship 13,000 cartons a day with a 94 percent accuracy rate, you're re-handling about 780 cartons a day because of mistakes. That's pretty expensive."

Finally, it's about space. "Just finding space close to a major urban area is pretty hard these days if you need to put down a 1-million-square-foot warehouse," he says. "A compressed footprint is a greener facility."

Smaller and more frequent deliveries

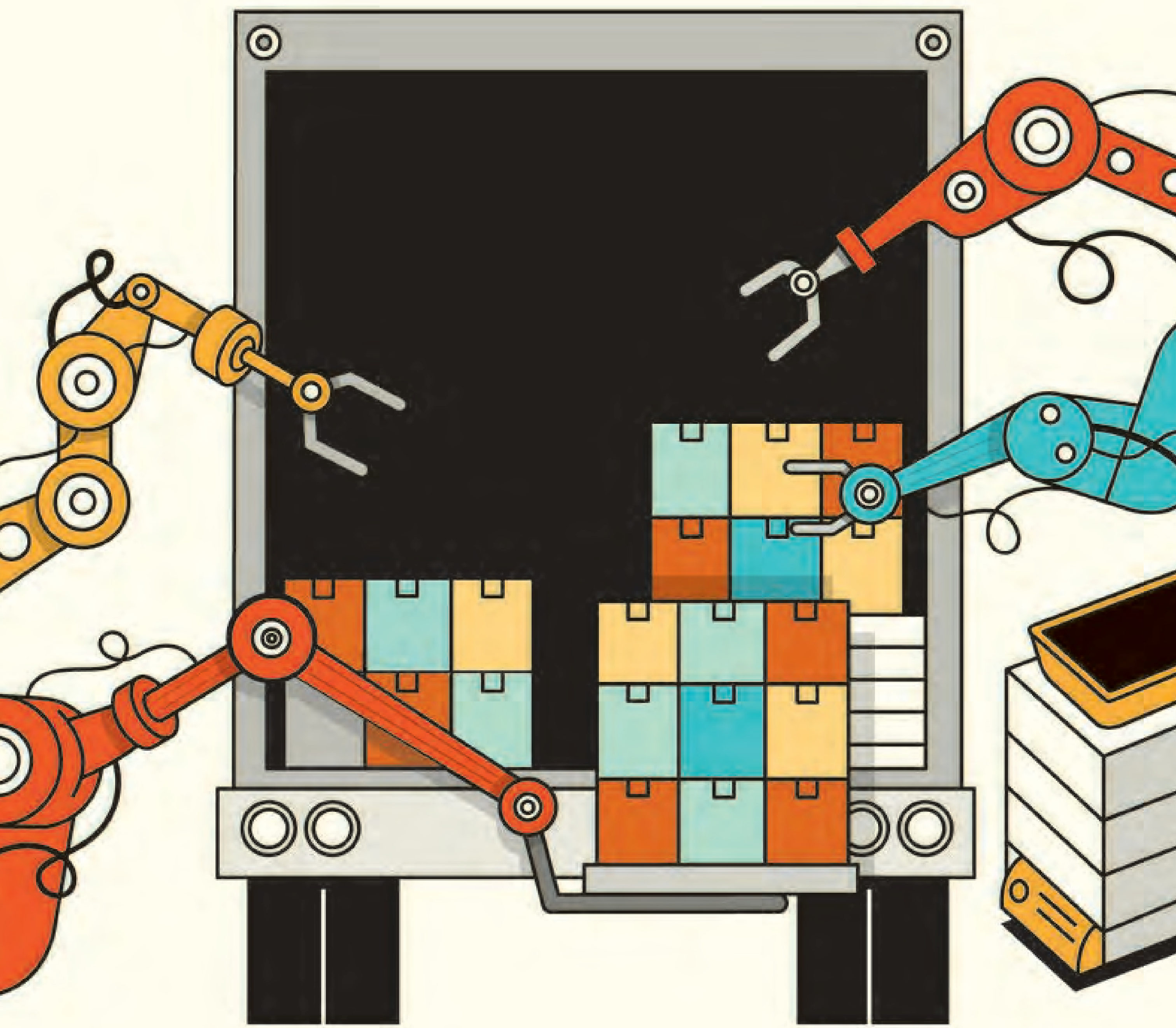
Mike Khodl, vice president for solution development for Dematic North America, sees a market in which automation with a higher level of complexity as a normal part of the solution is increasing compared to where we were as recently as two to three years ago.

Like his competitors, Khodl attributes the interest in robotics, mini-load automated storage and retrieval systems and shuttles to the explosive demand for piece picking. And while e-commerce is a major character in that story, so is the demand for smaller and more frequent deliveries to store fronts, especially in urban areas.

"If a store is getting a pallet, it's a mixed pallet. Instead of a case, it's getting a tote with eaches. And they're loading the trailer in the reverse order of the stops so they can sequence the deliveries," says Khodl. That, he adds, assumes that a retailer is even sending out a full trailer. Increasingly, retailers are going to smaller trucks and vans because of congestion in urban areas. "All of that requires more touches in the distribution center, which means we have to find new ways to be more efficient to reduce costs," says Khodl.

What will drive automation in the future? Khodl thinks urban congestion will play a major role. "By 2020, there will be 20 mega cities on the planet with 20 million people," he says. "If Los Angeles, Cairo, New York, London, Frankfurt,

More companies are looking to materials handling automation to improve processes, streamline shipping operations, and lower supply chain operating costs. We asked 10 leading systems integrators what the future of automation holds in store.



Harry Campbell

Goods-to-person solutions deliver slow- and medium-movers to a workstation for picking, minimizing the time an associate spends walking.

Dubai, and Shanghai are all mega cities, how are we doing to do distribution into those cities?"

The answer, he adds, is that distribution will have to be space-saving, efficient, and use as little labor as possible. "We'll have to put facilities near these cities, which means that land and labor is going to be expensive," Khodl says. "And, in an e-commerce world, that's going to mean more piece-picking solutions. I think we're just seeing the tip of that iceberg."

A technology renaissance

"The amount of automation being requested here in the U.S. is unprecedented," says Larry Strayhorn, president of TGW Systems. "Our engineers question whether there are diminishing returns, but we're being pushed by our customers to automate the last processes."

What's behind this technology renaissance? Strayhorn believes that it's related to the pain of downsizing that accompanied the last recession. "The cost of labor has always been the most important factor in automation projects," Strayhorn says. "But I don't believe it's just the current cost of labor. Instead, it's the cost of going through labor cycles, including the negative press that goes along with downsizing. Automation is one more way to deal with the speeding up of the business cycle."

As with other industry leaders, TGW is seeing an increasing demand for piece-picking solutions. "Our focus is on using shuttle and mini-load technologies to bring the material from buffer systems to a workstation in the right sequence to do the picking, or full automation to a robotic work cell to do the palletizing," says Strayhorn. "Technologies that are able to operate at 1,000 cycles per hour out of one aisle and deliver products in the right sequence are enabling us to create the kinds of solutions that customers are looking for."

Beyond better mechanical solutions, today's automated materials handling solutions are all about the software. "Yes, you have to have these great mechanical systems," he says. "But in order to take advantage of the capabilities of the equipment, you have to have new levels of software. We're investing heavily in our warehouse control and warehouse management software to keep pace with the mechanical technology."

Look for more shuttles

"We have a saying at Knapp," says Josef Mentzer, chief operating officer for Knapp USA. "OSR is the answer. What is the question?"

At Knapp, OSR stands for Order Storage and Retrieval. That's the company's moniker for systems that use mobile shuttles instead of mini-load cranes for the high-density storage of cartons, totes, and individual products weighing about 100 pounds or less.

As more and more end users focus on smaller deliveries and each picking, Mentzer believes the market for shuttles is poised for exponential growth. "We developed shuttle technology to optimize the storage and picking of slow moving items," he says. "Today, we have 1,400 each-picking solutions in operation, using thousands of shuttles. Those shuttles are being used across industries, and they're being adapted to buffering, shipping sortation, and work-in-process. It's not just picking any longer."

In addition to efficient processes, Mentzer says shuttles are sustainable, requiring about 5 percent of the electricity required to operate a mini-load automated storage and retrieval (AS/RS) and only about 20 percent of the electricity required for a carousel system.

They're also capable of more cycles per hour in a smaller space than a mini-load. "A mini-load can typically do 100 to 150 double cycles per hour per aisle," Mentzer says. "With a shuttle, I can do more than 700 cycles per hour per aisle. Basically, it takes four to five aisles of a mini-load to pull out the same number of items per hour as a shuttle."

What's next? Knapp is developing a vision-guided picking system as an alternative to RF- or voice-directed picking in conventional areas in the warehouse. "This is still an emerging solution," says Mentzer. "But we believe it could change what we do in the warehouse and how we do it."

Simplify automation, optimize operations

Daifuku Webb's traditional customer base in North America has been manufacturing. In that space, manufacturers are changing their approach toward automation, says Ralph Mills, director of integrated systems. That is especially true of automatic guided vehicles (AGVs), as more manufacturers replace lift trucks and conveyors.

Mills attributes the renewed interest in AGVs in part to the introduction of the automatic guided cart, a stripped-down, lighter duty AGV that follows magnetic tape for navigation. "The automatic cart lowered the price of entry for AGV technology," says Mills. "While magnetic tape was initially viewed as a step back, it simplified the creation of a guidepath. Move the tape, and the vehicle will follow it." According to Mills, Daifuku Webb alone produced more than 600 automatic carts last year.

Although labor is the traditional justification for automation, Mills believes that material flow is emerging

as an important consideration by companies considering automation. "Customers are justifying automation within the four walls of the warehouse based on downstream labor savings," Mills says. "If a food and beverage distributor can use AGVs to load a trailer in the delivery sequence and maximize the payload, that can deliver downstream savings that are far greater than the labor savings in the warehouse."

Speed counts

In manufacturing work cells, where robots weld seams, install windshields, and load and unload machines, automation has been commonplace for years. Now, manufacturers are automating the processes between the work cells and doing so on a global basis, says Tom Meyers, national sales manager for Muratec. "We had 40 percent growth last year, and it was on a worldwide basis," says Meyers. "China, for instance, was an area where we saw significant growth."

Reducing labor has always been the traditional justification for automation in manufacturing, where the jobs are more costly because the skill level is higher. Today, there is also an emphasis on making things operate faster. "If I can increase the speed of the equipment, I can get more throughput and productivity from the equipment that I'm installing," says Meyers. "Automated storage and retrieval cranes are running faster than before. And while AGVs are not traveling faster along their paths because of safety concerns, their response times for loading and unloading are faster than they used to be."

Automated materials handling is also being applied in new ways on the manufacturing floor. Historically, AS/RS technology was installed in high-bay facilities that stored raw materials and parts or finished goods. "Now we're putting in systems with fewer aisles and a 20-foot ceiling to handle work-in-process," says Meyers. "We're using AGVs instead of lift trucks and conveyors."

More importantly, he adds, automation is allowing factories to operate two and three shifts a day without employing a three-shift workforce.

From pallets to cases to pieces

The world of materials handling is getting smaller, says Markus Schmidt, senior vice president for Swisslog. "The order that shipped as a pallet a few years ago is shipped as a case today and will be shipped as a piece tomorrow," he says. "The quantities received at the store are smaller and more precise. This has a profound impact on the distribution center."

By precise, Schmidt means that stores want to receive their deliveries packed and sequenced in a way that reduces the labor requirement in the stores. "If you can do something in the DC that allows you to replenish the shelf in the right sequence, you can operate a store with one or two less employees," Schmidt says. "For a retailer with a thousand stores, that has a major impact. There's no way to achieve that without technology."

Those changes have opened the door for picking solutions that bring items to a workstation, such as multi-shuttles and mobile robotic solutions. "Kiva created a market for this type of entry-level, goods-to-person picking solution and we have a similar technology in our portfolio with the AutoStore," says Schmidt.

Schmidt believes that the next horizon will be vision-guided, robotic piece-picking solutions and shuttles that can roam a facility to make a delivery. "Today, the shuttle delivers its load to a conveyor," says Schmidt. "Tomorrow, I believe we'll see the shuttle leave the racking and go where the conveyor would go. Think of it as a free-roaming shuttle solution."

Balance in multi-channel retailing

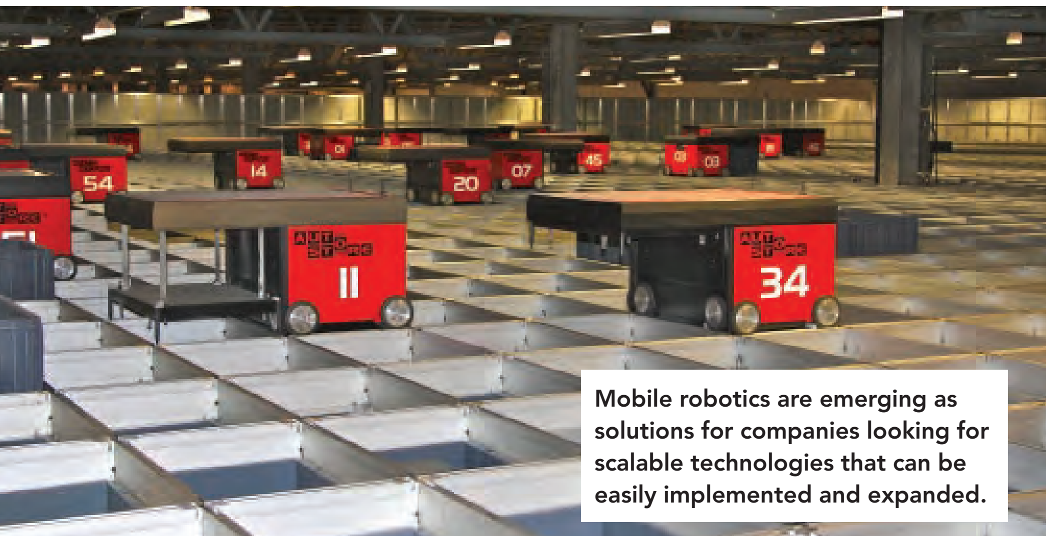
When it comes to distribution, multi-channel retailing is creating challenges and opportunities for automated materials handling. "I think of it as store front and front door fulfillment," says Jerry Koch, director of corporate marketing and product management for Intelligrated. "You want the right mix of equipment and software to make decisions at the speed of the automation to have a positive effect on the day."

The approach being pursued by Intelligrated, says Koch, is to use warehouse management and warehouse control software to manage the release and flow of orders in a way that balances the work in the building. The system not only gets materials to the shipping dock efficiently, it distributes the work in a manner that keeps everyone busy without creating bottlenecks. If one area of the facility becomes too busy, the system can redirect the flow of material to another area that has capacity and it can make those decisions dynamically in real time.

Looking forward, Koch and Intelligrated expect to see breakthroughs in robotics, especially as vision technologies mature. "This is an area where there are a lot of conversations going on with customers," says Koch. "The driver is the cost and availability of labor. We expect to see this continue to pick up steam."

Integrating humans and automation

The appetite for automation in North America is game changing,



Mobile robotics are emerging as solutions for companies looking for scalable technologies that can be easily implemented and expanded.

says Kevin Ambrose, CEO of Wynright.

While there is talk in the industry about lights-out automation—systems that complete processes entirely with automated materials handling equipment and software—Ambrose believes that the next frontier is creating an environment where automated materials handling, robotics technology, and humans work hand-in-hand. He looks to Apple for the model.

"There is no dispute that Steve Jobs mastered the confluence of technology and humanity," says Ambrose. "We believe that the software and the interfaces in materials handling systems need to be as simple and intuitive as an iPod."

In addition to investments in software and robotics, Ambrose has recruited talent from industries outside of materials handling that can bring a different perspective to the products and solutions Wynright is developing.

"We want to take that mandate for simple and intuitive and apply it to the solutions we're putting in distribution centers," says Ambrose. "We want an environment where people feel comfortable working side by side with automation and robotics rather than have the materials handling equipment off in its own separate area."

March of the robots

While most companies see an explosion in automation, Brian Keiger, global technology sales leader for Kuka Systems, takes a contrarian view. He expects to see a slow down in the move to automate, at least in the short run. That, he adds, may be a good thing.

"Twenty five tons of product are being picked per day in the average warehouse," Keiger says. "In the past, a full pallet of product came in and a full pallet with maybe eight SKUs of product was shipped out. Today, we're seeing pallets with eight SKUs per layer and the package types are outrageous."

At the same time, he adds, the baby boomers with unique attitudes and skills are retiring. "The kids coming out of college don't want to stand around and pick all day long," he says. With those trends as a backdrop, companies are asking new questions about how they operate their facilities. Those questions are leading to the coming pause in automation.

"End users aren't just looking at picking," Keiger says. "They're wondering if they should automate storage or if they should automate the movement of goods. As they get more thoughtful, they're slowing down their purchases of automation—at least temporarily."

Just as the end user community is looking beyond automated solutions for picking, so is Kuka Systems. "We're looking at total warehouse solutions," Keiger says. "We're developing solutions that can handle everything from a 2-inch by 2-inch box up to a 48-inch by 48-inch box. And, we're launching a mobile robot that can move a load weighing up to 3,500 pounds." ☐

—Bob Trebilcock is Editor at Large of Logistics Management

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Building air cargo

With the ongoing consolidation of air carriers, shippers are growing concerned about losing old relationships while having to forge new ones. Fortunately, freight intermediaries are helping them stay on course.

BY **PATRICK BURNSON,** EXECUTIVE EDITOR

With the recent Southwest/AirTran merger, and the possible merger of U.S. Air and American Airlines, capacity and service issues are causing many shippers severe discomfort. Freight forwarders, however, say that this disruption can be mitigated with collaboration and ongoing strategic planning.

"We are confronted with a dual-edged sword," says Washington, D.C.-based Airforwarders Association (AfA) Executive Director Brandon Fried. "In one sense, we don't want to lose American because it may mean fewer choices. But on the other hand, a merger with U.S. Air could provide more efficiency on the routes they serve."

According to Fried, Southwest is now promising to deliver "vastly superior" domestic service than it had in the past, and with economies of scale that will save shippers money. "But in the end," he says with a little chuckle, "we can't really compete with the other modes on rates. When you are buying space on an aircraft, you are paying for value and time-savings that other carriers can't provide."

And because more than 80 percent of air cargo is managed through freight intermediaries, relationships matter more than ever before. Christopher Connell, president of Commodity Forwarders, Inc. in Los Angeles says that going directly to the carrier is not an option many shippers will make.

"Mergers are nothing new in our business," says Connell. "We've been through United/Continental; Delta/Northwest; and KLM/Alitalia deals in the recent past, so we expect a few minor hiccups during the transition. But the long-term benefits are worth it."

For Connell, the upside has been better attention from air cargo providers who now have cash flow and a stable workforce. He observes that unhappy employees can severely damage an airline's brand, and impair operations.

"No forwarder can afford a service failure," says Connell. "This is especially true with perishable cargo. Given the time-definite nature of our business, we only partner with the most reliable carriers."

Despite the ongoing merger and acquisition activity in the air cargo sector, he's not particularly worried about competing directly with a specialized carrier. Connell notes that asset-based transportation providers are not as nimble or as responsive as intermediaries capable of brokering services on both ends of the movement.

"Tripartite agreements now provide us with ways to bring value-added services, like security screening and consolidation," Connell says. "And on the trucking side, we can bring considerable economies of scale."

At the same time, however, Connell concedes that some airlines are selling their tracking and tracing capabilities "quite aggressively," and seem to be gaining share in Latin American markets. "Some shippers prefer working with air carriers if they can 'float their inventory' using sea-air strategies," Connell says. "But we don't see this as a major threat."

Richard Fisher, president of the airfreight forwarding company Falcon Global Edge, admits that he's lost some customers who preferred to work directly with the airlines. "But most come back," he says. "While airlines can be competitive on domestic moves, international shipments pose more security challenges. That's where a forwarder can really help."

Caveat emptor

Because sending products from one international destination may mean working with a multitude of carriers, requirements, and legalities, shippers are advised to make a checklist before

relationships

committing to a relationship with an intermediary.

For Leman (Chip) Bown, Jr., managing director of regulatory compliance at FedEx Trade Networks Transport & Brokerage, that means sticking what he calls the "five 'P's."

"Prior planning promotes positive performance," says Bown. "When choosing a logistics intermediary, shippers have the challenge of selecting a provider that best meets their specific needs. This can be accomplished by planning ahead and using an international checklist to obtain the details needed to make an informed decision."

Bown, who is a member of the National Industrial Transportation League (NITL) Board of Directors and Chair of the Air Transportation Committee, notes that a freight forwarding service generally provides one or more estimates to the client along with advisement, when necessary.

"Considerations that affect price will range from origin and destination to special requirements, such as refrigeration or, for example, transport of potentially hazardous materials.

Daniel Vasconcellos

Assuming the client accepts the forwarder's bid, the freight is readied for shipping," says Bown.

But that does not mean the shipper should relax.

"It's important to remember that the shipper will also have reporting responsibilities to the U.S. government as the exporter of record," says Bown. "While a forwarder can perform the filing service, it is the shipper that must provide the information."

Data deficiencies can also delay air cargo shipments. Some common examples would be data and documentation lost in translation between languages, or data simply lost by incompetence.

Forwarders also frequently employ customs specialists to manage international shipments, including export and import declarations. Because freight forwarders act as authorized agents with power of attorney for clients, most have accounting and legal staff to ensure compliance with interstate and international regulations. The forwarding company collects and consolidates all carrier and supplier billing, bills the customer, and distributes payments to individual carriers and suppliers.

Andrea Appell, director with international compliance consulting firm BPE Global, says an air cargo forwarder must be charged with protecting a shipper's brand as well.

"The forwarding team that a shipper chooses should be based on how well they ensure license management," says Appell. "This is especially true when it comes to penetrating a new market or launching a new product."

Appell adds that badly calculated taxes and slow response to Customs officials are among the most common forwarder pitfalls, but that value can be added by addressing these concerns as soon as they surface.

"Having done that," Appell says, "shippers can use compliance as a competitive advantage by adding value to the collaboration."

Peter Gatti, executive vice president of the NITL, also suggests that shippers do considerable diligence before even starting the dialogue. "The League really helped initiate this kind of policy in the early 1990s with the Tripartite Shippers' Group," he says. The group now has now evolved into the Global Shippers' Forum.

Gatti notes that air carriers have long been organized on a global basis to ensure that their views have been heard by national and international policy makers and to communicate established policies, laws, and regulations back to their respective memberships. "However, shippers' views are also crucial to the international dialogue that must take place if effective policies are to be established that balance the economic, commercial, and environmental concerns of society," Gatti says.

With this in mind, all air cargo stakeholders seem to be in agreement that the open exchange of ideas and market intelligence goes a long way to taking the risk out of doing business during this period of upheaval—and that industry bonds will be strengthened as communication is nurtured.

—Patrick Burnson is Executive Editor of Logistics Management

Selecting a global air forwarder in China

Air cargo is an essential component of successful operations anywhere in the world, but especially in China—where services rendered may not always be what they seem.

Rosemary Coates, President of Blue Silk Consulting, a global supply chain consulting firm, and the author of *42 Rules for Sourcing and Manufacturing in China*, notes that global supply chains are easily disrupted when shippers "blindly trust" their supplier to arrange transportation and the export of products from China.

"There are thousands of small logistics companies in China that advertise as air freight forwarders and export trade brokers," says Coates. "Almost anyone will say they can do this job because they have connections to trade services, but so many things can go wrong and result in supply chain disasters. If a Chinese air cargo shipper cannot get goods to the U.S. or European markets in time for the season or the sale, or to meet peak demand, the company's logistics network has failed."

Coates says that small air cargo freight forwarders can provide personalized service when shippers need special care, but they may also add time and frustration to the supply chain. Because they are independent businesses, small Chinese forwarders rely on a network of agency relationships and one-off favors to move freight.

"Essentially, these small forwarders and brokers are just air cargo coordinators," says Coates. "They typically do not own any of their own equipment, make no investments in capital equipment or systems, and rely on subcontractors. Their networks are only as strong as the weakest link." It's common, she adds, to see small forwarders in tier-two or tier-three cities moving air cargo in tricycle carts from manufacturing sites to airports.

Some of these companies also subcontract the preparation of export documentation reporting, which can cause delays in China if documents are not properly prepared. "Shippers should select an air cargo freight forwarder or broker with a global network of company-owned offices, standard procedures, and information technology (IT) systems capabilities to comply with the complicated export and import regulations," she adds.

Global air cargo logistics providers that have established offices across China offer advantages, including:

- Standardization and consistency of procedures worldwide.
- Up-to-date information about export/import regulations.
- Communications standards and protocols.
- Global IT systems to track the many documents required for global trade shipment progression and compliance with trade regulations.
- Negotiated rates and schedules with air carriers.
- Standard documents and assistance with completing them.
- Landed cost and total cost estimations.
- Familiarity with International Commerce Terms of Sale (Incoterms).

"Keep in mind that just because these forwarders are larger does not mean they are more expensive," says Coates. "Very often, the size of the forwarder allows them to negotiate for better volume rates from air carriers."

—Patrick Burnson, Executive Editor

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1 2 3 4

BY **BRIDGET McCREA,**
CONTRIBUTING EDITOR

In some cases, traditional logistics and supply chain operations are slowly but surely giving way to more streamlined, mobile processes that rely heavily on wireless devices and applications to operate at peak efficiency levels around the clock and around the world.

But, many logistics organizations are still saddled with wires, siloed systems, and business partners who don't communicate with one another. These grim realities are holding many logistics managers back from being able to fully realize the benefits of a truly mobile supply chain—that ultimate, "mobile-centric" Nirvana where shipment visibility becomes second nature.

Over the next few pages we'll take a look at the top four mobile trends shaping the supply chain and talk to top analysts about just how far away we are from realizing real-time supply chain management, complete with logistics visibility that was once only the stuff of dreams.

Trends shaping mobility

The market's top analysts discuss the trends that are pushing mobility deeper into every-day use and explain just how far we are from realizing real-time supply chain management—complete with logistics visibility that was once only the stuff of dreams.

1 Cellular technology is advancing rapidly. If there's a technology that's helping to get us to real-time visibility in a mobile supply chain, it's mobile devices and the software that makes them tick. The capabilities of both have progressed significantly over the last decade, with even the most basic cellular phones now including GPS functionality, text messaging capabilities, and application functionality.

According to Clint Reiser, research analyst with ARC Advisory Group, several technology-agnostic mobile application platforms have been developed to help suppliers extend their enterprise, supply chain, and commercial applications to mobile devices. These applications run on handheld cellular devices and offer features such as information capture and retrieval, dispatching, driver and route progress tracking, and location and event reporting.

"The performance of the cellular mobility market has progressed much more rapidly than the traditional fleet telematics market—technology that remotely monitors the location, status, health, and activity of vehicles and allows for ongoing two-way communications with drivers," Reiser says. "Cell phone network coverage has become more extensive and the capabilities of mobile devices and mobile software ecosystems have progressed significantly."

As cellular technology progresses it's also slowly displacing older, legacy methods of moving and tracking freight outside of the four walls of the warehouse and distribution center. Those cellular advancements have even outpaced customer requirements, making traditional telematics systems obsolete in many cases.

Cellular technology has partially displaced traditional fleet telematics solutions (which generally include in-cab displays, on-board computers, and satellite communications), adds Reiser, who points to improved handheld devices, more robust application software, and cellular network proliferation as the driving forces behind cellular's prowess. "Future advancements in modern mobility," he says, "threaten to displace additional segments of this well-established telematics market."

2 Device costs have decreased significantly. Ten years ago, it would have been cost prohibitive for the average shipper to outfit its managers, employees, and drivers with handheld phones. Cab-mounted, onboard computers were even further out of reach, often fetching $5,000 or more per unit.

Today, the proposition is much more affordable. The fact that device costs have come down across the board have placed supply chain mobility on the radar screen of more shippers, says Dwight Klappich, research vice president for Gartner.

He points to the Xata Turnpike fleet optimization device as a good example of how onboard computer capabilities can

be achieved with just $30-$50 a month versus $5,000 per unit. The size of a pack of playing cards, the device is powered by a cable connector and uses Bluetooth to communicate with handheld devices. "In the past, the PepsiCos and Coca-Colas of the world were the only companies that could justify the cost of such solutions," says Klappich. "The guy with five trucks was left out of the loop. Thanks to reduced device price points that's no longer the case."

3 Shippers are using mobile to gain unprecedented visibility. There's nothing quite like a little peer pressure to get shippers to pay attention to advancements in mobile technology. When it comes to the supply chain, visibility gains tend to be the key drivers: when one company achieves them, everyone else wants them too.

"Right now we're seeing unprecedented visibility across the supply chain made possible by mobile technology," says Drew Nathanson, director of research operations for VDC Research. Extending from the point of manufacture all the way through to the point of sale, that level of visibility certainly puts the control in the hands of the shipper.

"When companies receive actionable intelligence on precise product location in the supply chain," says Nathanson, "they can leverage that information internally and use it to gain operational efficiencies, streamline their operations, and reduce costs."

4 The consumer is leading the mobile charge. Most of the mobile advancements taking place in the supply chain right now can be traced back to today's demanding, hyper-informed consumer.

"Customers want to know about everything: product design; delivery times; how to return the product if they don't like it," says Tom Wrobleski, vice president for Capgemini Consulting's supply chain practice. "All of that has to be handled in the background at both the manufacturing and retail levels."

To make that happen, Wrobleski says an increasing number of companies are turning to mobile devices, solutions, and applications. Visibility over customer orders is a top concern that most supply chain executives are trying to tackle right now, says Wrobleski, who sees cellular devices, mobile applications, GPS locators (for reaching out to the consumer at the point of sale), and the cloud as a few of the most important tools shippers will need to achieve data synchronization and sharing.

"Companies will have to focus on flexing up and handling the proliferation of data and an increasingly demanding consumer," says Wrobleski. "Mobile will play a key role in helping them achieve those goals in their supply chain operations."

—Bridget McCrea is a Contributing Editor to Logistics Management

Is a real-time, mobile supply chain in the works?

With these key trends affecting the state of mobility in logistics and the supply chain, many shippers are left wondering just how close or how far away we are from real-time supply chain management—complete logistics and supply chain visibility made possible by mobility.

For now there isn't a direct answer to that question, but some of the industry's top analysts offered their thoughts on just how far off that Nirvana really is.

The fact that the smart phone is now affordable for companies to purchase and distribute to individuals across the supply chain has put shippers a few steps closer to mobile-enabled, real-time visibility, says Gartner's Dwight Klappich. "That affordability opens up the marketplace and allows companies to procure technology at a much lower price point," he says.

But it will take more than just a phone for companies to begin reaping the rewards of complete supply chain visibility. Klappich says shippers will have to develop holistic, mobile strategies that factor in all aspects of their operations—including activities that take place in and out of the warehouse.

VDC's Nathanson says that as shippers continue to educate themselves and adopt mobile technologies on a piecemeal basis, the picture of real-time supply chain management and visibility is coming into focus. One area where companies need to place more focus, according to Nathanson, is on better supply chain collaboration among business partners, customers, and vendors. Without that piece of the puzzle in place, real time supply chain visibility won't be achievable.

"Companies are going to have to start communicating and collaborating with one another," says Nathanson, who expects shippers to move in that direction over the next 12 months to 24 months. He says he's already starting to hear about more partnership-type structures in industries like fashion and luxury goods, where companies can "see" all the way through from the point of manufacture to the point of sale. "It's definitely happening in some sectors," says Nathanson, "but I still think we're years away from that 'amorphous' supply chain where everybody talks to everybody else."

With mobile technology continuing its evolution and becoming more affordable for shippers of all sizes, the mobile, real-time supply chain is sure to surface in some iteration over the next decade. Knowing this, Capgemini's Wrobleski says the time is right for logistics and supply chain professionals to educate and equip themselves with the tools they need to harness the trend and to accommodate their own demanding, tech-savvy customers—most of whom are already mobile-enabled.

"We can't avoid the mobile supply chain," says Wrobleski, "and we also can't get far enough out in front of it."

–Bridget McCrea, Contributing Editor

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WAREHOUSE/DC MANAGEMENT

How to MAXIMIZE your WMS

Today's warehouse management systems (WMS) come with sophisticated rules and logic, real-time seamless integration to aligned business applications, and effortless interfaces to automated equipment and mobile technology. But why are we still not putting these capabilities to work?

BY **MAIDA NAPOLITANO,** CONTRIBUTING EDITOR

Early warehouse management systems (WMS) stuck to the basics—tracking what was coming in, what was going out, with workers manually keying in data along the way. Since then, the technology has matured to expand beyond the core functions of receiving, picking, and shipping to include an extensive menu of modules to execute and support every conceivable task occurring under the roof of a warehouse or distribution center (DC).

Many come with sophisticated rules and logic, real-time seamless integration to aligned business applications, and effortless interfaces to automated equipment and mobile technology. Yet, despite having many of these technological advancements within their reach, users are still not using their WMS to their fullest potential. "Industry and market folklore suggests that users are availing themselves of no more than 60 percent to 65 percent of the functionality of contemporary WMS," says John Hill, director for supply chain and logistics consulting firm, St. Onge Company.

Dwight Klappich, vice president for research and consulting company at Gartner Inc., goes as far as saying that a name change may even be in order. "We shouldn't call it a warehouse 'management' system, we should actually call it a warehouse 'execution' system, because that is basically what companies are using it for—the execution of specific warehousing tasks."

Over the next few pages we'll put a spotlight on WMS functionalities and capabilities that warrant a second look. Many have documented benefits and savings that can maximize the return on your WMS investment. So, if you feel your WMS has yet to reach its potential, it may be high time for you to take notes.

Task interleaving

Any discussion on maximizing your WMS deployment is not complete without a discussion on task interleaving. Also known as dual cycling, task interleaving involves having the system direct a worker with a queue of prioritized tasks that can be performed based on his travel paths and the specific handling equipment being used.

Although it's typically been a standard offering in

With the implementation of its new WMS in its McDonough, Ga., regional DC (above), the company shed its paper-based systems and maximized its WMS to automate inventory, shipping, and labor. The company is now rolling out the WMS to the rest of its regional facilities.

WMS, this functionality has not been used extensively in many DCs. Users may be wary of any additional WMS set-up and training required, especially for workers accustomed to performing mostly one job.

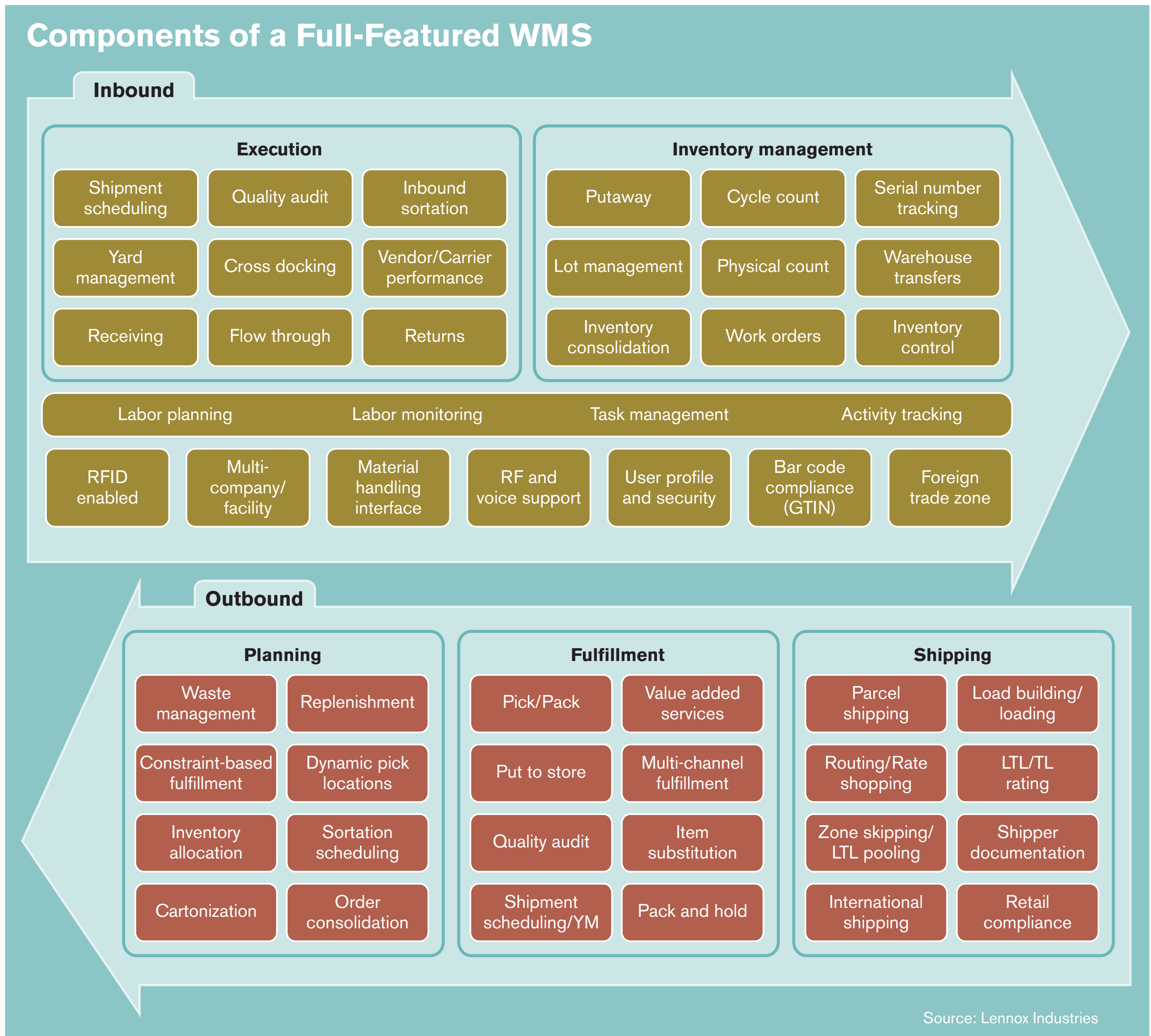
If done right, however, it can increase worker productivity by a reported 20 percent by eliminating movement of a truck with no load. For example, a driver may need to put away a pallet at location A21. Instead of heading back to the dock "empty" or with no pallet, the task interleaving function of the WMS instructs him to pick up a replenishment pallet at location A23, because he's right there. Bob Silverman, senior vice president of Supply Chain & Logistics Solutions, a consulting group within the real estate firm Jones Lang LaSalle (JLL), warns however that to be truly efficient, task interleaving requires significant activity moving in multiple directions simultaneously. "If not properly planned and controlled this can result in congestion and lost productivity."

Integration with labor management systems (LMS)

By interfacing with the WMS, labor management systems are able to track and monitor each worker's performance in a DC.

How does it work? The WMS tracks critical data for each worker such as the number of units picked, the number of orders completed and the time elapsed to pick an order. The LMS then extracts this data and uses it to compare how well workers are performing against established labor standards. Above-standard performance is rewarded, while poor performance is reviewed to determine if there were any barriers to productivity. "It provides the ability to measure and reward employee performance," says Silverman. "As a result, you get better labor productivity."

In addition, with advanced visibility into future workloads from the WMS, you could also plan exactly how many workers you need for a task and put together a much better budget with this solution.



Yet Klappich notes that LMS penetration is only at 20 percent to 25 percent of the market. Many feel implementation can get quite involved because labor standards first need to be developed at the granular level. He speculates, however, that as more managers are pressured to enhance productivity and efficiency in the warehouse, LMS installations will increase.

Steve Banker, service director of supply chain management for the ARC Advisory Group, reports that LMS, specifically those based on engineered labor standards, has, in fact, been getting very good payback periods. "Whereas on average the payback period for WMS is about two years—which is pretty much average for supply chain applications—it's often under a year for LMS."

Banker adds that the ROI is getting bigger and better even for smaller warehouses, with some lower-cost solutions now readily available.

Integration with transportation management systems (TMS)

Warehouse and transportation management are becoming more closely entwined than ever. As a result of this trend, a growing number of WMS vendors are either adding transportation management capabilities to their systems or offering compatibility with the goal of providing seamless logistics visibility.

But why aren't users taking advantage of this integration? To some shippers, size matters. "If I've got 10 parking spaces and five docks, I don't need a system to do that," says Klappich, "But if I've got 200 parking spots and 25 docks with a number of trailers coming in and going out every day, then dock-scheduling [from the WMS] and yard

management modules [from the TMS] may be needed."

Many are taking advantage of this integration by streamlining the flow of outbound product from picking to trailer loading. Shipping documents are printed, along with pick labels, so that completed orders are picked and immediately routed to the outbound carrier's lane.

"By interfacing with each other, WMS and TMS decisions can be made even before product is received," says Silverman. "Carriers and customers have access to information in advance of shipments being picked up and delivered."

Cartonization

If you're picking orders with products in different quantities, sizes, and weights, then you need to know the right carton to pack that order. The cartonization module, resident in many WMS but not being used, the selection of the right carton based upon the sizes and weights of items for a given order.

According to St. Onge's Hill, not everyone needs cartonization, but often times those that do are unaware of its availability. "I don't think they're neglecting it. They might think that for whatever reason that it's too complicated. I have seen it in operation and the benefits are incredible," says Hill.

It begins with the determination of whether you've got the right-sized box for a given order. This minimizes the amount of air shipped, keeping transportation costs low. Using the right-sized box also decreases the need and costs for dunnage, while reducing shipping damage. Hill suggests investigating historical order sizes and weights in order to determine the range

Lennox's cool new WMS

For over a century, Lennox Industries has been setting the bar for home comfort by innovating, manufacturing, and distributing heating and cooling equipment, parts and supplies. In 2008, the company was in the midst of transforming its distribution network from a centralized flow consisting of two national DCs with many smaller 15,000 to 45,000 square-foot district warehouses to a decentralized model with eight regional DCs averaging about 200,000 square feet.

"Instead of a four- to five-day lead time from a central DC, the new network allowed for overnight or two-day delivery service from a regional DC," says David Smithey, the company's director of North American distribution.

While great strides were being realized with this restructured network, changes had yet to be made inside the DCs. "Each DC had a manual, paper-based system that transacted with the materials management module of our ERP system," recalls Keith Nash, Lennox's vice president of supply chain logistics.

While this paper-based/ERP system may have worked with the smaller district warehouses with two to three long-term employees, Nash and Smithey knew it would not be able to keep up with the larger, 200,000-square-foot regional DCs with 20 to 30 employees. The team knew it needed a WMS to tie it all together.

In early 2010 Lennox's logistics team began installation of Manhattan Associates' WMS in its first facility in McDonough, Ga. With this new WMS, not only would the DC achieve better accuracy, but it would also chip away at the amount of paper and "touches" that used to be generated by the manual system.

Using RF guns, workers maintain an organized warehouse with the system directing putaways and tracking locations. By deploying inventory control modules, inventory accuracy improved from 95 percent to above 99.5 percent. With a seamless WMS interface with Manhattan's TMS, shipping documents are printed at the time of picking so that it can be attached to the outbound box and directly transported to the designated outbound carrier's staging lane, eliminating unnecessary touches.

The system also integrates with a LMS, helping the team better plan, track, and manage each worker's time. A real-time reporting system, called Supply Chain Intelligence, provides operational metrics that management can use to gain insight into trends as they happen, and then make both short and long-term decisions based on that information.

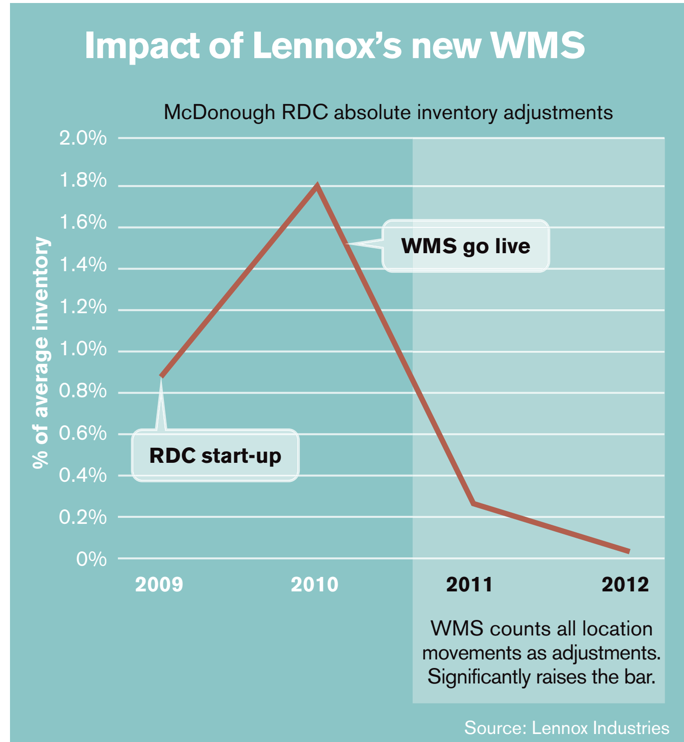
"Moving from a paper-based, manual operation to a WMS has been a huge leap for us," notes Nash. "And there's still more functionality in the basic execution system that we plan to explore." For now, the logistics team continues to roll out this new WMS to the other seven regional DCs until 2013.

—Maida Napolitano, Contributing Editor

of order sizes and total order weights that a family of box sizes would be able to handle.

"If it turns out that there are 50 or 60 different box sizes, it's probably not going to make a whole lot of sense to use this module," adds Hill. "But most people wind up with about eight to twelve different box sizes."

When a wave of orders is scheduled for picking, a message is sent to workers preparing the boxes to make the proper assortment of boxes for the next wave of orders. With every order, the system can recommend the proper box size—instead of the picker wasting valuable time trying to figure out which box best fits that order. "It's one of many WMS features that people aren't using, but that can be a real contribution to the market," says Hill.



Performance event management

Performance event management is the transformation of a hodge-podge collection of data transactions collected by a WMS into timely business intelligence that can be used to make immediate or long-term decisions.

The reality is that while most systems do offer some form of performance event management, or analytics, with their packages, users don't always take the time to go over all the options to determine which reports will provide the most accurate picture of current performance without being overwhelmed by too much information.

For example, a warehouse manager may be concerned that he may not be able to make delivery on an order. "Today's WMS can be set up so that it notifies the warehouse manager and shows him a dashboard that says here are all your orders," says Gartner's Klappich. He notes that WMS providers have even created Apps for mobile equipment—tablets, smart phones, handheld computers—so that a manager can be alerted when 20 orders are potentially going to be late.

"He can click on the alert and scroll down to see the problem," says Klappich. "In the past, they used to have to print out reports and be very paper intensive."

> "Industry and market folklore suggests that users are availing themselves of no more than 60 percent to 65 percent of the functionality of contemporary WMS."
>
> —*John Hill, St. Onge Company*

Slotting

Slotting determines how best to organize inventory based on product velocity. Fast-moving items are located in the most accessible areas closest to the docks, while products that don't sell very often are assigned to locations in elevated racks towards the back of a warehouse.

Unfortunately, it's not always that simple. Putting all fast movers in one aisle can lead to congestion, while sometimes it may make more sense to group products that are generally sold together. Because of this complexity and the amount of data generally required by slotting optimization software, users typically buy the slotting module as part of their WMS package, but have yet to use it.

According to Hill, when done properly, a good slotting plan reduces pick paths, increases pick rates, thus improving productivity. Storage space utilization also improves while reducing damage and improving safety.

"If you've got relatively static inventory, with no seasonal cycles, and you've got good forecasting and planning because your market doesn't change all that dramatically, slotting may not be that important," says Hill. "But if the flipside is true, then maybe once or twice a year you ought to take a look at making certain that you're putting your fast movers where it's most accessible."

Regardless of the size and complexity of your warehouse or DC facility, Hill recommends a post-implementation audit after every WMS deployment or upgrade. "Users have to take responsibility for defining what they need," says Hill. "The audit will compare what the WMS is doing against those needs. Only then will you know if you've truly maximized your WMS investment."

Maida Napolitano is a Contributing Editor to Logistics Management

Strip the risk out of reverse logistics

Forward logistics is the primary focus for shippers of all commodities, but fine-tuning the "reverse loop" is becoming more urgent. As high-end companies develop new revenue streams, reverse logistics and after sales services are proving to be valuable tools.

BY **PATRICK BURNSON,** EXECUTIVE EDITOR

When the FDA discovered that a second counterfeit version of the best-selling cancer drug Avastin had been found in the U.S. this past spring, an alarm was sounded in the global reverse logistics community. And for good reason: Shippers of other high-value and highly-perishable goods like electronics and food were also being judged by how well they protect the return process in their distribution channels.

According to a recent U.S. Congressional study, incidents of counterfeiting reported by drug makers had increased steadily over the decade to more than 1,700 worldwide last year—only 6 percent of those incidents were in the U.S. According to the report, the rise in counterfeiting comes as pharmaceutical supply chains are increasingly stretched across continents, as more than 80 percent of the active ingredients used in the production of U.S. pharmaceuticals are now manufactured overseas.

"It's becoming a huge problem," says Dale Rogers, a professor of logistics and supply chain management at Rutgers Business School. "Not only does a shipper risk losing massive class-action lawsuits, but the damage to corporate image can be significant."

While pharmaceutical and bio-med shippers place a premium on forward logistics, the reverse process dealing with product recalls and trade returns is getting a lot of attention these days. "The reason is simple," says Rogers. "Once you have identified how a product moves through a sustainable loop, all players become transparent. If a bad product is not returnable, then a reaction is set off immediately."

Indeed, the Healthcare Distribution Management Association (HDMA) estimates that 3 percent to 4 percent of product going out from pharmaceutical warehouses ultimately comes back. Some of this is redistributed, and some returned for disposition and destruction by a third party processor or manufacturer.

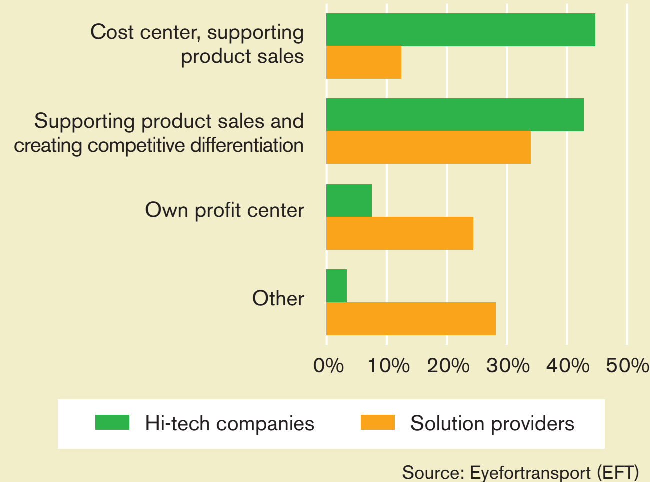
Furthermore, of the estimated 3 percent to 4 percent of the product returned, it's also estimated that approximately 1.5 percent to 2 percent of pharmaceuticals manufactured will be returned for destruction with a resulting credit back to the manufacturers' trading partners.

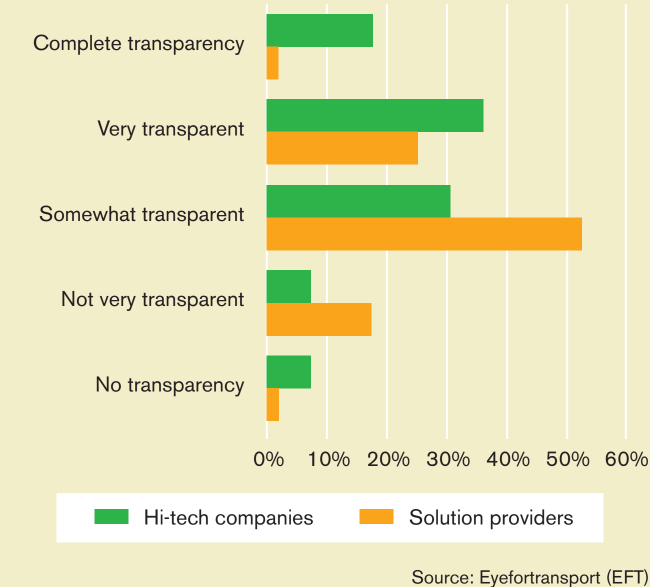
"Manufacturers currently spend up to 4 percent of cost of goods sold [COGS] on non-value-add distribution functions like returns and reverse logistics," says Sameer Kumar, a professor in the operations and supply chain management

department at the University of St. Thomas in Saint Paul, Minn.

"With such a large amount of product going through the reverse supply chain, returns should be an ideal touch point for mechanisms and technology to support a safer pharmaceutical supply chain," adds Kumar.

Steve Vinsik, vice president of enterprise security at Unisys, agrees. He notes that results from the bi-annual Unisys Security Index show that shippers are demanding traceability from point-of-origin to end destination, irrespective of commodity. "Drugs and medicine are naturally among the most sensitive," he says. "But supply chain security ranks high with shippers of mobile and high-end electronics goods as well. Shippers of any and all commodities can learn from these cautionary tales."





Hi-tech=high value

As companies within the hi-tech and electronics industry work to differentiate themselves, add value to their products, and develop new revenue streams, reverse logistics and after sales services are proving to be valuable tools, say researchers for Eyefortransport (EFT), a London-based logistics and transportation think tank.

In a recent EFT survey, respondents were asked to classify the strategic role of after sales services and reverse logistics in their businesses. Not surprisingly, a clear difference was seen in the responses from hi-tech companies and the lead logistics providers (LLPs) they rely on.

Researchers say that the vast majority of hi-tech companies see after-market sales services and reverse logistics as either a cost center supporting product sales (45 percent), or as a cost center supporting product sales and creating competitive differentiation (43 percent).

"What's interesting here is the number of hi-tech companies that don't consider aftermarket services and reverse logistics as a competitive differentiator or as a profit center," says Katherine O'Reilly, EFT's executive director. "Clearly some companies are able to leverage after-sales services and reverse logistics into profits, some add value and differentiation to their products, while some are just using it as a support mechanism for sales."

When it came to costs and performance in product returns, hi-tech companies favored greater transparency. In fact, 18 percent of shippers had complete transparency—as opposed to 2 percent of their lead logistics providers—with 36 percent being very transparent. In contrast, the majority of the LLPs (53 percent) could only claim to be somewhat transparent.

"Consequently, the survey shows a mismatch in expectations between hi-tech companies and LLPs with regards to transparency expectations," says O'Reilly.

Respondents were then asked to identify the extent to which they're collaborating with partners (retail customers, call-center providers, repair providers, and reverse logistics providers) in after-sales processes. Again, a notable contrast was seen in the responses from hi-tech companies and LLPs.

While both groups had the highest number of respondents seeing their level of collaboration as either partial or substantial, a much greater number of solution providers (23 percent as opposed to 8 percent) saw full collaboration, while a much greater number of hi-tech companies (25 percent as opposed to 11 percent) saw minimal collaboration.

"In essence, shippers found there to be less collaboration in after sales services than LLPs—further emphasizing the disconnect between the two parties with regards to transparency," O'Reilly says.

Effective outsourcing

Gary Cullen, chief operating officer of 4PRL, the reverse logistics arm of the supply chain consultancy The Georgetowne Group, tells shippers that there are two reasons for signing a contract with a third-party when outsourcing reverse logistics.

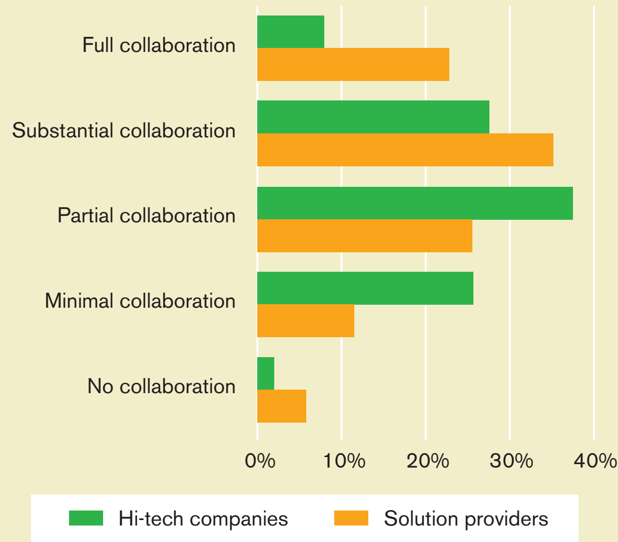
"The first reason is so that there are clear terms and conditions for running the operation and billing," says Cullen. "The second reason is to have a framework to dismantle the operations if something goes awry."

Finally, if all else fails, know when to call it quits, says Curtis Greve, Principal at Greve Davis, a reverse logistics consultancy. "Many companies that outsource don't seem to think about the details and what they are going to do if they have to fire the service provider," he says. "Make no mistake, terminating a contact with or without cause can cost millions."

Davis advises shippers to think about what happens to the inventory, the capital equipment, the building, ongoing worker compensation issues, shut down and closing costs, and what they're going to do after the third-party is gone.

"Once they've decided to end the relationship, they could save a lot of money if the contract addresses the shut down process correctly," adds Davis. "There are many valid reasons to outsource reverse logistics to a third-party, but the key is to have a good contract that will protect everyone's interest, achieve the original goals that drove the decision to outsource, and ensure a win/win relationships between the parties."

—Patrick Burnson is Executive Editor of Logistics Management



How Seagate secures its reverse loop

Reverse logistics, once thought to be a very minor piece of the supply chain, has evolved to the point where these services, whether they are managed internally or outsourced to a professional returns company, are considered to be a significant part of the product flow.

For a good number of years, returns have been managed in a very mechanical and labor-intensive way, but with the adoption of the latest in software technology and more flexible operating systems, reverse logistics is taking on a whole new look—one that is adapting to the needs and changes that are taking place in the marketplace.

Dennis Omanoff, senior vice president of supply chain and procurement at Seagate Technology, the world's leading manufacturer of hard drives, recently sat down with *Logistics Management* to discuss the company's critical reverse loop process.

***Logistics Management:* What is the first step a shipper should take when securing outbound and reverse freight?**
Dennis Omanoff: We work with our logistics partners to ensure that the same security requirements that are in place for our outbound freight are also in place for our reverse logistics freight. We hold monthly, security-centric reviews with all of our partners, and we leverage the information contained between the two supply chains—outbound and reverse—in order to ensure that any identified best practices are put into practice on a global basis, regardless of their origin.

***LM:* How many scalable reverse logistics solutions exist for them to consider?**
Omanoff: When working with our partners, we do not place limits on their software choices. You might call this the "no idea is a bad idea" philosophy. Now, once the idea or software is provided, we will undertake our due diligence, ensuring that we do not optimize one area at the expense of another.

***LM:* Can you describe a "worst case" scenario for Seagate?**
Omanoff: The two worst case scenarios align the outbound and reverse logistics functions closely. The first one is to have a scenario that could have existed during the height of last year's Thailand flood. The impact on the disc drive industry the last quarter of 2011 could have been profound if we failed to fulfill the demand of our customers. The second scenario would be shipments to banned countries. We have developed, along with our logistics partners, a multi-layer process to prohibit shipping to countries that are embargoed by the U.S.

***LM:* How do you ensure that such a disaster does not occur in the reverse loop?**
Omanoff: We have proactive monitoring by regional teams, returns monitoring, returns forecast versus actuals monitoring, routine communications with major accounts, and returns mitigation screening to prevent improper returns in high-risk areas. If you go back to the initial question, you will recall that the outbound and reverse logistics supply chains are closely linked, so that what is learned in one area is rolled out to the other.

—Patrick Burnson, Executive Editor

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Special Report: State of Third Party Logistics

TOP 50 3PLs

Will mergers and acquisitions alter the landscape?

A flurry of major service provider deals captured mainstream headlines in recent months, but the consequence of this activity has yet to be measured by domestic and international shippers. Meanwhile, the EU flounders, Asia remains strong, and emerging nations may represent the next great opportunity for the major 3PL players.

By Patrick Burnson, Executive Editor

European sovereign debt issues, a tepid U.S. recovery, and a hard landing in emerging markets—among a slew of factors—could provide macroeconomic shocks to the third party logistics (3PL) industry, say leading market analysts. Still, many catalysts are expected to drive merger and acquisition activity over the rest of 2012.

According to PricewaterhouseCoopers (PwC), the transportation and logistics industry continues to be highly cyclical. "A continuing theme in the first half of this year has been infrastructure deals, particularly in emerging markets, that reached a historic high in the logistics sector," says Ken Evans, U.S.

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transportation and logistics leader at PwC.

In fact, in the first quarter of 2012, the proportion of deal volume involving infrastructure targets leapt to a 12-year high. This "secular trend" toward more infrastructure privatizations and transactions, adds Evans, also drove the relative increase in 3PL "deal value" and volume as a percent of the overall merger and acquisition market during the first quarter.

"Overall, logistics deal activity seems more likely to rise than fall given continued global economic expansion and the secular trend of rising infrastructure concessions," says Evans.

For 3PLs, adds Evans, consolidation will be an ongoing given, as more pure-play domestic companies seek to expand globally. "I can assure you that even the 3PLs found only on 'domestic' listings will at some point be hauling or arranging to haul freight globally," he says. "For those bigger companies seeking to expand worldwide, mergers and acquisitions can be an attractive way to proceed."

If one needed any more evidence of this phenomenon, consider the merger and acquisition activity of just a few months ago. UPS not only made a celebrated purchase of TNT Express, but went

Continued on page 48S

A&A's Top 50 Global 3PLs • May 2012

Rank	Third-Party Logistics Provider	2011 Gross Logistics Revenue (USD Millions)*
1	DHL Supply Chain & Global Forwarding	32,160
2	Kuehne + Nagel	22,181
3	DB Schenker Logistics	20,704
4	Nippon Express	20,313
5	C.H. Robinson Worldwide	10,336
6	CEVA Logistics	9,602
7	UPS Supply Chain Solutions	8,923
8	Hyundai GLOVIS	8,588
9	DSV	8,170
10	Panalpina	7,358
11	SDV/Bolloré Logistics	6,785
12	Sinotrans	6,769
13	Toll Holdings	6,432
14	Expeditors International of Washington	6,150
15	DACHSER	5,925
16	Geodis	5,890
17	GEFCO	5,267
18	Norbert Dentressangle	4,980
19	UTi Worldwide	4,914
20	Hellmann Worldwide Logistics	4,687
21	Agility	4,410
22	Yusen Logistics	3,881
23	Wincanton	3,507
24	Caterpillar Logistics Services	3,465
25	GENCO ATC	3,372
26	Kintetsu World Express	3,360
27	IMPERIAL Logistics	3,245
28	Damco	2,800
29	Hub Group	2,752
30	Penske Logistics	2,600
31	Pantos Logistics	2,412
32	Sankyu	2,341
33	Ryder Supply Chain Solutions	2,211
34	FIEGE Group	2,090
35	Kerry Logistics	2,060
36	Logwin	1,859
37	BDP International	1,800
38	Nissin Corporation/Nissin Group	1,647
39	Menlo Worldwide Logistics	1,590
40	Americold	1,580
41	APL Logistics	1,405
42	J.B. Hunt Dedicated Contract Services & Integrated Capacity Solutions	1,387
43	arvato logistics services	1,343
44	OHL	1,254
45	Landstar	1,219
46	Transplace	1,200
47	BLG Logistics Group	1,195
48	Werner Enterprises Dedicated & Logistics	1,087
49	Greatwide Logistics Services	1,046
50	NFI	1,014

*Revenues are company reported or Armstrong & Associates, Inc. estimates and have been converted to USD using the average 2011 exchange rate in order to make non-currency related growth comparisons.

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on to buy Italian pharmaceutical logistics company Pieffe. Geodis, meanwhile, acquired French pharmaceutical logistics and distribution company Pharmalog. Then in a move to broaden its own pharmaceuticals footprint, DHL Global Forwarding acquired Lufthansa's 50 percent ownership in its joint venture company LifeConEx, a cold chain management provider in the life sciences industry.

In the Asia Pacific region, merger and acquisition activity was just as intense. Kerry Logistics acquired Trustspeed Medicine Logistics in Taiwan, and it also established a joint venture with Mosskito Logistics in Australia to expand its cold chain distribution segment.

Meanwhile, data from Armstrong & Associates—the third party logistics consultancy that compiles our annual top rankings of global and domestic 3PLs—shows that all of this global merger and acquisition activity certainly makes sound, business sense. In fact, Armstrong reports that total

A&A's Top 30 U.S. Domestic 3PLs • May 2012

Rank	Third-Party Logistics Provider	2011 Gross Logistics Revenue (USD Millions)*
1	C.H. Robinson Worldwide	10,336
2	UPS Supply Chain Solutions	8,923
3	Expeditors International of Washington	6,150
4	UTi Worldwide	4,914
5	Kuehne + Nagel (The Americas)	4,547
6	Exel (DHL Supply Chain - Americas)	4,100
7	DB Schenker Logistics (The Americas)	4,072
8	Caterpillar Logistics Services	3,465
9	GENCO ATC	3,372
10	CEVA Logistics (The Americas)	2,870
11	Hub Group	2,752
12	Penske Logistics	2,600
13	Ryder Supply Chain Solutions	2,211
14	Panalpina (The Americas)	2,134
15	BDP International	1,800
16	Menlo Worldwide Logistics	1,590
17	Americold	1,580
18	J.B. Hunt Dedicated Contract Services & Integrated Capacity Solutions	1,387
19	OHL	1,254
20	Landstar	1,219
21	Transplace	1,200
22	Werner Enterprises Dedicated & Logistics	1,087
23	Greatwide Logistics Services	1,046
24	NFI	1,014
25	Phoenix International Freight Services	1,000
26	APL Logistics (The Americas)	893
27	Jacobson Companies	892
28	Yusen Logistics (The Americas)	885
29	FedEx Trade Networks/FedEx Supply Chain Services	838
30	Agility (The Americas)	794

'*Revenues are company reported or Armstrong & Associates, Inc. estimates and have been converted to USD using the average 2011 exchange rate in order to make non-currency related growth comparisons.

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global 3PL gross revenue in 2011 at $133.8 billion was up 5.2 percent over 2010. Furthermore, net revenues, at an estimated $61 billion, posted a 5.9 percent annual gain.

EU blues

Given that most of the mega 3PLs are based in the European Union, economists are suggesting that Darwinian tendencies will prevail and the smaller companies will be acquired before the year is out.

"Hopefully, easing inflation, improving global growth, a relatively competitive Euro, and containment of Eurozone sovereign debt tensions will help the economic activity stabilize in the second half of 2012," says Howard Archer, IHS Global Insight's chief European economist. "But much will depend on events in Greece and their repercussions."

IHS currently forecasts Eurozone GDP to contract by around 0.5 percent overall in 2012, and economists fear that renewed contraction is very much in the cards for the second quarter. In its most recent survey of purchasing managers, the evidence has been largely disappointing.

"The Eurozone is still facing major headwinds, including increased fiscal tightening in many countries and markedly rising unemployment," says Archer. "Elevated oil prices have kept inflation sticky, maintaining a significant squeeze on consumer's purchasing power while also hurting companies' margins. On top of this, relatively muted global growth is limiting export orders."

It is worth noting, however, that despite global economic concerns, mergers and acquisitions within the transport and logistics industry remained strong, as the number of deals increased almost 5 percent through the third quarter of 2011 compared to same period in 2010.

According to Transport Intelligence (Ti), a London-based think tank, the current global total deal value in 3PL and contract logistics compared to 2010 is down by almost 40 percent. "This suggests that smaller, more specialized logistics providers appear to have been targets of acquisitions throughout 2011," says Ti analyst Cathy Roberson. "The majority of the acquisitions made were in Asia and other emerging markets; however, the European and the U.S. merger and acquisition market remained fairly strong."

Leading academic experts say much the same thing about global 3PL resiliency. For John Langley, clinical professor of supply chain management at Penn State University, the fact that so many major players remain in the mix at all is testament to the strength of the sector.

"It's clear that contract logistics is a global business that can't be brought down by regional economic decline," says Langely. The process of outsourcing product flow management, storage, and related information transfer services—usually under long-term contract—remains the objective of increasing efficiency and control no matter where it's being done."

Modest growth forecast

Principals at Armstrong & Associates maintain that growth in the sector will be sustained, but sluggish. "After surveying our 3PL tracking group and seeing the final 2011 results, our initial estimate of 12.9 percent growth in the international transportation management [ITM] segment has been revised down," says consultancy president Evan Armstrong. "With the European economy in decline and Asia cooling, ocean freight revenues expanded slightly, but could barely counteract the decline in airfreight revenues."

Despite global economic concerns, mergers and acquisitions within the transport and logistics industry remained strong, as the number of deals increased almost 5 percent through the third quarter of 2011 compared to same period in 2010.

Armstrong notes that this is more of a continuation of 2010, with domestic transportation management doing well and the value-added warehousing and distribution segment remaining steady. "Beyond that, dedicated contract carriage, which is the most mature of the 3PL market segments, should be able to grow 4 percent as providers keep a lid on capacity and manage fleet asset additions."

At the same time, Armstrong expects ITM net revenues to grow 3 percent in 2012. Domestic transportation management should continue to lead the way, with approximately 10 percent net revenue growth this year.

"It's a good time to be an integrated 3PL with business in multiple 3PL segments," says Armstrong. "Most large 3PLs have internal lead logistics

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providers [LLP] groups that tend to focus on process re-engineering, continuous improvement, and information technology deployment for improved 'control tower' supply chain management."

Part of Armstrong's forecast also suggests that most global 3PLs will conduct modal shifts away from airfreight and express modes to lower cost transportation alternatives to save money through the tepid economic recovery. "Tighter inbound transportation control and overall network optimization means that providers that can meet the required service standards will continue to be the 3PL leaders," he adds.

This may explain why there was no change among the seven leading global 3PLs in this year's ranking. Like 2011, DHL Supply Chain & Global Forwarding leveraged its extensive integrated global footprint. Armstrong says that Kuehne + Nagle is still the largest "pure" ocean freight forwarder with over 2.9 million twenty-foot containers (TEUs) managed in 2011.

"C.H. Robinson Worldwide continues to expand globally and has added operations in Mumbai and Shanghai," says Armstrong. "While still growing, one must remember that only 8 percent of Robinson's revenues are derived outside of the United States."

Advancing companies include Norbert Dentressangle, which is continuing to expand beyond Europe, and Toll Holdings, which has expanded its Southeast Asia operations and overall global network. Armstrong says that Agility has had the most dramatic decline, dropping from number 16 to number 21 mainly due to past legal complications with U.S. government clients.

3PL markets demonstrate strong, consistent growth

Below are a few noteworthy details from Armstrong & Associates latest 3PL market report:

- **Domestic transportation management gross revenue at $41.3 billion was up 12.2 percent year-over-year, and net revenue at $6.3 billion was also up 12.2 percent year-over-year.**
- **International transportation management gross revenue at $46.1 billion was up 0.8 percent year-over-year, and net revenue at $17.7 billion was up 2.1 percent year-over-year.**
- **Dedicated contract carriage gross revenue at $11.1 billion was up 4.7 percent year-over-year, and net revenue at $10.9 billion was up 4.7 percent year-over-year.**
- **Value-added warehousing and distribution gross revenue at $34 billion was up 8.2 percent year-over-year, and net revenue at $26.6 billion was up 8.4 percent year-over-year.**

Emerging markets

Dick Armstrong, who shares the consultancy's role as president, says that some of the companies resting at or near the bottom of this year's Top 50 Global 3PLs and Top 30 Domestic 3PLs are harder to quantify.

"All of the 3PLs listed have particular strengths in their specific markets," says the elder Armstrong. "Obviously, the euro-centric players are going to have a rougher time of it, given the sad state of their economy. On the other hand we see opportunity for 3PLs in Latin America, where Brazil is rapidly investing in its infrastructure."

But for those third party players that are not involved in China now, he says that it may be too late to gain a foothold. "In fact, we feel that more and more domestic Chinese forwarders will surface to become leading 3PLs in the future."

Angela Yang, managing director of the Asia-Pacific Region for Penske Logistics, also sees China as being key to any 3PL's global strategy. "With China experiencing rapid growth in the last 20 years, I would call this market 'dynamic,' but not yet mature," she says. "As a result, China is a very competitive place and pricing is key in many industries."

According to Yang, China-based manufacturers are constantly seeking low price providers. Because the logistics business environment is just so fragmented in China, and with lower prices constantly being offered, it's vital that 3PLs develop strong personal relationships with the customer.

Yang observes that the cost of labor is a relatively small percentage of overall logistics costs in China. The lion's share of expense is related to warehouse leasing, which can run anywhere from 50 percent to 70 percent. Equipment expenses are also considerable.

"In many cases, companies would rather hire additional people versus investing in equipment," says Yang. "Sourcing is vital to a 3PL's success in the Chinese market—leveraging resources, executing a lower

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total cost solution, and providing great customer service is critical."

Encompass Global Logistics LLC, a fast-growing, privately-held 3PL serving shippers in North America and China, may well demonstrate how a "smaller player" can penetrate this burgeoning arena.

"Many 3PL's complement their ocean freight program with robust airfreight services and domestic distribution services in China," says Encompass CEO Asa Cheng. "The collective service menu puts many 'smaller players' on par with those giant multinationals."

Secondly, says Cheng, the smaller player can be more flexible in offering premium service from the inception of the purchase order to the shipper's door. He notes that the 3PL has the ability to negotiate volume across multiple carriers and utilize those carriers whose services best complement the needs of specific shippers.

"We can work the spot market for our accounts, as we are on the forefront of market-driven rate differentials by lane and by service," he adds.

Finally, says Cheng, many of the larger multinationals were kept busy during the recession, "strafing" clients with selling, general, and administrative expenses, which is a major non-production cost presented in an income statement.

"Instead of concentrating on short-term tactics, we should all be focusing on how to bundle customer-specific packages that address certain key elements of their supply chains," Cheng says.

Growing importance of IT

If any consensus can be arrived at with this year's special report on 3PLs, it's that all lead logistics providers—especially in emerging markets—should provide web-based systems that give importers and exporters complete and instant visibility to their shipments throughout the supply chain.

Penn State's John Langley may have summed it best by observing that emerging markets represent a "blank slate" when it comes to IT infrastructure: "Building information technology systems can be achieved more easily in a country like China because it's being done from scratch. Rather than adding on to legacy systems, or tearing one down to build another, 3PLs can now concentrate on putting the most modern solutions in place from the start."

In the end, the same can be said for airports, seaports, surface transportation networks, and everything else related to the expanding world of global logistics management.

—Patrick Burnson is Executive Editor of Logistics Management

Q&A: CEVA executives discuss Q1 results and global 3PL market

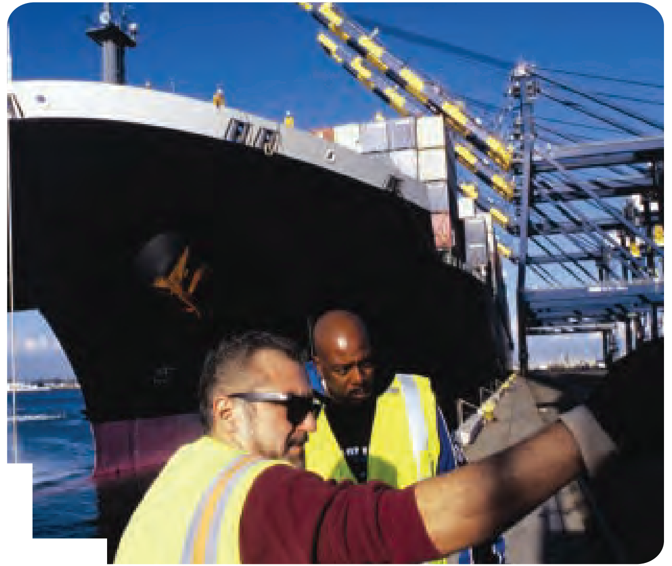
In early May, global third-party logistics (3PL) services provider CEVA Logistics reported first quarter earnings of $1.7 billion Euro or about $2.2 billion, which represented a 2 percent annual gain and down about 1 percent in constant exchange rates.

Pacing the quarterly growth was a strong performance by its contract logistics segment, which includes warehousing and dedicated transport, and saw revenues up 3 percent due to a strong showing from its North America- and Asia-based automotive group. The company's freight management business, which is comprised of air, ocean, and customs brokerage, had flat revenues in the first quarter, while ocean and airfreight results were mixed.

Logistics Management Group News Editor Jeff Berman sat down with CEVA CEO John Pattullo and CFO Reuben McDougall to discuss the company's quarterly results as well as the market trends that are driving the global 3PL sector.

Logistics Management: **What is your take on CEVA's first quarter performance?**

John Pattullo: Overall, I would describe the quarter as challenging both for the industry and for CEVA. However, in our view, it was more good than bad regarding CEVA's quarterly results. Our revenue and our profit performance were relatively strong compared to our peers. That has to do with the structural changes we made in 2011, with our Project Uno for global standard processes in freight



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management, back office outsourcing in the finance area, and leveraging our scale in global operations.

These changes have helped to make the company more robust. We also have a well-crafted and very specific game plan for 2012. In this big and complex logistics market we live in, it's really easy to be a "busy fool" and chase all sorts of false possibilities. It's our job to be focused and deliver for our customers.

***LM:* What's the current contract logistics environment like in Europe and Asia?**
McDougall: Northern Europe has been performing well for us and it is not a drag on our performance level. Southern Europe, including Spain and Italy as the biggest pieces, have been weak because of its local economies, while some other markets like Asia and Turkey have been strong.

***LM:* What is your take on the ocean cargo business?**
Pattullo: We're seeing a market that is still growing globally by 4 percent to 5 percent, which is good, and we have seen some fairly significant rate increases from carriers in the March and April timeframe. Those have not had any material impact on CEVA because we had secured longer-term pricing with our customers and those recent rate hikes have not affected them.

In the industry, there is a debate as to whether these recent rate hikes will take hold. The reason is that there is a lot of new capacity coming into the industry, and March was the biggest addition of container ship capacity in a very long time. More capacity is entering the market at a faster rate than the industry is growing.

***LM:* How are things on the air cargo side?**
Pattullo: Unlike things on the ocean side, air cargo growth is still negative. The global air market is down roughly 2 percent annually. The industry view is that there might be some sort of upturn in the second half of the year, with volumes up by maybe 2 percent. That would make things flat for the year. It is a doldrums type of market, and since 2009 there has been more moves by shippers to trade down modes and use alternatives to air.

***LM:* As the mid-year point approaches, how do things in the global 3PL market compare to things a year ago at this time?**
Pattullo: Overall it's a pretty flat global market. Air is down, and ocean is up. There is more buoyancy in the U.S., which is good news, but on the other hand things in China have slowed down somewhat in the last year. If you aggregate the global situation—and we are operating in markets that are essentially flat—our game plan is that we need to grow share in those markets. As part of our shared growth campaign, we are focused on growing our share of airfreight and winning more big accounts.

"Customers these days are much more interested in the value proposition of their end-to-end supply chain than they are with the pure pricing of any competitor within the supply chain. "

—John Pattullo, CEO, CEVA

***LM:* How is the current pricing environment as it compares to growing market share?**
Pattullo: Customers these days are much more interested in the value proposition of their end-to-end supply chain than they are with the pure pricing of any competitor within the supply chain. Our *modus operandi* is to look at the end-to-end supply chain and find value for our customers.

There is plenty to go after, which allows us to give customers value while getting a reasonable margin. Historically, buyers have been more siloed and commoditized in their thinking; and in our case, 54 percent of our total business comes from our 100 biggest accounts, which are comprised of sophisticated multinationals looking at a true end-to-end proposition. That said, there are still opportunities for pricing.

***LM:* CEVA recently submitted documents to the SEC to be floated on the New York Stock Exchange regarding its desire to raise share capital. Is there anything you can comment on regarding that?**
McDougall: Basically, what I can say is that this is a step that opens the possibility of an IPO down the line. It's an administrative step required to have an option to do a listing. It's not a commitment to do a listing, nor is it a comment on the size of the listing or the timing. It is just an administrative step and there is no timeframe for it.

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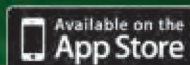

***LM:* Even with the recent decline in U.S. diesel prices, prices are still high. That said, sustainability is becoming a hot topic again. Where do you think sustainability stands in the market?**

Pattullo: It's very important. Our philosophy at CEVA is that we want to be driven by good science because there can often be less than rigorous claims and data floating around at times. We believe there should be a business case for most environmentally driven projects, because the environmental benefit will in turn present a business benefit.

We have a good environmental program. Some of the key elements include having invested heavily in southern Europe in environmentally neutral or positive warehousing, where we are generating electricity from photovoltaic panels and recycling everything we can. We also offer a carbon footprint monitoring service for our top 100 accounts where we help them calculate their footprint. And we are also collaborating with a diesel engine manufacturer to test and develop fuel-efficient modes of operation.

***LM:* What are you hearing from shippers when it comes to collaboration?**

Pattullo: Customers increasingly expect us to be able to offer the same system, the same service, and the same KPIs across the globe. They want a 3PL that can give them a consistent global product, and due to compliance, control, or cost reasons they want to have that level of consistency. That has been a key message.

At the time of the Thailand floods last year, we tracked what was happening in the affected markets in great detail for our customers and provided that information quickly for our customers and worked with them to find solutions to problems caused by about 14,000 factories being affected. What customers liked in that situation was that they were able to provide them with data and knowledge. They don't just want to hear we have delivered a shipment; they want information through the supply chain.

They also want historic data and KPI performance, with an increasing expectation of data from global 3PLs.

— Jeff Berman, Group News Editor

Roadrunner Transportation Services acquires D&E Transport

Acquiring companies is nothing new for non asset-based third-party logistics services provider Roadrunner Transportation Services (RRTS).

The Cudahy, Wisc.-based company announced last month that it acquired all of the outstanding capital stock of Clearwater, Minn-based D&E Transport, an asset-light flatbed carrier focused on food and agricultural products.

RRTS officials said the purchase price was $11.2 million plus an earnout, adding that it was financed with borrowings under Roadrunner's credit facility. RRTS officials were not available at press time for additional comment. D&E had 2011 revenues of roughly $23.8 million, and the company hauls full load and LTL freight from coast to coast.

"The acquisition of D&E broadens the service offerings within our truckload and logistics business segment and expands our flatbed capacity and customer base," said Mark DiBlasi, CEO of Roadrunner. "D&E has built solid, long-term customer relationships and brings superior service and safety records to Roadrunner. D&E's principal former owner and experienced management team will remain in place and are excited about the growth opportunities we collectively envision."

This is the sixth acquisition RRTS has made. In February, the company announced it acquired all of the outstanding stock of Nashua, N.H.-based Capital Transportation Logistics (CTL), a transportation services management provider, for $6.25 million.

In September 2011, it acquired Prime Logistics Corporation, a non-asset based provider of logistics and freight consolidation. In February 2011 it acquired Morgan Southern; in May 2011 it acquired Wichita, Kansas-based truckload services provider Bruenger Trucking Company; and in July 2011 it acquired The James Brooks Company, a provider of intermodal transportation and related services for the ports of Los Angeles/Long Beach and Oakland.

— Jeff Berman, Group News Editor

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3PL Outsourcing governance: Why insight beats oversight

Outsourcing to a 3PL has been a boon to many. Yet in numerous cases the arrangement fails to live up to its real potential. One recurring problem: the lack of a proper governance structure. When done within the context of a mutually beneficial "Vested Outsourcing" relationship, good governance can help both parties succeed.

By Kate Vitasek, Jerry Stevens, and Katherine Kawamoto

For many years, companies have looked to outsourcing as a way to reduce costs and increase supply chain productivity. But according to studies by the Corporate Executive Board, up to 90 percent of the value of an outsourcing deal can be eroded because of poor relationship governance. The Outsourcing Center, an internet site for supply chain thought leadership, agrees. The center reports that poor governance plays a role in outsourcing failures as much as 62 percent of the time. The value erosion or "savings leakage" that can result from poor governance is, in fact, a pressing problem for companies today.

Proper governance in an outsourcing arrangement is critical because the supplier or service provider becomes an extension of the company doing the outsourcing. A sound governance structure provides consistent management along with cohesive policies, processes, and decision rights that enable parties to work together effectively and collaboratively over the life of the agreement. Perhaps most importantly, good

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governance maximizes the potential for successful contract implementation.

We'll explore the nature of good governance within the context of Vested Outsourcing, a concept that is being researched and advanced through work at the University of Tennessee. Through Vested Outsourcing and its Five Rules, the parties work toward mutual success based on optimizing for innovation and improved service, reducing costs to the buying company, and improving profits for the outsource provider. A good governance structure supports these goals. UT researchers studied highly successful outsourcing relationships and found that all followed a basic governance tenet: the company outsourcing embraced "insight vs. oversight" in how it worked with the supplier to manage the scope of the outsourced services. In fact, the fifth rule of Vested Outsourcing says that governance structures should provide insight into the outsource relationship, not merely oversight or bean-counting.

UT researchers teamed with the Corporate Executive Board and the International Association of Contract and Commercial Management to develop a framework for sound governance of outsourcing agreements that adopt a mutually beneficial "Vested" model. The framework consists of these three elements:

1. Relationship Management—This element formulates and supports joint policies that emphasize the importance of building collaborative working relationships, attitudes, and behaviors.

2. Transformation Management—Vested agreements are transformative because change in this environment is desirable and expected. This change needs to be managed during and after the transition from old to new.

3. Exit Management—The future is unknown. Even the best-conceived plans may fail and unforeseen events can completely change the business environment. An exit management component of the governance structure provides procedures to handle these unknowns.

Exhibit 1 summarizes these three elements of a Vested governance structure—which is founded on an "insight" mentality—and compares these with traditional arrangements built on "oversight." In considering the key elements, it's important to remember that there is no secret sauce that magically creates a Vested governance structure. There's no one-size-fits-all approach.

The following sections discuss the principal elements of sound governance in a Vested outsourcing relationship.

EXHIBIT 1

Three Elements of a Vested Governance Structure

Element	Vested Mentality—Insight	Traditional Mentality—Oversight
Relationship Management	• Relationship management focus. • Reverse bow tie structure, layers. • Joint policies that emphasize collaborative working relationships, attitudes and behaviors.	• Service provider management focus. • Bow tie structure. • Agreements viewed as risk avoidance mechanisms that monitor transactions/functions.
Transformation Management	• Agreement components viewed as a flexible framework. • Regular contact/review systems for service, performance, IP, and IT updates; joint review boards for potential agreement changes and service issues. • Focus on performance and transformation. • Emphasis on end-to end business metrics as well as service provider SLAs. • Mutual accountability for desired outcomes; focus on root cause analysis. • Ecosystem that encourages and rewards innovation.	• Agreement components viewed as fixed. • Infrequent communication or only when emergencies arise. • Little or no provisions for regular reviews beyond monthly revenue/cost accounting reports. • Focus on service provider metrics and scorecards • Narrow SLA focus on the service provider SLA targets; focus on reporting. • No clear systems that set joint processes for innovation as a continuing culture beyond "feel-good" PR.
Exit Management	• Addresses how to handle future unknowns. • Based on fairness. • Seeks to keep parties whole in the event of a separation that is not the result of poor performance.	• Focus on Ts and Cs that are risk averse. • Entity with the most power typically uses that power to negotiate in their favor without regard to fairness.

Element 1: Relationship Management

This core element establishes the mechanisms for managing the relationship and the business. Importantly, it also covers how the parties address changes in the agreement itself—and changes will inevitably happen. In our view, relationship management is mainly about operational alignment, the process by which the parties arrange the people and systems to manage the outsourcing agreement. We've identified

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six techniques for aligning organizations, each of which is discussed more fully below.

WIIFWe (Vested)	WIIFMe (Conventional)
Finding a way to meet both our needs.	Getting the service provider to meet our needs.
Work together to achieve the performance and compensation goals.	"It's in the agreement; now it's the service provider's problem."
Communicate the issues, jointly find solutions.	Blame and punish the service provider.
Integrated planning and communications.	Unpleasant surprises.

Many companies that outsource believe they have achieved the necessary alignment simply because they have deployed Service Relationship Management (SRM) techniques. SRM is the practice of creating mechanisms to increase the efficiency and effectiveness in how a company works with its service providers to lower business costs. But SRM in and of itself is not enough. For true organizational alignment, SRM also needs to incorporate the Vested Outsourcing principle of win-win thinking. We call this WIIFWe, or "what's in it for we." This mindset is particularly important when developing processes to jointly manage the business to achieve desired outcomes.

The biggest difference between strategically managing a relationship and simply managing a service provider starts with the philosophy of how the parties work together. The table to the left contrasts the relationship management approach (WIIFWe) with conventional management of a service provider (WIIFMe, or "what's in it for me"). A Vested governance structure embeds WIIFWe thinking into each SRM best practice.[5]

With that Vested WIIFWe mindset firmly in place, companies can pursue six key actions that lead to real organizational alignment:

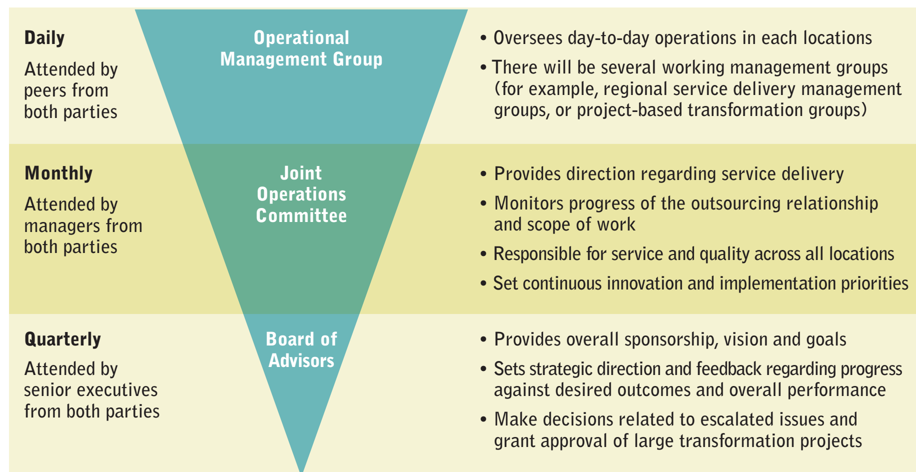
1. Create a tiered management structure for governance. A tiered management structure is a layered approach, with each tier having specific responsibilities for managing different aspects of the business. This approach creates vertical alignment among upper management, mid-management, and day-to-day workforce. Each layer is responsible for advancing the outsourcing relationship to achieve business success through its respective "lens." Each layer also works to make sure that the relationship is focused not only on the tactical elements, but also on the strategic and transformational components.

We recommend a three-tiered organizational framework, as illustrated in Exhibit 2. This three-tier layered governance structure can work well in almost any type of Vested relationship. It ensures that the organization is receiving guidance in a timely and consistent manner from three key perspectives: functional working levels, operational level, and executive level. The tiered structure also facilitates decision making. When an issue cannot be resolved at one level, it can be readily escalated to the next level of the framework.

2. Establish service delivery, transformation and commercial management roles. A Vested agreement by design is meant to drive transformation; accordingly, a governance structure needs to promote and drive transformational efforts.

EXHIBIT 2

Tiered Governance Structure



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This activity falls into three primary governance roles: service delivery management, transformation management, and agreement compliance.

Each governance role is outlined below:

• *Service Delivery and Management.* This role focuses on the efficient delivery of service, responsiveness to customers, and ensuring that service delivery complies with regulatory and internal policy requirements. The size of the group managing this will vary according to the size of the deal, but is preferably limited in number. For example, a large global outsourcing deal might have six people dedicated to service delivery management—with a full time person from both the buyer and supplier being responsible for three regions (North America, Europe/Africa, and Asia).

• *Transformation Management.* This role drives ideas, innovations and process changes across the parties. The size of this group will also vary according to the deal size.

• *Commercial and Relationship Management.* This role manages the commercial and contractual aspects of the outsourcing relationship as well as the overall relationship across the various stakeholders in the two organizations.

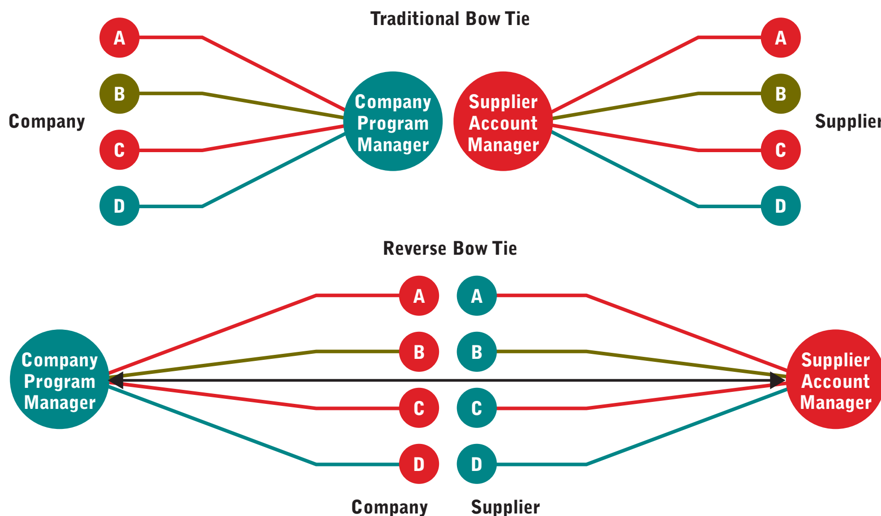
These functional governance roles are included in the governance framework that the parties agree to. Ideally, the governance structure is formally included into the actual contractual agreement.

3. Adopt peer-to-peer communication model. After establishing the tiered structure and the various functional roles within that structure, the parties should focus on horizontal integration. One way to do this is through mapping the various individuals involved using a peer-to-peer alignment approach commonly known as a "reverse bow tie." (See Exhibit 3.) Many companies insist on using traditional hierarchical structures in which everything flows through the outsourcing company's program manager and the service provider's account manager. This approach is depicted on the top half of Exhibit 3 as a "traditional bow tie" model.

We recommend direct functional communication through the appropriate contacts in the respective organizations—that is, the reverse bow tie approach as shown on the bottom half of the exhibit. Using this approach, managers of specific aspects of the outsourcing agreement take responsibility for keeping the company's program manager and the service provider's account manager informed. This communication model improves the flow of information and helps to empower company and service provider teams.

4. Develop a communications cadence. Establishing a regular cadence of communications is an important aspect of the governance structure. Such a cadence is the "rhythm of the business." It puts in place a practical mechanism to help the parties manage the business. As with any collaborative endeavor, regularly scheduled conference calls, team meetings, and face-to-face formal reviews are the grease for the wheels. Governance involves free-flowing communication between operational groups, their managers, and the companies' executives. The most successful teams have formal mechanisms (and informal protocols) for talking on a daily, weekly, monthly, quarterly and annual basis.

5. Develop a process to maintain continuity. One of



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the most often-heard pushbacks from organizations contemplating Vested Outsourcing is, "I love the concept, but what if we sign up for risks under the agreement and the players change and throw out the rules? The pendulum swings and any progress we have made through our trusting relationship is lost."

This is a real fear. To help allay it, the governance framework should contain a process for ensuring employee continuity. Here are some best practices:

• Mutually identify a limited number of personnel that are designated as "key personnel" for both parties.

• Establish a provision that prevents either party from removing, replacing, or reassigning key personnel during an established timeframe. Two to three years is a reasonable duration that still enables individual promotions.

• Develop a process for communicating key personnel changes. For example, establish communications protocols when key personnel become unavailable because of sickness, jury duty, resignation, and so forth.

• Establish a process for promptly replacing key personnel.

• Use a formal escalation process for personnel issues. For example, in some cases one of the parties (typically the company outsourcing) might have employees that denigrate or verbally abuse the service provider's personnel. This is intolerable. The agreement should have provisions that address such improper behavior between the parties or between employees.

6. Establish a performance panagement program. Vested Outsourcing isn't just about implementing an innovative program. It's also about governing a day-to-day business relationship. Thus, a performance management program must be established that:

• Measures end-to-end performance against KPIs and desired outcomes, not just service level agreements (SLAs).

• Provides a mechanism to measure the overall health of the relationship and effectiveness of transformation efforts.

• Enables the parties to "score" performance to identify any shortfalls.

• Includes a neutral third party to help facilitate decisions on final performance scores and other aspects of governance.

• Includes a proactive problem-solving and dispute resolution process.

Element 2: Transformation Management

A successful Vested Outsourcing agreement needs transformation management processes in place to help the organization stay aligned. This is crucial because the one constant in a dynamic business environment is change. And change can put pressures on even the steadiest of relationships. A Vested agreement establishes mechanisms to deal with changes in a way that will ensure that the organizations stay aligned and continue to work effectively together towards the desired outcomes. Specifically, the transformation management processes should allow the agreement to evolve in a controlled manner. It should support—not hinder—continuous improvement and innovation.

The biggest difference between strategically managing a relationship and simply managing a service provider starts with the philosophy of how the parties work together.

The transformation management element of an agreement should contain four components, each targeted at a different aspect of the transformation:

1. It should clearly and comprehensively document how the initial transition of work will be managed. This ensures that the relationship gets off to a good start by establishing clear parameters.

2. It should include philosophies for driving overall transformation initiatives—called a continuous innovation management process. This part of the agreement sets the protocols and processes outlining how the company will manage ideas that both parties need to agree to and invest in order to achieve their desired outcomes.

3. The agreement should contain a process for managing day-to-day continuous improvement efforts as well as any problems that arise.

4. It should include a process for updating and managing changes to the actual agreement.

Only by establishing clear protocols and processes for each of these elements will the organization achieve maximum effectiveness as it drives transformation.

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The Initial Transition

The agreement may represent a transition from a company-operated function to a new service provider or from an old service provider to a new one. Or it may simply entail a scope change and a new way of doing things in an existing relationship. If there is considerable work scope shifts in an existing relationship, the Vested agreement should formally describe how each party will manage the transition by including the following three essential activities associated with the initial transition process.

• Maintain team continuity from the initial sourcing process through transition to day-to-day operations.

• Develop an effective communication and training campaign around the transition, including a formal "blueprint" of the work to be done. This ensures that the key work scope elements are transferred and the appropriate resources are established.

• Create a high-level target plan. Though some of the operating details likely will change, the Vested agreement requires a high-level transition plan agreed to by the parties. The plan will include assumptions, milestones, key dependencies, performance criteria, quality control and delivery management procedures. In addition, the plan will address requirements around testing methodology and transition project management protocols such as progress reviews and issues resolution.

Continuous Innovation Management

If it is to achieve its real potential, a Vested Relationship cannot be static. For this reason, the agreement should include formal processes for managing ideas, opportunities, and innovations that can help the parties achieve their desired outcomes.

A Vested Outsourcing agreement rewards service providers for innovative ideas and investments that deliver results against the desired outcomes. Innovation in products and processes is critical—in fact, it's the key driver of economic growth for businesses. Nobel Laureate Robert Solow found that 87 percent of all business growth comes from technological innovations.6 Establishing a joint continuous innovation management process, therefore, is a fundamental part of a Vested agreement. The process should detail exactly how the parties will communicate and make investment decisions with regard to potential innovations that can help both parties achieve the desired outcomes.

Continuous innovation management relies not only on the parties' ability to collaborate and generate ideas, but also on their ability to implement ideas that can deliver value. The problem here generally isn't a lack of ideas; it's their execution. So we recommended developing a mechanism for "scoring" projects by value so as to identify the top candidates for continuous innovation.

In creating an innovation management process, keep the following suggestions in mind:

• Keep ideas in an "innovation pipeline." Just because an idea was rejected once, that doesn't mean it cannot be revisited and reevaluated in the future.

• Track how many ideas are generated relative to how many get implemented. The best companies will implement a large number of ideas—as much as 90 percent of those identified.

• Develop a Pareto chart7 of reason codes as to why ideas do not get implemented.

Specifically, the transformation management processes should allow the agreement to evolve in a controlled manner. It should support—not hinder—continuous improvement and innovation.

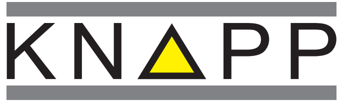
• Clearly document desired hurdle rates for proposed idea/projects and create a formal process that teams can use to help them capture and quantify their ideas.

• Develop a decision framework and process for selecting ideas to implement.

Continuous Improvement Program

The third transformation management component is a continuous improvement program for managing day-to-day operations. These programs are different from continuous innovation management, which tends to focus on larger-scale transformation initiatives that likely need investments or resources.

Continuous improvement programs often are cross-organizational in nature and are tied to the desired outcomes. These initiatives come in all forms—Six Sigma and Lean being two of the most popular. Regardless of the particular program adopted, it should have the following attributes: jointly adopted (not a one-party program); transparent fact-based decisions; end-to-end focus



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on accountability; customer satisfaction surveys (including external customers and end users); and formal benchmarking reports.

Change Control Procedures

The agreement should have change control procedures that are used to request, assess, process and approve, or reject modifications to the agreement. The parties adopt a written change request process that is used to initiate a formal change to the agreement. A change request is required for modifications that affect the price or related costs of the services, impact the delivery of the service, or impact the obligations of either party under the agreement.

Typical events that trigger change requests can include:

• Changes in applicable law that have a material impact on the services.

• Introduction of new or updated technology tools.

• Changes in volumes not included in the agreed upon pricing.

• Changes in work scope not included in the agreed upon pricing that will require additional staffing or costs.

• Changes to service-level targets.

• Changes in key personnel.

• Requests for additional work for one-time projects that will require additional staffing.

• Changes in assumptions outlined in the pricing model.

Element 3: Exit Management Plan

Because nothing lasts forever, the governance framework should address this critical question: What happens when the agreement ends?

If the agreement is properly structured and is achieving the desired outcomes while continually improving performance, renewal of the contract is likely. Yet sometimes relationships can fail no matter how promising the start, how well intentioned the parties, or how carefully the objectives are identified. Business and market conditions can change suddenly; people move on; projections fail to pan out and companies change hands. An important facet of the governance framework, therefore, is a credible exit management plan.

One of the potential dangers of outsourcing is that a company becomes so entwined with and dependent on the service provider that it believes the pain of terminating the agreement outweighs the potential benefits of changing providers. This happens most often when service provider management becomes service provider abdication. By maintaining a Vested mindset and emphasizing balance in the company-service provider relationship, two good things happen: (1) the likelihood of the partnership degrading becomes less and (2) the process of dissolving the partnership if circumstances dictate becomes more straightforward.

An exit management plan will facilitate a smooth, effective transition of services delivery with minimum disruption of ongoing operations. The plan also will result in the efficient completion of all agreement obligations. The exit management plan typically is invoked with the issuance of a formal termination notice under the agreement, specifying:

• The portion of services included in the scope of termination.

• The estimated exit transition period and vendor services affected.

• Following a termination notice, a timetable for the specific scope of transition services.

A summary of the components of an effective exit management plan follows.

Termination notice. The exit management plan takes effect when a formal termination notice is delivered by either party or when services are transitioned once the agreement or work scope expires. The termination notice must be specific about the services affected (including processes and geographies). The notices also must include or identify an estimated exit transition period; service provider delivery centers affected by the transition; the location of replacement delivery centers; and vendor transition assistance charges.

Exit transition period. Just as there is a transition period when an outsourcing agreement is first implemented, there is a transition period in the event of agreement termination. This period generally will run from the date of the termination notice to the date upon which any transition services are completed.

Exit transition plan. The objective of an exit transition plan is a smooth, effective, and uninterrupted transition of service delivery with a minimum of disruption and efficient completion of all obligations under the agreement. This can

only happen if there is a plan to make it happen—and if the plan is managed through an exit management process that is established within the agreement's overall governance structure. A dedicated manager should be named to supervise the exit management team

Governance and reporting. The exit management process should be managed within the overall governance structure developed as part of the agreement. The exit transition plan should address any issues arising from the termination of services and should specify reporting requirements. If the exit transition period is short (under 60 days), daily or weekly reporting to the exit transition team is advisable. The exit management plan will provide a sort of reverse view of the entire governance framework, in essence outlining the vital steps to "unwind" the relationship.

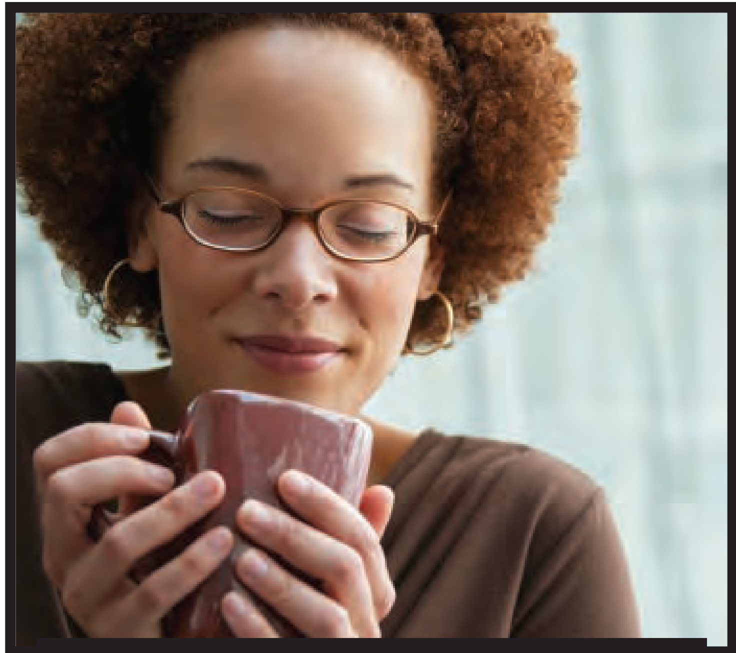
Collaborative Governance Structure

Governance is largely unchartered territory for outsourcing contracts—often ill represented in the contract or omitted altogether. Yet the lack of a proper governance structure is one of the main reasons that agreements sputter or fail. All outsourcing agreements should include governance as part of their formal agreement. Formalizing and documenting a joint governance process will help the parties work effectively together after the contract is signed.

Our work has shown the most effective governance structures are those that are built on providing insight, and not merely oversight of the supplier. We call this approach a Vested governance structure because in managing the relationship a company and its service provider have a vested interest in each other's success. A good Vested governance structure encourages the parties to work together for mutual benefit by creating three interlocking and overlapping structural, flexible and collaborative elements—relationship management, transformation management, and exit management.

The framework and the three elements provide the roadmap to help companies implement the core Vested Outsourcing principle that a collaborative governance structure should be based on insight rather than oversight.

We hope this article has helped to provide a sound framework for governance, allowing you to put the concept of governance into practice. ☐



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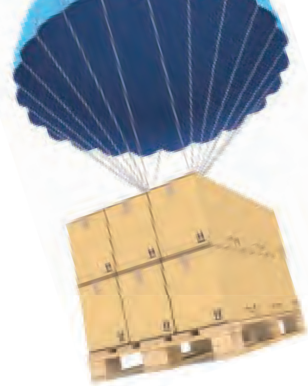
Quarterly Transportation Market Update

Truckload: Near perfect balance… for now

Truckload carriers are aiming for that "sweet spot" when the market hits supply and demand "equilibrium." It's close right now, but carrier executives fret that the hunt for drivers, rising fuel costs, and regulatory restraints make for a most uncertain future.



By John D. Schulz, Contributing Editor

The $300 billion-a-year truckload (TL) sector is the engine that drives the American trucking industry—and now it's back on the upswing. Brutalized and downsized by as much as 15 percent during the Great Recession, truckload fleets have regained profitability with pricing and yields rising as demand for capacity increases, according to top industry officials and analysts.

John White, president of U.S. Xpress (USX), the nation's fifth-largest TL carrier with $1.57 billion revenue last year, says he sees current truckload supply and demand equilibrium—there are just about the right number of trucks as there is demand for freight services. And that's a positive for carriers since they're now able to match their rolling stock to the level of freight demand. In fact, truckload leaders are saying that 2012 will be the best overall year for truckload since at least 2007.

"I wouldn't portray the economy as overly robust," says White. "Instead, the balance is being driven in truckload by the capacity that exited the market place during the recession."

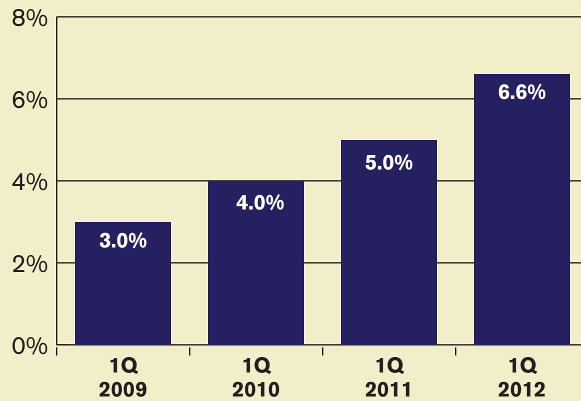
Mark Rourke, president of transportation services for Schneider National, the nation's second-largest truckload carrier, is in agreement with White's assessment. "As a macro play, things are pretty much in prefect balance, which is a good thing," says Rourke. "It was an excellent first quarter; and unless fuel goes to $6 a gallon, I would expect very similar conditions to continue for the rest of 2012. Nothing outside of housing is negative right now."

Yet, this forecast for continued carrier success is tempered by a large bank of storm clouds developing on the horizon—namely, rising costs for a number of basic fleet items, tight driver supply, and an aggressive truck regulatory push from Washington that some executives fear could choke off the industry's recovery.

New trucks cost about $25,000 more than they did just five years ago, partially due to federally mandated emission controls on engines. Drivers are scarce and becoming more expensive to find and retain due to challenging demographics. And new federal regulations—such as CSA—and increased driver scrutiny could eliminate as many as 150,000 of the estimated 3.5 million long-haul drivers from the work force.

As the major public truckload carriers report mostly

double-digit revenue and bottom-line gains in the first part half of 2012, *Logistics Management* now takes a deeper look at the key factors that will most certainly challenge carrier profitability and rates for the foreseeable future.



Fuel: All-time record expense

Diesel fuel remains stubbornly above $4 per gallon, and collectively the trucking industry is on pace to spend in excess of $155 billion for diesel this year—an all-time record, according to figures tallied by the American Trucking Associations.

"Four-dollar-a-gallon diesel hurts the small, undercapitalized carriers running old equipment," says trucking analyst John Larkin, managing director of Stifel Nicolaus. "They don't have as much leverage in price negotiations with shippers and are likely to have weak fuel surcharge recovery. The big companies are much more polished when it comes to keeping fuel cost and fuel consumption down."

The larger fleets have several built-in advantages. First, they have better leverage with shippers and third-party logistics providers in obtaining fuel surcharges. Second, they operate more modern fleets that utilize smaller and more fuel-efficient engines. And third, they're more likely to employ cutting-edge fuel-saving technologies such as super-single tires, side skirts on their trailers, nose cones on cabs, tail cones on their trailers, and fully aerodynamic packages on their tractors, according to analyst Larkin.

They also tend to run later model tractors. For example, P.A.M. Transportation, a major Arkansas-based TL carrier, has lowered the average age of its fleet over the past couple years from 3.28 to 2.43 years. Not coincidentally, P.A.M. recently reported a quarterly operating profit of $1 million—the first time in five years the carrier has been in the black in any first quarter, usually the slowest period for truckload carriers.

Like P.A.M., the larger, well-capitalized TL carriers are using fuel optimization systems to optimize fuel purchases on the road, have installed better driver training programs, and are using fuel efficiency bonuses for drivers to help lower their fuel bills. Smaller, less well-capitalized fleets are hard pressed to use such innovations because of their upfront costs, analysts say.

"All this points to accelerating industry consolidation, especially if fuel prices spike," says analyst Larkin. "Long-term high diesel prices will spur the development of engines that run on compressed natural gas (CNG) and liquefied natural gas (LNG.) This is a big discussion point across the board for carriers, truck manufacturers, and truck stop chains."

In fact, the people who run the nation's truck stops say they expect to continue to see wild fluctuations in the price of fuel as everything from rumors of the latest unrest in the Middle East to domestic refinery capacity affects the cost.

"We know exactly what oil is going to do—it is going to be volatile," says Mark Hazelwood, executive vice president of Pilot Flying J, one of the nation's two largest truck stops. "There will be extreme volatility, whether it's from a geopolitical event such as what's going on in the Middle East or just market fundamentals."

A barrel of West Texas Intermediate crude oil has been as high as $112 a barrel recently and was hovering in the $90s at press time. Hazelwood expects "if something bad were to occur" that price would jump to $125 pretty quickly. But on the other hand, if tensions with Iran—the world's third-largest oil exporter after Saudi Arabia and Russia—were to be defused, he says

"I wouldn't portray the economy as overly robust. Instead, the balance is being driven in truckload by the capacity that exited the market place during the recession."

—John White, U.S. Xpress (USX)

"Four-dollar-a-gallon diesel hurts the small, under-capitalized carriers running old equipment. They don't have as much leverage in price negotiations with shippers and are likely to have weak fuel surcharge recovery."

—John Larkin, Stifel Nicolaus

oil could crater to as low as $85 a barrel—which would result in more than a dollar decrease in the cost of fuel.

Fuel surcharges currently hover around 40 percent in the TL sector. When they get that high, some shippers are asking carriers to "cap" their fuel surcharges. Carriers may be willing to do that, but those shippers requesting that cap should be prepared to pay more in overall rate increases.

"There are free lunches when it relates to fuel costs in the industry," Rourke says flatly.

Drivers: Retention works best

Truck driver turnover, which has often exceeded 100 percent at some large TL carriers, unexpectedly dropped during the fourth quarter of 2011. At fleets with more than $30 million in annual revenue, turnover rate was 88 percent; and for those under $30 million in revenue, turnover fell to 55 percent.

Nobody understands exactly why, but experts say the industry got a rare one-time "reprieve" from the chronic driver shortage. They expect scarcity and cost of drivers to be a major headache for the industry, as the overall unemployment picture brightens in the U.S. and regulatory scrutiny of unsafe drivers increases.

"I would say that the driver turnover blip in the fourth quarter was an aberration," says Larkin. "Standards keep being tightened and carriers struggle to find enough qualified drivers. Only those with driver training schools aren't complaining."

Top fleet executives agree that finding, training and retaining drivers will be one of the biggest factors separating the most profitable fleets from those in the middle of the pack. "Any way you look at it, the biggest challenge is drivers," says White of USX. "The challenge is simply attracting them to the industry."

Those who make their living visiting truck stops and trucking terminals can bear this out first-hand. Hazelwood of Pilot Flying J says he recently visited 18 truckload carriers in a week. "Only one of the 18 did not mention that they had a driver issue," he says. "So it's definitely out there and something that confronts the industry."

Top truckload executives say that the key is to offer a wider range of driver jobs rather than just a single over-the-road, long-haul job that often requires being away from home as long as 21 days at a time. "If you're strictly long-haul, you're probably having problems," adds Schneider's Rourke. "But if you offer jobs in intermodal, dedicated carriage, and drayage, you're probably better off. The portfolio of jobs is most critical."

Rourke says that the industry needs to adjust driver pay as well. Schneider has recently started a "pay-for-performance" system that allows new drivers to move up the pay scale faster. In the meantime, truckers have shortened the period of time it takes to reach top scale in the industry, which can reach as high as 55 cents a mile for long-term drivers (or about $65,000 a year). But most TL drivers earn considerably less with the average pay about $40,000 to $45,000 for a five-year driver.

"Now we're looking at different methods to accelerate top performers regardless of tenure with the industry or company," says Rourke.

White of USX says that he's seen "isolated movement" in driver pay, but that would accelerate if the overall economic conditions improve. Often, trucking competes with housing construction for drivers, and if the housing market were to fully recover, that would add to the pressure of driver supply.

"Real income of drivers has not kept pace with inflation," says White. "At some point that's going to have to be addressed. We've done a great job since deregulation to manage down costs, but now we're going to have to find more efficient ways to work with our shippers to attract more drivers."

There is also a newfound emphasis on driver wellness. Trucking companies and truck stops are offering more and better shower facilities, exercise rooms, healthy menus, convenience stores, and safer and more secure environments to keep their best drivers happy and fit.

Nearly every carrier executive realizes that keeping highly qualified and safe drivers is a much better and more cost-effective strategy than trying to "poach" drivers from rival companies—or, worse yet, hire somebody else's headache.

"Keeping the top drivers you have is the best defense," adds Rourke.

Regulations: The noose tightens

The Obama administration continues to have trucking in its regulatory cross-hairs. The new "Compliance, Safety, Accountability" initiative, better known as CSA, has probably reduced the driver population already by about 2 percent to 4 percent, according to Larkin.

The government is also threatening to tweak drivers' hours of service rules. By the middle of 2013, there could be a rule proposal that might cost TL carriers as much as 4 percent of their productivity. By all reports, it will probably retain the current 11-hour driving daily limit, but will require at least two more mandatory rest breaks. This move could affect longer-haul TL carriers by effectively reducing a driver's work week as well as his pay, considering drivers are paid by the mile.

All this is going to manifest itself in

higher TL rates. Depending on geographic lane and a shipper's particular freight profile, Larkin estimates TL rates to rise between 2 percent and 6 percent this year. "Dedicated freight business seems more competitive, and carriers are happy if they can get the 2 percent," Larkin says.

Besides CSA, there are calls for mandatory electronic on-board recorders designed to reduce cheating on driver hours of service. However, the recorders will also affect overall capacity and could result in higher costs for fleets because they might have to hire additional drivers and buy more trucks to handle the freight load.

But it's not just the federal government targeting trucking. With most state budgets in need of additional capital, the trucking industry often is looked upon as a reliable source for new revenue through higher state fuel taxes, registration fees, and tolls.

As many as 10 states have already raised truck tolls in the past 12 months, and more are considering it. "From a regulatory perspective, if tolls go up, I don't know how I offset that to become more efficient," says White. "They have to get passed onto the shipper."

This increased scrutiny could definitely result in higher driver pay. But analysts and executives say that there are steps that shippers can take in order to create more internal efficiencies for carriers on the way to helping them hold the line on rates.

How shippers can help

Going forward, shippers can definitely be expected to help carriers in reducing their empty miles, which carriers say can mitigate rate increases. "Certainly, with the market in equilibrium, we place a lot more scrutiny on what we expect in terms of empty miles," says Schneider's Rourke.

With diesel hovering around the $4 a gallon level, fleet executives say they have no choice by to run the most efficient operation possible. "Efficiencies in the network become even more critical at this cost level," Rourke says.

What shippers have to understand, say carrier executives, is that it takes a healthy investment of capital to run the most efficient fleets. Tractors are more expensive. High-mileage tires are more expensive. But those investments are critically important to keep costs down.

Shippers who realize the facts revolving around these elements will be given priority during the upcoming Peak Season. It's unclear how tight capacity will be during the peak, but several TL executives say that shippers have to look at the overall supply chain and the role their carriers play in it during contract negotiations.

"I always believe that there is a difference between price and cost," adds White. "Shippers need service, equipment and stability. It's hard to put an exact percentage cost on that."

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

> "We know exactly what oil is going to do—it is going to be volatile. There will be extreme volatility, whether it's from a geopolitical event such as what's going on in the Middle East or just market fundamentals."
>
> *—Mark Hazelwood, Pilot Flying J*

Pep Boys puts spark in dedicated relationship

Partnership is a buzzword often spouted in the logistics industry, especially in the truckload (TL) sector. But when the rubber meets the road, it is much harder to execute than to simply discuss.

The key to an effective partnership, top logistics professionals say, is the alignment of objectives and a commitment to finding solutions when challenges inevitably arise.

Pep Boys and National Retail Systems (NRS), a New Jersey-based truckload carrier that has been serving the retail industry since 1953, have adopted these principles with a dedicated fleet operation that has delivered exceptional results for one of the fastest growing retail chains in America.

Pep Boys is certainly a bright spot in the U.S. economy. Last year, Pep Boys earned $28.9 million net income on $2.1 billion in sales from 750 outlets in 35 states and Puerto Rico. According to Joshua Dolan, Pep Boys director of global logistics and U.S. Customs, the relationship with NRS has improved the company's efficiency through its dedicated fleet and store delivery services.

Dolan says that NRS has helped to increase network efficiency to a 96 percent backhaul utilization level and has realized significant mileage reductions and conversion of vendor freight from 40 percent to 70 percent of total cost of goods sold.

"Through this dedicated partnership, NRS is committed to helping us optimize our supply chain," says Dolan. "They've become one of our most trusted partners in identifying collaborative opportunities in continuous improvement to reduce the fixed network expense of our dedicated fleet operations." Dolan.

Pep Boys controls almost 70 percent of its cost of goods merchandise, while 42 percent of its vendors run through Pep Boys' backhaul crossdock program. "We use our fleet not only for normal operations, but for DC-to-DC inventory flow connectivity and drayage," says Dolan. "Their approach to solution development in empty mileage and fuel consumption reduction supports our initiative of network evolution, helping to fuel store growth and profitability."

—John D. Schulz, Contributing Editor

How are we doing? See for yourself.

GLOBAL

OPERATIONS

KPI	TARGET	OCT.–DEC. 2011
Vessel On-Time Performance	100% Asia-U.S. West Coast 100% Asia-U.S. East Coast 100% Transatlantic 100% Asia-Europe	84% 90% 88% 90%

SAFETY

KPI	TARGET	JAN.–MAR. 2012
Long-Time Operational Stoppage	0	3

ENVIRONMENTAL

KPI	TARGET**	FY2011 1H vs. FY2010 1H
Nitrogen Oxide (NOx) Emissions per TEU-Mile	↓1% Annually to 3.12 grams	↓3% to 3.02 grams
Sulfur Oxide (SOx) Emissions per TEU-Mile	↓1% Annually to 1.99 grams	↑1% to 2.03 grams
Carbon Dioxide (CO_2) Emissions per TEU-Mile	↓1% Annually to 137.34 grams	↓3% to 134.31 grams

REGIONAL

OPERATIONS

KPI	TARGET	MAR. 2012
In-Terminal Truck Turn Time	<30 min. Jacksonville / Los Angeles / Oakland	15.0 / 24.9 / 23.0 min.

CUSTOMER SERVICE

KPI	TARGET	MAR. 2012
Lost Calls	Less Than 2%	1.53%
Phone Wait Time	Less Than 20 seconds	15 seconds
Export B/L Documentation Completion Rate	98% Complete 24-hrs After Vessel ETD	99.07%

EDI

KPI	TARGET	MAR. 2012
Message Processing Without Failure	90%	99%
EDI Uptime	99%	99%
Customer Setup Time	Within 72-hrs	48-hrs
Customer Scorecard Compliance	95%	99%

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*Global KPIs are international; regional KPIs are North American.
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SAGE ADVICE

Establishing good communications manners

By John A. Gentle, DLP

RECENTLY, I WAS AT MY HOUSE in Vermont and noticed my security alarm monitor had a red light that prevented me from arming the system. No problem I thought. I'll call the monitoring office and they'll fix the problem.

I dialed the toll free number, provided the password, and after some small talk I found out that the security person did not have the experience necessary to solve my problem. Instead, he gave me a non-toll free, long-distance phone number and told me to pick option 2, which would connect me to the technician on call.

Annoyed that I had to pay to call to get help, I was further aggravated when I got an answering machine: "No one is in the office…leave a message and a phone number and we will call you back as soon as possible." There was no option 2 and no solution to my problem.

This was not the first time that I've called someone only to get an answering system or was referred to some office with an unattended reception area and instructions on how to reach someone—resulting only in dead ends, frustration, and the need to explain my problem all over again. When you're a "customer" you should always have the opportunity to vent your frustration on someone and ultimately decide whether this situation is serious enough to consider a re-evaluation of the current relationship.

When you are a "supplier," however, and you need the business from this particular firm, you often need to bite your tongue and put up with poor and occasionally derogatory communications or decide if it's worth the price of complaining.

In logistics, there are several areas where communications can either help or hurt you. They include: new supplier inquiries; calls to carrier relationship management members; calls to the operation teams; and communications with warehouse operations personnel for pickup or delivery.

Getting prospective carrier calls quickly through to the company operator or unmanned receptionist is paramount. To do this, consider creating a link on your company website for prospective carriers to sign up and provide essential company information. Offering a pre-recorded message on how to access the web site can make it easy for carriers to introduce themselves to your team.

In addition, this line of communication minimizes the time spent by the receptionist and eliminates untimely interruptions to your staff during the business day. Live calls from prospective carriers are disruptive, frustrating, and often not handled in a positive, welcoming manner because it takes time to do it well. In addition, those calls that go to voicemail will likely take a low priority and may never get a response.

Handling important carrier operational calls in a timely manner is critical. It's always preferable for the carrier to talk directly to his primary contact; and it should always be a requirement that voicemail messages are updated not only when the key contact person is not going to be at work that date, but when they're attending meetings or off site. Recognizing that operational calls should be returned in 15 minutes, companies need to offer the caller the option to select the next available team member rather than to force them to leave a message.

Clearly, the most challenging element is warehouse pickup and delivery communications. More and more warehouse offices are unmanned, while dirty phones and coffee-stained lists of phone numbers greet drivers. Unanswered calls that go directly to voicemail are an unwelcome response to dispatchers and drivers alike. Options to resolve this challenge include: web access for dispatchers to your company's website for loading and unloading information and trailer pools as well as the ability for drivers to sign in electronically with the BOL number to see if their shipments are ready for pick up.

Systems are sophisticated enough these days to be able to call or page the warehouse attendant that people are waiting; and there is absolutely no reason not to have a process that enthusiastically greets drivers or dispatchers and provides them with the information to allow them to be productive—and even happy to come to your facility.

America is looking for responsiveness not avoidance. It's time to get back to basics and good business manners. ☐

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