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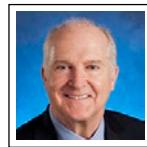
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Prepare for Trade Developments bit.ly/TradeDevelopments

Candace Sider, Vice President, Regulatory Affairs, Canada, Livingston International

Major developments in global trade will affect nearly every business that imports or exports. Here's how shippers can stay competitive in 2016, and beyond.



Is Your Business Ready for the Worst? bit.ly/BusinessPrepared

Raymond G. Monteith, Senior Vice President, Risk Control Services Leader-Canada, HUB International Limited

A resilient business identifies signals, and anticipates and prepares for critical events in advance. This article discusses how effective supply chain risk analysis and crisis preparation are essential strategies for meeting any challenge that comes your way.



The Future Is Now: Strategically Managing Logistics Facilities bit.ly/StrategicTechnology

Fred Guelen, President, North America, and CFO, Planon

Forward-thinking shipping and logistics facility management professionals are turning to next-generation facility management software to streamline business processes, and simplify space and maintenance management.

EDUCATION RESOURCES

Find an Education

Program bit.ly/EDUPrograms

The Logistics and Supply Chain Education Decision Support Tool will help you find learning opportunities from leading logistics institutions.

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CHECKING IN

Felecia Stratton

by Felecia Stratton | Editor



You Are Never Too Cool for School

When I was in college pursuing an English degree (it doesn't matter how many years ago), I learned the rules of grammar, how to punctuate a sentence correctly, and the difference between it's and its. I could diagram a sentence like no one else. And those skills were enough to lead me to my dream job as editor of *Inbound Logistics*.

Today, however, focusing on just one area of expertise like I did won't get supply chain students and professionals where they want to go. Yes, they need to know how to get their products to market quickly, efficiently, and cost effectively. But they also need a broader knowledge across every enterprise-wide function that touches the supply chain, such as marketing, sales, customer service, and finance. That often requires a shift from a vertical, tactical focus to "understanding how their function supports the organization," says Joel Dupuis, executive education key account director for Arizona State University.

Some companies are taking the lead by encouraging employees to enroll in continuing education programs, as well as partnering with universities and schools to develop custom-tailored programs designed to produce well-rounded supply chain graduates. For example, as you'll see in the article *Custom Education: Guaranteeing a Perfect Fit* (page 34), when restaurant chain Bob Evans' new CEO decided to consolidate disparate purchasing divisions into a corporate purchasing department, the company wasn't sure how to evolve its supply chain, and how managers should adapt. It turned to Ohio State University, which helped develop a custom supply chain management program that provided employees with broader skills outside their vertical comfort zone so they could perform well within Bob Evans' new corporate structure.

The Clorox Company was also looking for help when it wanted employees to connect the dots of an end-to-end supply chain. It began working with Georgia Tech, which tailored a program to give Clorox employees a broader perspective of the organization. As part of that program, employees work in small groups on specific projects that benefit Clorox's supply chain strategy.

Ohio State and Georgia Tech are just two of the many schools that participated in our 2016 *Logistics Education Resource Guide* (page 45). In 2015, 20 schools updated their course offerings for us; this year, an amazing 60 schools provided updated information on their expanded coursework. The guide also mirrors an uptick in the trend toward community colleges offering more transportation, logistics, and supply chain courses. High schools are next!

Whether you are new to the field or an industry veteran, it's (not its!) no longer enough to take a vertical approach to supply chain knowledge. To excel, you need a super-horizontal skillset that touches all supply chain functions. ■

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DIALOG

THE ONGOING CONVERSATION
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HASH IT OUT

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Know these seven trends before you choose your next pallet system.
bit.ly/palletchoices

Lane Pence @lanepence

An eighth trend: top providers getting good at showing supply chain value, such as damage reduction and sales uplift.

@ILMagazine

Asset vs. non-asset: Does it still matter?
bit.ly/sept15trends

Inland LS @InlandLogistics

The brokerage stigma still exists for some, but is rapidly fading as shippers and carriers see brokerage benefits.

@ILMagazine

It is imperative that shippers foster a relationship with their drivers.
bit.ly/easedrivershortage

Stay Metrics @StayMetrics

We agree. When we listen to drivers, they mention this often.

IN EXCHANGE

8 Ways to File Effective Freight Claims

Freight damage, loss, and theft will always occur. Planning for those inevitabilities is key to prevention and faster claims settlement.
bit.ly/FreightClaims

Robert Hardee

Another good approach for both shipper and receiver is to take pictures just before loading and unloading of goods. Also, it is important that everyone who loads or unloads cargo knows how to inspect the goods they are handling for damage.

READER EMAIL

Customer Service Superstars, December 2015

All this good advice and information is flying off into *lalala* land. Hardly anyone in the logistics chain acts within the customer service paradigm.

Inbound Logistics needs to target brokers and carrier CEOs. Get them to seminars, illustrate the benefits, such as Sigma 7, of rewarding service at all levels. Until you can change the paradigm of "the cheaper, the better," which is what rules logistics currently, nothing will change. And it needs to change to reflect your spot-on observations.

Max Amann

Cargo Relocation Engineers

*We appreciate your feedback.
Please email editorial@inboundlogistics.com.*

LIKE & COMMENT

Good Question

What is the difference between logistics and supply chain?
bit.ly/GoodQuestionLogistics



Jen Bredell

Logistics is the art and science of making sure that, when Little Jimmy or GI Jane gets wherever they're going, they have all the things they need on hand. The supply chain consists of a gazillion moving parts with which a logistician makes logistics happen.

HOT TOPICS | IL articles getting the most impressions on LinkedIn: Adding Resilience to Your Supply Chain: bit.ly/resilientsupplychain • Top 10 U.S. Container Ports: bit.ly/Top10USPorts • Building a Smarter Warehouse: bit.ly/SmarterDC • Supporting a Multilingual Workforce: bit.ly/multitips • The Shape of 'Things' to Come: bit.ly/IoTUpdate

SOUNDBITE

“We need to look at supply chains as complex adaptive systems. To improve operational and financial performance, we need to position and pull, not push and promote.”

– **CAROL PTAK**, Partner, Demand Driven Institute

urging industry executives to stop using forecasts to drive operations at consulting company SCALA's directors' briefing event held in London

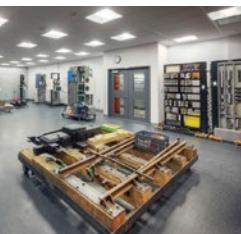
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Good Question...

READERS WEIGH IN

What's the first thing you would do to address the truck driver shortage?

The first thing that needs to be addressed is driver pay. Other industries offer higher wages for workers with similar skillsets, so we need to ensure that driving is economically competitive in the marketplace. Secondly, we need to tap into the next generation and let them know that transportation is a viable profession.

Steve Pitt
Director of Driver Recruiting
Penske Logistics

First, utilizing transportation optimization technology, I would address the efficiency of routes to decrease empty miles. Then, with scenario-based simulation analysis, I would improve container utilization, better utilize assets, and collaborate with network partners to reduce the overall number of drivers required to deliver current freight loads.

Toby Brzozowski
Executive Vice President, LLamasoft

Reduce turnover by creating a respectful environment where drivers feel valued and appreciated, are fairly compensated, and are able to achieve a work/life balance.

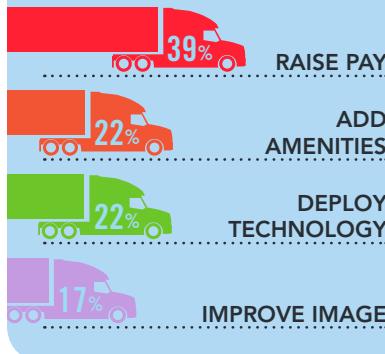
Jamie Overley
CEO, East Coast Warehouse

Equip drivers with technology that helps them do their job more efficiently, leading to higher job satisfaction. Satisfied drivers are more likely to be retained.

Jimmy Fortuna
Vice President, Product Management
Omnitracs

Twitter Verdict

In a recent Twitter poll, Inbound Logistics followers say increasing pay will have the greatest payoff.



Start a "shipper of choice" program. Implement ways to reduce wait times at your facility to turn carrier assets more quickly. Identify collaboration tools to automate dispute resolution and driver paperwork.

Cindi Hane
Vice President,
Product Management, Logistics, Elemica

Truck drivers are the basic unit of transportation capacity and the glue that holds supply chains together. We need to stop looking at drivers as drivers and start looking at them as our front line of sales, customer service, and brand.

Erik Malin
Executive Vice President, CarrierDirect

Train companies how to recruit and retain drivers. For instance, recruitment could encompass marketing to younger generations, focus on advantages such as benefits and guaranteed time home, and improve the image of the trucking industry. During the recruitment process, companies should provide a realistic job preview, so new drivers know exactly what to expect regarding the demands of the job.

Stacey Little
Program Director, Transportation & Logistics Management
American Public University

Consider using a slip seat driving program to allow for a change of drivers in key cities around the country. It could increase the pool of available drivers by offering more quality time in the evenings with their families and reducing overnight travel. It would also benefit by reducing the risk of driving accidents due to extended hours on the road.

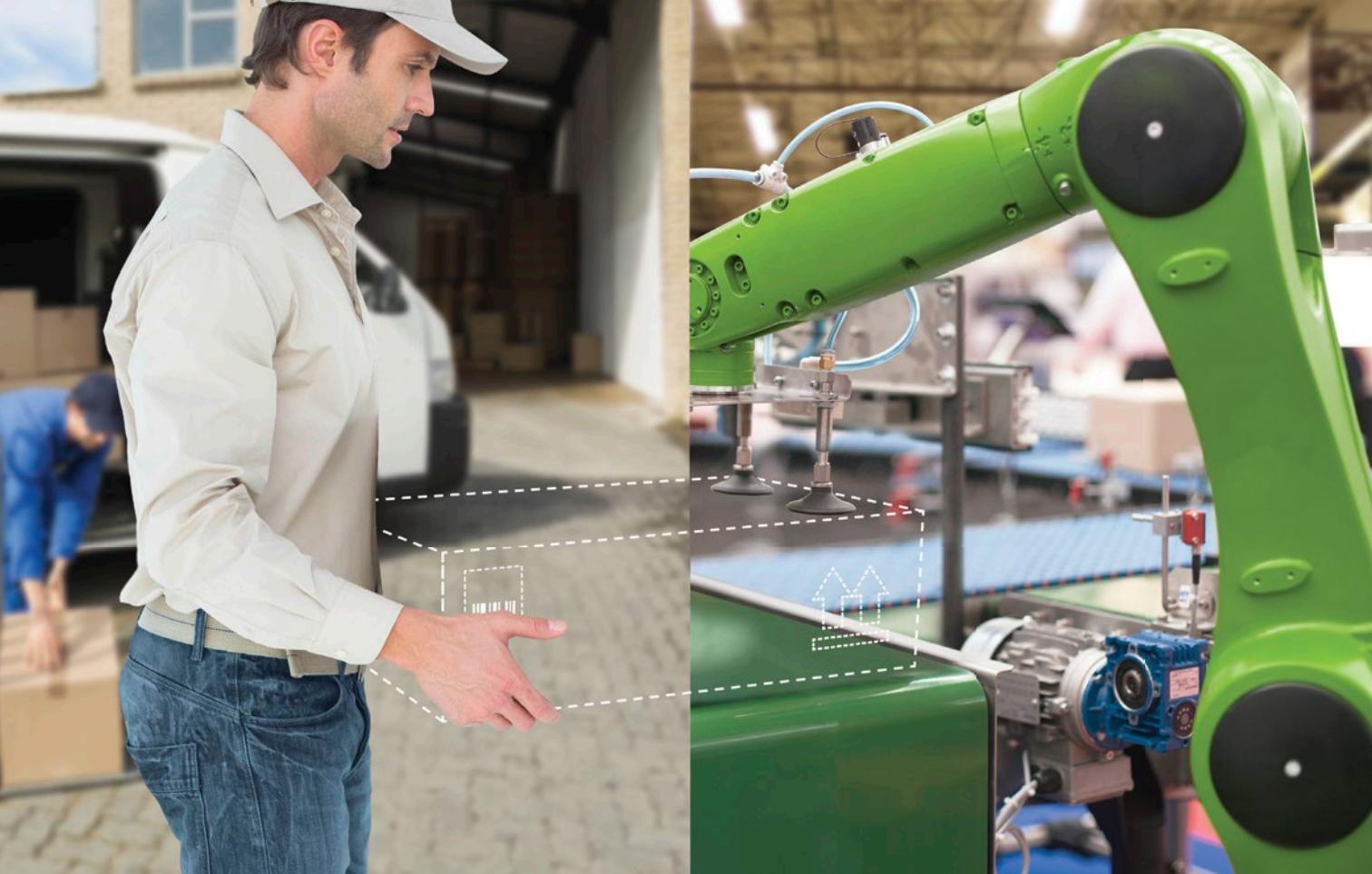
Robert Clesi
Vice President of Marketing & Partners
Precision Software

HAVE A GREAT ANSWER TO A GOOD QUESTION?

Be sure to participate next month. We want to know:

What fictional character would make a great logistician?

We'll publish some answers. Tweet or tell us at editorial@inboundlogistics.com.



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10 TIPS

STEP-BY-STEP SOLUTIONS



Optimizing Freight Spend

Managing your transportation budget is the key to shedding excess cost. Working in today's competitive market provides many options to help slim down freight spend. As freight transportation continues to change, service providers are using technology to improve and meet the dynamics of the supply chain. Tim Quinn, director of procurement for Freightquote, offers the following advice to help reduce shipping costs.

1 Find the right mode. A blend of less-than-truckload (LTL), truckload, and intermodal ensures best price and service. Truckload and LTL are interchangeable depending on load size, and intermodal serves as a truckload alternative. When capacity is good, consider partial truckload. When working with tighter capacity, monitor transit time and cost to determine if partial is still a viable option.

2 Tender freight to the proper carrier. A regional LTL carrier's transit time usually outperforms a national carrier who moves freight through a hub-and-spoke network. That dynamic may create advantages. Due to heavy shipment volumes and lane density, regional carriers sometimes haul empty trailers. To avoid empty backhauls, a carrier may give a discount to a customer with regular freight in these lanes.

3 Optimize by transit days. Many shippers use expedited transportation to make up for inefficiencies and delays. Expedited shipping costs drive up freight spend quickly. Try segmenting customers by service level. Some customers are okay with a longer delivery time when they see a discount in price.

4 Utilize asset-light carriers. Asset-light carriers offer transit at significant discounts by tendering freight to a network of carriers. Density is critical. The more freight you can commit, the better your service will be. An asset-light carrier may offer price incentives or service upgrades in exchange for committed freight levels.

5 Invest in proper packaging. Preparing freight in the right packaging curtails damage claims and makes shipments more suitable for transit. To help keep your items from getting lost, consolidate as much as possible.

6 Review pricing and contracts. Opportunities for savings in your current pricing and contracts are waiting to be discovered. Have the products you ship changed since the last pricing review? Have you discontinued any products? Has packaging changed? These are all key considerations when you review pricing.

7 Avoid accessorial charges. Carriers price accessorials, such as lift gate or non-commercial delivery, at a premium. Remove the charges by passing them on to the consignee or consider the use of a courier or cartage company for final delivery.

8 Prepare and research for savings. Planning can pay dividends. Transportation is often an afterthought to production, and this forces the use of more costly modes such as expedited or air freight. Planning provides more affordable options while still meeting deadlines. It also helps pinpoint the shipping window that creates the most profit.

9 Consider a third-party logistics (3PL) provider. Bringing a 3PL on board may benefit companies of all sizes. Working with a shipper's carrier network, 3PLs can provide supplemental trucking companies that help optimize transportation by mode, region, and lane.

10 Work with your freight provider. Information your freight provider gives you is revealing. It shows cost, top lanes, and cost by hundredweight. This information is useful at contract negotiation time. When proper strategies are in place, you'll see significant improvement in your bottom line. ■

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Michael Fries is senior business intelligence logistics analyst at U.S. Foods in Rosemont, Ill. He has held this position since 2014.

RESPONSIBILITIES

Analyzing data on inbound operations and carrier performance to support process improvement.

EXPERIENCE

Member service representative, Alliant Credit Union; project coordinator, Best Messenger Service; supply chain coordinator, CF Industries; logistics sourcing analyst, ITW.

EDUCATION

BS, marketing and international business, Elmhurst College, 2009; MBA, management, Elmhurst College, 2012; MS, predictive analytics, Northwestern University, expected 2016.

Michael Fries: No Small Potatoes

MUCH OF MY JOB AT U.S. FOODS INVOLVES FINDING opportunities for the company to make more money, or save money, in its logistics operations. I drill into data from our transportation management and purchasing systems, looking for answers to posed questions and ways to connect those answers to a course of action.

U.S. Foods consists of 62 food service distribution divisions across the United States, each with its own distribution center (DC). We ship product from our suppliers to the divisions, and then from the DCs to restaurants, schools, healthcare facilities, and other dining services. Most of my work centers on the inbound logistics, which builds purchase orders into truckloads for shipment to the DCs. I work closely with the operations and carrier development teams.

On the carrier side, I've helped develop key metric scorecards and

other tools the company uses to conduct routine performance reviews with our carrier partners.

Within our inbound operations, I contributed to an initiative to improve unloading time. When handling collect shipments—where U.S. Foods pays for the freight—it used to take an average of three hours and 48 minutes to unload one truck at a DC. That generated more than \$1 million every year in detention costs, and made some carriers reluctant to take our loads.

As we were preparing to do a

The Big Questions

What's your hidden talent?

I'm an excellent cook.

If you could attend any event in the world, what would it be?

The Summer Olympics.

Do you have a guilty pleasure?

I love collecting and enjoying foreign and domestic cigars.

What's the biggest surprise a job has ever thrown your way?

U.S. Foods issued a major transportation request for quotes while we were still implementing a new transportation management system. I was asked to use the new software—which was not fully up and running—to plan and route 400 shipments daily, semi-manually. I was able to do it; it worked seamlessly.

national request for information, our company launched an initiative to cut unloading time down to two hours, the industry standard. Our center of excellence Six Sigma team sat down with our vice president of operations, the process improvement team, and myself to come up with ideas. Then we visited some of the DCs for input. Before rolling out the changes, we did a pilot implementation.

One change we implemented was to

make sure dock supervisors keep track of time spent unloading. During our DC visits, dock supervisors could not tell how much time was left on a truck. Now, everyone knows how close the team is to the two-hour mark, and workers pace themselves to make that goal.

Another change we implemented was to stop using trucks as dock space. Our DCs used to count every case, scan every box, and do all the necessary checks before we finished unloading a truck. Getting

the truck driver out of the DC was not a priority.

Today, we recommend that as unloaders approach the two-hour time frame, they pull the remaining pallets from the truck and let the driver go.

Within the first week of our pilot program, the DC unloaded 95 percent of trucks in less than two hours. We reduced detention costs by more than 92 percent, and are on our way to becoming a shipper of choice for our carriers. ■

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Kristy Knichel
President and CEO
Knichel Logistics

LEADERSHIP

*Conversations With
The Captains of Industry*

By Merrill Douglas

All in the Family

RELATIONSHIPS PLAY A MAJOR ROLE IN THE business strategy at Knichel Logistics. Employees at the Pittsburgh-area third-party logistics (3PL) provider take pride in maintaining a personal touch with customers and carriers, and in fostering excellent communications. Kristy Knichel, president and CEO, sets the tone by treating the company—founded by her father, William, in 2003—as one big family. Knichel took over as president in 2007 and has led the company through a period of dynamic growth—from revenues of \$2 million in its founding year to \$50 million in 2015. *Inbound Logistics* recently sat down with Knichel to learn the secrets behind her success.

IL: What kind of work prepared you to eventually become president and CEO of the family business?

Before entering the logistics field, I managed a small pizza shop. I did everything from cooking to delivering pizzas, ordering and managing inventory, and reconciling the registers. A lot of customer service was involved as well. Once I got into logistics, I started at the bottom, booking loads. After a few years, I started handling claims, collections, and human resources (HR) duties such as payroll and healthcare. I did anything that needed to be done, regardless of my title. That's probably what prepared me most for my current role—doing every job in the company. I took initiative, learning a great deal on my own and reaching out to industry peers about things I wasn't so sure about. I continue to do that today. I even reach out to some of my competitors, so we can share insights on how to operate better.

IL: How do you spend a typical workday?

I answer emails and phone messages, and then make the rounds to say good morning to everyone. I want to make sure that all of the approximately 40 people in our office see me at least once a day. I spend time analyzing financial information and talking with the chief operating officer about what's going on for the day, week, and month. I read industry magazines to stay on top of trends and news that could potentially impact my own business decisions. On some days, I call customers or visit their sites. I occasionally travel with the salespeople, and work one-on-one with sales staff every day. I also

WORDS OF WISDOM

A young person launching a career in logistics must be willing to learn as much as possible, Knichel advises. "There are so many moving parts," she says. "But if you're willing to put in the time and dedication, you will be successful."

Also, surround yourself with people who inspire you and bring out your best. "It's sometimes easy to tell yourself that you can do everything," Knichel adds. "While that's a noble thought, it's nice to be able to rely on people you trust to help you along the way."

attend numerous meetings about HR and operational matters. In addition, I devote time to networking with other women business owners and industry professionals.

IL: What do you do to promote great communications?

I make a point of talking with everyone in the company at least once a week. I know my people incredibly well, and know a good bit about their personal lives. I also make sure to answer all my emails. Because of the diverse roles I've held here, many customers and vendors still email me directly, especially carriers who are looking for more freight. If someone—an employee, customer, or vendor—takes the time to ask me a question, that person deserves a response. This is not a strongly hierarchical organization. Obviously, we want staff to go to their managers about certain things, but I want employees to feel they can come to me as well.

IL: You also emphasize staff training. How do you deliver that?

Often, we rely on our veteran employees. Hard-working, dedicated people who have been with us for more than one decade can pass along their skills and knowledge to newer employees. Because these veteran employees have gained the trust of customers and vendors through repeated positive interactions, they are the perfect role models for our new hires. We also send employees to classes and industry events when there's an educational benefit.

IL: How would you describe your leadership style?

On one hand, I'm an affiliative leader, which means I put people first and try to bring a feeling of belonging to the organization. We ask for advice and put out suggestion boxes, so we can include staff in our decisions. We also share a lot of information, including financial data, with our employees.

On the other hand, I'm a democratic leader: I try to build consensus through participation by asking employees, "What do you think?" I want my people to make decisions on their own and take accountability. I feel this helps motivate them, letting them know I trust them and trust what they're doing, while also creating emotional bonds.

IL: Tell us about a tough decision you've had to make.

In 2013, we hired a COO from the outside, and gave him a great deal of power and our trust. In hindsight, we did not perform enough due diligence before bringing him on. After this COO made a series of unwise business decisions and improper hires, and formed an operational strategy that we did not have the resources to execute, our profit margins sank to an all-time low. We had no choice but to eliminate nearly 40 percent of our staff in order to stay in business.

My decision to replace the COO with our former intermodal manager created a rift in my family, which I had to weather in order to turn the company around. I had to prove to my family, my remaining employees, and myself that I was following the right course of action. But we had a great comeback year in 2014 and continued to do even better in 2015.

IL: What's the most enjoyable aspect of your job?

I love creating a positive and fun environment for people to work in, while making a good and honest living. I believe that my employees consider everyone here an extension of their families.

IL: What's on your agenda for the near future?

We are creating a new sustainable growth strategy for Kniche Logistics. Our goal is to reach \$100 million in annual revenues in the next five years. Some things in the works include: new sales strategies; new technology, including business intelligence software and possibly a new pricing tool; and learning to do more with what we currently have. Our main goals are to become more efficient as a whole, and to continue to grow.

IL: Who are your role models in the business world?

My biggest role model is Sheryl Sandberg, COO of Facebook. It's amazing what she has accomplished in her career while also managing a family. I have a five-year-old myself. I've learned that you can do both. It's not easy, but you find a way. My father is another important role model. He taught me the value of a great work ethic, and to never give up—to keep pushing forward. ■

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NOTED

THE SUPPLY CHAIN IN BRIEF

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Worldwide Flight Services (WFS)

(WFS), an air cargo handler and provider of airline ground handling and technical services, acquired Consolidated Aviation Services, a cargo handler serving more than 250 airlines. The acquisition reinforces the market position of WFS, which currently handles more than four million tons of cargo annually.



GREEN SEEDS



▲ 3PL provider **Kane Is Able** completed a 1.2-million-square-foot LED lighting upgrade in two distribution centers located in its Scranton, Pa., business campus. R World Energy Solutions provided the project and Kane expects to save more than two million kWh annually with the added benefit of eliminating the emission of 2.7 million pounds of greenhouse gases each year.

The Hershey Company

, a confectionery maker, launched a Pulp and Paper Policy and enhanced traceability of its global palm oil to help prevent deforestation in its supply chain. The new Hershey Pulp and Paper Policy ensures that the virgin fiber in its pulp and paper comes from sources that meet strict criteria.

Ryder Mexico, a subsidiary of supply chain solutions provider Ryder System, was recognized by Mexico's Ministry of Environment and Natural Resources for its commitment to sustainability and leadership in the Clean Transportation program. Ryder Mexico enrolled 43 carriers in the program.

SEALED DEALS



◀ Supply chain management company **CEVA Logistics** secured a specialist logistics contract to provide UK-wide distribution and warehousing to **BMI Healthcare**, which operates more than 60 hospitals and other health-related facilities around the United Kingdom. Under the three-year agreement, CEVA provides warehousing of medical devices and consumables, hi-tech storage of pharmaceutical products, distribution to BMI's private hospitals, and reverse logistics services.

Modular flooring products maker **SnapLock Industries** selected **EnterpriseIQ**, from **IQMS**, a manufacturing ERP software and MES provider. The manufacturer is implementing **EnterpriseIQ** to help modernize and streamline scheduling, inventory management, and other operations in its ISO 9001:2008 quality-certified manufacturing facility. **EnterpriseIQ** incorporates ERP, manufacturing, MES, and supply chain management capabilities.

Cameron's Handcrafted Coffee, a coffee maker that imports Organic, Rainforest Alliance, Shade Grown, and Fair Trade certified coffees from farms around the world, expanded its use of **ReposiTrak** from **Park City Group**, a provider of compliance management and track-and-trace solutions for food, pharma, and dietary supplement safety. Cameron's will use **ReposiTrak** with its upstream ingredient suppliers to manage food safety risk and comply with the Food Safety Modernization Act.

GOOD WORKS



▲ **Total Quality Logistics** kicked off awareness and fundraising efforts for the American Heart Association's American Heart Month. The voluntary health organization works to prevent, treat, and defeat heart disease, stroke, and other cardiovascular illnesses. TQL's Cincinnati headquarters (*pictured*) was lit by red hearts in February 2016 to remind the thousands of drivers passing the building every night on I-275 of the importance of maintaining their heart health.

The **CN** Miracle Match program helped raise more than \$760,000 for the Children's Hospital-HSC Winnipeg. Created in 2006, the program matches public giving campaigns' donations to the Children's Hospital Foundation of Manitoba. It has raised more than \$12 million for children's hospitals across Canada and the United States.

IFCO, a provider of reusable plastic containers (RPCs), donated 185 RPCs to Meals on Wheels People for its Meals

4 Kids program. The containers allow staff to pack and deliver more than 3,000 meals weekly (100,000-plus annually) to low-income, nutritionally at-risk children and families in north and southeast Portland.

Scott Logistics, a freight broker, donated 1,595 toys to the annual Toys for Tots Program managed by the U.S. Marine Corps Reserve. Collecting toys as part of the campaign has become an annual tradition at Scott Logistics.

m&a

MIQ Logistics purchased assets in Alfa Logistics and Kronos Logistics. The acquisitions enable MIQ Logistics to expand its specialized service offering in the Latin America region. The acquired organizations provide global integrated logistics and supply chain

solutions with import and export operations to and from the Central and South America region.

Transportation provider **Leonard's Express** acquired refrigerated carrier West Coast Distribution. The transaction increases the refrigerated capacity of Leonard's fleet and brings revenue to approximately \$185 million.

recognition

Old Dominion Freight Line received the **2015 Mastio Award** for the sixth consecutive year. Research and consulting firm Mastio & Company conducts the annual LTL shipping survey to gauge customer satisfaction and loyalty, selecting the winner based on service categories such as pricing, on-time and damage-free deliveries, service quality, and overall satisfaction.

Toyota Material Handling, U.S.A. earned the **Most Valuable Supplier Award** from the Material Handling Equipment Distributors Association. The new award recognizes companies that demonstrate an exemplary commitment to their dealer network, employees, and community.

OnTrac, a package delivery company, received an Eggie Award for the **Best Regional Transportation Partner** presented by online retailer Newegg. Each year, Newegg honors its top vendors and partners, giving OnTrac an Eggie for being a valuable regional shipping partner and helping the retailer exceed customers' delivery expectations.

▼ **Hyster Company's** Tier 4 Final RS45-46 ReachStacker won a **2015 GOOD DESIGN Award**. Presented by the Chicago Athenaeum Museum of Architecture and Design, GOOD DESIGN honors yearly achievements of extraordinary design excellence. The museum selected the Tier 4 Final ReachStacker for its efficient engine technology and productivity-enhancing design. With high lifting speeds and stacking capabilities, the maneuverable ReachStacker is suited for demanding port and terminal applications.





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TRENDS

SHAPING THE FUTURE OF LOGISTICS



UAV Operators Wait As FAA Guidelines Drone On

Amazon CEO Jeff Bezos announced in 2013 that Amazon Prime Air would use unmanned drones to deliver packages to your door in 30 minutes or less. The online retailer has since claimed that it is only waiting for the government to make drone package delivery legal.

by Jason McDowell

Unfortunately, the Federal Aviation Administration (FAA) regulations that would make commercial unmanned aerial vehicles (UAVs) legal are still in the revision process.

Several concessions will need to be made to allow for commercial use. For example, unless provisions are added to allow UAVs to fly out of their pilots' line of sight, Amazon's testing, research, and development will likely remain overseas. Additionally, current rules prohibit drones from flying at night, and operators are allowed to fly only one drone at a time.

Google, however, has had some recent drone success. In 2014, the company filed for a patent for Project Wing, a drone delivery model that uses a mobile delivery receptacle on the ground (which appears to be a box with wheels) to receive packages from

drones. The drone delivers the package into the ground vehicle, which then returns to a secure location where it is either delivered to its final destination by a carrier or picked up by the customer. The patent was approved in January 2016.

When Google announced Project Wing, it hoped to implement the service by 2017. Dave Vos, the project's leader, thinks that's still a possibility. "Look up into the sky in 2017 and you could see drone deliveries happening on a regular basis," Vos said at an Aero Club aviation event in January 2016.

FAA revisions to existing rules are expected sometime in 2016. If those revisions allow for commercial drones to operate in the United States, Vos's dream might become reality. But the FAA is taking its time because previous

projections revealed it was likely that more than 7,000 companies would obtain licenses to operate drone fleets once commercial UAVs became legal.

Google has already done most of the legwork for Project Wing; it began testing the drones in Australia in 2014. Amazon has also done testing overseas, so it's likely that Prime Air would also be ready to go once the FAA gives the green light. And it's not just retailers. Parcel carrier DHL has been testing drones in Germany since 2013.

"I advocate strongly that the need for additional regulation is small," Vos said during a speech at a Consumer Electronics Conference in Las Vegas. "In fact, if you allow people to replicate what manned aviation pilots in this airspace do, it already works.

"We don't need new regulation; we need to just be allowed to go do it," he added.

With customers now demanding that companies not only deliver free, but fast, it seems like drones are all but inevitable. Let's see if the FAA agrees.



Amazon's proposed Prime Air service uses drones to fly packages directly to the customer's doorstep in 30 minutes.

Pharma Supply Chains Injecting a Dose of Innovation

The pharmaceutical supply chain has always been complex, and 2016 will be no different. Here are the top five challenges pharma manufacturers and logistics providers will face in the coming year, according to *The Challenges, Solutions, and Strategies*

Driving Pharmaceutical Supply Chain Innovation, a cooperative whitepaper from research partners Kenco and LogiPharma.

1. Item-level serialization. With counterfeit products flooding the market, serialization is becoming necessary for most pharma manufacturers. Serialization provides the ability to identify products at the item level through RFID or other means. Then, in the event of a problem, the manufacturer can pinpoint exactly which product needs to be recalled, reducing costs associated with a massive recall. Many companies have decided the benefits of this technology outweigh the costs, and are investing accordingly.

2. Product diversification. As long as there is disease, injury, and illness, the pharma industry will release new products to combat them. Mergers and acquisitions, multiple manufacturing locations, and regulatory problems are all obstacles that make it difficult to effectively segment pharma supply chains to operate most efficiently.

3. Regulations and compliance. Pharma and biotech companies struggle to find ways to improve their supply chains without accidentally violating one of the many regulations that govern their products. Different regulations covering each product create a lot of red tape to track.

4. Big data. Because of the industry's complexity, many pharma supply chain stakeholders have yet to successfully turn the data they gather into real improvements.

5. Emerging markets. Big pharma sees potential in global markets, but currently lacks the global supply chain to successfully engage these areas. Companies will make massive investments in 2016 to remedy this.

Supply chain executives in the pharma industry need to be able to make changes based on demand fluctuations, and respond quickly to any potential disruption. To do that, they need as much end-to-end supply chain visibility as they can get. A 2015 LogiPharma survey reveals that gaining visibility is the largest concern among pharma executives for 2016 (see chart, left).

Many companies find the answer in enterprise resource planning (ERP) systems. Traditionally a tool of large enterprises, small pharma businesses are beginning to see the benefits of an ERP system. While 21 percent of respondents aren't currently using an ERP, half of this group are actively working to install one, according to the survey.

In addition to ERP systems, 78 percent of pharmaceutical company respondents say they will use third-party vendors and partners in 2016 to increase visibility and meet other challenges. In addition, 66 percent already use third-party partners in their fulfillment and distribution operations, while 67 percent use a third-party partner to manage transportation.

The pharma industry has spoken: Supply chain optimization is the cure for what ails you.



2016's Top Pharma Concerns

A transparent supply chain enables the visibility that allows planners to diagnose potential disruptions early and make changes based on demand.



- 33% Supply chain visibility
- 22% Product launch and speed to market
- 19% Approach to serialization
- 12% Integrating disparate systems
- 7% IT as a business enabler
- 5% In-transit and storage security
- 2% Personalized medicine

SOURCE: LogiPharma Pharmaceutical Supply Chain Innovation Report

E-commerce Sales Now More Important Than Stores

Retailers, distributors, suppliers, and logistics firms remain optimistic despite the challenges they face as they tackle growing customer expectations, according to SPS Commerce's fourth annual *Retail Insight* industry benchmark report. Two key trends emerge from the report: E-commerce and stores have switched places as the top growth driver; and suppliers are not keeping up with the omni-channel retail demands of digital

consumers and their retail customers.

The *Retail Insight* benchmark study, which surveys members of the SPS Retail Network, reveals the following:

■ Retailers rank growing e-commerce sales as their top priority (75 percent), followed by improving the in-store experience (53 percent).

■ Distributors (80 percent) and logistics service providers (41 percent) are focused

on rapid fulfillment above all else.

■ Suppliers (80 percent) place streamlined fulfillment as their top priority, yet 45 percent lag in omni-channel strategy and execution, with only 18 percent claiming even moderate success.

■ Retailers cite more or improved item attributes as their top desire from vendors in 2016 (69 percent), while distributors need vendors to provide visibility to available inventory (75 percent).

■ Legacy systems (59 percent) and cultures adverse to change (38 percent) are key inhibitors to retailers' omni-channel progress.

■ Retailers rate their visibility to available inventory from supplier warehouses as critically low (21 percent) and in-store visibility at insufficient levels (75 percent) to meet consumer demand.

"For the first time in four years, we see retailers pursuing suppliers that can provide critical omni-channel capabilities of rapid fulfillment, rich item and inventory information, and drop-ship capabilities to fuel growth plans," says Peter Zaballos, vice president of marketing and product at SPS Commerce.

RETAIL SUPPLY CHAIN 2016 PRIORITIES

For the first time, retailers rank e-commerce as a higher priority than stores.

 RETAILERS	<ol style="list-style-type: none"> 1. Grow e-commerce sales 75% 2. Enhance store experiences 53% 3. Streamline fulfillment 49%
 DISTRIBUTORS	<ol style="list-style-type: none"> 1. Streamline fulfillment 80% 2. Grow e-commerce sales 50% 3. Expand private label 40%
 SUPPLIERS	<ol style="list-style-type: none"> 1. Drive store traffic 57% 2. Deliver a broader assortment 54% 3. Provide detailed item information 45%
 LOGISTICS PROVIDERS	<ol style="list-style-type: none"> 1. Increase fulfillment speed 41% 2. Enhance store experiences 17% 3. Expand global capabilities 14%

SOURCE: SPS Retail Insight Study

Putting the STB Back on Track

Over the past few years, things have gone off the rails in the United States. Since the shale oil boom began affecting markets and transportation in 2008, Class I railroads have increasingly given oil cargo preference over agricultural freight, causing significant delays for the perishable cargo and substantial injury to farmers' pocketbooks.

The Surface Transportation Board (STB) Reauthorization Act was passed by Congress and signed into law by President Obama to remove obstacles that stop the federal oversight organization responsible for the U.S. freight rail system from intervening. This new overhaul increases the agency's ability to investigate disputes, sets timelines for rate reviews, and increases the size of the board from three members to five to streamline decision-making.

"Enacting this legislation will make the Surface Transportation Board more accountable and effective in addressing rail service and other disputes," says Senator

John Thune, who sponsored the bill in the Senate. "Heading off problems between rail customers and carriers whenever possible, and quickly resolving them when they do occur, is at the heart of this effort to make the STB work better."

The American Association of Railroads (AAR) also voiced approval of the measure. "It strikes the balance of preserving market-based structures for shippers and railroads while also providing common sense process improvements to help the board work more efficiently," says Ed Greenberg, spokesman for the AAR.

"Hopefully it will put the board in the position where it could be more effective in responding to both the railroads and the shipper community," Thune adds.

As the United States becomes less dependent on foreign oil, and the Keystone XL pipeline project remains in mothballs, more oil will continue to flow down U.S. railroad tracks. Agricultural stakeholders hope that the STB changes are a step toward keeping all cargo moving effectively, and not just oil.



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GLOBAL

THE WORLD AT A GLANCE

by Jason McDowell



Global Infrastructure Projects: Building for the Future

A \$305-billion transportation infrastructure bill passed the U.S. Congress at the end of 2015, but the United States isn't the only country looking to spend big money on infrastructure projects, according to the 2016 *Global Infrastructure Report* from CG/LA Infrastructure. The report details 100 infrastructure projects in 71 countries across 10 different sectors that are expected to have an impact on global infrastructure as a whole.

Numerous projects are highlighted for their potential contribution to job creation, economic growth, regional competitiveness, and innovative use of sustainable design. For example, the construction of the Auga Negra Binational tunnel, part of the Bioceanic Central Corridor, will

drastically increase trade capabilities between Argentina and Chile. A long-debated new airport in Western Sydney, Australia, has finally entered the planning stages and is expected to create 60,000 jobs by 2035. On the Black Sea coast in Georgia, Eurasia, the Anaklia Port will increase logistics and natural gas export capabilities in the country.

Aside from compiling a list of the top 100 most impactful global infrastructure projects, CG/LA Infrastructure also addresses the future of such projects. The report points out three critical areas that must be focused on moving forward:

1. New technology. Infrastructure stays in place for a long time, and, as such, is often out of date with modern technology,

and manufacturing and logistics practices. Long planning and development times

Top 6 Countries for Infrastructure Investment

(ranked by project value)

1. **United Kingdom**—\$57.7 billion
2. **United States**—\$40.6 billion
3. **China**—\$39.5 billion
4. **Vietnam**—\$38 billion
5. **Japan**—\$37.5 billion
6. **Indonesia**—\$31.2 billion

make it hard to correct this problem, and unless stakeholders can reduce these lead times, infrastructure will continue to be behind in this area. Moving forward, infrastructure must have big data capabilities to monitor existing conditions, and to create investment strategies for future projects.

2. Risk. Because of the timeframes involved with infrastructure, uncertainty in investing in these types of ventures is high. Moving forward, public and private leaders need to focus on projects with maximum strategic and economic benefits, engage reliable companies to deliver on projects, and make infrastructure a nonpartisan issue in politics. Surety in these areas will reduce risk, and thus decrease costs.

3. The role of the public sector. It's time to stop viewing infrastructure as a top-down project that only benefits "political,

financial, and technical elites," notes the report. It's important to remember the end user who benefits from infrastructure projects, and involve the public in planning and decisions.

Addressing these factors can reduce many of the problems that exist in infrastructure projects. "There is a great, pent-up demand for infrastructure, and a global recognition that our failure of imagination is prolonging poor economic performance around the world," said CG/LA Infrastructure President and CEO Norman Anderson in a public statement. "Our challenge as an industry is to advocate creatively, energetically, and effectively to double the world's investment in priority infrastructure, driving growth and opportunity, and putting savings to long-term, productive use."

Emerging Markets 2016: Who's Hot, Who's Not

As logistics and manufacturing costs continue to rise in traditionally popular areas such as China, new emerging markets take on increasing importance for the supply chain. Emerging markets are expected to grow at a rate of 4.7 percent in 2016, according to 1,100 supply chain executives surveyed for the 2016 *Agility Emerging Markets Logistics Index*.

Despite their optimistic outlook, 61 percent of those surveyed also expect the volatility and uncertainty seen in 2015 to continue. But considering that emerging markets grew between 3.6 percent and 4.2 percent in 2015, down from 4.5 percent in 2014, the higher 2016 estimate is welcome news for global supply chains.

The instability seen throughout 2015, however, left its mark on the results of the index, which ranks the world's 45 leading emerging markets based on size, business conditions, infrastructure, and other factors that make them attractive to logistics providers, freight forwarders, shipping lines, air cargo carriers, and distributors.

While China maintains its place as the number-one emerging market, the United Arab Emirates (UAE) climbed four places to rest at number two. UAE offers a network of 34 free trade zones, and a friendly financial and tax environment for businesses. In addition, the country offers a vast pool of low-cost, skilled migrant labor, making it an ideal location for hubs and other logistics operations.

Another up-and-comer is India, which returned to the number-three position on the index for the first time since 2013. India's rise can be attributed, in part, to the pending Goods-and-Services Tax, which is expected to increase the country's GDP by more than 2 percent. But India still struggles with infrastructure problems and transit delays, so whether it can maintain

Airfreight Growth Slows in 2015

Global airfreight markets expanded 2.2 percent in 2015 compared to 2014, according to the International Air Transport Association (IATA), which released figures showing cargo volumes measured in freight ton kilometers (see chart). This was a slower pace than the five-percent growth recorded in 2014. The weakness reflects sluggish trade growth in Europe and Asia-Pacific.

After a strong start, airfreight volumes began a decline that continued through most of 2015, until some improvements in world trade drove a modest pickup late in the year. Cargo in Asia-Pacific, accounting for approximately 39 percent of freight traffic, expanded by a moderate 2.3 percent.

The key markets of Europe and North America, which between them comprise about 43 percent of total cargo traffic, were basically flat in 2015. Latin America suffered a steep decline (-6 percent) while the Middle East grew strongly, up 11.3 percent. Africa also saw modest 1.2 percent growth.

Airfreight Growth 2015 vs. 2014

Dec. 2015 vs. Dec. 2014	FTK Growth	AFTK Growth	FLF
International	0.7%	6.6%	47.4
Domestic	1.4%	6.2%	30.8
Total Market	0.8%	6.5%	43.9
YTD 2015 vs. YTD 2014	FPK Growth	AFTK Growth	FLF
International	2.5%	6.4%	47.6
Domestic	0.1%	4.6%	29.6
Total Market	2.2%	6.1%	44.1

Source: IATA

FTK: Freight ton kilometers measure actual freight traffic.

AFTK: Available freight ton kilometers measure available total freight capacity.

FLF: Freight load factor is percentage of AFTKs used.



As one of the biggest exporters of palm oil and palm oil products, Malaysia is fast emerging as a growing country that plays an important role in sustainably fulfilling the global need for oils and fats.

momentum in years to come remains to be seen.

Malaysia also climbed four places on the index, to sit at number four this year. The country has shifted from a role as a raw materials exporter into a leading exporter of electrical appliances and parts, as well as palm oil.

Mexico, relying heavily on cheap labor and a strong manufacturing sector, climbed one position to number eight.

Meanwhile, instead of climbing, other countries have fallen down the list. Brazil continues to deal with government gridlock and massive infrastructure inefficiencies, and dropped down to number six from its

traditional place in the index's top three. Falling oil prices also dropped Saudi Arabia and Indonesia to fifth and seventh place, respectively.

Rounding out the list, and holding its spot at number 10, is Turkey. The country maintains its position as a strong manufacturing hub for Europe and the United States.

As the global economy continues to recover, and countries struggle to restructure their economies and find new roles in a changing world, global supply chain and logistics executives will need to watch the changes closely to find the best locations to expand their operations. **[]**

Survey Furnishes Furniture Trends

Four emerging trends will drive the global furniture logistics market between 2016 and 2020, according to global technology research and advisory company Technavio:

1. A rise in technology investment. Investing in technology helps furniture logistics service providers enhance delivery services and more accurately monitor shipments, with shorter lead times.

2. Advances in technology. While furniture logistics service providers can choose from a range of IT-enabled services, such as GPS-enabled transportation trucks and RFID for inventory tracking, their high costs inhibit adoption, thus restricting market growth.

3. Multiple value-added services offered by vendors. Furniture vendors currently provide different types of logistics services, making it tedious for shippers to outsource various tasks to different vendors. Therefore, "shippers increasingly choose furniture logistics providers that offer a one-stop solution for all their needs," explains Sharan Raj, Technavio's lead analyst.

4. Adoption of eco-friendly vehicles. An increase in environmental awareness has raised concerns over pollution caused by transportation and warehousing. To overcome these issues, furniture logistics providers use eco-friendly electric vehicles, switched to renewable energy sources, and use hydrogen fuel cells to generate energy.

Markets on the Move

Volatility in the global economy was mirrored in the *2016 Agility Emerging Markets Logistics Index*. Eight of the top 10 emerging markets' economies shifted places. Nigeria and Egypt both jumped 10 spots, the largest improvement by any country since the Index was first published.



Source: Transport Intelligence

UP

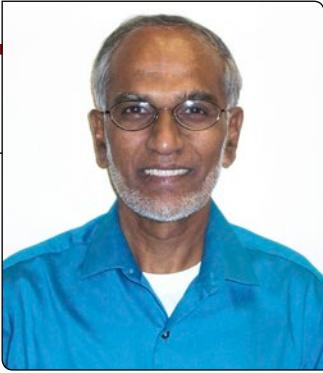
BIGGEST MOVERS

- 1 Egypt
- 2 Nigeria
- 3 Algeria
- 4 Malaysia
- 5 UAE
- 6 Bolivia
- 7 Paraguay
- 8 India
- 9 Pakistan
- 10 Sri Lanka

DOWN

BIGGEST MOVERS

- 1 Argentina
- 2 Peru
- 3 Jordan
- 4 Ukraine
- 5 Uruguay
- 6 Brazil
- 7 Indonesia
- 8 Morocco
- 9 Saudi Arabia
- 10 Venezuela



VIEWPOINT

BY SHEIK M. AYUBE

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Corporate Citizenship Starts With the Supply Chain

In recent years, a noticeable paradigm shift has taken place in the business world. Driven by the realization that business and society can no longer intersect at the crossroads of profits first and society second, business is adopting a new order that puts the interests of society on a level that is at par with the interests of business. This has prompted a closer look at the supply chain and an increased emphasis on sustainable sourcing.

The outcomes of this convergence of interests include more opportunities for impoverished people around the world, increased protection for the environment, and, yes, paradoxical as it may seem, no decline in corporate profits for companies at the forefront of this shift in thinking.

In short, companies are aggressively embracing the philosophy of corporate citizenship, which means taking responsibility for protecting the environment, reducing inequality, and bringing about social justice through supply chain practices and beyond.

This policy of no dichotomy between business results and corporate citizenship is today the bedrock of some of the most successful companies and operates prominently in the areas of environmental policy, product safety, human rights, the management of chemicals in consumer products, conflict minerals, and code of conduct for manufacturers.

Emphasizing such a broad spectrum of areas is in keeping with the vision of many companies that the old model is neither desirable nor sustainable. Today, consumers' decisions to buy products are linked to questions about where and how products are developed and produced.

Businesses can no longer afford to ignore consumer interest in ethical dimensions such as fair labor practices, supply chain diversity, and sustainable sourcing.

At first glance, corporate citizenship activities might appear to work against corporate profits as significant costs are usually associated with its policies and programs. Deep analysis, however, tells a different story: Business can be conducted profitably without sacrificing core human values such as safe working conditions and decent wages.

Human well-being and prosperity depend a great deal on the free flow and

movement of capital, goods, people, and technologies. Investment in product development creates jobs and provides purchasing power. Purchasing power, in turn, ensures that companies can produce more of the same products and develop new ones, furthering their profit margins as well as bolstering their economic base. A vibrant economy expands the tax base, making it possible to build and maintain public infrastructure.

Deriving Global Benefits

Multinational corporations must strive to take advantage of the opportunities inherent in today's global economy, including moving manufacturing operations to geographical locations where labor is cheap, ensuring bottom line benefits as well as creating jobs in areas that would otherwise have been economically depressed. Millions of people have been lifted out of poverty as a result.

But globalization has not benefited everyone. Hundreds of millions still suffer inequality and other forms of economic injustice.

Fortunately, some companies have pursued sound business results with the welfare of human beings and the environment in mind. More should do the same, starting by closely examining their supply chains. ■



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BY JANNINE MILLER

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Georgia Department of Economic Development
jmiller@georgia.org | 912-966-7867

Georgia: Enabling Business Growth Through Collaboration

The business environment in Georgia is rich in everything a shipper might seek for responding to customers and competing in the global marketplace. From well-designed redundancies across intermodal shipping methods to creative solutions when the unexpected happens, Georgia's logistics advantages can help shippers of all sizes and industries connect and grow.

Shippers are the lifeblood of logistics. Ensuring their unique needs are met and exceeded along every link of the supply chain is paramount to keeping the economy in positive territory.

Logistics costs have stayed stagnant, according to the 26th annual *State of Logistics Report*, released by the Council of Supply Chain Management Professionals. At the same time, countless factors make it more expensive to do business. Recent external and economic factors, such as fluctuating fuel prices and West Coast port disruptions, have forced shippers to rethink their best practices.

Infrastructure: The Key to Success

With its vast and diverse logistics networks, Georgia recognizes its unique position. Federal, state, and local governments meet shippers' needs through continued improvements to seaports,

ground freight transportation infrastructure, and airfreight networks.

Since 2012, Georgia invested more than \$1 billion in its roadway network, which is predicted to more than double once a freight-hauling grid throughout Georgia is complete.

Expanding cargo capabilities on and near terminals at Hartsfield-Jackson Atlanta International Airport can position the state's passenger hub for the same efficiency success that enabled the Port of Savannah's outstanding growth pattern. And the Savannah Harbor Expansion Project is readying the deep-water port to accommodate the larger, more efficient ships that are headed this way.

The toolboxes for shippers and logistics providers are getting bigger and more complex by the day, and it's important to find the right mix to solve cost issues and remain competitive. As if the countless array of new offerings from

providers weren't enough, shippers need to firmly understand the evolving regulatory and economic landscape that affects logistics management.

Making Connections

Timely and relevant information about what's new and what's next, and about the practices other companies have successfully adopted is at the heart of the 2016 Georgia Logistics Summit (April 19-20 in Atlanta). In its eighth year, the Summit has become a breeding ground for collaboration with new, innovative ideas to help business happen in all areas of logistics.

The Georgia Logistics Summit will respond to these trends, and more, by hosting sessions on the economic landscape the industry will be operating in, and thought-provoking presentations on impacts of government regulations that affect logistics.

Attendees will also find value in learning about the real-life success stories that detail recent transportation, distribution center, and third-party logistics provider best practices, while participating in interactive roundtable-style discussions.

Those of us working in logistics have a duty to use the tools at our disposal to facilitate connections that make business happen. ■



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[IT MATTERS]

BY CHASE SOWDEN

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Tapping the Power of Performance Management

In today's workplace, performance improvement and the role of performance management are increasingly important. Organizations are under more pressure than ever to become more efficient and improve business strategies to remain competitive.

Consider, for instance, a manufacturer with five warehouses that decides to implement a new enterprise resource planning system. The goal is to increase efficiency, but what happens when the manufacturer introduces the technology assuming that all five warehouses use the same processes?

The manufacturer first implemented the system at its corporate location. Yet, when employees were brought in from other warehouses for training, the manufacturer found each warehouse had a slightly different operating process. The system required some modifications.

The manufacturer could have avoided this fiasco if it had a more structured performance improvement process—a systematic practice that involves employees in improving organizational effectiveness to achieve the company's goals.

Begin With Your People

If companies don't align individual goals with business strategy, then they waste time and resources. Low employee engagement levels may mean individuals are not performing at their best. Inconsistent evaluation criteria

and rewards can lead to mistrust, lower productivity, and higher attrition. If top performers see no difference in performance ratings, opportunities, and compensation from under-performers, morale can suffer. Lack of documentation, visibility, and accountability can negatively affect stakeholders who are demanding more transparency.

And, if accurate performance information is unavailable or difficult to access, training, development, and project assignment decisions may not be made in the company's best interests.

Management buy-in is equally important to the performance management process. If management does not understand the importance and value of the process, it can lead to consistently late or incomplete appraisals, mistrust, avoidance of performance reviews, and a lack of honest performance-related discussions.

The primary reason to make sure performance management processes are functioning properly is to tighten the link between strategic business objectives and day-to-day actions. Effective goal setting—including timelines,

combined with a method to track progress and identify obstacles—contributes to success and bottom-line results.

Regularly tracking progress against performance goals and objectives also provides the opportunity to recognize and reward employees for performance and exceptional effort, contributing to job satisfaction and productivity.

Starting the Process

When effectively implemented, performance management best practices result in a wide range of benefits. In order to achieve these results, you need an operational performance assessment. The assessment requires taking a holistic look at your current processes, people, and technology, and tells you exactly where you are and what you need to do to meet your goals.

If the manufacturer in the warehouse example took the time to answer this question, it would not have had such a disconnect when it came to introducing new technology.

When implementing new solutions, an effective performance management process must be in place. Taking a step back, reviewing current operations, and aligning people, processes, and tools with your business objectives ensure positive results. Success requires full commitment from your entire organization. ■

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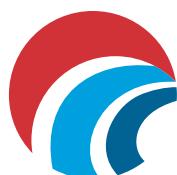
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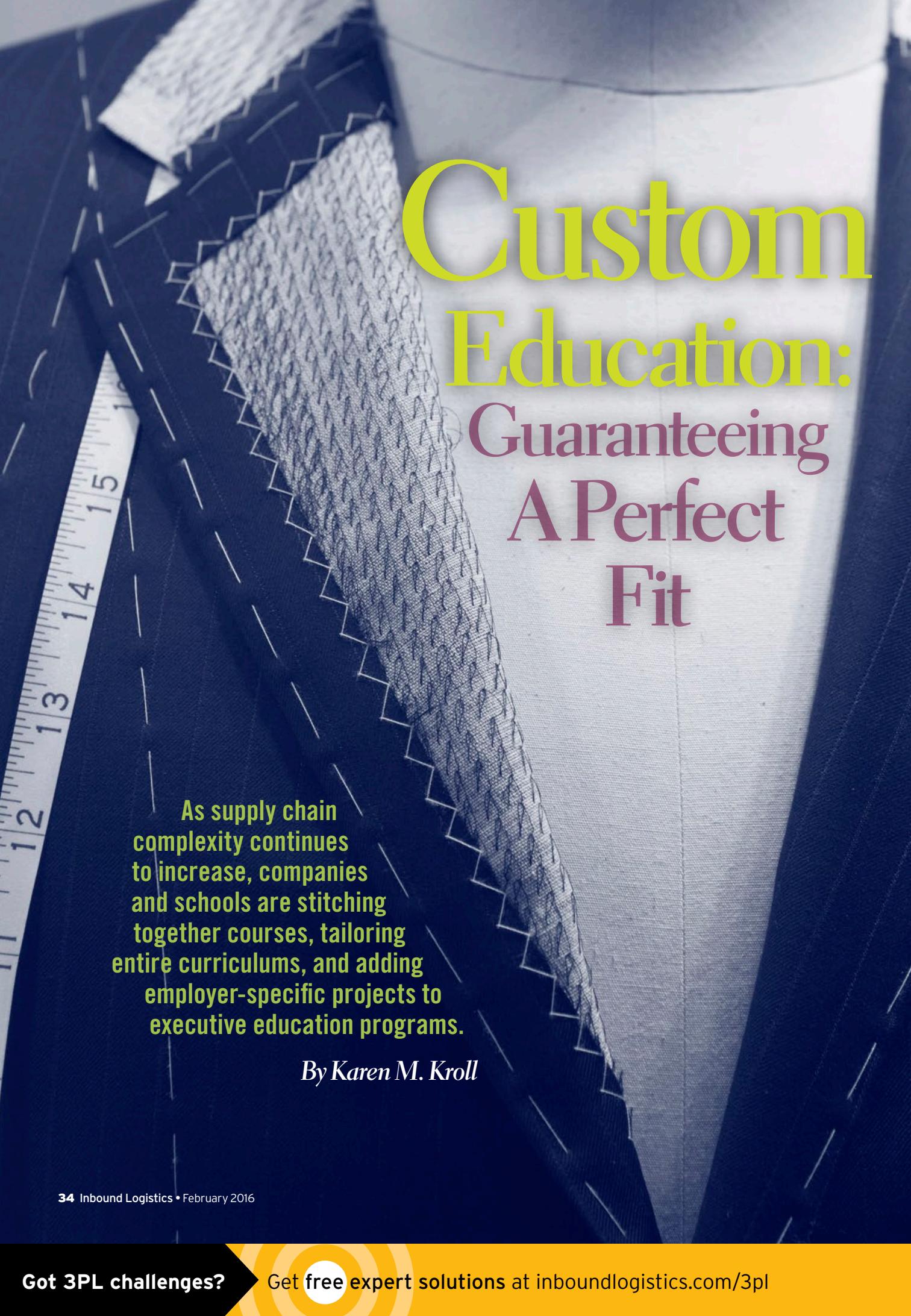


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Custom Education: Guaranteeing A Perfect Fit

As supply chain complexity continues to increase, companies and schools are stitching together courses, tailoring entire curriculums, and adding employer-specific projects to executive education programs.

By Karen M. Kroll

WHEN IT COMES TO SUPPLY CHAINS, “THE LEARNING never stops,” says Richard Hall, executive vice president, supply chain, engineering and leadership with Bob Evans Farms LLC. “When you think you know it all, you have a problem.” The company, based in New Albany, Ohio, owns and operates 500 Bob Evans restaurants, and produces and distributes sausage, bacon, and other food products. Hall, along with six colleagues, has completed the supply chain management program offered through The Ohio State University (OSU).

After all, the complexity of most companies’ supply chains continues to increase, a result of globalization and unrelenting pressure to bring goods to market more quickly and efficiently. “The supply chain function has become a far more strategic partner in business,” says Joel Dupuis, executive education key account director with Arizona State University in Tempe.

Because effective supply chains are critical to many businesses’ success, the individuals in charge of them need a leadership perspective and the ability to oversee multiple functions and individuals. That often requires a shift from a tactical focus to “understanding how their function supports the organization,” Dupuis says.

These professionals also need to gain a holistic view of the supply chain that encompasses not only the vendors that supply their employers, but their vendors’ vendors, as well as customers, and their customers’ customers. This approach recognizes that relationships between members of the supply chain are key. “If

you manage relationships better than your competitors, you’ll win more often,” says Douglas Lambert, chaired professor and director of the Global Supply Chain Forum at OSU.

Another requirement of many supply chain leaders today is a solid understanding of issues such as customs regulations and food safety that historically may have fallen outside their purview, says David Closs, chair of the supply chain management department at Michigan State. Slip-ups in these areas can lead to legal liability and public relations headaches, and in some cases, they can even endanger customers. Case in point: Restaurant chain Chipotle Mexican Grill has had trouble consistently ensuring the safety of its food supplies.

Together, these changes mean that even employees who possess a solid foundation of supply chain experience and education need to periodically update their knowledge. “If supply chain leaders are not engaged with some type of outside organization to help them keep abreast

of changes and advances in supply chain, they’re doing their company a disservice,” Hall says.

In addition, employees whose roles lie outside the supply chain function increasingly need to understand how it works, its importance within an organization, and how boosting its effectiveness can help the company overall.

Yet few employers are able to let employees leave work for extended periods to take courses, nor can many foot the bill for lengthy, expensive programs. So, while graduates with Master’s degrees in supply chain remain in demand, companies and employees are embracing executive and custom education programs that allow employees to remain on the job as much as possible, yet efficiently gain insight and knowledge into supply chain best practices, and then apply these to the challenges their companies face.

The programs address employers’ need to see a rapid, tangible payoff in greater efficiencies, reduced costs, or improved service and operations. While most programs don’t culminate in a degree, students may earn certificates or continuing education credit.

Learning By Doing

The programs often make liberal use of case studies, simulations, discussions, role playing, and even field trips — Georgia Institute of Technology (Georgia Tech) students might visit the Port of Savannah, for instance — rather than relying solely on lectures. “Adults learn by doing and reflecting on what they’ve done,” says Tim Brown,



Private sector employees participate in Penn State's custom education programs to address supply chain challenges.

managing director of professional education supply chain and logistics programs, Georgia Tech.

Most programs combine in-class and online courses, minimizing the time students spend away from home or work. Online courses also make it easier for employees from around the globe to participate, as well as senior executives with tight schedules.

When students must leave work to attend class, they're often gone for no more than one week at a time. "In the past, we offered four-week programs. No one can get away for four weeks today," says Maria Taylor, managing director of executive programs at Smeal College of Business, Penn State.

In-class courses often are held at the universities, although some companies opt to host them at their offices.

While many students come from positions within supply chain management, it's not unusual for classes to include employees from sales, marketing, human resources, and other areas. Most hope to better understand how the supply chain works and the challenges it presents.

Participants tend to come from the manager level or above. "We're not doing as much tactical training as looking at leadership capabilities and managing the end-to-end supply chain," Taylor says.

Faculty members usually teach in the undergraduate and graduate programs at the universities. Most teach regularly in the supply chain program, although some focus on other areas. Georgia Tech, for



"Participants learn leadership capabilities and how to manage the end-to-end supply chain."

— **Maria Taylor**, Managing Director, Executive Programs, Smeal College of Business, Penn State

instance, pulls from both the College of Engineering and the College of Business.

Most companies participating in the programs tend to be large and mid-sized firms that are better able to handle the costs and cover the day-to-day work left behind when employees spend time in residency programs. However, it's not unusual to see a few participants from smaller firms in the open-enrollment programs.

In addition, some large companies bring their smaller suppliers into the courses. "The insight they can gain helps them become active members of the supply chain," says Robert Handfield, professor of supply chain management, North Carolina State.

Executive Education, Altered

Not every company has the resources or need to develop a custom program. Executive education programs in which students from multiple companies can enroll — often referred to as open

enrollment — are a solution. The fees vary, although many charge approximately \$4,000 to \$5,000 per semester or program, for each employee. Many companies cap their annual educational reimbursement for each employee at \$5,000, so these fee structures enable many students to have employers cover the cost.

Students in Arizona State's supply chain management certificate program start with two core courses: one on integrated supply chain management and one on supply chain strategies. Then they typically choose two elective courses in either supply management, logistics management, or operations management. The courses are interactive, with professors and students engaging in discussions and case studies. Students typically spend between eight and 10 hours each week on the courses, and most finish the program in about six months.

The West Michigan Supply Chain Management Certificate Series, offered through Michigan State University, consists

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of two 14-week modules. The first focuses on marketing and supply chain management concepts, and the second concentrates solely on supply chain management.

Students meet on campus one day each week for four hours, and participate in discussions, readings, and simulations between classes. In addition, they work on projects geared to their employers. For instance, students from a regional grocer analyzed the company's milk distribution network, Closs says.

While executive education programs are

total spend now reaches approximately \$800 million. This transition evolved to the company's current supply chain discipline.

At first, however, "we didn't have a roadmap of the direction to go," Hall says. Conversations with business partners led him to Professor Lambert's program at OSU; Bob Evans also is a member of the university's Global Supply Chain Forum.

The program focuses on implementing the functions identified in the forum framework: customer relationship management, supplier relationship management,

regularly uses Bob Evans' trucks for back-hauling. "If they have freight, we haul it," Hall says. The two companies share the revenue.

In addition, the supplier has a hand soaps and cleaning products division. Bob Evans had been using other, more expensive vendors for these products. "We tested the products, and they were as good or better than what we'd been using before," Hall says. The company switched and saved money, while the supplier gained new business.

In the first four years Bob Evans and this supplier began working together, the combined savings topped \$31 million. "Dr. Lambert and his team made a huge impact on the direction of our department," Hall says.

A Custom Fit

Custom programs are jointly developed by an organization and educational institution, with "a focus on what the company wants the employees to be able to do after the course; what skills they need to perform better in their jobs," Lambert says.

The courses "can run the gamut," says Brown of Georgia Tech. Examples include "lunch and learns" held every six weeks at a company's offices, and three- to five-day courses on topics such as inventory planning and warehouse layout. Some companies allow outsiders into their custom courses as a way to both spread costs and gain perspective from those outside the firm, Brown adds.

In many custom programs, experts from within the companies work alongside the professors. These individuals can provide insight on applying the trends and best practices outlined by the professors to the company itself. They're also able to discuss the organizational changes the company may need to implement the ideas discussed.

Designing a custom program usually starts with discussions between senior management and the university's program directors. "Both parties have to invest time upfront to get it right," Handfield says.

The managers and directors review the ways in which supply chain management fits into the corporate structure, and compare existing supply chain practices with



Restaurant chain and food manufacturer Bob Evans benefitted from an Ohio State University program that provided employees with a holistic view of supply chain processes.

designed to provide value to students from a variety of companies, many courses are designed so all participants can apply the principles to projects and challenges within their own firms. This is key, as shrinking budgets and competitive pressures force many companies to look for a compelling return on their training investment.

Bob Evans began working with Ohio State's Supply Chain Management Program in 2008. Under the leadership of a new chief executive officer, the company was consolidating four purchasing divisions into a corporate procurement department. "We weren't leveraging the spend in the organization," Hall says, adding that

customer service management, demand management, order fulfillment, manufacturing flow management, product development and commercialization, and returns management.

The program's holistic view of the supply chain, and its focus on processes and approaches that allow all parties to realize value, has been key to the evolution of the supply chain function at Bob Evans. "Beating suppliers to death to get an extra nickel," isn't sustainable, Hall says.

Bob Evans has tried to take a different approach. For instance, discussion with one of its food products suppliers led to an arrangement in which the supplier

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goals. They also analyze the factors driving the industry in which the company competes. The conversations also cover the nuts and bolts of the program: the learning objectives, the budget, the desired level of interaction, the breakdown between online and classroom instruction, and the types of employees who will participate, among other topics.

Benefits Offset Costs

Although the cost to develop custom programs can total thousands of dollars, in addition to the expenses incurred in getting employees to attend, employees learn concepts directly applicable to their organizations. “They can apply what they have learned and drive productivity improvements, cost savings, reduced transportation spend — some kind of measurable benefit,” Handfield says.

In 2011, Rick McDonald, vice president, supply chain, international with The Clorox Company, and a colleague began looking for programs geared to supply chain leaders at the plant manager level or above. “We wanted one comprehensive program to connect the end-to-end supply chain; to help employees understand how decisions in one area impact outcomes in another,” McDonald says.

Ultimately, the goal was to develop a “supply chain manager mindset,” McDonald says. “We wanted to change the trajectory of employee development.” The program is tied to Clorox’s strategy, which seeks to engage employees as business owners.

The company began working with Georgia Tech, drawn by the university’s reputation for linking the practical to the theoretical. McDonald also wanted employees to gain an “external to Clorox” perspective, so they could see the “big supply chain world and how other companies solve the same problems we have,” he says. In fact, about 80 percent of the material used in the courses focuses on other companies.



Georgia Tech worked with Clorox to develop a forum based on four pillars: supply chain strategy, operational excellence, leadership, and project management.

McDonald and Georgia Tech developed the Strategy and Leadership Forum organized around four pillars: supply chain strategy, operational excellence, leadership, and project management. Clorox subject matter experts work with Georgia Tech faculty to “contextualize” or show how the examples of challenges addressed by other companies apply to Clorox’ challenges, McDonald says.

Full Immersion in the Program

Students begin by engaging in interactive self-study early in January, and then reside at Georgia Tech the last week of the month. During this week, “they are 100 percent immersed” in the program, McDonald says. In fact, during this week, they complete about 16 modules each lasting between two and four hours, on subjects such as logistics, transportation, and critical thinking.

Employees head back to their jobs and continue their self-study before returning for another week of residency in March. The program concludes in June.

A key component of the program is

the projects the students work on in small groups. All are “specific projects that benefit some part of Clorox’s strategy,” McDonald says.

For instance, one team is developing capabilities in e-commerce segmentation, determining how to make the company’s products e-commerce friendly. This includes everything from the nuts and bolts of taking orders, to collecting payment. While many online retailers offer Clorox products, most are not currently available on the company’s website. “E-commerce is a capability we need and want,” McDonald says.

Approximately 45 employees participate in the program each year. Most — roughly 35 of them — come from the supply chain function, and the rest from other departments. With such a variety, “the richness of the conversation is incredible,” McDonald says. “There’s a lot of energy, and the learning is interactive.”

The program slots are highly coveted. “When employees are invited, they’re tremendously excited,” McDonald says.

Clorox employees who go through the program gain a robust understanding of each link in the supply chain, and build strong relationships with the others in the class, all of which benefits the company. For example, when they run into obstacles, they can reach out to other class members to discuss ways to handle it.

“Clorox is a process-based company, but we’re also a relationship company,” McDonald says.

Clorox competes with a number of much bigger rivals, McDonald adds. Through the program, employees are better able to lead Clorox in a fiercely competitive market.

“The Strategy and Leadership Forum provides a great opportunity for Clorox’s supply chain leaders to learn to think like general managers” McDonald says. “It also helps them understand the ways that leveraging the end-to-end supply chain can improve our ability to serve customers and reward shareholders.” ■

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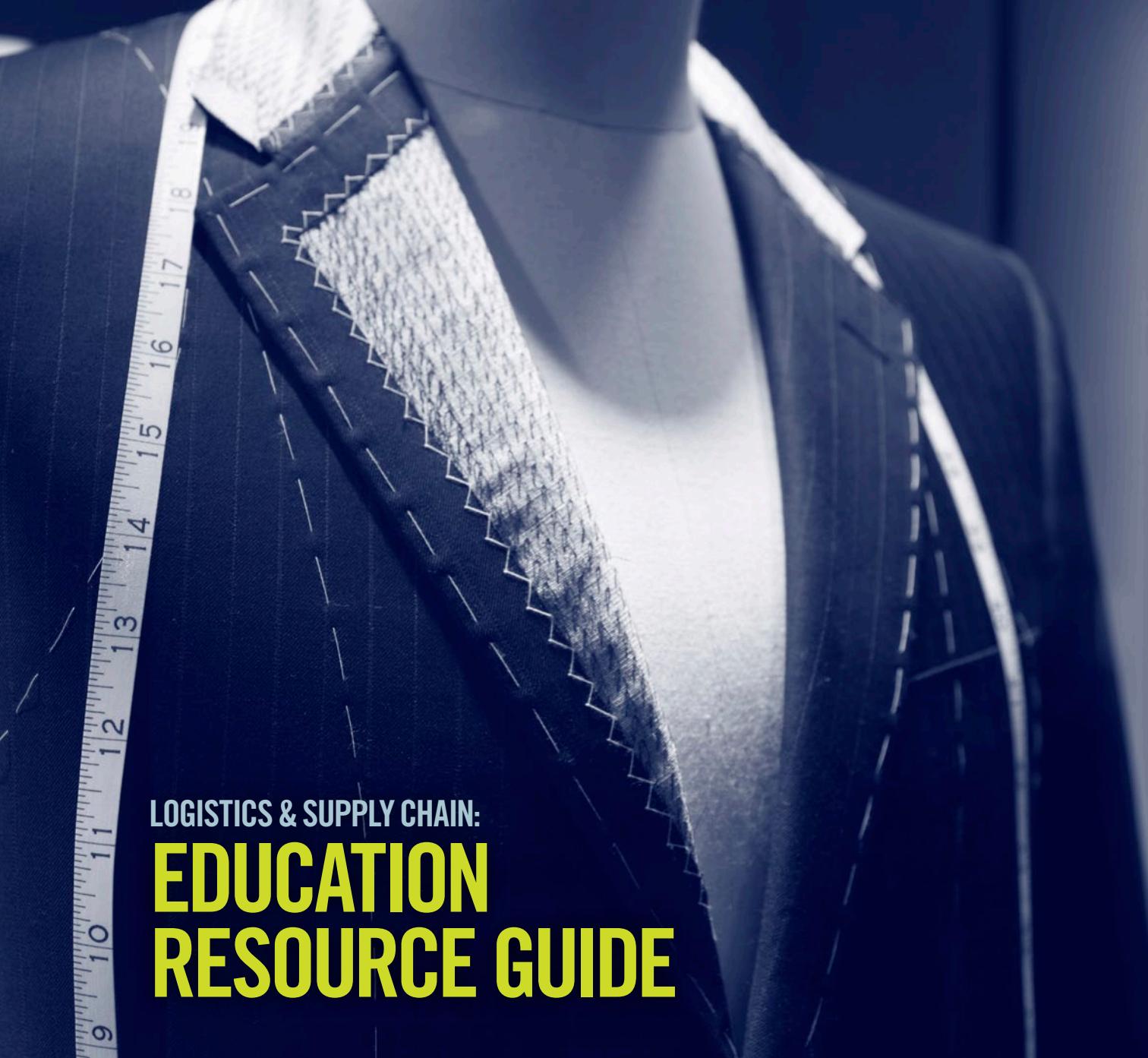
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LOGISTICS & SUPPLY CHAIN: **EDUCATION RESOURCE GUIDE**

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On the following pages, *IL* provides data from a selection of schools and associations that submitted information about their logistics, supply chain, and transportation education offerings. This *Supply Chain & Logistics Education Resource Guide* stitches together a vast array of education offerings.

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LOGISTICS & SUPPLY CHAIN EDUCATION RESOURCE GUIDE

SCHOOL NAME	URL & PHONE	Years offering logistics education	UNDERGRADUATE				GRADUATE				CONTINUING EDUCATION				VOCATIONAL/TRADE/TECHNICAL				COURSE LOCATIONS								
			Logistics or Supply Chain Major	Logistics or Supply Chain Minor	Logistics or Supply Chain Coursework	Logistics or Supply Chain Certification	Global Trade Coursework	Operations Management Coursework	Supply Chain Engineering Coursework	Master's Degree Program	MBA Concentration	MBA Coursework	Doctoral Program	Certificate Programs	Distance Learning Events	Executive Programs	Seminars & Short Courses	Warehouse Management	Inventory Management	Freight Management	Logistics Sales	Logistics Technology	Distance Learning	On Campus	On Site (Off Campus)	At Events (Off Campus)	Seminars (Off Campus)
HEC Montreal	hec.ca 514-340-6000	15	●						●	●	●	●											●				
Howard University	howard.edu 202-806-1674	15	●							●													●				
Indiana University, Kelley School of Business	kelley.iu.edu 812-855-8449	30	●	●	●				●	●	●	●	●	●	●	●						●	●	●	●	●	●
Institute for Defense and Business	idb.org 919-969-8008	19			●	●				●	●		●	●	●	●					●	●	●	●			
Kansas State University	k-state.edu 785-532-6296	15	●	●						●						●						●	●				
Lehigh University	lehigh.edu 610-758-3418	15	●	●						●	●		●	●	●	●						●	●		●	●	
Loyola University Chicago	luc.edu/scm 312-915-7654	4	●	●					●	●			●	●	●							●	●	●			
Maine Maritime Academy	mainemaritime.edu 207-326-2212	20+																									
Massachusetts Institute of Technology	executive.mit.edu 617-253-7166	12											●	●	●	●							●	●			
Mount Royal University	mtroyal.ca 403-440-6833	12	●					●					●	●	●							●	●				
Niagara University	niagara.edu/supplychain 716-286-8160	45			●		●	●		●	●		●		●								●				●
Northeast Wisconsin Technical College	nwtc.edu 800-422-NWTC	25+	●	●	●	●							●	●							●	●	●	●			●
Northeastern State University	nsuok.edu 918-444-2992	8	●			●				●			●	●			●	●				●	●				
Ohio State University, Fisher College of Business	osu.edu 614-292-8808	56	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Palo Alto College	alamo.edu 210-486-3000	19											●				●	●				●	●	●			
Pennsylvania State University	psu.edu 814-865-0073	49	●	●			●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Portland State University	pdx.edu 503-725-5053	20+	●	●	●			●	●							●	●	●		●		●	●				●

DNR = Did not report

LOGISTICS & SUPPLY CHAIN EDUCATION RESOURCE GUIDE

SCHOOL NAME	URL & PHONE	Years offering logistics education	UNDERGRADUATE				GRADUATE				CONTINUING EDUCATION				VOCATIONAL/TRADE/TECHNICAL				COURSE LOCATIONS								
			Logistics or Supply Chain Major	Logistics or Supply Chain Minor	Logistics or Supply Chain Coursework	Logistics or Supply Chain Certification	Global Trade Coursework	Operations Management Coursework	Supply Chain Engineering Coursework	Master's Degree Program	MBA Concentration	MBA Coursework	Doctoral Program	Certificate Programs	Distance Learning Events	Executive Programs	Seminars & Short Courses	Warehouse Management	Inventory Management	Freight Management	Logistics Sales	Logistics Technology	Distance Learning	On Campus	On Site (Off Campus)	At Events (Off Campus)	Seminars (Off Campus)
Purdue University	krannert.purdue.edu 765-496-0773	53	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Rasmussen College	rasmussen.edu 888-549-6755	1	●		●		●	●									●	●	●	●		●					
Rutgers University	business.rutgers.edu/scm 973-353-5266	8	●		●	●			●	●	●	●	●	●	●								●	●			
Seton Hall University	shu.edu 973-761-9000	5				●			●	●			●										●	●			
Seton Hall University, Stillman School of Business	shu.edu 973-761-922	5							●														●				
St. Petersburg College	spcollege.edu 727-341-7973	1											●									●	●				
Supply Chain Management Association Ontario	scmao.ca 416-977-7566	20				●							●	●	●							●	●	●	●	●	●
Syracuse University Martin J. Whitman School of Management	whitman.syr.edu 315-443-3751	97	●	●					●	●	●		●		●	●							●				
Transportation Institute at University of Denver	du.edu/transportation 303-871-4702	15							●						●								●				
University of Central Arkansas	uca.edu 501-450-5320	9	●																				●				
University of Indianapolis	mba.uindy.edu 317-788-3340	8	●	●	●		●			●	●		●		●								●	●			
University of Kansas	kupce.ku.edu 913-897-8761	20	●													●							●				
University of Maryland	rhsmith.umd.edu 301-405-2190	70	●					●	●	●	●			●									●				
University of Michigan, Ann Arbor	michiganross.umich.edu 734-647-1396	20+	●	●	●		●	●	●	●	●			●									●	●			
University of Minnesota Carlson School of Management	carlsonschool.umn.edu 612-625-0027	26	●	●	●			●	●	●	●			●	●							●	●				
University of Missouri, St. Louis	mba.umsl.edu 314-516-5885	16	●	●	●		●		●	●	●		●	●								●	●	●			●

DNR = Did not report

LOGISTICS & SUPPLY CHAIN EDUCATION RESOURCE GUIDE

SCHOOL NAME	URL & PHONE	Years offering logistics education	UNDERGRADUATE				GRADUATE				CONTINUING EDUCATION				VOCATIONAL/TRADE/TECHNICAL				COURSE LOCATIONS							
			Logistics or Supply Chain Major	Logistics or Supply Chain Minor	Logistics or Supply Chain Coursework	Logistics or Supply Chain Certification	Global Trade Coursework	Operations Management Coursework	Supply Chain Engineering Coursework	Master's Degree Program	MBA Concentration	MBA Coursework	Doctoral Program	Certificate Programs	Distance Learning Events	Executive Programs	Seminars & Short Courses	Warehouse Management	Inventory Management	Freight Management	Logistics Sales	Logistics Technology	Distance Learning	On Campus	On Site (Off Campus)	At Events (Off Campus)
University of Nebraska, Lincoln	cba.unl.edu 402-472-4521	3	●	●	●		●		●				●	●								●	●			
University of North Florida	unf.edu 904-620-1961	44	●		●	●	●		●				●										●			
University of Pittsburgh, Katz Graduate School of Business	business.pitt.edu 412-412-648 ext. 1700	15+	●		●	●	●	●	●	●	●	●	●	●	●								●	●	●	●
University of Rhode Island	web.uri.edu 401-874-1000	10	●			●		●		●	●	●	●	●	●		●	●			●	●	●	●	●	
University of San Diego	sandiego.edu/msscm 619-260-4600 ext. 7901	DNR		●	●			●	●	●			●		●							●	●			
University of South Florida	usf.edu/business 813-974-4201	25			●			●	●	●	●				●					●			●		●	
University of Southern California	uscsupplychain.com 213-821-4079	4			●			●	●	●			●		●							●	●			
University of Southern Mississippi	usm.edu/e 601-266-4895	5	●						●													●	●			
University of Tennessee	globalsupplychaininstitute.utk.edu/ 865-974-5001	75+	●	●	●		●		●	●	●	●		●	●								●	●		
University of Washington	supply-chain-transportation.uw.edu/ 206-221-6407	3							●													●				
University of Wisconsin-Superior	uwsuper.edu/ctl 715-394-8281	15	●	●	●	●	●	●					●	●	●	●	●	●	●	●		●	●			
University of Wisconsin, Platteville Online	GoUWP.com 608-342-1468	5							●					●								●				
Western Illinois University	wiu.edu/scm 309-298-1535	11	●	●	●		●	●		●	●						●	●	●	●		●	●			
Western Michigan University	wmich.edu/supplychain 269-387-5860	22	●	●	●	●	●	●					●		●		●	●	●	●		●	●	●	●	
Worcester Polytechnic Institute, Foisie School of Business	wpi.edu/academics/business.html 508-831-5218	10			●			●	●	●												●	●			
ZLC	www.zlc.edu.es +34-976-077-600	13		●	●		●	●	●	●		●		●	●	●	●	●	●			●	●	●	●	

DNR = Did not report

MILITARY AND MANUFACTURING OUTSOURCING:

NOT ALL



**THE U.S. MILITARY FIGHTS
ITS WAR ON HIGH COSTS
THROUGH OUTSOURCING.
CAN MANUFACTURERS ARM
THEMSELVES WITH THE
SAME WEAPON?**

By Wallace A. Burns, Jr.

Both the military and private industry manufacturers outsource services with the same main goal: to cut costs. And while they have marshaled some cost savings and derived additional organizational benefits, this tactic has also resulted in some unintended consequences. Here is a look at the advantages and risks of outsourcing, and the similarities and differences between how the U.S. military and private manufacturers do it.

To understand the impact of outsourcing, it's important to probe into the rationale behind it. One major reason can be traced back to 2001. After the Sept. 11 terrorist attacks, force management constraints drove the U.S. military to convert many active-duty support units into combat arms soldiers.

As part of this strategy, the military outsourced its support efforts, recalls Mike Hamann, an Army Materiel Command (AMC) veteran who is currently a mobilized Civilian Expeditionary Worker for AMC in support of U.S. Forces-Afghanistan, J4 Directorate (supply and logistics).

It is common practice for the U.S. Armed Services to outsource and consolidate services associated with providing mission materiel requirements involving rations, bulk fuel, construction materials, medical material, and repair parts to include kits, assemblies, and subassemblies.

The main argument the military gave for outsourcing revolved around the belief that it would be cheaper to hire contractors. "During initial planning, no one could foresee that we would be at war for more than a decade," Hamann says. "The military presented the financial argument that using a contract service for a few years would be less expensive than the cost of a career soldier with retirement."

Manufacturers outsource for the same primary reason the military does: to achieve cost savings. Outsourced services common to both the military and manufacturers include:

- Specialized outsourcing, such as research and development or healthcare.
- Technical outsourcing, such as web development or engineering.
- Manufacturing-related outsourcing, resulting from global supply chain requirements or proximity to resources.
- Services outsourcing, determined by cost and/or quality considerations.

The formation and mission of the Defense Logistics Agency (DLA) best illustrates the Army's strategy of consolidating services. DLA supports the U.S. mission in Afghanistan by supplying coalition forces with most of the food, fuel, and support elements in this war zone. The DLA Support Team-Afghanistan is charged with providing more than \$10 billion in food and bulk fuel contracts.

Mission Base

It makes economic sense for the military and private manufacturers to outsource certain services. "It is sometimes more cost-effective to outsource services than hire the expertise in-house," says Teresa Smith,

a 30-year DLA veteran. "This is especially true when you need a service for a limited time, and/or for a specialized skillset not readily available from existing resources.

"Outsourcing gives the DLA the flexibility to rapidly fill a temporary void, and to just as easily and quickly remove those resources when we no longer need the service," she adds.

The military often makes outsourcing decisions based on the mindset that private is better. This reasoning is amplified by the military's well-publicized size reductions (more than 35 percent in the 1980s and 1990s); the relative ease of outsourcing, including relaxing of oversight requirements; and the role of technology in modern warfare, including a reliance on commercial off-the-shelf technology.

Yet, embracing outsourcing is not compatible with standard military thinking that core functions such as fighting for and establishing the peace should stay in-house because turning to outside organizations could potentially harm the mission.

One risk involves giving critical needs to contractors who, unlike service members, have not taken a solemn oath to carry out military missions.

A second risk is that this type of outsourcing may weaken military chain of command—the hierarchical method for organizing information flow, decision

making, power, and authority. It assumes that each level of the organization is subordinate to the level to which it reports. Contractors often serve under the operational control of military commanders, but are also bound by contractual terms, conditions, and allegiances that are not in sync with military hierarchy.

Long-term Impact

Some consider military outsourcing—originally intended to be a short-term solution at the beginning of contingency operations in Afghanistan in 2002—well past its usefulness. Even the cost savings are questionable as the war effort in the Middle East now exceeds 15 years. "The Army outsourced much more than has become healthy for its organic capabilities," says Hamann.

The problem the Army faced was that it was extending outsourcing contracts multiple times across numerous operations. Operation Iraqi Freedom (OIF) in Iraq and Operation Enduring Freedom (OEF) in Afghanistan lasted much longer than initially expected. The additional years of outsourced contracts, along with the cost of overseas contractor salaries, drove expenses much higher than the salaries of soldiers executing support missions.

In addition to OIF and OEF running up huge costs, over the years the Army lost the

Both the military and private industry lean toward manufacturing-related outsourcing resulting from global supply chain requirements.



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capability to self-support. "As we expanded outsourcing, we were forced to grow contracting officers and contracting officer representatives," Hamann says. "We did not have a core competency in these areas and endured many years of growing pains."

Significant cost overruns are another downside of military outsourcing. "Over the past decade, research on contracting waste and abuse reveals high-level mistakes that cost the Army not just hundreds of millions of dollars, but also the respect and credibility to conduct fiscally responsible support operations," Hamann says.

Controlling Escalating Costs

While consolidating services for food, fuel, construction materials, medical supplies, and repair parts was a big success story for the military, the persistent problem as a result of extended contingency operations is escalating costs. The Army is well aware of the problems associated with extended outsourcing, according to Hamann, and is looking at ways to solve current outsourcing challenges, including establishing task forces and tiger teams to analyze the dilemma and provide solutions.

"Discussions have included training more officers and contracting officer representatives to focus on outsourcing problems, and training active-duty forces to re-grow the Army's support capabilities," says Hamann. Today, more than 80 percent of logistics capabilities are housed under the Army Reserve and National Guard, and soldiers are being trained to support new equipment and other elements.

Despite the disadvantages of outsourcing, the Army faces many global challenges that lean toward continuing its future outsourcing efforts. "Congress severely limited troop levels and resources," Hamann says. "Until the Army recognizes the true costs of outsourcing, and the limitations placed on our forces, we cannot truly find a solution to these challenges. Training contracting specialists and re-growing our organic capabilities are steps in the right direction."

Military and private manufacturers both want to reduce the need for highly skilled workers on generic manufacturing tasks to achieve the following benefits:

- Decrease plant and equipment costs.
- Reduce footprint requirements.
- Control reverse logistics costs.



It is common practice for the U.S. Army to outsource and consolidate services associated with providing food and rations for the troops.

- Develop more reliable schedules.
- Offer greater product options.
- Concentrate on core competencies.

Outsourcing offers many advantages. In addition to cost savings, and the ease with which it is possible to outsource goods and services, this tactic also enables comparative advantages such as reduced time to market (or to meeting missions), access to new markets (or mission capabilities), flexibility, proximity to finite resources, reduced liabilities, and improved quality.

But it is not a panacea. Both the military and manufacturers face outsourcing challenges, including the contracted entity's lack of accountability, and the practice of awarding too many sole-source contracts. Single-source agreements are primarily awarded when no other viable or qualified suppliers are available.

"Long-term, sole-source contracts offer cost benefits resulting from lower administrative and production lead times, and often cost reductions because the government guarantees minimum order quantities," says Smith.

Other disadvantages shared by the military and manufacturers include a loss of control, longer delivery times, and less responsiveness to customer requirements.

What Does the Future Hold?

Both the military and manufacturing have based outsourcing decisions primarily on cost considerations, and have placed less emphasis on product or service quality, or the organizational harm that extended outsourcing of core capabilities might cause.

Making decisions based mainly on cost savings can be detrimental to organizational integrity. Instead, entities should consider an array of organizational priorities, with cost being only one among many. Outsourcing decisions based on multiple criteria such as performance, cultural integrity, and even the greater good, strengthen the organizational timber required to weather unknown storms to come. For example, to an aviation organization, the cost of providing safe operations is secondary to the result of safe operations.

Executing military operations, and the associated performance of core military activities within a war zone, should be the main drivers of outsourcing mission-essential activities. In other words, military outsourcing cost savings should be given less weight than the health and maintenance of organizational considerations essential to its survival.

The cost to prosecute a war, therefore, should be subordinate to the result of achieving not only victory, but also maintaining the armed services. Manufacturers, like the military, should make outsourcing decisions based not on short-term cost savings but on organizational health and stability. ■

Dr. Burns is an associate professor in the School of Business at American Public University System, and a U.S. Navy Captain and Supply Corps Officer currently serving as Commander of DLA Support Team-Afghanistan, Bagram Airfield, Afghanistan.



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2016

PORT REPORT:

Great Expectations

These U.S. ports will work like the dickens to serve maritime shippers in the coming year, and beyond.

BY JULIE NEWTON

For the nation's ports, 2016 may be seen as the year of Great Expectations. With the \$5.2-billion Panama Canal expansion scheduled to open in April 2016, ports on both coasts are making significant investments in order to be ready to handle post-Panamax ships. U.S. ports are expected to spend almost \$30 million in dredging and infrastructure improvements in the coming months, according to a National Real Estate Investors' report. Many ports are also taking steps to reduce congestion, improve throughput, and strengthen relationships with rail partners and manufacturers.

With these efforts underway at ports in virtually all regions of the United States, shippers can expect greater efficiency and more choices. And, ports can expect to grow market share as they welcome mega-ships through the Panama Canal expansion during 2016.

Based on import and export trade volumes, efforts to improve infrastructure, and service innovations, here are *Inbound Logistics'* top U.S. ports for business in 2016.

Los Angeles and Long Beach

Despite 2015's congestion challenges, the Los Angeles-Long Beach gateway continues to grow at a steady pace, according to a Federal Maritime Commission (FMC) report. In 2014, the Los Angeles-Long Beach gateway and the New York-New Jersey gateways handled more than 47 percent of all U.S. imports and

exports, according to the FMC. While increased volumes continue to challenge these ports, efforts are underway to reduce congestion, including extended terminal gate hours and a review of processes that would eliminate bottlenecks around container drayage or other landside connections.

Port of Los Angeles

TRADE DATA

2015 TOTAL TEUs: 8,160,457

YEAR-OVER-YEAR CHANGE: -2.15%

TRADE PARTNERS

- China
- Hong Kong
- Japan
- South Korea
- Taiwan
- Vietnam

IMPORTS

- Furniture
- Auto parts
- Apparel
- Electronic products
- Footwear

EXPORTS

- Paper/wastepaper
- Pet and animal feed
- Scrap metal
- Fabrics
- Auto parts

MAIN CHANNEL DEPTH
53'

Port of Long Beach

TRADE DATA

2015 TOTAL TEUs: 7,192,066

YEAR-OVER-YEAR CHANGE: 1%

TRADE PARTNERS

- East Asia
- China
- South Korea
- Japan
- Hong Kong
- Taiwan
- Vietnam

- Iraq
- Australia
- Ecuador
- Indonesia

IMPORTS

- Crude oil
- Electronics
- Plastics

- Furniture
- Clothing

EXPORTS

- Petroleum coke
- Petroleum bulk
- Chemicals
- Wastepaper
- Foods

MAIN CHANNEL DEPTH
76'



New York-New Jersey

MAIN CHANNEL DEPTH
50'

The **Port of New York and New Jersey** is the largest port on the East Coast, and the third-largest in the United States. With a diverse set of trading partners, and due to its location, the port draws shipments from virtually all parts of the world. The Port Authority of New York and New Jersey is in the midst of implementing a \$4.3-billion capital plan to invest and upgrade existing port infrastructure, according to CBRE's *2015 North America Ports & Logistics* annual report. Alterations to the Bayonne Bridge are planned to be finished before the completion of the Panama Canal expansion. The port is also upgrading road and rail infrastructure.

TRADE DATA

2014 TOTAL TEUs: 5,772,303

YEAR-OVER-YEAR CHANGE: 5.6%

TRADE PARTNERS

- China
- India
- Germany
- Italy
- Hong Kong
- Netherlands
- United Kingdom
- France

- Brazil
- Vietnam

IMPORTS

- Beverages
- Plastics
- Preserved foods
- Stone, plaster
- Aluminum, iron, steel

EXPORTS

- Wood pulp
- Vehicles
- Plastics
- Milling products
- Food waste
- Animal feed
- Stone, plaster

Savannah

MAIN CHANNEL DEPTH
42'

The **Port of Savannah** has emerged as a rapidly growing port on the East Coast. With the largest single terminal in North America, Savannah is close to Atlanta and major southeastern markets. The port has also differentiated itself by creating an operational environment that is free from local traffic and has ample land for industrial development. Several major international retailers have integrated the port into their supply chains. The port is also investing in its infrastructure. The Savannah Harbor Expansion Project will deepen the Savannah Harbor federal shipping channel from -42 to -47 feet. The state of Georgia is also building a 3.1-mile road connecting the port to I-95, intended to reduce congestion and provide better access from the port to the greater Southeast region.

TRADE DATA

2015 TOTAL TEUs: 3.5 million

YEAR-OVER-YEAR CHANGE: 11.7%

TRADE PARTNERS

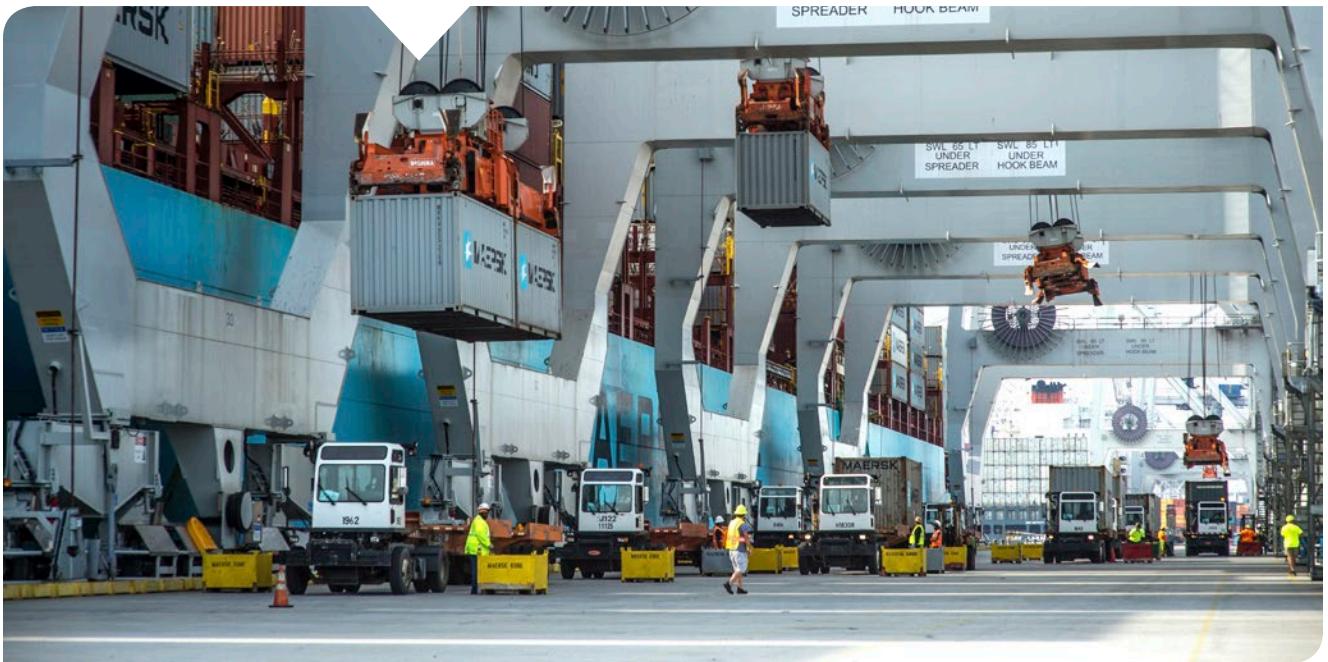
- China
- South Korea
- Germany
- Japan
- India
- Saudi Arabia
- United Kingdom
- Australia
- Japan

IMPORTS

- Retail, CPG
- Machinery, appliances, and electronics
- Furniture
- Automotive
- Hardware and housewares

EXPORTS

- Food
- Wood pulp
- Paper and paperboard
- Retail, CPG
- Clay
- Automotive



Houston

MAIN CHANNEL DEPTH
45'

For the **Port of Houston**, the three biggest commodities include petroleum and coal products, computers and electronics products, and chemicals, according to the Department of Commerce's International Trade Administration. The growing debate over ending the crude export ban could lead to more tankers using the Port of Houston. In 2015, the Port Authority for Houston planned to commit more than \$200 million for various capital projects, including improvements at the general cargo and bulk terminals in the Turning Basin area.

TRADE DATA

2014 TOTAL TEUs: 1,958,251

YEAR-OVER-YEAR CHANGE: 0.5%

TRADE PARTNERS

- Brazil
- China
- India
- The Netherlands
- Turkey
- Germany

IMPORTS

- Iron/steel products
- Machinery
- Beverages

- Organic chemicals
- Petroleum and petroleum products
- Stone, plaster, and cement

EXPORTS

- Plastic
- Petroleum and petroleum products
- Machinery
- Organic chemicals
- Miscellaneous chemical products

Seattle-Tacoma

The **Port of Seattle** and **Port of Tacoma** have a proximity advantage to the Asian markets, which has boosted trade with China, Japan, and Korea. The ports also do a significant volume of trade with Alaska and the North Pacific Fishing Fleet. The Port of Seattle is planning to upgrade power and crane structure in order to accommodate post-Panamax ships at the only terminal that cannot currently handle the mega-ships. The Port of Tacoma is also renovating a primary pier by adding post-Panamax cranes and increasing the size of berths.



TRADE DATA

2015 TOTAL TEUs: 3,529,000
YEAR-OVER-YEAR CHANGE: 3%

TRADE PARTNERS

- China/Hong Kong
- Japan
- Republic of Korea
- Taiwan
- Vietnam
- Southeast Asia
- Canada
- Thailand
- Canada
- Australia
- Malaysia
- Indonesia

IMPORTS

- Industrial, electrical machinery
- Vehicles/parts
- Furniture
- Toys, games, sports equipment
- Aircraft, spacecraft, parts
- Plastic and plastic articles
- Iron/steel articles
- Footwear

EXPORTS

- Oil seeds
- Industrial machinery, computers
- Prepared vegetables, fruits, nuts
- Meat, meat products
- Fish, seafood
- Cereal, eggs, dairy
- Paper and paperboard
- Inorganic chemicals

Oakland



Despite the challenges of 2015's PMA/ILWU dispute, the **Port of Oakland** is reportedly poised for future growth. The port's infrastructure, including channel depth and cranes, is already capable of handling the largest container vessels and 85 percent of all inbound cargo is destined for Northern California, one of the most affluent regions in the United States. The port and the city of Oakland are working on a joint redevelopment project. The Oakland Global Trade and Logistics Center will include a new rail yard, a new bulk marine terminal, more than one million square feet of warehouse space, and new roads to the port.

TRADE DATA

2015 TOTAL TEUs: 2,277,515
YR-OVER-YR CHANGE: -4.9%

TRADE PARTNERS

- China
- Australia
- Thailand
- Hong Kong
- Vietnam
- Italy
- India
- Chile
- South Korea

IMPORTS

- Beverages
- Furniture/bedding
- Glass/glassware
- Wood/wood articles, plastic
- Paperboard
- Electrical machinery
- Iron/steel articles, rubber

EXPORTS

- Wood pulp
- Edible fruits and nuts, meat
- Grains, seeds
- Cereal, beverages

Virginia (Norfolk)



The **Port of Virginia** is growing rapidly, and has the strongest rail integration in North America, with approximately 33 percent of cargo arriving or leaving via rail, according to CBRE's *2015 North America Ports & Logistics* report. Due to its geographic location, the port is able to serve nearly the entire East Coast in one day's travel. In addition to a new marine terminal and major road expansion, long-term infrastructure plans include construction of two new terminals that will dramatically increase TEU capacity in anticipation of post-Panamax ships.

TRADE DATA

2015 TEUs: 1,454,748
YEAR-OVER-YEAR CHANGE: 5.9%

TRADE PARTNERS

- China
- Germany
- Brazil
- India
- United Kingdom
- Indonesia
- Japan
- Saudi Arabia
- Italy
- Vietnam

- The Netherlands
- Spain
- Belgium

IMPORTS

- Furniture
- Auto parts
- Paper, paperboard
- Plastic products, natural rubber, granite
- Metalware, woodenware

Charleston, S.C.

MAIN
CHANNEL DEPTH
47'

The **Port of Charleston**'s container traffic improved almost 41 percent from 2011 to 2014, according to a CBRE report. The development of an inland port in Greer, S.C., in a manufacturing and intermodal area, has allowed the Port of Charleston to handle greater volumes of TEUs, especially with the use of double-stack trains.

TRADE DATA

2014 TOTAL TEUs: 1,791,977

YEAR-OVER-YEAR CHANGE: 11.9%

TRADE PARTNERS

- Germany
- China
- India
- United Kingdom
- France
- Japan
- The Netherlands
- Belgium

The South Carolina Ports Authority is in the midst of a \$2-billion capital improvement program including deepening the harbor, highway improvements, and a new intermodal container transfer facility. While the port has a legacy of being primarily positioned to handle trade with Europe, traffic to and from Asia is reportedly increasing as well.

IMPORTS

- Furniture
- Auto parts
- Fabrics
- Raw cotton
- General cargo

EXPORTS

- Paper and paperboards
- Wood pulp
- Auto parts
- Lumber
- Fabrics
- Raw cotton

South Florida — PortMiami and Port Everglades

PortMiami is ranked one of the busiest ports in the United States for refrigerated container traffic. The port has invested in its infrastructure to reduce congestion, with on-dock rail capabilities being resumed and the addition of a tunnel that runs under Biscayne Bay, linking PortMiami directly to the interstate and reducing truck traffic. PortMiami has already completed numerous projects and is the only port south of Virginia that can currently accommodate post-Panamax vessels.

Port Everglades has received more than \$190 million in federal and state grants to dredge its channel to -48 feet, which will handle the larger cargo vessels that will pass through the Panama Canal. The Florida East Coast Railway operates a major intermodal container transfer facility near the port, which is used to transfer cargo from ships to rail. In addition, the port has long-range plans to add additional cargo berths, lengthen the Southport Turning notch, and continue to dredge the channel.

PortMiami

MAIN
CHANNEL DEPTH
52'

TRADE DATA

2014 TOTAL TEUs: 957,000

YEAR-OVER-YEAR CHANGE: 8.5%

TRADE PARTNERS

- China
- Honduras
- Guatemala
- Brazil
- Netherlands
- Dominican Republic

Port Everglades

MAIN
CHANNEL DEPTH
47'

TRADE DATA

2015 TOTAL TEUs: 1,060,507

TRADE PARTNERS

- Honduras
- Guatemala
- Italy
- Dominican Republic
- Peoples Republic of China
- El Salvador
- Chile
- Colombia
- Brazil

IMPORTS

- Fruits, vegetables
- Apparel
- Non-alcoholic beverages
- Ceramics, mosaic tiles

EXPORTS

- Grocery products
- Paper, paperboard
- Automobiles, auto parts
- Apparel, yarn
- Electronics, machinery

BUILDING **TOMORROW'S BUSINESS**
WITH **TODAY'S SERVICE**

ABOUT US

WE ARE A NATIONWIDE LEADER IN
SUPPLY CHAIN SOLUTIONS

AT A GLANCE

FitzMark strives to provide best-in-class logistics services for our customers. Our mission is to create significant customer value through delivering reliability in the flow of customer goods and provide creative and technologically advanced supply chain solutions. This is achieved by cultivating relationships based on trust and mutual respect with everyone we partner with and creating a goal-driven and fulfilling environment for all FitzMark employees.

CERTIFICATIONS



MEMBERSHIP



LOCATIONS



AWARDS



TECHNOLOGY

Technology is central to our operation, and our custom transportation management system keeps us competitive in our industry. We employ software developers in-house to continually build new features so that we can keep improving and adapt to market demands and carrier supply.

CRM

Our proprietary, integrated CRM allows FitzMark business development associates the security to maintain their relationships while also allowing them the flexibility to grow in an organized way.

OFFERINGS

SERVICES



SUPPORTED EDI

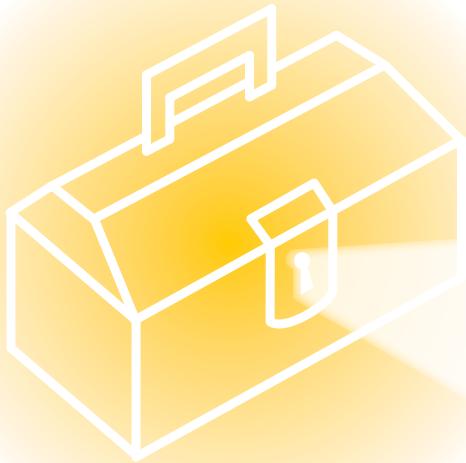
- 204: Motor Carrier Load Tender
- 990: Response to Load Tender
- 214: Transportation Carrier Shipment Status
- 210: Freight Bill Invoicing
- 997: Functional Acknowledgement

INDUSTRIES



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IT Toolkit | by Karen M. Kroll

Changes in Latitude, Changes in Attitude

PathGuide's *Latitude* warehouse management system serves up a buffet of benefits to Jensen Distribution Services.

Any company that has stayed in business for more than 130 years must be doing many things right. At the same time, companies that succeed over the long run understand the importance of continually improving their operations. That's why Jensen Distribution Services realized it needed to improve its homegrown warehouse management system (WMS) when it started to fall short. Finding a new compatible system was necessary to grow its e-commerce business, and to streamline and improve productivity.

Spokane, Wash.-based Jensen Distribution Services traces its roots to 1883, when O.C. Jensen, a Danish immigrant, and his partner, Henry Brooke, founded the Jensen, Brooke & Company hardware store. Since then, the company has grown and shifted its focus to distribution. Today it operates a 560,000-square-foot distribution center from which it offers approximately 70,000 stockkeeping units (SKUs).

In January 2015, Jensen was purchased by ACE Hardware, and became part of the ACE Wholesale Holdings Division. It supplies both ACE stores and other

customers, most of whom are located in the western third of the United States.

Management knew it needed to improve its WMS. Jensen was using a homegrown, legacy system that effectively handled many outbound functions, but fell short on the receiving side. And the accumulation of one-off tweaks and fixes over the years, as well as the fact that the system was written in common business-oriented language, meant that even simple fixes could require changing more than one dozen programs, and each one had to be completed individually.



Photo: PathGuide Technologies

Latitude offers easy-to-follow web and RF terminal menus so users can get instant information about inventory status and warehouse material movement.

“The WMS was manual, cumbersome, and inefficient,” recalls Landon Horton, director of operations. Receiving employees had to print a purchase order, manually write in the quantities, and complete the location tags. Then they walked to the appropriate bin to place the product and return the location tag to record the transactions. Separately, they matched the purchase order to the packing list, and entered that information manually to verify the warehouse had received the product.

Finding a Partner

The need for an updated warehouse management system was clear. As management debated how to proceed, they decided that devoting the time and resources required to build the WMS add-ons needed to better handle receiving functions didn’t make sense. Instead, the company opted to look at offerings from outside vendors.

Horton and his colleagues examined numerous systems. “We weren’t in love with any,” he says. “They weren’t close to what we needed.” The most common drawback was the lack of customization.

Jensen needed a system that could match its existing outbound processes. “We felt we’d nailed the outbound processes.

We were wide open to changes on the receiving side, but the system had to be able to duplicate what we were doing on the outbound side,” Horton says. “That process was unique to our business.

“One feature that distinguishes Jensen from many other distributors is our use of carriers, rather than our own fleet of trucks, for shipping most items,” Horton adds. The WMS had to be able to correctly account for items that outside carriers shipped.

The system also had to account for Jensen’s use of batch picking within the 27 zones in its distribution center. “We batch pick within a zone and consolidate on the shipping dock later,” Horton says. This process works best, given the large number of items from which pickers must choose, and the fact that they’re spread across such a sizable facility. In addition, while the company serves a large number of customers, their average order sizes tend to be small to mid-range.

That’s in contrast to what some call the “grocery model”, where an employee takes a pallet and builds the order for a specific customer.

“The best approach varies by company,” Horton says. “The question to ask is, ‘do you spend time in travel or handling things a second time?’” Given Jensen’s product

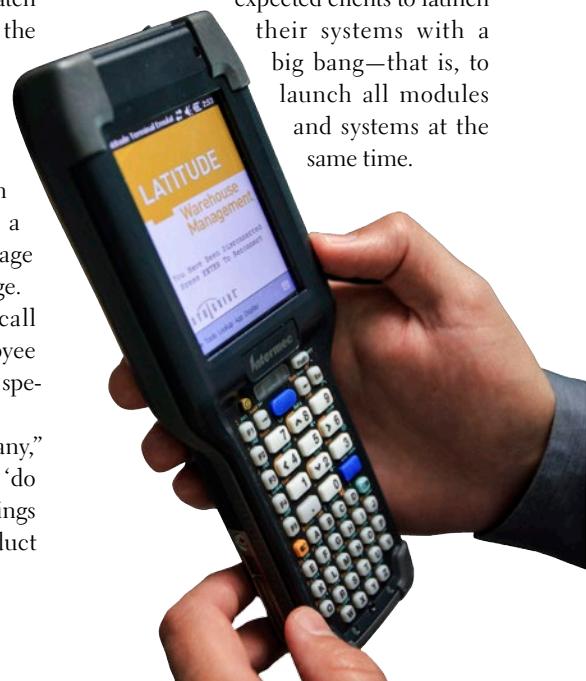
assortment, customer base, and average order size, a zone approach has proven to be more effective.

While none of the warehouse management systems Horton and his colleagues reviewed impressed them, team members realized they still needed to move forward. They were about to settle on a system when Jensen’s president suggested calling PathGuide Technologies, Inc., a Bothell, Wash.-based WMS provider specializing in distributor solutions.

A Jensen employee contacted PathGuide and the two companies met several times. “The more we talked, the more we liked the people, and the more it sounded like the system was compatible and could duplicate our outbound function,” Horton says. “We could transfer from paper to system-driven processes.”

The partnership between Jensen and PathGuide started with a study of Jensen’s engineering processes. PathGuide also discussed with Jensen employees the benefits they wanted from the system. “Choosing PathGuide was an 11th-hour decision,” Horton adds. “If we hadn’t made this decision, we would have survived, but the system would not have been as good a fit.”

“A big reason why Jensen chose us is the functionality,” says Greg Laycock, vice president of research and development with PathGuide. In addition, many of the other WMS vendors Jensen looked at expected clients to launch their systems with a big bang—that is, to launch all modules and systems at the same time.



By contrast, PathGuide allowed Jensen to start with its pain points, namely, the receiving and putaway processes, and add other functions as the company gained experience. “It reduced the risk of the whole implementation and gave Jensen more control over the process,” Laycock says. In addition, PathGuide was able to tie its *Latitude* WMS to Jensen’s enterprise resource planning (ERP) system.

Jensen involved several key people—including the receiving supervisor, inventory control manager, and shipping manager—in the implementation. “Jensen’s strong leadership made sure the project was on track,” Laycock says. In addition, before going live, Jensen set up a mini warehouse where employees could practice typical WMS transactions.

Jensen also worked with PathGuide to shift from label picking to voice picking. Employees now use headsets to receive picking or replenishment instructions. For instance, the system tells employees which aisle to go to, and the number of picks to expect once they are there.

The move from label to voice picking significantly boosts accuracy, Laycock says. As a result, Jensen can reduce safety stock levels as confidence in the inventory improves.

In addition, handheld RF barcode

computers communicate with *Latitude*. Once cartons are picked and moving along conveyor belts, the WMS provides instructions that tell the system how to divert each carton to the appropriate shipping lanes.

With *Latitude*, Jensen can track all movements on-screen. “The system provides real-time accountability,” Horton says. “We know where each case and replenishment item is in the warehouse at all times.

“Voice picking allows various ways to account for inventory,” Horton adds. For instance, a system may require employees to verify a product is in a bin before picking the quantity needed. Or, it may require them to scan the item upon picking and verify it’s correct. Typically, Jensen has most new employees verify each pick. As they gain experience, that number is often reduced to every fifth pick, then every 10th pick.

Expanding E-commerce Fulfillment

In addition to working more effectively with its traditional distribution customers, *Latitude* has helped Jensen grow its e-commerce fulfillment capabilities. When Jensen began its hunt for a WMS, its e-commerce operation was handling several hundred packages each day.

Fulfilling e-commerce orders differs from traditional distribution as it requires



Pallets display the barcode label used to communicate with PathGuide’s WMS.

working with orders of just one or several items, rather than assembling pallets with a single product. *Latitude* allows Jensen to automate many of the functions necessary for its e-commerce operation.

For instance, *Latitude* enables Jensen to assign a packing slip template to a customer profile. “Many customers want a shipment to be personalized with their logo or other branding,” Horton says. To the end consumer, the shipment appears to have come from the retailer or brand itself. “It’s important for us to be a truly blind fulfillment partner,” he adds. *Latitude* also can communicate with carriers such as FedEx and UPS.

The result? Jensen has been able to grow its e-commerce business to several thousand packages per day. “It has almost taken on a life of its own,” Horton says.

That’s not the only benefit Jensen has experienced. “The improvement in accuracy has been unparalleled,” Horton says. In fact, the shift to voice picking made possible with the *Latitude* WMS has nearly eliminated conversations with customers about mispicks. Moreover, greater accuracy reduces the amount of time Jensen employees spend correcting errors.

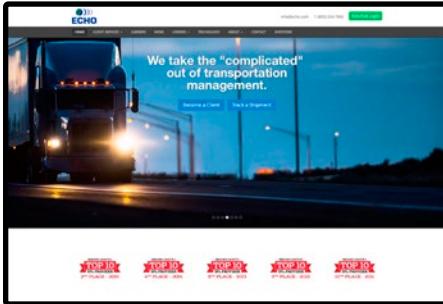
Because many processes have been streamlined, productivity has increased one to two percent each year. In addition, new employees can get up to speed on *Latitude* more quickly than they could with the older system because it’s more streamlined and updated.

With *Latitude*, Jensen is on the right path to further growth and efficiencies. ■



New employees practice picking orders using the *Latitude* WMS at PathGuide’s training facility in Bothell, Wash., before the system goes live.

3PLs



Echo Global Logistics • www.echo.com

Echo Global Logistics, Inc. (Nasdaq: ECHO) is a provider of technology-enabled transportation and supply chain management services. Echo maintains a proprietary, Web-based technology platform that compiles and analyzes data from its network of more than 30,000 transportation providers to serve its clients' needs. Offering freight brokerage and managed transportation services across all major modes, Echo works to simplify the critical tasks involved in transportation management.

Lynden • www.lynden.com

Over land, on the water, in the air—or in any combination—Lynden has been helping customers solve transportation problems for almost a century. Operating in such challenging areas as Alaska, Western Canada and Russia, as well as other areas around the globe, Lynden has built a reputation of superior service to diverse industries.



PNPLINE • www.pnpline.com

PNPLINE is a third-party logistics company based in New York and New Jersey. We provide only the best warehousing and logistics experience. We have invested in an IT based inventory system that provides the most convenient and accurate information for inventory tracking through seamless IT integration. We manage all of our customers' fulfillment orders automatically from retailers such as Amazon, eBay, Groupon and other big box stores. Let us be part of your supply chain today.

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IN THIS SECTION:

Education - Rail

EDUCATION



Elmhurst College

www.elmhurst.edu/admission/school_for_professional_studies

Whether you're pursuing graduate studies or an accelerated undergraduate program, the School for Professional Studies at Elmhurst will open the door to a wealth of opportunities. Wherever you are in your career, a certificate in your field can help you reach your goals. The School for Professional Studies at Elmhurst offers a wide range of certificate programs at both the undergraduate and graduate level. From the Elmhurst MBA to a master's in supply chain management to a leadership-focused MSN, our dynamic graduate programs will hone your leadership skills and prepare you for success. Courses are conveniently scheduled online or in the evenings.

Georgia Tech Supply Chain & Logistics Institute • www.scl.gatech.edu

The Georgia Tech Supply Chain & Logistics Institute (SCL) offers a comprehensive curriculum of short courses and seminars in which participants can earn a professional certificate in Supply Chain and Logistics or a professional certificate in Lean Supply Chain. More than 18 open enrollment supply chain and logistics short courses are offered each year. SCL can also assemble a curriculum designed for individual company needs. SCL students come from all segments of the logistics community – from manufacturing and distribution, warehousing, transportation, and third-party logistics to consulting and information technology.



University of San Diego • www.sandiego.edu/msscm

The University of San Diego's ISM-approved Master of Science in Supply Chain Management is delivered via e-learning with only a few on-campus sessions per year. Through relevant curriculum with applied learning, you'll develop leadership competencies that will enable you to initiate change and drive improvements across increasingly complex supply chain networks. Join us now for two years that will change your life!

RAIL

CN • www.cn.ca

CN's network of logistics parks are strategically located at the heart of North America to connect your business to world markets. Located in, or adjacent to, its intermodal rail yards, CN provides you with seamless and efficient transportation and easy access to major highways. CN provides access to all key logistics services—rail, intermodal, warehousing, distribution, CargoFlo liquid and dry bulk transload, and Autoport distribution facilities—in one location. As your supply chain partner, CN can help you find your new distribution home.



WhitePaperDigest

Industry experts amass supply chain management best practices and skill sets, and invest in new research and evaluation tools. Now you can benefit. *Inbound Logistics* has selected this collection of whitepapers that will give you a jump on important supply chain issues. For more information on any of these whitepapers, visit the Web sites listed below.



3PL Central

TITLE: *The Five Point Tune-Up For Your Warehouse*

DOWNLOAD: <http://bit.ly/1QvdfQq>

SUMMARY: Ready to make your warehouse smarter, stronger, and more profitable in every way? Then download 3PL Central's latest free whitepaper, *The Five Point Tune-Up For Your Warehouse*. Written by industry professionals, this guide was specifically created to help you catapult your warehouse to the next levels of performance and profitability.

IDV Solutions

TITLE: *8 Principles of Supply Chain Risk Management*

DOWNLOAD: <http://bit.ly/1Up7A1E>

SUMMARY: It is impossible to completely eliminate risk from your supply chain, but you can minimize exposure to risk with careful planning, tools, and processes to anticipate and manage risk more effectively. This free whitepaper is an accumulation of experiences documented to help guide companies as they mature their supply chain risk management program and make changes to proactively respond to and minimize the impact of risk events. Download this whitepaper to gain new insights into supply chain risk management.

Amware

TITLE: *Can Your Fulfillment Operations Scale?*

DOWNLOAD: <http://bit.ly/1QvdgUm>

SUMMARY: Growing companies don't think far enough ahead about the implications of growth on fulfillment operations. But that lack of planning can backfire if the sales engine outpaces the company's ability to fulfill orders. Fast-growing companies could benefit from a scalable, outsourced solution where space, automation, and labor adapt to growth requirements, where risk is mitigated, and where distribution costs parallel revenue. Download this e-book to learn more.





BestTransport

TITLE: *TMS and the Reverse Supply Chain*

DOWNLOAD: <http://bit.ly/1Up7C9T>

SUMMARY: Getting control over outbound freight is a top priority in today's supply chain. But many organizations fail to look at their inbound freight with equal scrutiny. Be it backhaul, customer returns, repairs, inventory replenishment, or incoming raw materials, using a TMS for your reverse supply chain presents huge opportunities for savings and optimization. Download this free whitepaper and learn about gaining more control over your reverse supply chain and deriving cost savings with Freight Management 2.0.

C3 Solutions

TITLE: *The Internet of Things and the Modern Supply Chain*

DOWNLOAD: <http://bit.ly/1QvdkUb>

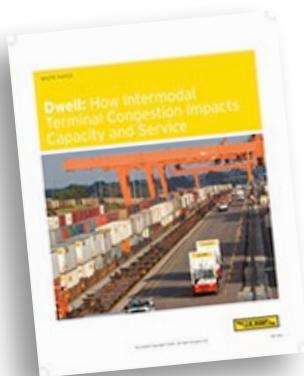
SUMMARY: You have probably heard the term Internet of Things (IoT) quite a bit in the past year. It is frequently mentioned in the same breath as supply chain, with the common observation that it will significantly impact supply chain operations. This whitepaper clarifies what the IoT means, and identifies some ways in which it is expected to, or already is, transforming supply chain operations. It also offers some suggestions on how to best leverage IoT opportunities in your business.

J.B. Hunt

TITLE: *Dwell: How Intermodal Terminal Congestion Impacts Capacity and Service*

DOWNLOAD: <http://jb.ht/WhitePaperDwell>

SUMMARY: The railroad industry is experiencing a congestion issue called "dwell" that, when combined with recent and forecast increases in rail volume, impacts capacity, service, and growth. Dwell is the period of time starting when a container is unloaded from the train and ending when the container has departed from the rail facility. This whitepaper examines the problem with dwell, and offers solutions.



Mettler Toledo

TITLE: *Improving Food Safety Inspection of Bulk Food Products*

DOWNLOAD: <http://bit.ly/1QvdlY8>

SUMMARY: This new whitepaper explains how bulk food product inspection systems can help to protect the welfare of consumers and reduce the risk of costly product recalls by eliminating physical contaminants. It also includes key points to take into account when choosing a food inspection system to help processors select the most appropriate solution for their needs.

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WhitePaper Digest is designed to bring readers up-to-date information on all aspects of supply chain management. We're building a database of SCM whitepapers, and you can help. E-mail us with whitepaper recommendations: editorial@inboundlogistics.com



The **Kansas City Southern (KCS) Railway Company** is set to invest approximately \$15 million in 2016 on its Beaumont Subdivision between DeQuincy and DeRidder, La. These projects increase capacity, as well as maintain and enhance safety on KCS's cross-border network. The work replaces 25 miles of rail and includes bridge improvements.

//Transportation//

CaroTrans, a global NVOCC and ocean freight consolidator, launched a direct LCL import service between Taiwan and New York. The new service features a 32-day transit time from Taichung, Kaoshiung, and Keelung, Taiwan, and offers express connections to Baltimore, Boston, Philadelphia, and Pittsburgh.

Global container shipping line **Hapag-Lloyd** added 3,000 PrimeLINE units to its fleet to enhance its perishable goods capabilities. One-third of the refrigerated containers are equipped with Carrier Transicold's XtendFRESH controlled-atmosphere system, which allows shipments to maintain precise oxygen and carbon dioxide levels to optimize conditions for specific commodities.

GT USA, the U.S. division of Gultainer, a terminal operating and logistics company, launched the Blue Stream weekly container cargo service connecting Port Canaveral, Fla., to Europe, the French West Indies, and Central America. The new line serves Central America to Port Canaveral in three days, and offers a fast transit time between Florida and Europe: 11 days. With a focus on fresh produce and perishable cargo, the service includes direct calls to the United Kingdom.

Polaris Transportation Group launched a new premium LTL service—Priority Plus. This offering provides guaranteed delivery by noon the next day from the greater Toronto area to Chicago and New York City. The carrier plans to add more lanes in the future.



IAG Cargo is launching three new routes on its Latin America network, including direct flights from London Gatwick to San Jose, Costa Rica, and Lima, Peru, as well as service between Madrid and San Juan, Puerto Rico. IAG expects the new routes will benefit pharmaceutical shippers. IAG Cargo provides Constant Climate Centres (*pictured*) for these time- and temperature-sensitive pharma shipments.

//Technology//

Software company **3GTMS** released version 15.0 of its *3G-TM* transportation management software. Enhanced features include shared savings programs to enable logistics service providers to pass on cost savings or profit to shippers. Another highlight is shipment-level sell-side rating and billing, allowing for savings by rating a consolidated shipment as a single transaction while still invoicing for each order individually.

JDA Software Group enhanced its warehouse management system—part of JDA's *Intelligent Fulfillment* solution—to help warehouse managers respond to omni-channel operations challenges. The system tailors workflows to warehouse workers in operational and functional roles, in addition to managerial and supervisory positions. The real-time warehouse and distribution center management system handles real-world disruptions to drive improved performance and maximize distribution center value.



Checkpoint Systems, a supplier of merchandise availability solutions for the retail industry, collaborated with Microsoft to bring *Checkpoint RFID Merchandise Visibility* solutions to the cloud, and enhance its use of Microsoft analytical tools. The resulting cloud-based merchandise visibility solution, *Sense + Respond*, lets multi-channel retailers gather real-time insights and predictive analytics. *Sense + Respond* utilizes Checkpoint Systems' Internet of Things platform.

Logistics technology company **Kuebix** (formerly CarrierStore) launched *Kuebix TMS*, a cloud-based SaaS transportation management system that enables companies to manage LTL, TL, and parcel shipments with direct carrier rates from a single mobile platform. Built on the Force.com platform (from Salesforce.com), *Kuebix TMS* streamlines the logistics process from shipment booking to freight audit and carrier payment.

TMS provider **InMotion Global** released its latest document management and imaging features, free to *AscendTMS* users. The solution allows users to capture and manage any document related to loads, drivers, carriers, locations, and customers. It also manages company documents such as credit applications, customer packets, and driver paperwork.

CargoSmart Limited, a global shipment management software solutions provider, added premium features to

its sailing schedule search engine, *Big Schedules*. Available by subscription, the new features allow shippers and logistics service providers to gain deeper insights into shipment planning through sailing schedules and live vessel tracking.

//Services//



UPS strengthened its cross-border services to help U.S. exporters capture new opportunities in Mexico, and Mexican exporters increase trade with the United States. The global logistics company streamlined its portfolio for shipments of all sizes; created a new, single Power of Attorney to remove customs barriers; and added a delivery guarantee to LTL freight shipments, all aimed to help shippers move freight and packages efficiently and reliably on this trade lane.



International express services provider **DHL** opened a new service center in Memphis to serve the tri-state area of Arkansas, Mississippi, and Tennessee. DHL moved from an 11,000-square-foot facility to the new 30,000-square-foot facility, which can process more than 2,500 shipments per hour including international small parcels and palletized and container freight, to respond to the area's demand for increased e-commerce and international shipping options.

Kewill, a provider of supply chain execution software, expanded its partnership with INTTRA, a global ocean shipping electronic marketplace. Users of the Kewill *MOVE* platform gain access to INTTRA *Ocean Schedules*, a database including 12 million voyages offered by more than 50 of the world's largest ocean carriers and NVOCCs.

Inmar, a pharmaceutical returns provider, moved to a larger facility in the greater Toronto area, to handle an increasing volume of returns for manufacturers, retailers, and wholesalers across Canada. The new 45,000-square-foot facility increases capacity for the efficient, compliant processing of prescription pharmaceuticals, narcotics and controlled drugs, and OTC medications, as well as consumer goods.

Americold, which provides temperature-controlled warehousing and logistics services to the food industry, purchased the Tradewater facility in Atlanta. The temperature-controlled building measures more than 455,000 square feet. The property is rail-served by CSX with temperature-controlled rail and truck docks, and has 60 dock doors with staging area capabilities for value-added services such as case picking, blast freezing, and customized order processing.

Pelican BioThermal, a provider of temperature-controlled packaging solutions for the life sciences industry, launched a new rental program called Credo on Demand. The rental service, which uses passive Credo Xtreme pallet solutions, provides options such as pre-conditioning and dropoff at service

centers around the world. The program offers 12-day standard rentals with stock available at each location.

HighJump, a provider of supply chain management software, partnered with retail consulting firm Advantage2Retail (A2R) to offer HighJump's software to retailers looking for warehousing, logistics, and in-store fulfillment solutions. The HighJump-A2R partnership aims to serve organizations looking to expand their fulfillment and logistics capabilities, and implement more adaptable applications that meet their omni-channel requirements.

KASTO Maschinenbau GmbH & Co. KG, a manufacturer of saws and storage systems for sheet metal and bar stock, released the UNITOWER storage system, a solution designed to take up as little space as possible and to connect seamlessly to logistics processes. The system is available in three different designs: UNITOWER for the storage of bar materials, UNITOWER B for sheet metal, flat products, and containers, and UNITOWER C (*pictured*) for bars and sheets.



//Products//

Equipment manufacturer **Rice Lake** released iDimension 100—a dimensioning system for calculating NTEP-certified dimensions of boxes, flats, polybags, tubes, and other irregular-shaped packages. The system ensures freight compliance and deters revenue loss from miscalculated shipping dimensions.

Document solutions provider **Toshiba America Business Solutions** introduced its desktop BFV-4 thermal barcode printer series for on-demand labels in transportation, healthcare, and retail applications. The printer comes standard with USB and Ethernet connectivity.



Keytroller, a manufacturer of electronic safety devices, introduced the PRECISE Hi-Accuracy Forklift Scale for forklift weighing. The hydraulic scale is nearly as accurate as carriage or fork load cell scales, achieving 0.2 percent maximum deviation at a lower cost. Equipped with a 4.3-inch color LCD touchscreen, the scale is water resistant and designed to withstand tough applications.

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Center of Innovation for Logistics

2016 Georgia Logistics Summit

www.georgialogistics.com/logistics-summit

AUDIENCE: Supply chain and logistics professionals
FOCUS: Global and national economic landscape; the economic and regulatory environment's impact on the industry; logistics innovation successes in transportation, DCs, and 3PLs; logistics opportunities in Georgia; the state of the logistics market

MAY 3, 2016 Los Angeles, Calif.
Los Angeles Chamber of Commerce
**90th Annual World Trade
Week Kickoff Breakfast**
bit.ly/worldtradeweek

AUDIENCE: Supply chain and logistics professionals
FOCUS: Global synergies and innovation; the importance and benefits of global trade on the local and national economy

MAY 15-18, 2016 Indianapolis, Ind.
Institute for Supply Management
ISM 2016 Annual Conference
conference.ism.ws

AUDIENCE: Supply chain managers
FOCUS: Mitigating disruption; the role of supply chain in value creation for customers; supply risk management

MAY 15-18, 2016 Providence, R.I.
Warehousing Education and
Research Council
WERC 2016
www.werc.org/2016

AUDIENCE: Distribution, fulfillment, logistics, and warehousing professionals
FOCUS: WMS optimization in healthcare, best practices in 3PL-shipper relationship management, and reverse logistics

MAY 17-19, 2016 Phoenix, Ariz.
Gartner
**Gartner Supply Chain
Executive Conference**
www.gartner.com/events/na/supply-chain

AUDIENCE: Logistics and supply chain professionals
FOCUS: Creating and managing a bi-modal supply chain; key trends transforming global logistics through 2025

SEMINARS & WORKSHOPS

APR 19-20, 2016 Cambridge, Mass.
MIT Sloan Executive Education
**Supply Chain Strategy
and Management**
executive.mit.edu

AUDIENCE: Logistics and supply chain professionals
FOCUS: Supply chain strategy; guidelines for strategic sourcing and make-buy decisions

CONFERENCES

MAR 30-31, 2016 Atlanta, Ga.
Terrapinn

Home Delivery World 2016

www.terrapinn.com/homedelivery

AUDIENCE: Supply chain, transportation, fulfillment, logistics, e-commerce, IT, and warehousing professionals
FOCUS: Strategies for same- and next-day delivery; omni-channel fulfillment and logistics; implementing next-gen platforms; omni-channel returns

APR 4-7, 2016 Atlanta, Ga.
MHI

MODEX 2016

www.modexshow.com

AUDIENCE: Manufacturing, distribution, logistics, and supply chain professionals
FOCUS: Optimizing order fulfillment; strategic logistics design and network optimization; how mobile voice applications and smart devices are transforming DC operations; the impact of visualization and gamification on distribution

APR 11-13, 2016 Phoenix, Ariz.
Express Carriers Association

ECA 2016 Shipper/ Carrier MarketPlace

bit.ly/ECAmarketplace

AUDIENCE: Logistics and supply chain professionals, shippers and carriers
FOCUS: Forging logistics partnerships; providing viable supply chain alternatives; new technologies and transportation services

APR 12-14, 2016 Winston-Salem, N.C.
Inmar

Inmar Analytics Forum

inmarforum.com

AUDIENCE: Logistics and supply chain professionals in the healthcare industry
FOCUS: Employing data and analytics to improve conversion, operational efficiencies, and business and patient outcomes

APR 24-27, 2016 Orlando, Fla.
National Shippers Strategic
Transportation Council (NASSTRAC)

NASSTRAC Shippers Conference & Transportation Expo

bit.ly/shippersexpo

AUDIENCE: Transportation, logistics, and supply chain professionals
FOCUS: Changing the perception of logistics; conducting and evaluating a TMS RFQ; economic, trucking, and transportation updates

APR 26-29, 2016 Carefree, Ariz.
Transload Distribution Association
of North America

Annual TDANA Transloading Conference

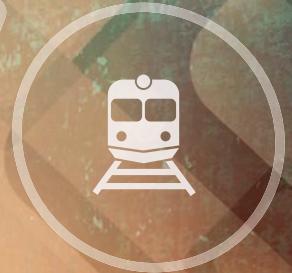
www.tdana.com

AUDIENCE: Shippers, rail and truck carriers, and equipment suppliers
FOCUS: Improving transload business development and operations; recent regulations; Mexico opportunities and guidelines



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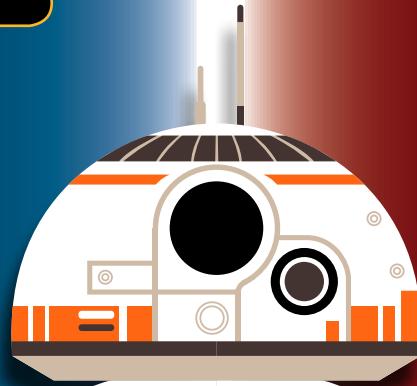
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STAR THE LOGISTICS AWAKEN WARS

By Jason McDowell



LIGHT SIDE:

THE LOGISTICS OF MOVING THE

original model of the Millennium Falcon in 1982 from one set to another set in the same studio cost about \$40,000 (adjusted for inflation, that's about \$100,000 today).

IT WOULD COST HAN

Solo more than \$3 million per year to keep the Millennium Falcon running, reports *The Daily Mail*, using official data on annual maintenance costs of commercial jets, fighter jets, and standard mechanical labor rates.

SCENES FROM STAR WARS: THE FORCE

Awakens on the planet Jakku were filmed in the Rub' al Khali desert in the United Arab Emirates, 2.5 hours from Abu Dhabi. Transportation infrastructure, including roads, had to be built just to access the filming site.

DARK SIDE:

MANY FEARED THAT HASBRO

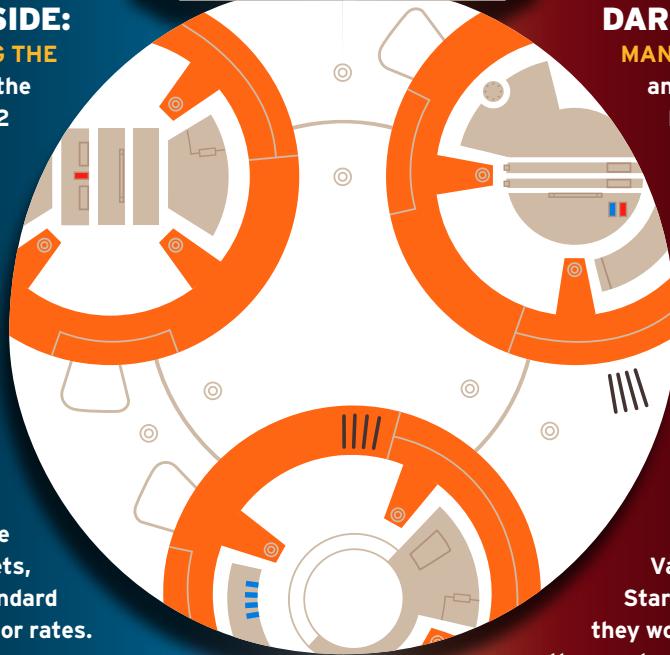
and other toymakers would bungle the release of toys relating to *Star Wars: The Force Awakens*, with 69 percent of fans expecting toys to be out of stock, reports a September 2015 holiday survey. As we know, fear leads to anger; anger leads to hate; and hate leads to the Dark Side.

THE SAME SURVEY

brought out a little Darth Vader in a smaller portion of *Star Wars* fans: 11 percent said they would shove someone out of the way to get the toy of their choice; 5 percent were willing to fake a panic attack.

WHEN A WALMART STORE IN IOWA

accidentally released a *Star Wars: The Force Awakens* action figure of the main character, Rey, too early, Disney took action against the man who purchased the toy. The company caught wind of the photo on the man's Facebook page, and reported him to the social media site for copyright infringement. Facebook slapped him on the wrist with a temporary account ban.



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