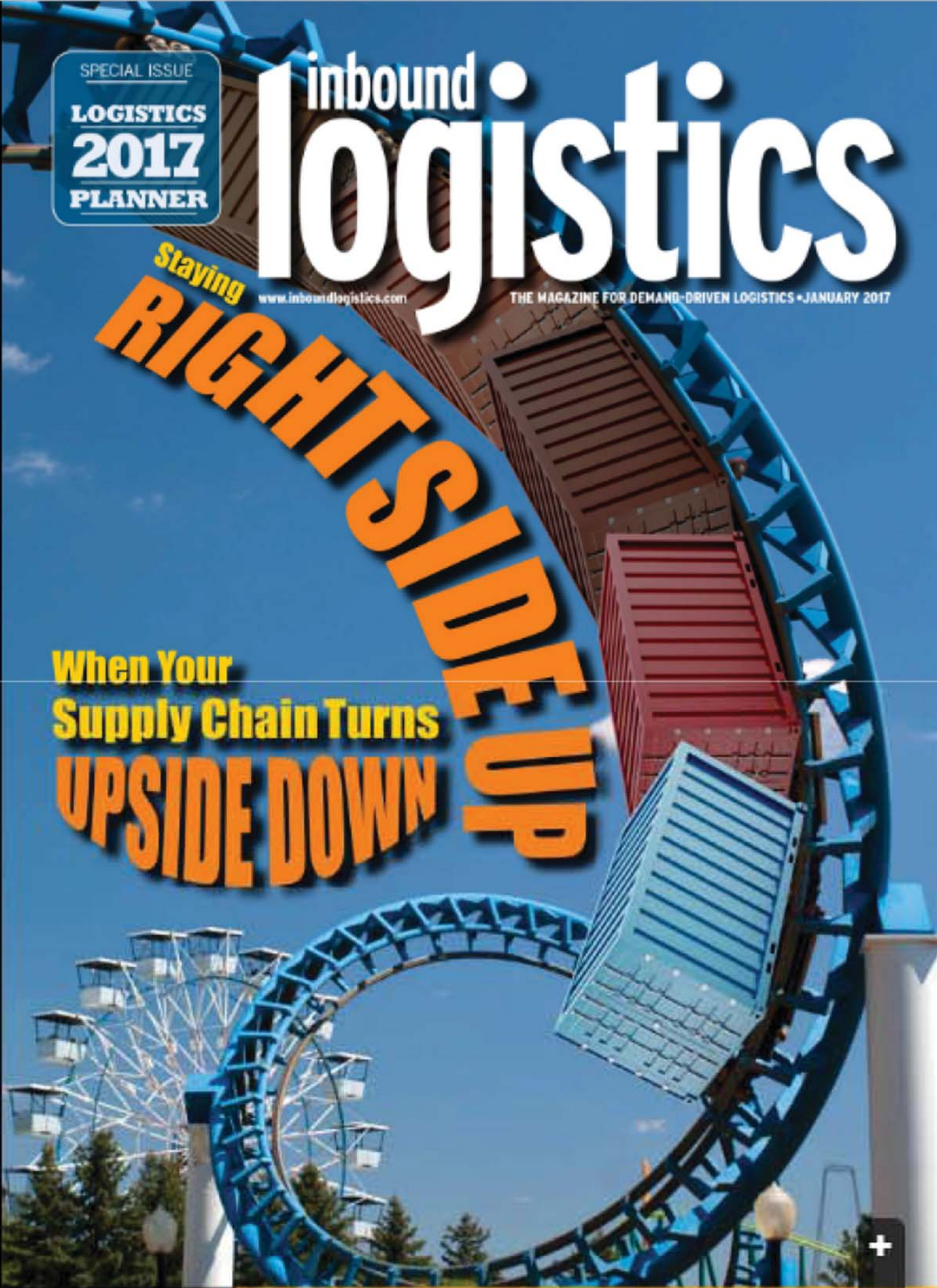
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Staying RIGHT SIDE UP
When Your Supply Chain Turns UPSIDE DOWN

# Staying Right Side Up When Your Supply Chain Turns Upside Down

**Even when times are uncertain, the benefits of demand-driven logistics are a sure thing.**

**By Merrill Douglas**

This is neither the best of times nor the worst of times. Surely, the U.S. economy has come a long way since the dark days of 2009. In November 2016, the U.S. Commerce Department reported that the nation's Gross Domestic Product had expanded by 3.2 percent during the third quarter. But when viewed over the long term, the economy's performance is not so impressive. In July 2016, a *Wall Street Journal* headline termed the recovery since 2009 "the weakest of the post-World War II era."

With a new administration in Washington, economic prospects are particularly uncertain. But most would agree that the era we're living through right this minute is not an economic boom.

Luckily, even when financial charts trend downward, there's an upside for shippers who know where to look. In some cases, companies save money, or make more, specifically because of conditions that arise in the supply chain thanks to the economy. In other cases, shippers take advantage of services, technologies, or government programs that help them to become more efficient and cut their expenses. When sales grow soft, there's nothing like a smaller number on the expense side to bolster the bottom line.

Let's consider some of the bright spots shippers face today in four areas: transportation, global trade, technology, and logistics outsourcing.


**Good news for shippers: No capacity crunch and lower rates for truckload shipments.**

# Transportation Upside: Capacity

For shippers, maybe the best news to emerge from the current economy is a more plentiful supply of transportation capacity. These days, shippers have an easier time finding space they need on trucks and other modes. And as supply has increased, rates have dropped.

"Capacity is a big advantage right now," says Marty Wadle, senior vice president, supply chain at Ruan Transportation in Des Moines, Iowa. "I haven't seen a lot of impact in less-than-truckload (LTL) transportation." But abundant truckload capacity is definitely helping shippers.

"When the overall economy is down, that's when logistics has the most leverage due to overcapacity," says Joel Zeller, director of global logistics at Arctic Cat, a manufacturer of snowmobiles and all-terrain vehicles based in Minneapolis.

That capacity isn't distributed evenly everywhere. The market is a bit tighter for shippers who need refrigerated transportation, says West Hutchison, senior vice president of transportation at refrigerated carrier Americold, in Atlanta.

At Americold, the emphasis isn't so much on driving down rates as on using sound strategy to reduce total costs. "We're chasing delivered value, and that helps leverage our infrastructure–especially on the transportation side–to provide greater control, support, and predictability to the supply chain," says Carl Fowler, Americold's senior vice president of regional accounts.

## Consolidation Strategies

One important strategy for delivering value is consolidation. Consider a truck that leaves Virginia fully loaded with freight for several customers and drops product in Missouri, Utah, and Washington. Each time the truck leaves a stop, it travels with more empty space, providing less value for the cost of the trip.

"We try to eliminate those empty pallet miles by pooling together customers who are delivering to similar geographic areas, trying to get them closer to a truckload cost rather than an LTL cost," Hutchison says.

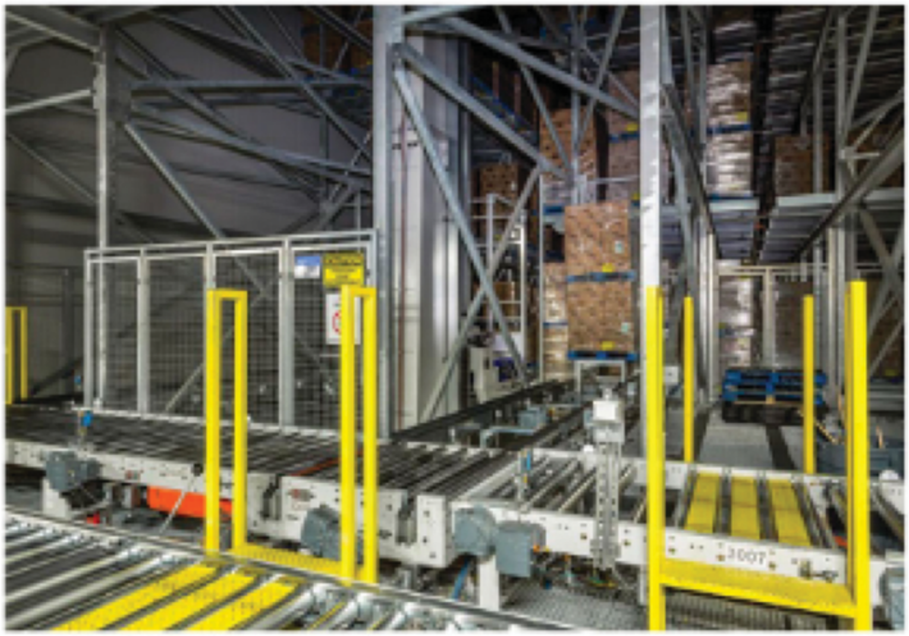
That strategy works only if the 3PL has obtained solid commitments from its carriers. "When we go through periods when there is some additional capacity in the market, we're more focused on making sure we've got carriers with high service records and good on-time delivery performance," Hutchison adds. Strengthening those relationships is more important than shaving an extra one or two percent off a carrier's rate.

Along with shippers transporting LTL-sized orders, Americold has started applying consolidation to full truckloads. "For instance, if a customer ships 30,000 pounds today, and pays a truckload cost on 100 percent of that load, we'll find another 10,000 pounds from a different shipper to add onto that truckload," Hutchison says.

In that case, the owner of the 30,000-pound load would pay just 75 percent of the truckload rate for that move. "On repeatable loads, we see savings of up to 25 percent by participating in that truckload consolidation program," he notes.

Zeller uses contract negotiations to keep costs under control. "It's not about decreasing rates; it's about the carrier getting into lanes that they find most attractive," he says. Because business dynamics change from year to year, it makes sense to reconfigure his assortment of carriers to benefit both parties. "It also allows the carriers to price themselves out of lanes that they don't want," he adds.

Brian Broadhurst, vice president, transportation solutions at Spend Management Experts (SME) in Atlanta has clients who use a similar strategy. SME is a supply chain consulting firm that helps shippers



**Service providers such as Americold invest in technology to schedule carriers in and out of loading docks quickly.**

reduce transportation and fulfillment costs.

The trick is to learn to understand your carriers' cost structure. "Once you do that, you can work with the transportation providers to help them reduce their own costs," Broadhurst says. That allows the carrier to charge less without reducing its margin. "Then it's a matter of going to the right carrier base to find who can move for the right rates on the right lanes."

Broadhurst also advocates taking a holistic—rather than a siloed—view of transportation spending. "You want to leverage all your spend on a single mode at one time, for two reasons," he says. "One is simple economies of scale. There's more leverage in the marketplace with more volume."

The second reason is that you want to find opportunities to combine lanes. "If you take the puzzle apart too much, what could have been a round-trip move for a carrier becomes two one-way moves," Broadhurst says. "That increases their cost structure and their cost to you."

### Depending on TMS

Many shippers rely on transportation management systems (TMS) to help them cut transportation costs, improve service, and gain efficiencies. "Regardless of the environment we're in, TMS covers the spectrum of functions that a transportation organization will manage," says Gregg Lanyard, director of product management at software developer Manhattan Associates in Atlanta.

Most shippers conduct bids for transportation contracts in the first quarter of the year, although in the current economy, many companies are pushing those events into the fourth quarter of the previous year.

"The TMS provides the ability to run procurement events, do what-if scenario analysis, and help understand what's optimal for both you and your service providers, based on their network changes," Lanyard says. "That's one area where, in this economy, there can be great efficiencies."

Besides using their TMS to help secure advantageous contracts, shippers turn to IT systems to gain efficiencies in day-to-day transportation execution. The benefits don't always come on the road. Data and communications also provide an advantage on the loading dock.

"We see shippers invest in technology to make sure carriers get in and out quickly," Wadle says. Companies use dock scheduling solutions to keep carriers happy and earn a position as a shipper of choice.

"Shippers are working with their carriers to provide visibility based on their onboard technology and GPS information," Wadle explains. That tells staff at a facility whether an inbound load will arrive on time. If it won't, the shipper might let another truck slip into that earlier position.

Ruan offers technology needed to maintain that kind of agility. "If a carrier was slated to be at the dock at 2 p.m., and we know it won't arrive until 4 p.m., we can be proactive with our shipper and let them know they have an opening at this dock."

For shippers and 3PLs that work with smaller carriers, another key to maintaining access to truck capacity, even when it's plentiful, is to pay your bills quickly.

"The capacity is there, but smaller carriers that provide good service have to make payroll and buy fuel," Wadle says. Ruan tries to pay carriers as soon as it receives proof of delivery. "We try to pay within one to three business days of that transaction," he says.

Some shippers try to delay payment by as much as 60 days. "That does not ingratiate them with smaller carriers," Wadle says. "And then you lose out on the capacity."

## Technology Upside: Visibility

One big advantage that shippers gain from technology in any economy is visibility into all aspects of the supply chain, from the disposition of inventory to the status of customer orders to the location of goods in transit. Today, that view can also include product held by a shipper's supply chain partners.

"Technology has given us a much better picture of what's happening outside the four walls of the facilities that may be in our supply chain," says Lanyard.

Companies have long used electronic data interchange to share supply chain data. But today, onboard computers, GPS receivers, and other mobile devices take visibility to a higher level. "That leads to much better data within the TMS," he says. And that more abundant, accurate, and timely information helps shippers and carriers provide better service.

"Now that we have an increased amount of data coming in from the TMS, we can make better operational decisions that allow us to continuously improve our transportation options," Lanyard says. For instance, a shipper can use data the TMS collects about on-time pickups and deliveries, and other service metrics, to evaluate its carriers and encourage better performance.

Lennox International, a manufacturer of climate control systems based in Richardson, Texas, and a Manhattan Associates customer, has spent a lot of time building the data channels that allow it to track materials and products as they move through its supply chain.

"In the past, we had no clue where a product was or when it was going to get here," says Keith Nash, the company's vice president of process and technology. "It was very hard to plan."

Today, Lennox uses its TMS to track product movement and status, with a goal of gaining end-to-end visibility and eventually sharing that view with customers. "We get about 300,000 calls annually from customers asking 'Where's my stuff?'" he says. "If we can let them punch a button on our portal to get that information, we'll avoid some of those calls, and they'll be much happier."

Americold uses a proprietary IT system that allows its customers to monitor the product that the 3PL manages on their behalf. "It gives our customers the ability to see what we have in inventory, and control its movement," Fowler says. New technology available today lets companies monitor demand signals from the point of sale all the way back to the point of production.

## SaaS Brings Benefits to Everyone

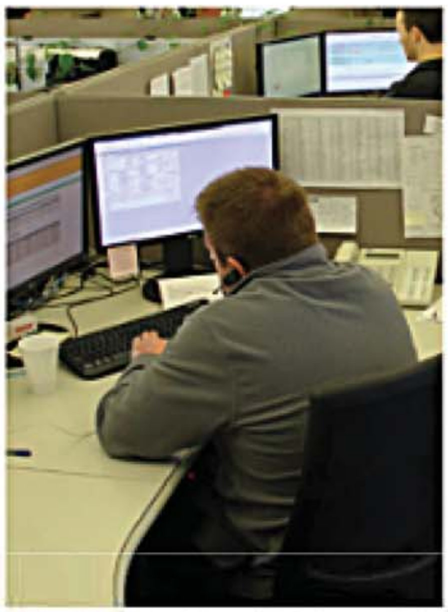
Visibility and the other benefits of logistics technology are now available to many more companies, thanks to the arrival of cloud solutions, also called Software-as-a-Service (SaaS).

In the past, only larger companies could look to a TMS to help make them more efficient and improve service to customers, says Lanyard. The cloud brings those benefits to everyone, with no need to make big upfront hardware and software investments or ask the IT staff to manage the solution.

Cloud-based solutions also offer an easy way to supplement an ERP program, providing functions that the large solution doesn't, says Jeff McCauley, vice president of global accounts at Integration Point, a provider of global trade technology in Charlotte, N.C. In the past, some IT departments were reluctant to embrace a solution that the company didn't host on its premises. "But they now see the benefits of not only embracing the cloud, but using it to fill gaps that they see overall," he says.

Technology that transforms large volumes of data into useful information offers another bright spot for shippers. For instance, companies use analytics software to learn more about customer demand and prepare in advance to execute orders.

"The software notices patterns and uses machine learning to recognize what those patterns are," says Mary Rollman, strategy managing director, supply chain with consulting firm Accenture. Her team at



Tapping into a service provider's technology offers shippers integration and visibility.

Accenture works with clients in a broad variety of industries. "That will help companies position their inventory—having it in the right place so they're not doing shipments across the United States from a different warehouse."

When inventory is located to match demand patterns, there's less need for expensive expedited shipping.

Lennox International is one company that uses the wealth of data available from its IT systems to support analytics. "We build a lot of predictive capability," Nash says. Eventually, instead of using people to handle exceptions that occur in distribution, it will be possible to train machines to handle those exceptions, he says.

Robotics also bring new efficiency to the supply chain. Some companies are investing in automated systems to offset the fact that overseas labor isn't nearly as cheap as it used to be.

"Traditional low-rate labor areas are no longer low-rate," says Nick Foy, vice president of strategy and innovation at ModusLink, a 3PL based in Waltham, Mass. But as the cost of hiring people to work in factories and warehouses overseas increases, the cost of implementing machines to perform some of that work is coming down.

"There are a lot more startups involved in this space than before," he says. While it used to cost more than $100,000 to buy a system that performed a single task, a company can now buy a multi-tasking automation system for far less.

## Robotic Partners

In ModusLink's Riverside, Calif., facility, the company recently implemented robots that pick and put away product alongside human workers. "These two-armed robots are able to do 360-degree turns, and they're fast," Foy says. "As we look to reduce our costs and increase quality, we are focusing heavily on automation."

Automation has also brought efficiencies to a facility in Brno, Czech Republic, where ModusLink provides services to GoPro, which makes most of its wearable cameras and accessories in South China. It moves the cameras to ModusLink facilities in Hong Kong, Brno, and Riverside to be packaged for retail sale and then shipped to regional markets.

"In the Czech Republic, the competition for labor has increased dramatically in the past two years," says Scot Briggs, director of worldwide distribution and logistics at GoPro in San Mateo, Calif. "As a result, wages are going up." ModusLink has applied robotics there to increase efficiency and save money for GoPro.

For example, robots now place each packaged product inside a plastic bag to protect it until it gets to the store shelf. Robotic systems also install mandatory safety stickers inside the battery compartments of GoPro's cameras.

"We used to employ multiple people with tweezers attempting to manually place the stickers," Briggs says. "Not only is the robotic system faster, but it is more accurate and less expensive in the long run."

Arctic Cat relies on a 3PL to manage inbound and outbound shipments of its snowmobiles and all-terrain vehicles.

## Global Trade Upside: New Sourcing Strategies

The recent presidential election has cast doubt on the future of America's role in major free trade agreements. But some industry observers say that the United States will actually see trade agreements expand under a Trump administration, with bilateral agreements between the United States and other countries, such as the UK and Japan, replacing multilateral agreements such as the North American Free Trade Agreement and the Trans-Pacific Partnership (TPP).

"After withdrawing from TPP, the Trump administration has indicated it will pursue bilateral trade agreements," says McCauley.

Those who rooted for the TPP include attendees of the October 2016 annual conference of the Footwear Distributors and Retailers of America, which McCauley attended. Those retailers should not despair for a future of duty reduction.

"The need for free trade agreements to spur economic growth and domestic jobs, and to help in containing consumer costs by allowing careful duty reduction, will continue to be a shared priority of the Trump administration and global business leaders, regardless of the trade agreement names," he says.

TPP would have reduced trade barriers among 12 Pacific nations, including the United States but not including China. Virginia Thompson, vice president of product management at Integration Point, says she thinks that Congress will eventually ratify several new bilateral agreements negotiated directly with the United States, and President Trump will sign them.

"Either way, we could see a huge change in the opportunity importers have to save on duties at the time of import, and that exporters have in terms of new markets that are open to them," she says.

Another potential agreement, the Transatlantic Trade and Investment Partnership (T-TIP), addresses commerce between the United States and members of the European Union. Given the changes occurring to the EU because of the withdrawal of the UK, this multilateral agreement could also give way to bilateral pacts between certain countries, Thompson says.

### Rethinking Sourcing Strategies

However the prospects for those trade compacts might play out in the future, one thing appears sure: companies continue to seek financial advantages by re-thinking their sourcing strategies.

"We see an increase in regional sourcing and nearsourcing, especially for the United States," says Cory Margand, co-founder and CEO of SimpliShip, a firm in Rochester, N.Y., that operates an online marketplace for international freight.

With labor rates rising and young factory workers choosing high-tech employers over companies that make products such as shoes, China is no longer the go-to region for manufacturing. "It's not so low-price when you can't get workers," Margand says. So companies are looking to new regions, such as Africa, and even experimenting with 3D printing some of their product components in the United States.

"As duty rates continue to change, and trade programs continue to proliferate, buyers constantly look for new, better opportunities," McCauley says. Increasingly, companies look to software to help them decide which countries they should consider as sources for materials and products. "They're looking for tools that can do the estimates and what-if analyses," he adds.

One way some companies use sourcing to gain an advantage these days is to use a distributed strategy, keeping sourcing close to the point of sale. Instead of making shoes in China, for example, and then building a logistics network to ship them to markets in five parts of the world, a company might set up five different manufacturing sites.

For example, McCauley says, these companies might ask, "If I can source the materials in Vietnam, can I hit the Malaysian market more easily?"

Companies that ship product in and

out of the United States eagerly anticipate the day when they can complete all their import declarations at once. The federal government's Automated Commercial Environment (ACE) is evolving into a platform called the Single Window, a portal for reporting to U.S. Customs and to any of the 47 regulatory agencies that might need to know about an import or export.

Two or three regulatory agencies are already operating on the Single Window, and as many as 10 more could join the system in 2017.

"This will make it easier for the trade, as well as for Customs and the other participating government agencies (PGAs) to share and receive information and then reply back electronically," says Michael Weick, customs manager at Subaru in Cherry Hill, N.J., and an Integration Point customer. "It will not only be a time saver, but it will also save on paper and paper filing."

In past years, a shipper had to fill out a separate paper declaration for each agency that needed to approve an import, deliver those documents, and then wait for clearance before customs would physically release the goods. "It would take three to five days to clear cargo," Weick says. The Single Window entry will speed up that process significantly.

**Outsourcing warehousing and other logistics services frees shippers to focus on their core business.**

As a company prepares to import a product, and the user enters that item's tariff classification number into the Single Window, the system will automatically determine which PGA the user needs to report to, and will collect the appropriate data. "The good news is, they will allow you to file these well enough in advance that the agency should be able to sign off in plenty of time for the ETA, or better yet, in advance of it," Weick says.

Companies involved in global trade have been clamoring for the Single Window for years, because it drives tremendous efficiencies. "Getting it all on the same platform, submitting it once, and using more automation on the agency side to drive their release decisions is absolutely a benefit to the trade," he says.

### Market Opportunities

A strong U.S. dollar has generally depressed exports in recent history, but that's not true in every industry. Agricultural producers are seeing more demand for their products outside the United States, says Hutchison at Americold.

For example, Russia and China are more open to purchasing American poultry these days, Hutchison says.

"I read that there's a shortfall of something like 650 million metric tons in beef production to support the Chinese food supply chain," says Americold's Fowler. China also is short on temperature-controlled food distribution capacity, he says. Those shortages present opportunities for both Americold and its customers.

Recent projects to deepen the ports of Savannah and Charleston spell good news for Georgia's large poultry industry, Fowler adds. "The ability to take product from the area and export it from the Southeast ports to Asian markets through the Panama Canal we view as a very positive thing for both the producers here and the producers overseas."

Among companies that sell their products into many global markets, some are looking for financial advantage by rethinking their supply chains. At GoPro, Briggs cites problems getting product into Brazil. "Duties in Brazil run 80 to 100 percent of the value of the product," he says. Brazil would like manufacturers to set up operations within the country. "But their economy is so volatile, it's hard to build a big enough business where that can make sense for you."

To cut the cost of shipping to that market, GoPro now sends cameras to Brazil in non-working condition and uses a partner there to install firmware and package the units for retail sale. "That enables us to lower the cost base to which they apply duties and taxes," Briggs says. "That's an interesting way to use partners to open large markets that have unique requirements."

## 3PL Upside: Focus on Core Business

Whether the economy is weak or strong, companies outsource supply chain activities to third-party partners for a variety of reasons. The most obvious is to let the shipper focus on its main competencies, whether that's manufacturing widgets, developing a brand, or running retail channels.

"It's about asking, what is your core business? Toward what do you need to put your time, your talent, and your operating money?" says Larry Johanson, president of Johanson Transportation Service, a 3PL based in Fresno, Calif.

A 3PL is ready to assume those tasks that a company doesn't identify as central to its business. "We become your traffic department," Johanson says. "We bring a high level of expertise. We qualify all our carriers and do a lot of monitoring. We're available 24/7, and we hold ourselves to a high standard."

In a competitive transportation marketplace, where a majority of carriers are small- to mid-sized trucking companies, it takes a great deal of effort to maintain a high level of service and safety. "Consider the internal technology it takes just to make sure that insurance and safety records are up to par and maintained," says Randy Gabardi, vice president of corporate operations at Johanson Transportation Service. "A company has to spend a vast amount of resources in an area that's not their primary focus."

That's also where a third-party partner such as Johanson comes in. "We can provide all the technology, manpower, and resources," Gabardi says. "And because of the number of carriers we have relationships with, and the amount of business we do across the board, we can offer a higher level of service at a reasonable rate."

Besides simply freeing a shipper from certain operational tasks, a third-party partner brings value because of the industry savvy and resources it commands.

"Customers are asking us to help differentiate and support at a broader and more strategic level," says Americold's Fowler. "They don't want to tie up their critical capital in big logistics expansion projects, big infrastructure changes, or big IT capital purchases." They want a perspective on the marketplace and supply chain best practices that isn't available from the vantage point of a single company in a single industry.

"It's less about getting shippers a different rate, and more about recognizing transportation trends, and bundling solution sets and service offerings around the opportunities that are manifesting themselves—new ways to provide value in this economic environment," Fowler says.

## Leave it to the Experts

Arctic Cat relies on Ruan to route and manage its inbound and outbound shipments, and to maintain and monitor carrier contracts. But it also looks to Ruan and other 3PLs for industry expertise.

"I am always challenging my 3PL providers to keep their knives sharpened," Zeller says. "I'm stuck in a manufacturing area, and can't keep up on everything going on in the industry. I hold the 3PLs accountable for making sure I know about those things."

For instance, he expects a 3PL to evaluate the company's established logistics processes and recommend improvements.

Along with expertise, supply chain outsourcing provides agility, which helps a company stay profitable through all manner of economic fluctuations.

"3PLs give me more flexibility than I'd have with my own people," says Zeller. In an economic downturn, if he needs to remove people from his payroll, the 3PL picks up the slack. And the 3PL can assign more or fewer associates to his account as business volume requires.

Zeller also appreciates the way the 3PL keeps bringing in new talent with fresh perspectives. For example, he says, Ruan recently hired a new analytics specialist. One day, this person will be promoted to another position, and another analyst will fill that slot.

"I don't always like the change," Zeller says. "But I do like the fact that I've got young talent who will challenge me to think differently and offer suggestions about what we should be looking at."

## Ebb and Flow

Given the seasonal fluctuations in customer demand, it wouldn't be efficient for GoPro to run its own packout centers—the facilities where product goes into its retail-ready packaging. "About half of our packout business takes place in the fourth quarter," Briggs notes.

ModusLink can handle demand ebbs and flows more efficiently because it serves numerous customers in a single facility. In Brno, for instance, the 3PL serves more than one dozen customers in one facility, running two shifts to accommodate their needs.

"We're not all demanding high volume at the same time," Briggs says. "They're able to spread the ebbs and flows across at least 13 different customers." Toward the year-end holiday season, when many of those customers do see a surge in volume at the same time, ModusLink adds a third shift if necessary.

"I can't do that if it's just me and I'm running my own packout center," Briggs says. "Outsourcing is a huge leverage in a business like mine that is so volatile from a volume standpoint."

ModusLink designs the customer mix in its regional facilities around a principle called "reverse seasonality," specifically choosing customers whose demand volumes peak at different times. "We don't always get it right, but we try to smooth it out as much as we can," says Foy.

Outsourcing to a 3PL with regional facilities around the world also helps GoPro deal efficiently with the unique needs of different markets. That's particularly true in Europe, where new regulations require companies to "localize" their products, providing packaging, instructions, and other materials in the local language.

"I'm localizing in nine languages now," Briggs says. "Regionalizing the packout with a partner like ModusLink enables me to make decisions about the language mix as close to the customer as possible.

"If I guess wrong—and I always guess wrong—I can rework it in-region," he adds. "I don't have to go back to China to do that."

ModusLink has been postponing services such as localization until the last minute for GoPro for a long time. "More of our clients are asking for that service, holding the raw materials as late as possible to make decisions about the language, which software to put on the product, and what instruction manuals to include," Foy says.

## From 3PL to 4PL

As companies seek greater advantages from outsourcing, more of them are turning to the use of fourth-party logistics providers (4PLs)—integrators who manage a broader range of services than traditional 3PLs, Rollman explains. Those additional activities might include order management, invoicing, and fielding customer inquiries.

The 4PL model provides a particular advantage to companies that are entering new markets around the world. A service company working for numerous clients in an Asian market, for example, can operate more efficiently there than a global company could on its own.

"The 4PL is local, and there are language opportunities," Rollman says. "They know and understand the market. They know when things are happening that you couldn't get the sense of if you were in a center of excellence or hub thousands of miles away."

For example, consider what it takes to operate in a region where each of several countries requires very specific information on all invoices. "A 4PL has people who know and understand that without having to learn it the hard way," Rollman says.

It's impossible to say which way the U.S. economy will move in the coming months. But whether the arrows trend up or down, logistics professionals will always be able to find opportunities in their supply chain operations and demand-driven logistics practices. ■