

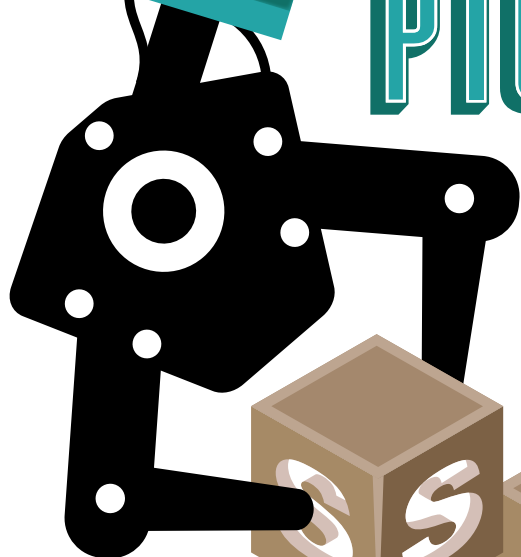
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THE MAGAZINE FOR DEMAND-DRIVEN LOGISTICS • APRIL 2018

DC ROBOTS PICKING UP THE



ALSO IN THIS EDITION:

Top 100 Logistics IT Providers &
Market Research

Special Report: 3PLs & Technology

The Best Logistics Sites on the Web

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BITE SIZED SUPPLY CHAIN/LOGISTICS INFORMATION



"Put people first and results will follow."

— The best leadership advice Michele van Krieken, global supply chain manager, The Chemours Company, ever received.

(See Reader Profile, p. 20)

By April 2019

The U.S. manufacturing sector will regain all the output lost since June 2009.

—Manufacturers Alliance for Productivity and Innovation report
(See Trends, p. 26)

Defining the shipping-related requirements the products or service must meet is the only task ranked both **most important and most frustrating** by procurement professionals.

—Thomas/Strategyn study of B2B buying behavior
(See Purchasing, p. 104)



of logistics IT providers say visibility is the biggest obstacle their customers face.

—Inbound Logistics market research study
(See Logistics IT Perspectives, p. 70)

"The fact that we can't have an 18-year-old drive a truck across state lines but we can have 18 year olds overseas [in the military] operating multi-million-dollar equipment is a policy that must change."

—Chris Spear, president, American Trucking Associations, at the Technology & Maintenance Council's annual meeting



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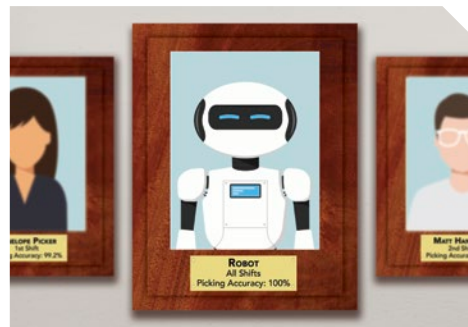
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*Source: 2017 Mastio & Co. National LTL Carrier Report

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**CASTING A LIGHT
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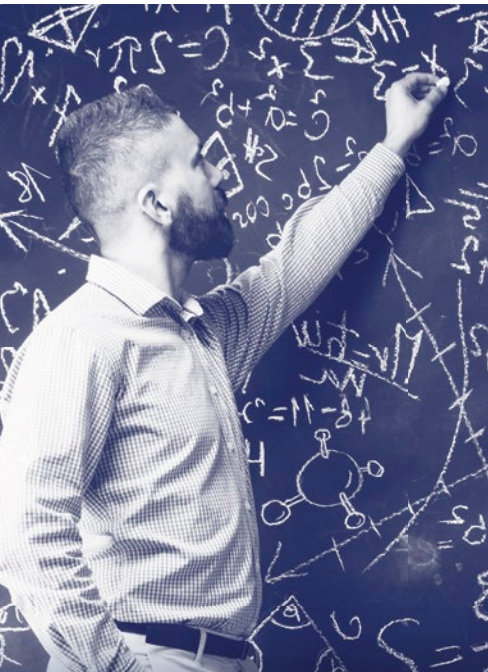
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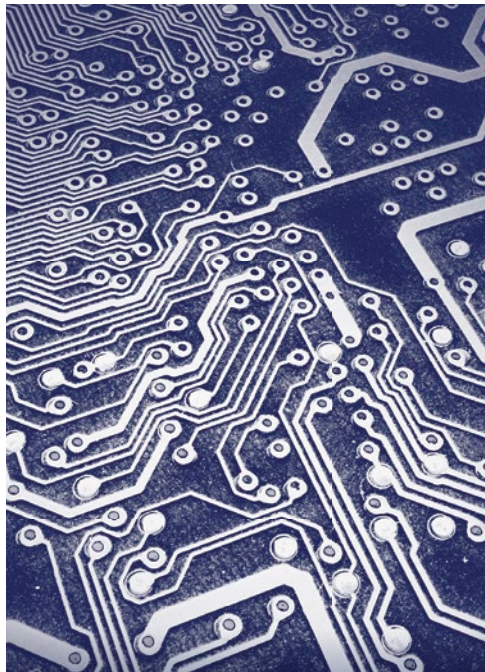
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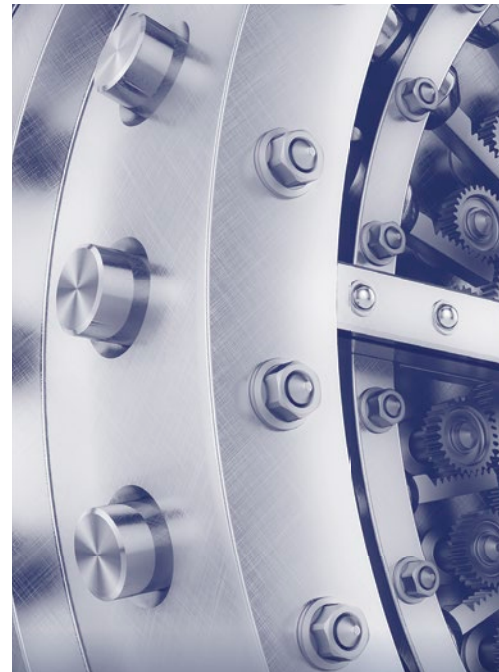
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CHECKING IN

Keith Biondo

by Keith Biondo | **Publisher**



The Last Grimy Mile

At the end of March, in between nor'easters in New York City, I went out for a lunchtime stroll. I wanted to check out the 14 new gleaming skyscrapers of the Hudson Yards development—a “self contained, e-commerce friendly city within a city”—where thousands of young urban professionals won’t ever have to leave their apartments to enjoy every modern convenience. E-commerce will serve most of their consumption needs.

During most of my walk I looked up. But while heading east on 33rd Street, I looked down and saw a stack of shipments piled two feet high and four feet long on the grimy sidewalk, many with that familiar smiling logo. I didn’t see anyone making deliveries, so I wondered who would leave a stack of 40 packages unattended on the sidewalk, especially in midtown Manhattan. I also wondered what was in those boxes—iPhones? Food? Prescriptions?

About 12 feet away, past a pile of garbage bags and some grayish melting snow, I saw a smaller stack of packages in the street and on the sidewalk. An ununiformed worker (I assumed that’s what he was) unloaded more boxes from a beat-up, dirty, unmarked white van, while his helper sat on the van bed. He scanned boxes with his cell phone and casually added them to the pile in the gutter. Gravity was *his* helper. The whole situation struck me as odd because I’ve witnessed many city deliveries by professionally uniformed workers from UPS, FedEx, DHL, XPO, the U.S. Postal Service, and others, and they always keep a watchful eye on the packages they are responsible for.

Looking west back over my shoulder, I had a chain of custody chuckle. World-class DC automation, stunning warehouse technology, DC robots, cobots, new truck fleets, an air force sporting that familiar Amazon smile, drone deliveries, and e-commerce technology second to none truly builds a testament to the inventiveness and hard work of thousands of workers. Yet, in between melting snow puddles, separated by bags of NYC garbage, I saw the last mile of all that effort and technology ironically happening in the shadow of the most modern, glass-clad skyscraping apartments anywhere in the city. The 10,000 or more residents who will be Prime customers for these e-commerce deliveries likely won’t know that the deliveries they are anxiously waiting for might be bounced to the curb from the back of an aged and dented van by a casually dressed, newly hired, Uberesque delivery team.

Let’s hope this episode only reflects growing pains and not the norm. Has the uberization of freight ushered in an era of the last grimy mile? Let’s hope not. ■

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Good Question...

READERS WEIGH IN

What's the most fun or interesting part about working in the supply chain?



Knowing I work in an industry that touches every aspect of everyone's life. I like knowing that if we do our job well and someone goes to the shelf for something they need—the shelf is full.

Andrew Teal
Quality Analyst
Schneider

Definitely taking a step back from the process and realizing just how large the supply chain is and how many branches it has. It's such a collaborative field and you meet so many incredible people along the way.

Zachary Golden
Worldwide Transportation
Data Analytics Co-Op
Johnson & Johnson

The job changes every day. Always new challenges or fires to put out.

PJ Moffett
Global Logistics Manager
Blu Electronic Cigarettes

You never know how the day is going to be.

Javier Campos
Replenishment Analyst
Walmart Chile

Always having to think on your feet. I love it.

Steve Rhynas
Logistics Planner
Glory Global Solutions

Supply chains are living ecosystems made up of the micro-ecosystems of businesses that exist and define the health of the larger whole. What is interesting is drilling down into one small section of a supply chain and seeing how one change, a real-time system or even a commitment to transparency, can utterly transform a company.

Tom Linton
Chief Procurement and
Supply Chain Officer
Flex

As a freight broker you are always only as good as your last load—so I love that I need to go through each day knowing today is the most important day in my career. I wish everyone had the good fortune to have that kind of fire under his/her butt every day, and I have gratitude for each new chance to prove myself.

Greg McInnes
RTL National Account Sales

There is always something new to learn.

Olivia Martinez
International Logistics Specialist
Orchard Supply Hardware

The most interesting part is by far the people you meet. It's a fast-paced, critical-thinking, deadline-driven industry that can be fun and stressful. That's part of the draw of working in supply chain. However, my personal favorite is meeting the great people of the United States who hold up our economy. Everyone has a different story.

Matt Carson
Logistics Manager
Atlanta Recycling Solutions

HAVE A GREAT ANSWER TO A GOOD QUESTION?

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

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

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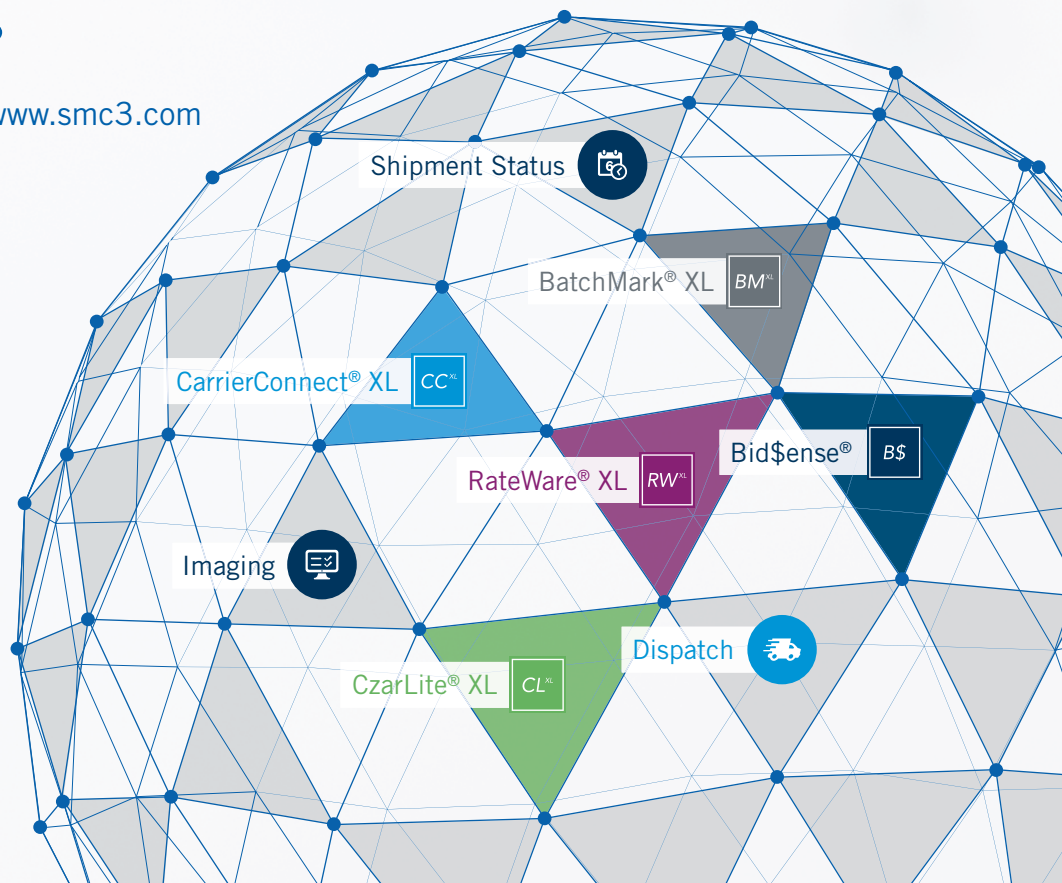
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Don't Forget About People

Re: *The Human Experience* by
IL Publisher Keith Biondo
bit.ly/HXdrivesCX

I really enjoyed Keith Biondo's February editorial. He nailed it.

There is a lot of hype and hyperbole surrounding human augmentation and artificial intelligence...yet, seemingly, the importance of human intelligence is largely understated. In truth, one supports the other—and vice versa.

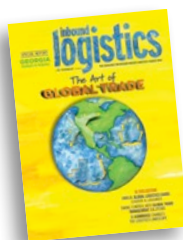
Look no farther than tech startups. Many are using TPS, Agile, and Lean methodologies to empower individuals and teams. Tech companies don't view humans as simply resources. They are, at their core, people operations. It's all about the human experience—as a means and an end.

Disruptive innovations will be impactful, given investment and time. The people part is a much harder problem to solve for. How companies deal with HX will become a critical success factor, competitive differentiator, and force multiplier.

Anon

Thank you for your thoughtful column about the human experience in *Inbound Logistics*. Around the office we sometimes wonder aloud who will be left to buy all the goods that are so seamlessly moved through the supply chain by automation.

Martha Anderson
Executive Director
James Street Associates



Tariff Impact: Insights from a Steel Purchaser

I'm very much enjoying the March edition of *Inbound Logistics*. I have been receiving this magazine for several months, and it provides interesting commentary and insightful analysis useful toward improving our internal logistics here in East Texas.

I noticed the two comments on the now-in-effect steel and aluminum tariff 232 mentioned in the Dialog section. As an individual who has been running the purchasing department for several years for my company (and handling logistics), I can tell you the perspectives presented are balanced and engaging.

Word around the steel purchasing campfire is—nobody has a clue how these tariffs will affect cost by the end of the fall. Although Cato points out less than 3 percent of U.S. steel is even imported from China, the effect on countries like Ukraine (which is supposedly attempting to find a way around the tariff through applying for exemption) and Turkey will be, in my estimation, more noticeable sooner than China, although I am already seeing a substantial increase in the cost of material currently on the water from China.

Protectionism isn't pragmatic in our 21st century geo-economic world. Indeed, disallowing the free trade of commodities, much like disallowing the free discussion of ideas in open debate, is detrimental to competition and analysis, which history shows spurs productivity and growth. We are going to see, in the long run, perhaps 12 to 18 months from now, many companies moving production to exempt countries and a stronger impediment on American workers' job security in their place of business.

Parker McMillan
Purchasing Manager, RHW Metals

Quick Take on Logistics News

DHL eCommerce's introduction of its Metro Parcel delivery option will help bring much-needed competition to B2C last-mile delivery. Combined, FedEx and UPS hold, at minimum, an 80-percent market share, thus keeping shipping rates artificially high for retailers and customers. More competition is needed and we hope DHL expands even further in the U.S. last-mile market.

John Haber
Founder and CEO, Spend Management Experts



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10TIPS

STEP-BY-STEP SOLUTIONS



Competing With E-Commerce Giants

Despite the highly competitive environment, it is possible for small and mid-sized companies to compete with the e-commerce giants. It just takes creativity, a strong, optimized supply chain and, of course, exemplary customer service. Paul D'Arrigo, vice president of information technology for Spend Management Experts, offers this advice.

1 Provide excellent customer service. Ensure the customer has a great experience from visiting your website all the way through to last-mile delivery, and sometimes even back to the e-commerce provider in terms of a return, replacement, or refund.

2 Offer real-time tracking for customers. Once the order is purchased and packaged for delivery, providing real-time tracking for customers is a must. So is offering options for delivery type. Simply put, give customers more control over their purchases.

3 Pick up the phone. Human interaction in today's tech-friendly environment goes a long way in the delivery of excellent customer service.

4 Think like Amazon, but don't be like Amazon. Be different. Differentiate yourself by offering a unique product or service. At the same time, learn from how Amazon manages its operations.

5 Make the back end of your website awesome. Ensure the buying process is as seamless as possible. For example, make sure orders placed online are connected to fulfillment processes for faster delivery to the customer. Be transparent with your final order costs, including shipping charges, to avoid cart abandonment.

6 Hold just the right amount of inventory. Don't have too much or too little inventory. A good inventory management system may be an idea worth considering. Inventory management systems can help with forecasting as well as linking available inventory between online and physical stores.

7 Incorporate reverse logistics. Depending on product category, the average return rate can be as low as eight percent or as high as

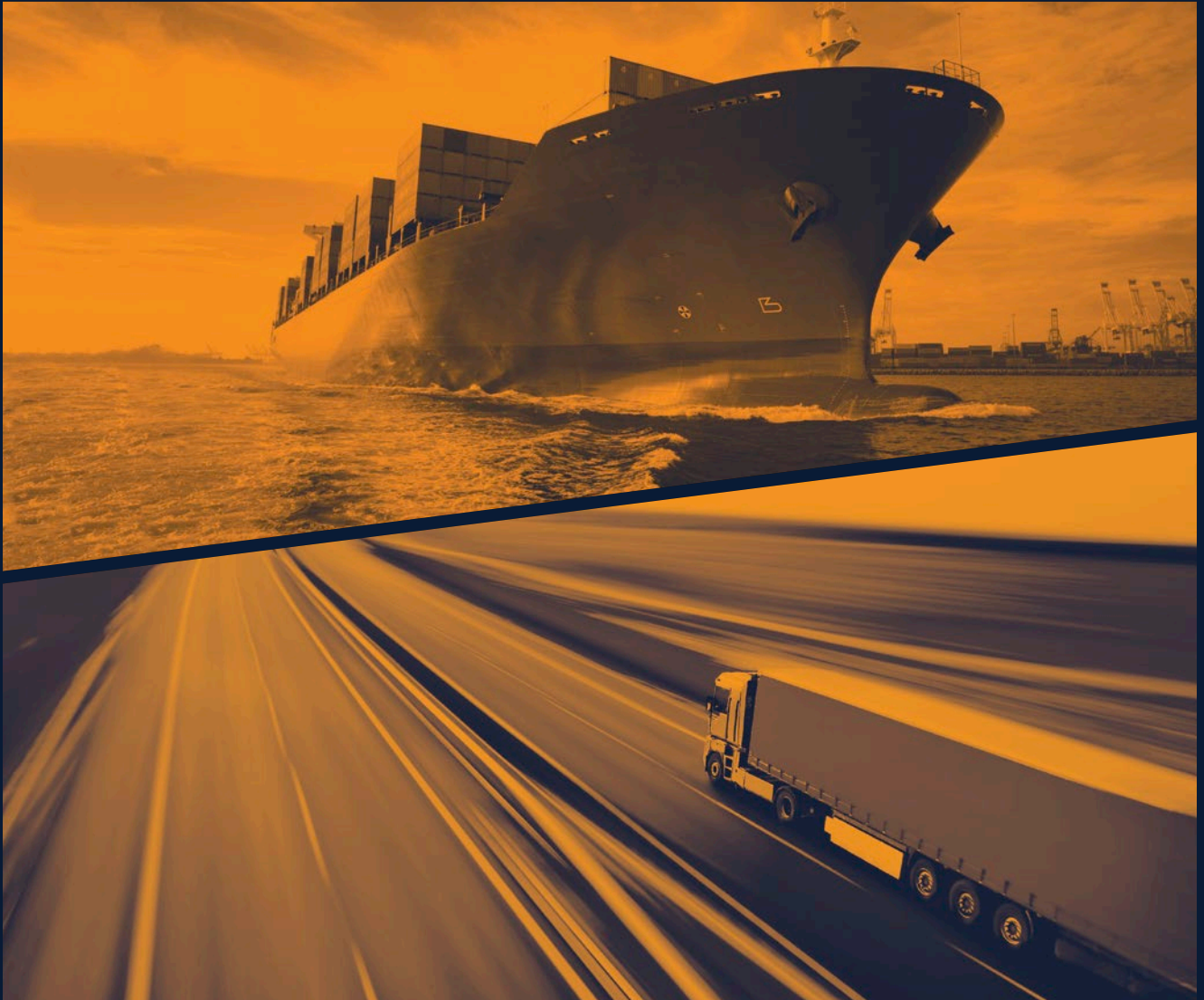
40 percent. Total product returns represented a \$260.5-billion loss in sales for retailers in 2015, according to the National Retail Federation, so knowing how to most effectively get the product back to you is critical.

8 Manage shipping costs. Although giving customers more control over their purchases is important, you need to manage costs to achieve profitable growth. Even though the trend is toward faster delivery times, can you really afford it? What are your options for optimizing shipping cost savings? Consider consolidating shipments and/or changing small parcel service levels.

9 Plan for seasonal hikes. Be prepared for demand spikes with enough inventory and collaborate with your delivery providers to ensure on-time delivery.

10 Prepare to adapt quickly. The e-commerce market is constantly changing. Not only should you simply adapt, you should also innovate. Lead the charge by introducing a new product or service. ■

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NEWS & TRENDS IMPACTING THE

AEROSPACE SUPPLY CHAIN

STEELING FOR TARIFF IMPACTS

What impact will the proposed tariffs on foreign steel and aluminum have on sourcing activity for domestic suppliers in the U.S. aerospace industry, which relies heavily on foreign aluminum?

Some interesting activity has already occurred. For example, sourcing activity for **aluminum coils** on industrial purchasing site Thomasnet.com is up 53 percent week-over-week — a huge jump in buyers looking for North American aluminum suppliers.

Thomas data also shows that sourcing activity for steel is up 24 percent month-over-month at Thomasnet.com. This increase in sourcing activity for North American suppliers of aluminum and steel could be indicative of manufacturers lining up domestic sources before the proposed tariffs kick in and prices for foreign metals soar.

BOEING DREAMS BIG



Singapore Airlines is the launch customer for Boeing's newest and biggest variant of its Dreamliner 787 widebody aircraft. The 787-10

version of the Dreamliner measures about 18 feet longer than the 787-9.

Dreamliner sales have been strong. The U.S. jetmaker has sold nearly 1,300 Dreamliners to airlines across the world. Of those, about 170 are for the larger 787-10.

With the delivery of its new 787-10, Singapore Airlines becomes the world's first airline to have all three variants of the Dreamliner, although its 787-8s and 787-9s fly under its low-cost subsidiary, Scoot.

The 787-10s, however, will fly flights for Singapore Airlines' operations only under its main brand. The carrier plans to use them for "regional" flights of up to eight hours.

Its 787-10 will fly from its hub in Singapore to Perth, Australia, and Osaka, Japan, according to the carrier.

STRAIGHT FROM THE SOURCE

SpaceX is on schedule to activate its south Texas launch site before the end of 2018, according to Teslarati. That is exciting news in the aerospace industry, as SpaceX owner Elon Musk has suggested that its launch site in Boca Chica, Texas, is under consideration as a testing site for a rocket to Mars.

"When you think back to the original space race between the United States and the Soviet Union over 60 years ago, private companies such as SpaceX entering space exploration is absolutely amazing," says Thomas President and CEO Tony Uphoff.

The Thomas Network at Thomasnet.com shows some interesting trends in aerospace-related categories:

- Sourcing activity for **aerospace contract manufacturing** is up 13 percent year-over-year, up 36 percent month-over-month, and over the past 12 weeks, it's up 17 percent above its historical average. This rise is a significant and steady upward trend in aerospace-related companies looking for manufacturers to make components or parts.
- Sourcing activity for **aircraft & aerospace machining** is up 14 percent above its historical average. Machining is closely related to contract manufacturing, as it is a process where the supplier cuts or shapes raw material into a part or component required by the customer. This service is a huge category in manufacturing, and an upward trend here specific to aerospace is a great indicator of the industry's strength.

AEROSPACE TRADE STATS

- The U.S. Aerospace & Defense (A&D) industry generated \$143 billion worth of exports in 2017. Over the past five years, A&D exports have grown by 26 percent, or from \$113 billion in 2012 to \$143 billion in 2017.
- A&D accounted for nine percent of all U.S. exports in domestic goods and is the nation's third-largest exporting industry.
- A&D is the nation's leading net exporting industry and generated a trade surplus of \$86 billion in 2017.
- Exports of supply chain products including engines, components, and parts accounted for 56 percent, or \$80 billion of total U.S. A&D exports.
- The U.S. is the world's largest exporter of A&D products and accounted for 34 percent of global A&D exports, up four percent since 2010.

SOURCE: Aerospace Industries Association



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LEADERSHIP

*Conversations With
The Captains of Industry*

By Merrill Douglas

Doug Mueller
CEO
Breakthrough Fuel

Fueling Transportation Breakthroughs

DOUG MUELLER WAS ENJOYING A LONG, happy career at Schneider National when Craig Dickman, a former colleague, proposed Mueller join him in a new kind of business.

Breakthrough Fuel would help shippers save money on fuel surcharges, allowing them to base those charges not on a nationwide index, but on the prices that carriers actually pay for fuel to move specific loads.

“It was a tremendous opportunity,” Mueller says. But, as a startup, it also posed significant risk. Mueller considered the pros and cons for a long time.

He chose to make the leap, joining Breakthrough Fuel as its president in 2007. Since then, Breakthrough has grown into a global transportation energy management and advisory firm. In early 2018, Mueller was named its CEO, succeeding Dickman, who remains as chairman.

As he transitioned to the new role, Mueller talked with us about his leadership style and the industry changes he foresees.

IL: As you help shippers create a new basis for assessing fuel surcharges, do you get much resistance from carriers?

We got huge resistance in the early years, largely because we were introducing the unknown. We overcame that by getting carriers to focus not on how they used to do things, but on

their actual costs. What do you really buy at, and what do you consume at? Fuel is volatile. But under our system, on every movement, every day, the reimbursement matches the actual cost of fuel. This takes out all the fluctuation and distortion, allowing the carrier to more accurately represent the value of the services it provides to shippers. The resistance of the early years has changed dramatically, because we’re prevalent with large shippers today.

IL: In college, you double-majored in business and psychology. What drew you to transportation and logistics?

I was a good student, and the head of the psychology department encouraged me to go to graduate school. But I needed to make a living. I had a lot of student debt as well as other things to pay for. Schneider was recruiting on campus, and since my father owned a small trucking company—fewer than 10 trucks—I knew something about that industry. In my first job at Schneider, I was responsible for a segment of the maintenance and equipment operations. Ultimately, I became responsible for all of it.

IL: What’s one early experience that shaped you as a leader?

I joined the transportation industry in 1980, the year Ronald Reagan deregulated trucking. It was a time of massive change and difficult transformation, a defining moment for the industry. As a young college graduate, I was a long way from senior leadership. But I observed the process and

learned a great deal about how the senior leader sets direction, creates the context for change, and leads an organization through a transformation.

IL: What qualities make you good at your job?

We as an organization, and I personally, always focus on our clients and on how to deliver distinguished value and service. My role involves taking the vision and turning it into reality, building capabilities and end-to-end processes. I have a great deal of passion. And, probably most importantly, I have the tenacity to stay at something and make it happen.

For example, back in our startup days, Craig Dickman and I would go on sales calls to major organizations. People would ask Craig all kinds of questions: Can you do this? Can you do that? I would compile a list of all the things he had committed to, things we had thought about but could not do yet. Then my role was to figure out how to do those things. We always had a few months between getting a commitment and going live. Now that we had committed to those things, we had to figure out how to build the capability.

IL: What are your customers worried about these days, and how do you help with those issues?

Given the strength of the economy right now, everyone is worried about getting enough capacity. But that issue comes and goes over time. The bigger concern is we're on the cusp of dramatic change in this industry. For a long time, the supply chain has been powered by diesel fuel. That will certainly change over the next 10 years, if not sooner. Renewable gases, electricity, and hydrogen will all come into play, as will autonomous vehicles. And shipping patterns are changing: Cycle times are shorter, and even huge companies are often shipping in smaller quantities. Our clients look to us to help them understand the implications of all these changes.

One way we provide help is through our annual user group meeting, where we bring people together to advance the practice of energy management and all things related to transportation. We also provide a monthly advisory on the energy markets and support that with an interactive webcast.

IL: What's the biggest curveball a customer has thrown you, and how did you handle it?

Four years ago, a client asked us to go to Jakarta, Indonesia, to speak to that company's global supply chain organization.

We went there and talked about energy management. Then they asked us to do the same in all parts of the world. We understood the issues in the United States and Canada very well, but that was about it. So, we dug in and did a tremendous amount of research. Now, we manage energy for this client in more than 40 countries throughout Europe, Asia, and North America, bringing visibility to actual cost, consumption, taxes, and emissions.

IL: Have you had a mentor or role model?

For about seven years, starting in the late 1990s, I was responsible for process and business transformation at Schneider. During that time, I spent a lot of time with Michael Hammer, author of *Reengineering the Corporation: A Manifesto for Business Revolution*. I attended a number of his classes, I became part of his advisory group, and we wrote some articles together. He was an incredibly brilliant and insightful business person who deconstructed business down to the core questions of how you deliver end-to-end value. I gained tremendous insight from that.

IL: How do you like to spend your time outside work?

I enjoy spending time with my wife and our grown kids, and with friends. I'm on the board of our local United Way and also on the board of The Automobile Gallery, which promotes classic cars as art. I own a few classic cars and have restored a couple, including a 1965 Mustang convertible. ■

On Becoming “Head Coach”

As the new CEO of Breakthrough Fuel, Doug Mueller has had to adjust his leadership focus. “All my life, I've been hands-on, getting a sense of accomplishment from doing things, solving problems,” he says. “Now my role is less about that and more about creating the context. It's not so much about what I accomplish, but about valuing the accomplishments of the leaders on my team.”

It's like becoming a head coach in the NFL, Mueller says: Suddenly, you're not actually coaching, because your assistant coaches do that job. “My role now is about setting direction, reinforcing, and making sure we have the people, processes, and technology to move toward our goals.”



Michele van Krieken is global supply chain manager with The Chemours Company, a \$1.5-billion global chemistry company with leading market positions in titanium technologies, fluoroproducts, and chemical solutions.

RESPONSIBILITIES

Manage global supply chain for the fluoroproducts business, driving both day-to-day execution and improvements, and developing career paths for supply chain employees. Work closely with business leaders to align supply chain and business strategies.

EXPERIENCE

Managerial and executive supply chain and engineering positions, all with DuPont.

EDUCATION

M.S., Integrated Supply Chain Management, Michigan State University, expected 2018. B.S., chemical engineering, Purdue University, 1991.

Michele van Krieken: Finding a Formula for Supply Chain Clarity

SINCE CHEMOURS SPUN OFF FROM DUPONT IN 2015, we've been simplifying, streamlining, and upgrading our tools and capabilities. One goal is to ensure visibility to our product lines. In 2017, many of our product lines sold out, in part due to price increases by competitors.

We upgraded our modeling tools and began to use sensitivity analysis methods so we can model the impact of changes in demand patterns and determine the flexibility of our supply plans.

In any supply chain, opportunities pop up that you weren't expecting. For example, the hurricanes in 2017 and an ocean carrier consolidation caused us to rethink how we handle ocean logistics. We partnered with corporate logistics to obtain more frequent updates on the demand outlook, and began utilizing a

variety of routes to shorten transit times.

Shortly after I moved to a supply chain role with DuPont, we started to implement an SAP system. Much of the work involved aligning our processes to SAP. Along with two colleagues, I played a key role in driving a standard process for order fulfillment.

When we went live, we experienced zero defects and no customer impact. That was a big accomplishment.

That experience taught me many things, especially about change

The Big Questions

What's the best leadership advice you've received?

Put people first and results will follow. This applies to work and to life.

What activity makes you better at supply chain management?

Managing a household. You plan for groceries, laundry, kids' activities, car maintenance, and other tasks. It's about making sure everything is on time and gaining customer satisfaction from your kids, spouse, and the family dog.

What supply chain technology would you like to speed up?

A system that provides transparency to order and inventory status and demand data, across all supply chains, from suppliers' suppliers to customers' customers, in the cloud 24/7.

What song titles best describe your job?

Under Pressure by Queen and *You Can't Always Get What You Want* by the Rolling Stones.

management. I now take time to understand where another person is coming from by leading with questions: How do you feel about this? What's your feedback on the process? This gets the other person to voice what I call "the ice below the water" that's driving resistance.

I also had the pleasure of working as supply chain lead on a new product launch with a consumer electronics company. We worked with a cross-functional team to integrate our supply chain planning to support their launch schedule. We've been able to grow that into a double-digit revenue business with a good profit margin.

In 2005, my boss asked if I'd move to China to provide improvement resources. That wasn't even on my radar. My husband was in Africa on a photographic safari, so we couldn't talk for two weeks. So, I talked to my dad. He said, "This is the kind of opportunity you don't turn down."

The job didn't exist before I arrived, so I had to create an improvement role for the region. I developed a continuous improvement group, got my Master Black in DuPont's Six Sigma methodology, and coached some of the businesses on sales and operations planning. I traveled all over and learned to speak Mandarin. It was a once-in-a-lifetime experience.

Over the past several years, we've gone through multiple system changes and transformation programs with the goal of streamlining and simplifying our IT systems. And there's more to come.

Historically, Chemours is a company of engineers. A fast-paced environment limits your ability to analyze, and forces faster decisions. For instance, we had to make some quick asset shutdown decisions. That never happened in the past. It was the right thing to do, and it was great to see.

I got into supply chain after spending 10 years in engineering. I never left because I like being at the center of the business and getting to touch all functions. ■

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NOTED

THE SUPPLY CHAIN IN BRIEF

SEALED DEALS

Gifts, toys, apparel, and accessories e-tailer **Hollar** deployed **inVia Robotics'** Picker robots and cloud-based Robotics-as-a-Service management system to streamline e-commerce fulfillment in its Los Angeles warehouse. Hollar uses the collaborative mobile robotics platform to automate goods-to-person fulfillment, boosting warehouse productivity. The e-tailer deployed 100 inVia Picker robots and will scale as needed to address seasonal shopping and company growth.



Baking company **Grupo Bimbo**, which distributes baked goods through more than 100 umbrella brands including Arnold, Thomas', Sara Lee, and Entenmann's, selected an order picking system from intralogistics system provider **Cimcorp**, which worked with systems integrator **Stöcklin Logistics** on Grupo Bimbo's fully automated distribution center in Mexico City. When completed, it will supply more than 100

smaller distribution centers and run 24/7 year round. Featuring a high-bay warehouse with 24,576-pallet capacity, it will dispatch nearly 8,000 pallets daily.

Skincare brand **Rodan + Fields** partnered with **DHL Supply Chain**, the contract logistics arm of Deutsche Post DHL Group, to handle inbound and outbound logistics for all U.S. customer orders. To match increased customer activity and engagement, DHL Supply Chain enabled Rodan + Fields to automate order fulfillment and administration, and increase inventory capacity and visibility. Rodan + Fields now receives inventory and order status visibility, improving accuracy on product availability and order status for customers.



me

Knight-Swift Transportation, the largest truckload carrier in the United States, bought **Abilene Motor Express**, adding \$100 million in revenues. Taking place less than one year since Knight Transportation merged with rival Swift Transportation, the deal signifies rapid expansion plans. The purchase adds approximately 400 late-model tractors, 1,000 dry vans, and 275 refrigerated trailers to Knight-Swift's fleet.

FedEx acquired U.K.-based **P2P Mailing Limited**, a provider of worldwide e-commerce transportation solutions. P2P's capabilities expand FedEx's offerings for the global e-commerce

marketplace. P2P provides customers with last-mile delivery options, leveraging its relationships with private, postal, retail, and clearance providers in more than 200 countries. It offers plug-and-play options with carrier networks and customer systems. P2P will operate as a subsidiary of FedEx Cross Border within the FedEx Trade Networks operating company.

St. George Logistics, a provider of specialty 3PL and transportation services, acquired import/export logistics provider **Summit Northwest**. The move expands its import/export presence into the Pacific Northwest and Canada.

UP THE CHAIN

Tire marketer **TBC** appointed **John Flowers** vice president of supply chain optimization and performance, and **David Rodriguez** vice president of supply chain planning. Flowers joins TBC from American Tire Distributors, where he worked as senior vice president of operations. Rodriguez joins TBC after working in supply chain for CVS. The supply chain and logistics team appointments reflect the tire company's expansion plans.



SHOVEL READY

The **Georgia Ports Authority (GPA)** broke ground on its \$126.7-million Mason Mega Rail Terminal. The expansion increases the Port of Savannah's rail lift capacity to one million containers per year. The project adds 97,000 feet of track at Garden City Terminal, taking more than 200,000 trucks off the road annually, according to GPA figures. GPA officials estimate the new terminal will begin coming online by fall 2019, with project completion in fall 2020.



GREEN SEEDS

A **UPS**-led consortium deployed a new charging technology in London that overcomes the challenge of simultaneously recharging an entire fleet of electric vehicles (EVs). The breakthrough allows UPS to increase the number of EVs operating from its central London site from the current limit of 65 to all 170 trucks based there—without the need to make costly upgrades to the external power grid. The new smart grid uses a central server, which is connected to each EV charge post, as well as the grid power supply and the on-site energy storage.



recognition

► **Earl E. Congdon**, Old Dominion Freight Line executive chairman, was honored by the American Trucking Associations with the **Diamond Legacy Award**.

The inaugural award recognizes Congdon's legacy at ODFL, in ATA, and throughout the trucking industry from a career that spans more than half a century. He has been a champion for the trucking industry, and works as a ground-level



member of Trucking Moves America Forward. (Pictured from left to right: ATA President and CEO Chris Spear; Earl Congdon; ODFL CEO David Congdon.)

American Airlines received the **2017 Express Cargo Service Standard of Excellence** award for the second year in a row from the Express Delivery & Logistics Association (XLA). The award recognizes excellent performance servicing the express cargo industry. XLA, a trade association for companies that provide and procure services within the global air express mail and logistics industry, surveys its member companies each year, asking them to rate airlines based on their general express cargo performance, services, and products as well as on-time performance and next-flight-out availability, communications, customer service, recovery experience, web and technology, cold chain, and other factors.

Furniture retailer Bob's Discount Furniture named **Cory** as **Carrier Partner of the Year**, recognizing Cory team members serving Bob's in New Jersey, New York, Maryland, Chicago, and California. Bob's recognized Cory's North Bergen, New Jersey, location for the most improved facility and its Shorewood, Illinois, location for the Voice of the Customer and On Time Delivery awards. The Mid-Atlantic team in Aberdeen, Maryland, won the Effective Completion

Rate award while the Frederick, Maryland,

team took the Voice of the Customer, On Time Delivery, and Customer Service Index awards.



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2018 Business Trends: For Better, For Worse

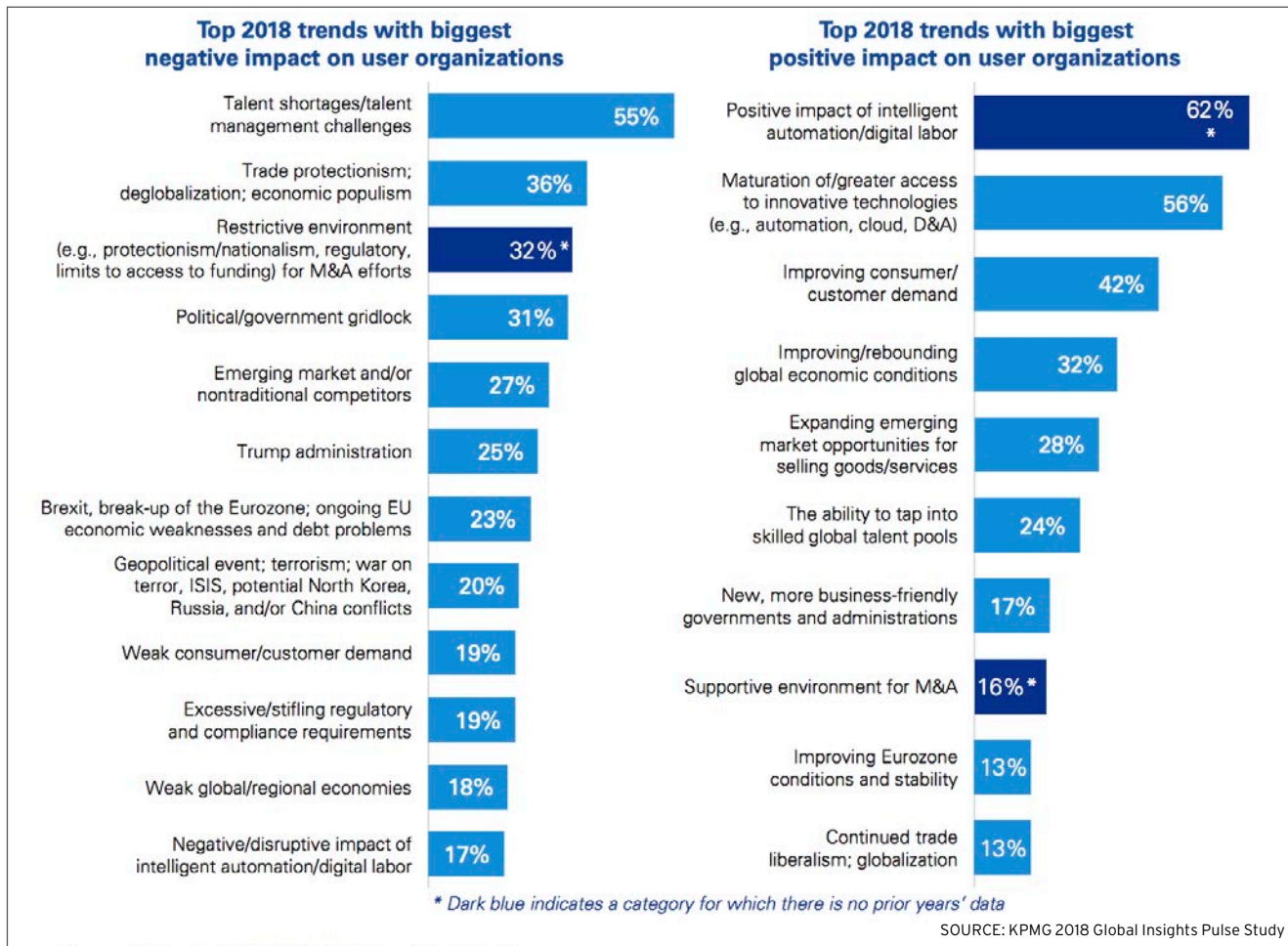
Investing in new and improved information technology and robotic process automation (RPA), talent shortages, and trade protectionism are predicted to be the top trends in service delivery for 2018 and the next several years, according to the latest quarterly KPMG Global Insights Pulse survey.

Respondents predict these trends will have the largest positive impact: intelligent automation, greater access to innovative technologies (automation, cloud, data and analytics), and improving customer demand.

Trends with the largest negative impact are the talent shortage, trade protectionism, and a restrictive environment

for mergers and acquisitions (protectionism; nationalism), according to survey respondents.

Blockchain and AI as a service, as well as the use of artificial intelligence and cognitive computing, continue to be the most talked about technology developments, according to KPMG. Deploying data and analytics to deliver meaningful business value; having realistic plans and adequate resources for addressing e-commerce opportunities; cyber-security challenges and threats as well as cyber-security strategies, plans, and support continue to be the “most real” in terms of trends and capabilities.



ELDs: Ready or Not, Here They Come

While most owner-operators are ready for the ELD mandate, many are unhappy with the electronic logs, and blame them for a loss of productivity and a resulting decline in income, finds a recent DAT survey of 645 carriers and owner-operators.

In addition, it's harder to find parking for trucks, driver detention remains a problem, and shippers don't seem to be taking driver hours of service into account when loading and unloading, according to survey respondents.

Among the survey highlights:

- 91 percent of carriers comply with the ELD mandate.

- 81 percent have already installed ELDs, 10 percent are exempt from the mandate, and two percent planned to comply by the April 1 deadline.
- 53 percent started using ELDs fewer than three months ago.
- 77 percent report that at least one in five of their loads involve detention of more than two hours.
- 87 percent say it's harder to find truck parking since the mandate took effect.
- Only 2.8 percent describe themselves as “likely” or “very likely” to leave the trucking industry.

Trucking Challenges Impact SCM

It is no secret that the current state of the U.S. trucking industry has had several negative impacts on logistics and supply chain management. The shortage of drivers and ripple effect from the ELD mandate have caused trucking delays and pricing increases across the country, and are now affecting global supply chains. Indianapolis-based logistics solutions provider TOC Logistics has been monitoring these industry changes closely. Here's what they find:

- In terms of rate differences, full truckload rates are up more than 25 percent year over year, with drayage rates even greater in some cases. For long-haul contracted lanes, the effect is milder, but pre-booking and cargo availability, as promised, has become critical to maintaining long-haul trucker support.
 - Shorter hauls—where drivers could previously discount traffic delays or wait times when reporting “hours”—are the most affected as they now handle fewer loads per driver due to strict ELD enforcement. Spot dray rates often go to the highest bidder, which can quickly drive up costs for ad hoc “must move” freight.
 - Ocean freight levels port to port will be consistent with 2017, TOC predicts. Inland port intermodal moves will increase due to capacity pressure, and inland door moves will increase even more, with truckers demanding higher rates per load. These rates will vary per lane, however, and can range from \$100 to \$400 per load, depending on the length of intermodal connection and door delivery haul.
- There is no one-size-fits-all solution for the current issues facing supply chain and logistics management, but TOC recommends shippers constantly monitor prices, delivery times, and customer satisfaction to stay successful in the current market.



FEDEX RESERVES 20 TESLA SEMI ELECTRIC TRUCKS

FedEx Corp. has placed a reservation for 20 Tesla Semi trucks. Less-than-truckload unit FedEx Freight will operate the fully electric trucks, which are scheduled to begin production in 2019.

This new big rig will deliver a far better experience for truck drivers, while increasing safety and significantly reducing the cost of cargo transport, according to Tesla. Its advanced technologies, such as surround cameras and onboard sensors, help to aid object detection while also enabling Enhanced Autopilot for automatic emergency braking, automatic lane keeping, and lane departure warning. The company also touts electric energy cost savings that are half that of diesel.

FedEx says it has saved more than 158 million gallons of vehicle fuel since 2008 by replacing vehicles with more efficient models and making greater use of electric vehicles, fuel cells, natural gas, hybrids and clean truck technologies.

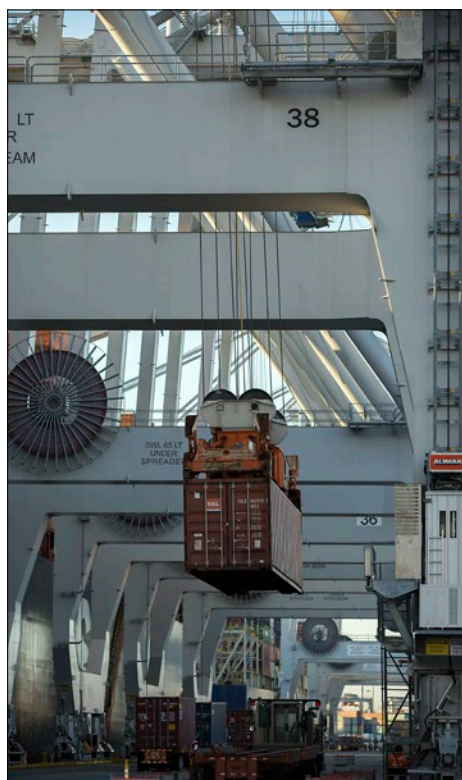
Georgia Ports: Crane and Able

The first of Georgia Ports Authority's (GPA) four new Neo-Panamax cranes have come online, bringing its operating fleet to 27. The super-sized crane is tall enough to lift containers 152 feet above the dock.

Konecranes of Finland designed these massive cranes, which can work the largest ships now calling the U.S. East Coast, reaching across vessels up to 22 containers wide.

Garden City Terminal—the largest single container terminal in the Western Hemisphere—will receive another six cranes by 2020, growing the fleet to 36. This will allow the GPA to move nearly 1,300 containers per hour over a single dock. With integral generators, the cranes are able to capture enough energy while lowering boxes to power themselves for 18 minutes of every working hour.

The additional cranes, along with the Savannah Harbor deepening, will help accommodate the industry's move toward larger vessels.



The first of Georgia Ports Authority's four new Neo-Panamax cranes starts work at Garden City Terminal. A Hapag Lloyd vessel, with a capacity of 13,300 twenty-foot equivalent container units, was the first ship served by the new crane.

Engaging the Informed Consumer

Retailers and branded manufacturers can differentiate themselves in a crowded marketplace by showcasing their most unique assets, according to Kibo's annual *2018 Consumer Trends* report. Based on responses from 3,000 U.S. consumers, the report suggests that while price is still the primary factor in purchasing decisions, consumers are increasingly seeking out a differentiated shopping experience—one that provides a rich, informative, and personalized online and in-store experience.

Among the report's highlights:

The rise of shopping experiences. 61 percent of survey participants name price as the top factor influencing purchase decisions. That percentage, however, is down by more than 12.8 percent year over year. By contrast, the importance of the shopping experience doubled, and the percentage of respondents naming the variety and speed of fulfillment options as deciding factors grew by 1.3 times and 3 times, respectively.

Branded manufacturers should showcase deep online content. More than half of survey respondents say they expect extensive content on branded manufacturer websites, suggesting that product images, videos, reviews, detailed specifications, comparison guides, and other consideration tools are all apt investments. Inventory access and availability are crucial, as more than half of survey participants say they expect a manufacturer's site to have items in stock, while 45 percent believe they'll find a greater variety of products available, and 40 percent believe manufacturers will have more items than retailers.

Retailers should view stores as valuable assets – not relics.

Buy Online, Pickup In-Store (BOPIS) is now considered a mainstream offering, with 67 percent of survey participants having used it in the past six months. Furthermore, shoppers widely recognize that BOPIS offers not only free order fulfillment, but also a degree of flexibility and control not available via home delivery. The ability to inspect items in the store before taking them home was the BOPIS benefit whose importance grew the most year over year—suggesting that stores' tactile experiences are important brand assets.

Substantiating this finding is shoppers' increasing willingness to engage store associates for assistance finding items; 57 percent of survey respondents say they've done so, an 18.8-percent increase from 2017. More than two-thirds of respondents say they expect those associates to have access to their order histories, suggesting expectations are high for knowledgeable interactions that draw on shoppers' past interactions across touchpoints.

YEAR-OVER-YEAR CHANGES TO KEY CONSUMER PURCHASING FACTORS



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MANUFACTURING REACHES PRE-RECESSION LEVELS

The U.S. manufacturing sector will regain all of the output lost since June 2009 by April 2019, indicates a recent report from the Manufacturers Alliance for Productivity and Innovation (MAPI). A global economic rebound, the passage of U.S. tax reform legislation, and the depreciation of the U.S. dollar are the chief components MAPI identifies as contributing to the best outlook for manufacturing growth in more than a decade.

MAPI goes on to forecast that average U.S. manufacturing growth for 2018-2021 will be 2.8 percent, as both consumer demand and profitability accelerate. The organization also sees improvements in capital spending and export growth, as well as significant opportunities in the following market segments:

- **Aerospace** is projected to grow at an average annual rate of 5.6 percent, driven by strong air travel demand and increased defense spending.
- The annual growth of the **computer and electronic products** subsector is expected to average 4.8 percent between 2018 and 2021, while **machinery** growth will be a little slower at 4.3 percent.

- The **chemicals** market is also forecasting stronger performance in the form of a 3.8-percent average annual growth rate between 2018 and 2021. A strengthening housing market and an aging population utilizing more pharmaceutical products are helping to drive growth in this sector.
- With average growth rates of seven and four percent, respectively, **HVAC equipment** and **wood products** will also realize growth from an ongoing housing recovery.
- **Metalworking** machinery growth is expected to average 4.5 percent annually.

—Jeff Reinke, for Thomas

Rolling on the River

To establish and grow an alliance designed to generate new business by promoting international and inland trade routes at strategic locations along the Mississippi River is the intent of a Memorandum of Understanding (MOU) recently signed by The St. Louis Regional Freightway, Plaquemines Port Harbor & Terminal District located in the State of Louisiana, and four ports in the St. Louis region.

The agreement represents a five-year commitment, and calls for joint marketing initiatives and data exchange to further those goals. It embodies the St. Louis region's strong support for the efforts underway by marine transportation services company American Patriot Holdings and the Port of Plaquemines to develop a hub-and-spoke transportation system for container transport vessel shipments from Plaquemines, at the mouth of the Mississippi River just south of New Orleans, to the St. Louis region.

Initial discussions have focused on loading operations at a centralized location in Jefferson County, Missouri, with feeder services by rail, barge, and truck throughout the bi-state region and the Mississippi River Basin, resulting in low costs and efficient transportation.

The MOU follows the signing of an exclusive agreement in 2017 by Plaquemines Port and American Patriot Holdings to provide container service from a future terminal in Plaquemines to destinations as far north as Chicago.

The agreement among the five ports and St. Louis Regional Freightway will help facilitate sharing of marketing activities and enable them to exchange data and findings from marketing studies relative to developing port opportunities. It also offers the parties opportunities to share information on improvements and modernization efforts, and technological capabilities and programs.



On March 27, 2018, representatives from the St. Louis Regional Freightway, Plaquemines Port Harbor & Terminal District, Bi-State Development, America's Central Port, the Port Authority of St. Louis, the Kaskaskia Regional Port District, and the Jefferson County Port Authority gathered in St. Louis to announce an agreement promoting international and inland trade routes at strategic locations along the Mississippi River.

Driver Pay and Benefits Rise

Driver pay has climbed as rising demand for freight transportation services raises competition for increasingly scarce drivers, according to data gathered from more than 100,000 drivers in the American Trucking Associations' (ATA) latest Driver Compensation study.

"Fleets are reacting to an increasingly tight market for drivers by boosting pay, improving benefit packages, and offering other enticements to recruit and retain safe and experienced drivers," says ATA Chief Economist Bob Costello.

The median salary for a truckload driver working a national, irregular route was more than \$53,000—a \$7,000 increase (15 percent) from ATA's last survey, which covered annual pay for 2013. Private fleet drivers saw their pay rise to more than \$86,000 from \$73,000, a gain of nearly 18 percent.

In addition to rising pay, fleets are offering generous signing bonuses and benefit packages to attract and keep drivers.

"And once drivers are in the door, fleets are offering benefits such as paid leave, health insurance, and 401(k)s to keep them," Costello adds.

FINDER'S KEEPERS

Seventy-six percent of transportation industry professionals responding to HireRight's 2018 Annual Employment Screening Benchmark survey expect to grow their workforce this year, despite the challenges of recruiting and retaining qualified candidates. The survey also reveals planned strategies to overcome these challenges:

- Respondents plan to invest in developing retention programs (40 percent) as well as training and development programs (40 percent) in 2018.
- In an effort to retain new talent, 38 percent of respondents say they are introducing new hires to company executives, 32 percent are implementing longer orientation and training periods, and 28 percent are appointing driver liaisons or mentors.

With retirement accounting for one quarter of drivers leaving their positions, transportation companies are changing up their hiring strategies to attract a more diverse and younger audience.

While 73 percent of respondents say referrals continue to be the most effective way to find candidates, 54 percent say they are using social networking to find talent, a significant jump from only 42 percent in 2017. Nearly one third (31 percent) are using mobile-friendly applications as part of the screening process, and 37 percent are instituting flexible work arrangements.

Other common strategies for attracting candidates and retaining employees:

- Increasing follow-up communication.
- Employing non-monetary tactics such as driver appreciation events.
- Increasing pay.
- Offering performance-based bonuses.

Lufthansa Expands Access to Capacity, Rates

SPEED AND RELIABILITY play a major role in transportation even when cargo is not in transit. For instance, during the booking request, sometimes every second counts. To address this need, Lufthansa Cargo now offers shippers two new programming apps: GetCapacity and GetRates, which provide direct access to capacity and rate data.

Companies can use the data quickly and easily in their own system and process it further without having to manually upload it. In addition, real-time data exchange on capacity makes information on flight utilization available outside of office hours. It's a service that not only speeds up the exchange of information but also simplifies it and minimizes errors.

Unlike its predecessors, these new APIs transmit data worthy of protection so Lufthansa Cargo makes them available to interested parties on request. Shippers can access its existing APIs—Tracking and GetRoutes—as usual.



XPO Logistics Taps Mobile Technology in Europe

XPO Logistics, a global provider of transportation and logistics solutions, will expand its Drive XPO mobile technology to Europe in

spring 2018, following a successful launch in North America. The app, designed for carriers, supports real-time visibility across transportation modes, and integrates carrier operations with daily productivity tools in one technology.

The company's proprietary Freight Optimizer system, the global platform for XPO's non-asset transportation services, powers Drive XPO's functionality. By bringing Freight Optimizer's data science to the road, Drive XPO helps to reduce empty miles, lower fuel waste, reduce road stress, and make the customer service process more dynamic.

Drive XPO displays load postings in real time, with details such as origin, destination, freight type, timing, and shipper, as well as special handling or equipment needs. While en route, carriers use the same app to become more efficient with refueling, layovers, traffic avoidance, and other daily decisions. This combination of mobile capabilities—load procurement and productivity—is the next generation of capacity management, according to XPO.

A cloud-based ecosystem and annual technology investment of more than \$450 million help accelerate XPO's development of supply chain innovations. Its apps are available for iOS and Android devices from the App Store and Google Play.

INDIA LOSES GDP TO POOR LOGISTICS

India is losing 14 percent of its gross domestic product (GDP) due to inefficient logistics, which impacts the competitiveness of the country's products, according to CR Chaudhry, Minister of State for Commerce & Industry.

"Logistics is an important sector and it is clear that the government is giving importance to the development of better connectivity with projects like Bharatmala Pariyojana, Sagar Mala, and the UDAN, which will boost the logistics system in the country," he said at the Global Logistics Summit jointly organized by Ficci, Ministry of Commerce, and the Centre and World Bank Group.

"Much needed capital investments are being made, infrastructure development is taking place, and the focus is on timely completion of projects," says Ramesh Abhishek, secretary, Department of Industrial Policy & Promotion. "The Goods & Services Tax (GST) is playing an important role in the logistics sector and the ease of doing business is also improving."

Alibaba Ties Thailand To Online Commerce

Thailand and Alibaba have signed a letter of intent to cooperate on initiatives to develop e-commerce in the country—from providing training to small and mid-sized companies and individuals to exploring ways to enhance the country’s logistics capabilities to support Thailand 4.0 and Digital Economy strategies.

The agreement covers four key areas. First is e-commerce training for 30,000 Thai SMEs to aid their access to both domestic and international e-commerce platforms.

Second, Thailand and Alibaba will collaborate to create a nationwide People and Talent Development Program, which aims to train around 10,000 individuals to become proficient in digital technology.

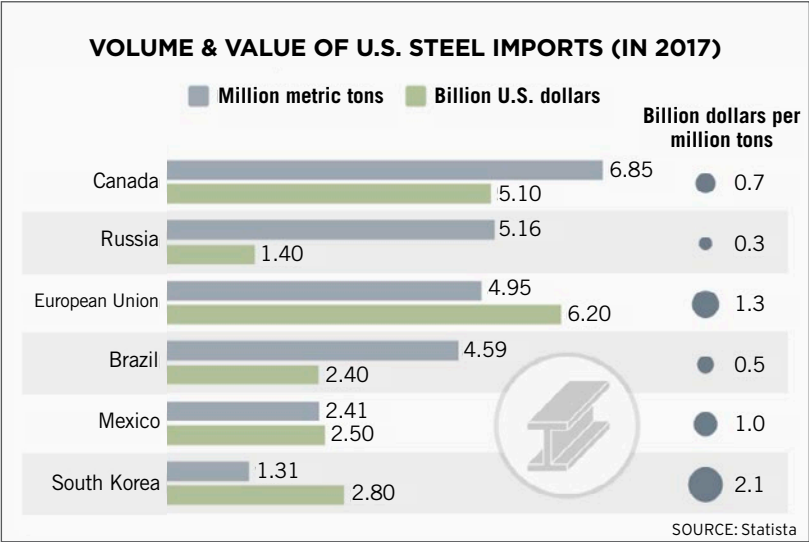
Third, Alibaba and Lazada will contribute to the development of the country’s supply chain and logistics systems by sharing their experience and expertise with Thailand Post, in a bid to expand the coverage of domestic delivery services to all provinces across Thailand.

Finally, Alibaba and the Thai government will explore cooperation opportunities under the Eastern Economic Corridor Development project and help establish Thailand as a hub of digital technology and regional data centers in Southeast Asia.

U.S. Imports: It’s a Steel

While the Trump administration introduced tariffs of 25 percent on the import of steel and 10 percent on aluminum, many of the United States’ most important steel trading partners were granted exemptions, at least temporarily. These exemptions apply to the selected major steel exporters shown in the chart below, including the European Union, Brazil, Canada, Mexico, and South Korea. Russia is not on the list for exemptions.

While Canada is America’s most important steel provider by metric tons, it’s the European Union whose steel imports to the United States have the highest value. Only steel from South Korea costs more per metric ton.



Blockchain Solution Passes the Test

A BLOCKCHAIN SOLUTION that can eliminate the need for printed shipping documents and save the transportation and logistics sectors hundreds of millions of dollars annually has been tested successfully by a consortium comprising AB InBev, Accenture, APL, Kuehne + Nagel, and a European customs organization.

The consortium tested a solution where documents are no longer exchanged physically or digitally. Instead, the relevant data is shared and distributed using blockchain technology under single ownership principles determined by the type of information. Through a detailed review of the current documentation processes, the group examined a re-allocation of information ownership, accountability and risk enabled by the trust, and security blockchain technology offers.

An international shipment of goods for companies in areas such as the automotive, retail, or consumer goods industries typically requires more than 20 different documents, many of which are often paper-based, to enable the goods to move from exporter to importer. Across these documents, up to 70 percent of the data can be replicated. The document-heavy approach limits data quality and real-time visibility to all parties involved in

the trade and this can also delay the financial settlement on goods.

The blockchain solution can speed the entire flow of transport documents, reduce the requirement for data entry by up to 80 percent, simplify data amendments across the shipping process, streamline the checks required for cargo, and reduce the burden and risk of penalties for customs compliance levied on customers.

The consortium represents typical stakeholders across an international shipment: AB InBev represented a typical exporter; APL a shipping organization; Kuehne + Nagel a freight forwarder, and a European customs organization replicated the regulatory requirements that cargo faces. Accenture provided the technological and consulting expertise on the blockchain technology and developed the technical architecture required to support a blockchain solution, leveraging the capabilities of its Singapore Internet of Things practice to rapidly build the prototype.

The companies collaborated to test 12 real shipments, with various destinations, each with different regulatory requirements. The tests confirm that blockchain can reduce operating costs and increase supply chain visibility.

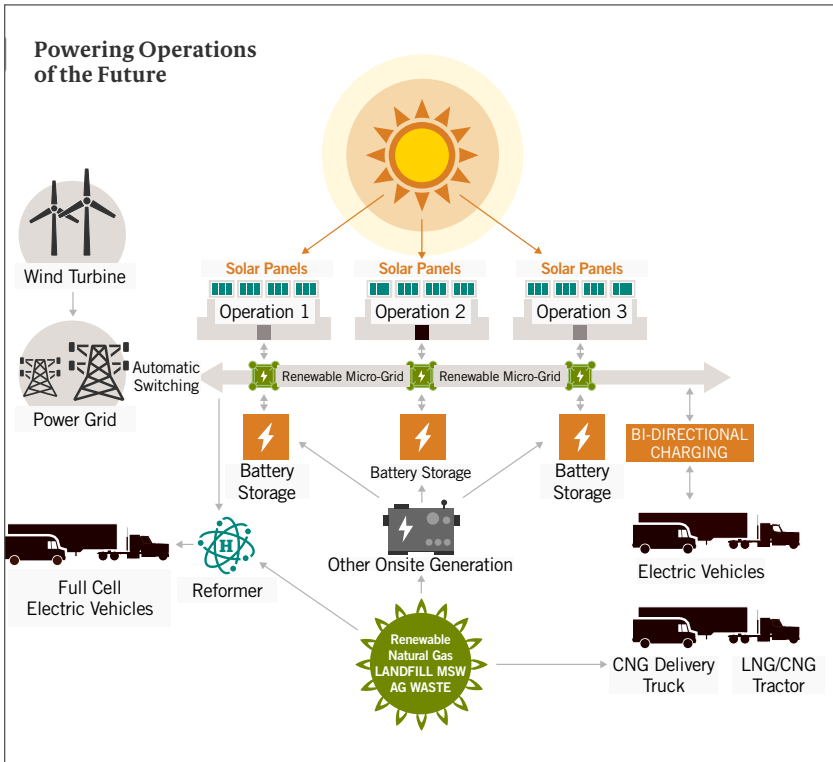
SWITCHING ON THE SMART GRID

A radical new charging technology that overcomes the challenge of simultaneously recharging an entire fleet of electric vehicles (EVs) without the need for an expensive upgrade to the power supply grid has been deployed in London by a UPS-led consortium.

The breakthrough signals the beginning of the end of a reliance on traditional combustion engine powered vehicles by allowing UPS to increase the number of EVs operating from its central London site from the current limit of 65 to all 170 trucks based there. This major advance—believed to be the first time these systems have been deployed at this scale anywhere in the world—is the result of the Smart Electric Urban Logistics (SEUL) project with UK Power Networks and Cross River Partnership, with funding secured from the UK’s Office for Low Emission Vehicles.

As a result of this initiative, combined with the advances the company recently announced to reduce the cost of electric vehicles, UPS believes the day is rapidly drawing closer when the acquisition costs to put an electric vehicle on the road, including those associated with getting power to the vehicle, will be lower than the equivalent costs of its diesel counterpart. This development will be instrumental in enabling electric vehicles to be deployed at scale in the world’s cities, which is an essential component of tackling air quality challenges in these urban environments.

A key part of this initiative is the use of on-site energy storage batteries. Although new batteries have been deployed at this stage, it is envisioned that, in the future, these could be second-life batteries that have already been used in a UPS EV. Together with the smart-grid, this will pave the way for a UPS EV infrastructure strategy that can dynamically use a conventional power upgrade, smart grid, on-site storage, and in many cases, local power generation including solar and other alternative sources.



IoT GOES GREEN

The Internet of Things (IoT) will play a pivotal role in enabling the transport and logistics sector to reduce its carbon footprint and minimize any negative impact on the environment. According to research from Inmarsat, a provider of global mobile satellite communications, 95 percent of companies in the sector are actively implementing IoT technologies to improve their environmental sustainability.

The research, conducted by Vanson Bourne for *The Future of IoT in Enterprise* report, collected responses from 100 large global transportation companies and found that 44 percent of companies are prioritizing environmental monitoring as a key area for IoT deployment. Moreover, 15 percent state that they had increased their environmental sustainability as a direct result of their IoT deployments, and a further 65 percent expect to do so in the future, highlighting the effectiveness of the technology in the logistics area.

“The transport industry needs to get smarter if it hopes to limit its impact on the environment, and it is clear that many in the sector are looking to the latest IoT technologies to help them achieve this goal,” says Mike Holdsworth, director of transport at Inmarsat Enterprise.

“There are multiple opportunities for businesses from collecting, storing and analyzing real-time data from crowdsourcing or sensors located in vehicles and machinery across their supply chain and it will be invaluable for those hoping to reduce their carbon footprint,” he adds.

However, making informed decisions in real time depends on having the data available at all times. But you need continuous and reliable connectivity, which is impossible to achieve without mobile satellite communications.

“By utilizing the IoT over a satellite connection and making immediate strategic adjustments, transportation organizations will have a distinct advantage over their competition in achieving environmental sustainability,” Holdsworth concludes.

IATA Automates Dangerous Goods Compliance Checks

The International Air Transport Association (IATA) has launched an innovative new solution that will enhance safety and improve efficiency in the transport of dangerous goods by air and support the industry's goal of a fully digitized supply chain.

Dangerous Goods DG AutoCheck is a digital solution that allows the air cargo supply chain to check the compliance of the Shipper's Declaration for Dangerous Goods (DGD) against all relevant rules and regulations contained in the IATA Dangerous Goods Regulations. The tool enables electronic consignment data to be received directly, supporting the digitization of the cargo supply chain.

Optical Character Recognition (OCR) technology also transforms a paper DGD into electronic data. This data is then processed and verified automatically using the XML data version of the DGD. DG AutoCheck also facilitates a ground handler's or airline's decision to accept or reject a shipment during the physical inspection stage by providing a pictorial representation of the package with the marking and labeling required for air transport.

"Manually checking that each Shipper's Declaration

is compliant and the package(s) are correctly, marked, labeled, and packaged is complex and time consuming," explains David Brennan, assistant director, cargo safety and standards, IATA.

"Automation with DG AutoCheck brings us a giant step forward. The cargo supply chain will benefit from greater efficiency, streamlined processes, and enhanced safety."

"The air transport industry handles more than 1.25 million dangerous goods shipments per year, and this number will rise significantly," says Nick Careen, senior vice president, airport, passenger, cargo and security, IATA. "To ensure that air cargo is ready to benefit from this growth, the industry needs to adopt modern and harmonized standards that facilitate safe, secure, and efficient operations, particularly in relation to carriage of dangerous goods. DG AutoCheck is a significant step toward achieving this goal."



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Bridging the Gap Between Craft and Technology

Blockchain, artificial intelligence, the Internet of Things, autonomous vehicles... it seems like you can't have a conversation about technology without these buzzwords being thrown around. These kinds of technologies are extremely exciting and will likely change the way we live and work. Having said that, it's important for companies in our space to strike a balance between the craft of our industry and technological progress happening today.

There is currently an arms race in the transportation and logistics arena. The larger companies are continuing to consolidate in order to drive scale. Too often though, this actually results in bringing more complexity to their business processes. Simultaneously, many smaller companies are working diligently to break into the market with the next new widget.

The irony here is that both companies are, generally, working to try and answer this problem for their clients: "How do I get the visibility I need over my supply chain in order to make better business decisions and, ultimately, execute for my customers." While the challenge on the surface sounds fairly straightforward to the average person, anyone who has spent enough time in logistics understands no two shippers are the same. All the same, even with the incredible complexity of this business, providing clients with a complete view of their supply chain is not a pie-in-sky concept—it's something that is happening.

The "how" is fairly clear—translating raw customer data into actionable information. Many companies are already doing this, however, going a step or two further will be the real innovation. The good news is many logistics

providers are extremely rich in client data. The bad news is nearly all freight forwarders struggle to turn the data into information that can drive meaningful decision-making. The largest providers amongst us often struggle since they are usually using dated, multiple, or disparate data sources and systems (a byproduct of growth through acquisition strategy that dominates the logistics industry).

These business realities result in an extremely difficult environment to deliver on global visibility. On the other side of the spectrum, many smaller technology companies are starting with a clean slate and a slick system. But most lack the basic knowledge of freight forwarding and don't have the scale to procure with the air and ocean carriers. They have sexy technology, but, in reality, it doesn't move a lot of freight.

Time and time again our Fortune 500 clients say what they need is both. Shippers need an enterprise with great technology and also logistics professionals who understand their extremely complex supply chains. While this industry is obviously ripe for innovation, it is crucial that we don't lose sight of the ageless craft that makes this business work.

Our belief at Crane Worldwide Logistics® is that those businesses that will truly lead this industry are the ones that bridge the gap between the craft of logistics and technological innovation. Having tools such as predictive analytics technology integrated with artificial intelligence, while still enthusiastically embracing the craft of logistics, will be how our industry truly innovates for our clients.

Visibility looks at yesterday, predictive analytics is looking around the corner and into the future. It is exciting, that's for sure, but one thing I am certain of is that you can never automate best-in-class customer service. And you never will.



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Supply Chain Strategy and E-Commerce Success

Companies with an e-commerce strategy often sell a wider variety of products than brick-and-mortar companies. To reap the benefits of that product mix, however, they may need to adapt their supply chain strategy to accommodate the needs of every product they sell.

According to the U.S. Census Bureau, e-commerce sales for the second quarter of 2017 reached \$111.5 billion, an increase of 4.8 percent from the first quarter, and more than 16 percent from the same quarter in 2016. With growth like that, it makes sense to make an extra effort to ensure that every product is available to meet demand. Here are the five most important elements to consider when creating an item-specific supply chain strategy.

1. Product Life Cycle

Determine where the product is in its life cycle, and how long the life cycle is likely to extend. If the item is on the ascending side of the demand curve, you may want to invest in inventory to enable quick deliveries. As the item peaks, rein in inventory to avoid being stuck with unsellable stock.

2. Demand Volatility

Consider the product's ultimate market. Consumers are notoriously fickle, so you will want to minimize the amount of inventory on hand for consumer-focused items. Depending on the lead time, you may want to consider frequent deliveries in small quantities, and stay in close touch with suppliers so you can replenish stocks quickly when needed — without forcing either company to take an inventory hit.

Business machinery and equipment may have longer shelf life because new product introductions are slower and product life cycles are longer. Technology products have extremely short life cycles and sharp demand curves, so plan accordingly.

3. Forecast Accuracy

The success of any supply chain strategy is only as good as the forecast it's based on, so do whatever you can to improve forecast accuracy. Forecast accuracy is one of the most important metrics you can follow if you are interested in improving your supply chain efficiency.

Invest in a flexible forecasting tool that uses best-fit algorithms to calculate demand. Then, add unique insights from marketing, sales and key customers.

4. Inventory Visibility and Accuracy

It's hard to plan for the future if you don't know where you are. Integrate your inventory management, order management and supply chain applications so all systems operate from a common inventory record. Ensure that the integration updates your on-hand balances in real time to avoid double allocations of scarce goods.

Take steps to improve the accuracy of your inventory records. Leading organizations such as APICS recommend that you strive for an accuracy level in the mid- to high-90s.

If you're not there yet, consider incorporating barcoding or RFID to tag inventory, and mobile devices or scanners to read those tags. Automated storage and retrieval (ASRS) systems can help by ensuring picking accuracy while expediting the process. It's hard to overspend on tools and technology to improve inventory accuracy and visibility since they are so fundamental to customer satisfaction and supply chain effectiveness.

5. Customer Expectations

Customers are willing to wait for some products, but they are few and far between. If you have the equivalent of the newest iPhone model, customers may wait. Otherwise, they turn to a competitor that has the item they want in stock. You can test customer expectations through A/B testing, surveys, or watching sales trends, though monitoring competitor sites to see what they are offering for lead times on the same or similar items can be just as helpful.

Coming up with the right supply chain strategy for an item is complex. Even though there are only a few factors that matter, all the others affect each factor. You can experiment, perfecting the right strategy over time. Or, you may want to work with an experienced 3PL that can guide you through the process with simulation and optimization technology.

Regardless of the approach you choose, effective e-commerce demands a unique strategy for each item.



Chuck Papa, Senior Vice President of Transportation Management, Transplace
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Software-as-a-Service or Outsourced Managed Services: Which is Right for Your Organization?

When it comes to managing transportation operations, shippers are often at a crossroads. They may find themselves asking the questions: Should I implement a transportation management system (TMS) in-house or via software-as-a-service (SaaS)? Should I outsource everything to a Managed Transportation Services (MTS) provider? Or take a hybrid approach?

Not all companies' core competencies are the same, and there are a number of different paths and scenarios to consider when an organization has the need to improve their transportation capabilities and performance. So, what factors are key when it comes to choosing an in-house TMS, SaaS or MTS?

Factors to Consider: Software-as-a-Service Model (SaaS)

The software-as-a-service model may be a good fit for organizations that have a commitment to fully staff their operational team, but have hit entitlement on their performance capability and need technology to get them to the next level of improvement. The value of a SaaS environment is the ability to gain access to a TMS system without having to make a significant IT investment. SaaS mitigates the need for internal resources, does not require up-front capital investment, and minimizes overall infrastructure impact.

However, the SaaS route does require an ongoing investment into the team and resources surrounding it. When deciding if SaaS is right for their organization, shippers need to determine if transportation management is a core competency for them and if they are willing (and able) to invest in and continuously develop the processes and human capital needed to successfully utilize the technology in their daily operations.

Factors to Consider: Managed Transportation Services (MTS)

When considering managed transportation outsourcing, the maturity of the organization may come into play. Those organizations that do not continue to make the investments in the people and the process (unlocking new capabilities in the technology as they become available) typically see a degradation of performance after a few years. And those

shippers that have a legacy of five, seven or ten years of an in-house TMS or SaaS may be interested in handing over certain services to a third party in order to drive more long-term results.

An MTS provider's industry expertise and proven processes can help by maximizing the technology and driving meaningful, sustainable benefits beyond what a single shipper may be able to achieve on their own. Collaboration with a third-party provider, and leveraging its extended network, can provide numerous optimization and cost saving benefits.

Results from a TMS or SaaS solution are easy to realize in the first few years because of the initial investment in training and change management that occurs with the implementation process, but in order to see long-term success, companies must sustain the resources, commitment and investment in not only the technology but also the accompanying operations. Therefore, MTS might become a more appealing option as an organization matures. Additionally, a hybrid approach to managed transportation is a viable option – shippers can choose to outsource only certain pieces of the supply chain puzzle (e.g. keep procurement in-house but outsource day-to-day execution).

The Key to Successful Shipper-Provider Relationships

The most important aspect of a successful managed services relationship is transparency and open communication. The right provider should be focused both strategically and tactically. This is an ongoing partnership, and shippers must realize that even after turning over certain processes to a third party, they will need to continue to be involved in their operations.

Finding the Right Solution

There is no "one size fits all" approach when it comes to managing transportation operations, so each shipper needs to carefully consider each option before making a decision. Factors such as network complexity, level of investment in the technology, processes and personnel, as well as the organization's level of competency in this area will help guide the decision.



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BY JEFF POTTS

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Global Trade Networks Bring Certainty to Uncertain Times

There is no magic bullet to overcome the capacity crunch. The supply chain has proven to be the competitive battleground of the future, and organizations that act proactively by implementing a flexible, adaptable supply chain solution will be the ones in the best position.

Weather-related events and other inevitable tragedies have taken a tight market and applied a vice grip to it. The supply chain industry has been forced to respond to several natural disasters that have led to closed ports and roadblocks. While recovery efforts continue, the aftermath is still felt across the United States.

Government-mandated Electronic Logging Devices (ELD) for commercial trucks are also having a significant impact on transportation rates and capacity. The total impact is still unknown, but many analysts believe it could have a four-to seven-percent impact on capacity and a five- to 15-percent impact on carrier rates.

Network for Capacity

Operating on a static, closed, on-premise transportation solution doesn't allow flexibility to adapt to sudden disasters and mandates. The

first step to overcome difficulties is to join a global trade network. The power of a network lies in its ability to bring clarity and certainty to a volatile situation, while offering on-demand connections to thousands of potential carriers.

Forming connections, streamlining processes, and identifying new capacity can be accomplished quickly. Joining the right network will provide the following benefits and strengthen an organization's supply chain solution:

■ **A global capability.** The use of a more resilient network will allow a business to sell across borders and trade zones like it's right next door. Systems can be updated easily as new customs requirements are put into effect.

■ **Value flexibility above the certainty of the status quo.** Supply chain managers cannot afford to sit still with static supply chains and think they're prepared. Making the

extra effort to prepare for multiple scenarios leads to satisfied customers in times of trouble.

■ **Provide supply/demand insight.**

Market data, combined with a deep network, can help secure the best rates and protect an organization's budget. For example, with a global trade network view of the market, Logistics-as-a-Service customers have the potential to keep rates lower than with a limited view of providers.

■ **Seek best-practice solutions.**

These solutions provide the capability to capture and identify successful new processes, ideas, and technologies so they can be learned and implemented based on proven results. Once identified, they can be deployed faster than the competition.

The capacity problem isn't going away anytime soon. Supply chains may get some relief when the impact from the storm recedes, but it will still be a growing issue.

Joining a global trade network is the foundation for flexibility and operational creativity. Moving from static old systems and processes, and embracing a network model, will help organizations find and access new capacity faster than ever. ■

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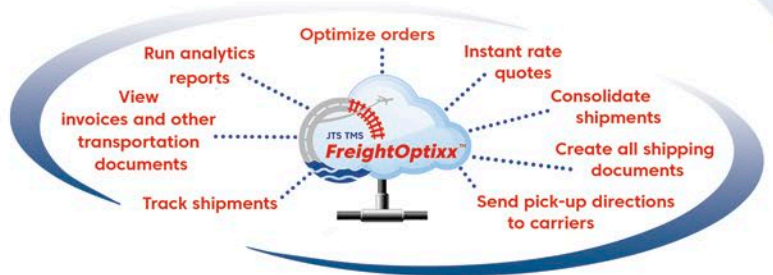


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BY JOHN COSTANZO

President, Purolator International
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Simplifying Supply Chain Complexities

Manufacturing has never been more global, productive, profitable, or vulnerable. Despite tremendous advances in breaking down global barriers and adding efficiency to the supply chain, there are still challenges to move products quickly, safely, and seamlessly.

To appreciate the complexity of today's global supply chain, consider Boeing's 787 Dreamliner passenger jet. Each jet is comprised of about 2.3 million parts and about 30 percent come from international suppliers.

The success of Boeing's supply chain depends on the seamless orchestration of its entire supplier network, and all component parts must arrive at the right time. One mishap and the entire process is disrupted, usually with severe consequences.

Expect Precise Deliveries

A business needs visibility into its entire organization—to know with certainty where each piece of inventory or component part is located at any given moment. Technology makes it possible to know with certainty when a delivery will be made, and it's that certainty that makes possible today's precise manufacturing schedules.

A high degree of visibility, for

example, would alert you to any number of potential obstacles—from weather incidents to work stoppages to political situations—that could affect your shipment.

Global Challenges

Shipment security is another issue. An important part of the complex supply chain required to build today's aircraft is ensuring each part is FAA-certified. Plane manufacturers face an ongoing problem of suspected unapproved parts, also known as counterfeits, which the FAA is not always able to intercept.

As a result, manufacturers have to review their suppliers and have procedures in place to certify the documentation and safety of all component parts.

Another challenge in today's global environment is that many companies resist change and conduct business as usual. So much has advanced with regard to how shipments can

be moved around the world. Today's logistics solutions are much leaner, faster, and flexible than what was possible as recently as five years ago.

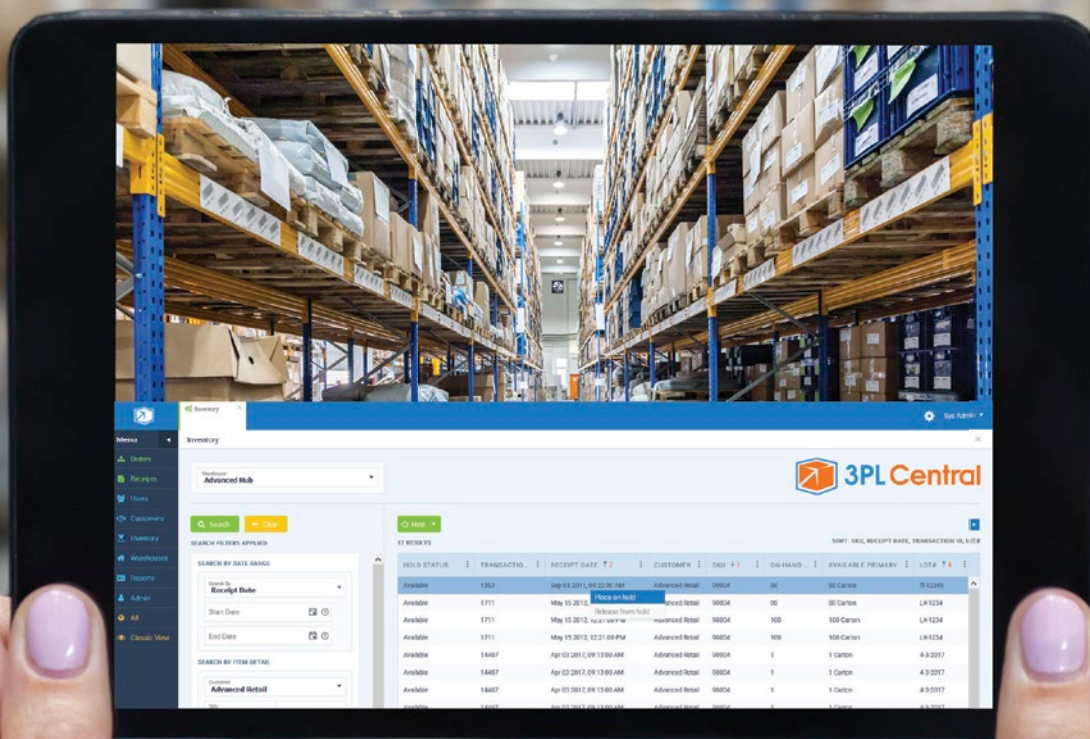
Businesses need to be open to new and better ideas. Just because you've always shipped products one way, doesn't mean there isn't a newer and more efficient way. If you haven't done a logistics checkup in the past three to four years, you'd be pleasantly surprised to find at least a few new options for moving your goods.

One final obstacle is complying with customs and regulatory mandates. There is no escaping the customs process, but that doesn't mean you can't minimize its impact on your supply chain.

A good logistics provider or customs broker will know in advance precisely which regulations your shipments will trigger, and will proactively ensure all paperwork is pre-filed, and all duties and taxes are paid. It will also take advantage of trusted trader programs that give front-of-the-line treatment to members' shipments.

As technology and innovation enable new options, global supply chains will keep pace and take us to new heights. ■

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[VIEWPOINT]

BY ANGELA FERNANDEZ

Vice President of Retail Grocery and Foodservice, GS1 US
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Keeping Order Changes in Check

Today, retailers face not just competitive pressures, but also heightened consumer expectations for convenience and a wide product selection. As a result, the retail grocery industry is working to increase flexibility in the supply chain and clean up disjointed practices that add unnecessary cost and, ultimately, negatively impact the consumer experience.

Recently, a retail grocery industry workgroup examined operational efficiency and found one of the most obvious areas of improvement in supply chain operations is managing order changes. Under the guidance of GS1 US, the workgroup created a new guideline outlining best practices for dealing with inevitable changes originating from both supply and demand-side partners.

Advance Ship Notices To the Rescue

Using advance ship notices (ASNs) can ensure systems, transactions, and trading partners remain electronically up-to-date and aligned, the group found.

An ASN is a notification of pending deliveries, similar to a packing list. It is usually sent in an electronic format and is an electronic data interchange (EDI) document used in retail supply chains. ASNs can boost the retail supply chain's ability to quickly and

accurately deliver what the consumer wants.

The ASN is underutilized in everyday supply chain transactions. An ASN can provide structure in lieu of manual processes, especially in the case of order changes. By leveraging ASNs, companies are less focused on the minutiae of the actual physical shipment, and are able to maintain a holistic view of their order management processes.

Typically, a buyer submits a purchase order (PO) to a supplier and, if there are no changes to the order, an ASN is created based on the PO. The physical shipment matches the PO and the ASN. When order changes are necessary, however, a common approach across industry has been to process them manually with a phone call, an email, and/or a revise of the PO.

The core flaw in such an approach is that while the shipment may arrive with expected contents,

the companies' payment systems are not up-to-date with order quantities and other details. This approach results in errors that ripple downstream. It causes further manual exception processing, which can delay payment and absorb man hours.

Change management issues impact much more than ASNs, causing errors and inefficiency throughout the order-to-cash cycle—from receiving all the way through to invoice and payments.

Best Practices

The workgroup recommends this best practice: Leverage ASNs more, and ensure POs and ASNs match. The source of the mismatch can vary depending on when each trading partner updates its systems. Also, communicating the change needs to be done quickly. This attention to detail can help isolate errors before they permeate other parts of the supply chain.

Ultimately, order changes don't have to slow down the supply chain. Moving forward, supply chain professionals who want to support their company's overall innovation goals should pay close attention to these types of seemingly small adjustments. They can make a world of difference. ■

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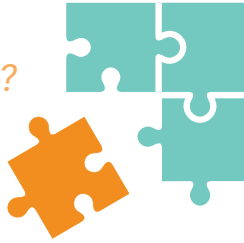
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When an industrial manufacturer needed to optimize staffing levels for incoming shipments, they turned to Crane Worldwide Logistics for a solution.

THE CHALLENGE

A leading industrial manufacturer with multiple warehouses across the globe needed to know when shipments were being delivered so they could adequately staff warehouses to meet volume demands. This challenge included:

- Lack of visibility on what was coming into their warehouse on a given day.
- Weekend shipments coming in without scheduled staff.
- Staffing levels not optimized to meet the fluctuating demand.

THE SOLUTION

The client was using Crane Worldwide Logistics® predictive analytics software C-View to manage their logistics data. While the version of this software at the time did not provide this type of information to the client we knew all of the data was available. Priding ourselves on using technology and data to solve problems, our technology team quickly realized the solution could be delivered in a format similar to a weather forecast. In other words, we presented a five-day delivery forecast. We used the visual language of a weather forecast to further



strengthen the concept and make it intuitive for anyone using C-View. We then reverse engineered our way back to the raw data from the client. Voila!

Results included:

- They were immediately able to optimize staffing levels for incoming shipments.
- The ability to forecast arrivals several days in advance.
- The client was happy with the elegance of the solution, and even more so with the speed at which we moved.
- The solution was architected in a way that all clients on our C-view could use.

At Crane Worldwide Logistics® we believe that technology is absolutely critical, but what is equally as important is collaboration with our clients. We use technology to solve client problems, elegantly and quickly. It's the name of the game.



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A mix of experienced logistics service providers, resilient infrastructure, flexible transportation options, and a seasoned workforce combine to make Alaska a land of promise for companies doing business with the state.

April 2018 • Inbound Logistics 47



Alaska Air Cargo is replacing half-freighter and half-passenger planes with a full-freighter fleet.

The Last Frontier is the nickname for Alaska—the largest state by land size. It’s more than twice the area of Texas, which comes in second. It boasts more than 6,600 miles of coastline, or 34,000 miles including all its islands.

Yet it’s one of the least populous U.S. states, with about 700,000 residents. Similarly, just 32,000 miles of road serve Alaska’s 572,000 square miles of land. “That’s about five percent of Texas’ road capacity,” says Tom Souply, president of freight provider Span Alaska.

“There’s a huge difference between a small town with road access, and a small town without road access,” says Kevin Anderson, president of Alaska Marine Lines, part of the Lynden family of companies. “You can’t just hop in a car to get what you need.”

“Alaska is unique,” agrees Jason Berry, managing director with Alaska Air Cargo. “Because it has so few road systems, many communities rely on air for everything.” Logistics providers delivering food, medical supplies, construction equipment, or other products

perform critical, life-sustaining services in the state, he adds.

“Given the lack of road infrastructure, other modes of transportation—air, water, and rail—play significant roles in logistics operations,” says Dale Wade, vice president, marketing and customer service with Alaska Railroad.

For instance, the state’s west coast road system is lacking, so it depends on barge or plane services. Alaska’s northwest coast—home to Red Dog Mine, one of the largest zinc mines in the world—is accessible only by seasonal ship service for much of the year. Other communities depend on air transport once the oceans freeze.

“Also unique to Alaska is the fact that very little manufacturing takes place within its borders,” says Bill Crawford, vice president of commercial with

ocean carrier TOTE Maritime Alaska. “Almost anything people need or consume—retail goods, food, vehicles, military vehicles, building supplies—comes from the lower 48 and is transported from Tacoma to the Port of Alaska in Anchorage on a vessel.”

Similarly, the state has very little warehousing capacity. Instead, containers on ships act as warehouses that go directly to the stores. “If the ships don’t come in, stores experience stock outs,” Souply says.

The Big Chill

“The weather offers additional challenges,” he adds. “The mercury in the northern parts of the state can easily dip to 40 to 50 degrees below zero during the winter months, making safety precautions critical. That includes survival suits for employees and keeping motor vehicles continually idling.”

Another challenge concerns the Port of Anchorage, which handles approximately 75 percent of the freight shipped into Alaska. “The port is in dire need

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of an upgrade,” Souply says. According to information from the port, its docks, now a half-century old, are corroding and need replacement. However, problems have stymied progress on any upgrade. “The state has to get its hands around this,” he adds.

In addition, Alaska’s economy has languished as a result of the drop in oil prices; oil accounts for about 85 percent of the state’s budget. “When prices drop, tax dollars erode, curtailing government and capital spending,” Souply says. “We’re walking through the third year of a downturn.”

Signs of a rebound, however, are emerging. Crawford says he has noticed an uptick in optimism and consumer confidence, due to a robust tourism business, large oil field finds that likely will be developed over the next few years, a growing military presence, and the building of a liquid natural gas pipeline or other oil and gas developments.

Empowered Employees

To effectively deal with the challenges and uncertainties that characterize logistics operations in Alaska, employees must be empowered. “They need to be encouraged to think and act like owners,” Souply says. “We don’t micromanage. We hire people who’ve shown independence, pay them fairly,

and give them the respect and freedom to do their job.”

Alaska Air Cargo, which offers the fastest scheduled freight service to Alaska, continues to invest heavily in its cargo operations to the state. “We are bringing on a modern freighter fleet,” Berry says.

Alaska Air is replacing its five “combi” aircraft, in which each plane is half-freighter and half-passenger, with a full-freighter fleet. That will enable it to fly scheduled cargo operations that are not tied to passenger flights. To make this shift, Alaska Air is converting three 737, 700-passenger airplanes into freighters.

“Upgrading to a modern fleet allows us to run an even more reliable schedule,” Berry says. “If we say we’re flying, we’re going to fly.”

“Converting a plane to carry cargo is a massive engineering undertaking that can last several years,” he adds. “It’s not just taking seats out. It involves gutting the whole airplane and reinforcing the floors so they can accommodate heavier loads.”

Many systems have to be rerouted or moved to make space for the freighter containers that will go in the airplane. In addition, creating a cargo door requires cutting a massive hole in the side of the plane. “Our engineers and

maintenance team who oversee and supervise the conversion do a phenomenal job,” Berry says.

The new freighters’ cargo loading systems also have been configured to allow Alaska Air Cargo to handle pieces of up to 13,000 pounds, and shipments up to 15 feet long. In the past, its planes were limited to pieces of no more than about 10 feet long or 8,000 pounds.

“We can accommodate special projects and the unique shipments that pop up in the state of Alaska,” Berry says. “The oil, gas, and mining industries all require moving heavy machinery.”

Increased Capacity

Alaska Air’s recent acquisition of Virgin America increases the carrier’s cargo capacity across the mainland United States by about 50 percent. These planes also can accommodate pieces about 15 to 20 percent larger than can fit on Alaska Air’s other planes. “The larger door openings help with the logistics of odd-sized pieces,” Berry says.

Another recent change includes the launch of SmartKargo, an online booking portal. “Customers can reserve space and print airway bills in seconds, from their computers,” Berry says.

The shift allows Alaska Air’s customer service employees to concentrate on more complicated trips, such as the

Many enhancements are in the planning and development stages at Ted Stevens Anchorage International Airport, including a \$100-million runway widening project and a new maintenance, repair, and operations facility.





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A new conversion project will allow TOTE Maritime Alaska's Orca Class vessels to use both liquefied natural gas and diesel as fuel.

shipment of live animals—Alaska Air Cargo moves everything from reindeer to grizzlies to family dogs.

Alaska Air Cargo's planes are fitted with RNP, a proprietary navigation tool that offers GPS data-based guidance and allows the planes to get in when airport conditions would make it unsafe for other airlines. "If anyone can get in, it's going to be us," Berry says.

A Sea of Improvements

Much of the freight heading to the state of Alaska travels by boat, and often by TOTE Maritime. TOTE, which has been in operation for more than 40 years, offers twice-weekly service between Anchorage and Tacoma. Its transit time of 66 hours leads the industry, and its on-time arrival rate is 99 percent. Port turnaround time is eight hours.

The company's Orca Class vessels can accommodate oversized equipment, such as 53-foot-long trailers and project freight, as well as up to 250 vehicles. Typical cargo includes food, household goods, vehicles, construction materials, and supplies for the military base.

TOTE's roots extend back to the 1970s, when workers in search of high-paying jobs moved to Alaska to

help build the Trans-Alaskan Pipeline System. Once the pipeline was completed in 1977, many workers and their families remained in Alaska. TOTE did as well.

Several years ago, TOTE Maritime Alaska began converting its ships to run on liquefied natural gas (LNG). Both of its vessels require two phases to conversion. The first includes adding the tanks and other important components. The second phase consists of converting the engines to dual-fuel, or LNG and diesel.

The *North Star*, a TOTE vessel that recently completed the first phase, proudly displays the LNG tanks. "Converting these two vessels to LNG will create a safer and healthier environment through significantly reduced emissions," Crawford says.

The Alaskan shipping industry is both challenging and exciting. The frigid temperatures demand insulated equipment, while Cook Inlet in Anchorage boasts the second-highest tidal fluctuations in the world. "We have to time the vessels to get through the shoal," Crawford says. Inside the inlet, ice moving with the tide can create river-like conditions.

TOTE's ships are roll on/roll off, which means that rather than loading

containers on the ship, the trailers themselves move onto the ship, where they're dropped onto a pintle hook and lashed to the deck. The advantages? "It's a much faster way to load and discharge the vessel, versus using cranes," Crawford says. "It gives customers more time to get their cargo onto the ship."

It also allows for more flexible equipment options. "We can handle 30- to 50-foot trailers and oversized cargo," Crawford says. The ships also offer watertight stowage below deck for vehicles and cargo.

Putting Telematics to Work

Another change at TOTE in 2018 is the installation of telematics. These GPS tracking devices let employees easily locate each trailer on the ship, as well as its arrival and departure times. The devices, which support the TOTE safety culture, also allow workers to monitor the temperature of refrigerated cargo from their computers, without having to look at the physical units.

TOTE is launching a phone app that customers can use to manage the load and demurrage process. "It creates efficiencies for customers, and helps them ensure they're unloading equipment quickly, reducing the risk of being

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Lynden Transport's service center network is the largest in Alaska and provides coverage with integrated air, truck, and marine solutions.

charged for extra days," Crawford says.

When shipments into and around Alaska require a mix of transportation modes, Lynden, a family of transportation and logistics companies in Alaska, western Canada, the Pacific Northwest, and other areas, can help. Lynden has been providing integrated freight transportation via land, water, and air for more than one century.

"We enjoy the challenge of fitting the puzzle pieces together to arrange pickups and deliveries to some of the world's most remote and inaccessible locations," says Kevin Anderson, president of Alaska Marine Lines, part of the Lynden family. "From the extreme north of Prudhoe Bay, Alaska, to the smallest village half a world away, we are known for making the impossible possible."

Solutions for Any Situation

Lynden's capabilities include truckload and less-than-truckload transportation, scheduled and charter barges, intermodal bulk chemical hauls, domestic and international forwarding and customs services, and sanitary bulk commodities hauling, among others. "We combine trucks, ships, barges, ferries, and aircraft in numerous ways, always balancing speed and cost," Anderson says.

From the over-the-road trucking service it pioneered to Alaska in 1954, to deliveries of mail and other

essentials to remote bush communities via Hercules aircraft and hovercraft, Lynden is synonymous with Alaska transportation. Its network of service centers covers the entire state.

"We can reach the unreachable," Anderson says. No landing strip? Lynden's Hercules aircraft lands on gravel or ice. No harbor? The company's shallow draft barges are equipped with ramps to allow access from any shore. No road? Lynden's hovercraft can glide through any terrain to deliver people, equipment, or customer shipments. "We move all kinds of freight over some of the most rugged, remote terrain imaginable," he says.

By combining aircraft, trucks, ships, barge, and ferry to craft customized solutions, Lynden enables its customers to optimize both speed and cost. "Our solutions combine speed, mode, technology, and people to add value to the supply chain while meeting business objectives," Anderson says. "We don't try to fit you into our world. We build the world around you."

Moreover, its employees know how to work in Alaska's sometimes unforgiving environment. "There's no 911 to save you if you get in trouble in remote Alaskan locations," Anderson says. "Our employees have years of experience working in these conditions."

Span Alaska Transportation and its subsidiaries ship more than 325 million pounds of freight annually

to Alaska, Hawaii, and Puerto Rico. Along with the vast volume of shipments it moves from the lower 48 states to South Central Alaska, Span Alaska offers overnight service from Anchorage to Fairbanks and the Kenai Peninsula, and provides LTL barge service from Seattle to Southeast Alaska.

Now in its 40th year, Span Alaska is owned by Matson Logistics. It operates a 93-door terminal at its base in Auburn, Washington, as well as terminals in Anchorage, Fairbanks, Kenai, Kodiak, and Wasilla.

Alaska receives ships twice each week, on Sunday and Tuesday. Span is able to deconsolidate each arrival within 48 hours. This allows for consistent and predictable delivery every week, a value customers have come to expect.

Going Above and Beyond

To provide the "extreme reliability" required in Alaska, employees often go above and beyond to overcome weather-related delays, Souply says. For instance, ocean winds can create swells of 50 to 60 feet, forcing ships from the mainland to slow down. Once the ships dock, employees often work around the clock to meet their unloading deadline.

Span Alaska strives to make customers' lives easy by doing all it can to minimize problems and mistakes. "We deliver what you expected, at the price you agreed to, and with minimal errors,"

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Souply says. In fact, Span Alaska's error rate is only about one mistake per 750 shipments.

Whereas Span Alaska handles smaller shipments, Matson transports cargo traveling between Washington and Alaska, specializing in just-in-time ocean transportation of full container loads. Matson is the parent company of Matson Logistics; Span Alaska is a subsidiary of Matson Logistics.

"Our vessels are fast and containerized, and are in demand from customers that want a high service level," says John Lauer, Matson's senior vice president and chief commercial officer.

Given the scarcity of warehouses in Alaska, the goods carried on Matson ships often head straight from the ship to store shelves. It's critical the goods arrive on time and deliveries are reliable. About 500 containers make each trek. Matson offers a range of container types, including dry, refrigerated, open top, insulated, and others.

Matson's shipments north to Alaska typically contain sustenance products, including food, beverages, and other retail goods. On the return trip, the ships usually carry seafood. "Alaskan king salmon, Alaskan crab, Alaskan wild halibut—we handle it all," Lauer says.

Matson's three ships travel between Tacoma, Washington, and Anchorage and Kodiak, Alaska, twice weekly. Another ship travels to Dutch Harbor, Alaska, once each week. It's the only container shipping company that operates in Kodiak and Dutch Harbor, Lauer notes.

Extensive retrofits to Matson's vessels have dramatically reduced air emissions. The National Academies and Ocean Conservancy has recognized Matson for its zero solid waste discharge program. The company's diesel fleet is equipped with state-of-the-art exhaust scrubbers and tamper-proof monitoring equipment.

Committed to Alaska

Like all shipping companies, Matson must manage unpredictable weather and ocean conditions. One key is its employees, many of whom have several decades of experience with the company, going back to its days as Sea-Land, which began operating in Alaska in 1964. Sea-Land later became Horizon Lines Inc.; in 2015, Matson purchased Horizon Lines' Alaska operations and retained its employees. "They're extremely experienced in Alaska," Lauer says.

In instances when weather delays occur, communication is critical. "There's no such thing as too much communication," Lauer says. "If the ship will be one hour late, customers want to know."

Once Matson enters a community, it is there to stay. "We're committed to Alaska and excited to be there," Lauer says.

Matson has invested tens of millions of dollars in new equipment and other improvements to its Alaska services, and gives back to the local community. Through its community-giving program, Matson contributed more than \$800,000 in cash and in-kind donations to charities and community causes in Alaska in 2016. Among the beneficiaries were Covenant House of Alaska, Special Olympics of Alaska, Alaska Federation of Natives, Anchorage Library Foundation, and the Alaska office of the National Multiple Sclerosis Society.

Many items found on store shelves across the mainland United States—from T-shirts to electronics—fly through the Ted Stevens Anchorage International Airport. In fact, it's one of the busiest cargo airports in the world, and the second-busiest airport in North

Span Alaska's truck fleet provides LTL freight transportation services to and from Alaska. The service provider also arranges freight transportation through its relationships with ocean carriers and other trucking companies.





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America for landed cargo weight, says Jim Szczesniak, airport manager.

What makes Anchorage so attractive? “We’re 9.5 flight hours from 90 percent of the industrialized world,” Szczesniak says. “Eighty percent of all air cargo traffic between Asia and North America passes through this airport.” Each day, more than 170 wide-body freighter operations fly into and out of the airport, he adds.

The airport also plays a key role in the transportation of seafood, one of Alaska’s top exports. “We work hand-in-hand with our air cargo partners and the Alaskan seafood industry to make sure we get fresh Alaskan seafood to market,” Szczesniak says.

Air Cargo Hub

While outsiders might assume that weather makes flying into Anchorage a challenge, that’s not the case. The ocean keeps temperatures relatively, well, temperate. “As a result, our airport is number-one in on-time performance in North America among airports our size,” Szczesniak says.

Cargo airlines flying between Asia and North America have to choose between filling their tanks with enough

gas to make the trip without stopping, or adding cargo and including a stop. Often, it’s better for an airline’s bottom line to haul more cargo and include a stop—in some cases, to the tune of about \$100,000 per flight.

Years ago, the airport and cargo carriers worked with the federal government to gain an exemption from some traditional cargo regulations. “As a result, multiple carriers and multiple aircraft from multiple destinations can land at Ted Stevens, swap cargo, and then continue to their destinations,” Szczesniak says. “It’s essentially a hub-and-spoke system for air cargo pallets, which makes the process more efficient.”

Airport management has several enhancements in the planning and development stages. These proposed changes should allow airlines using Ted Stevens to operate even more efficiently. One plan is for an on-airport hotel that international flight crews and others can use. The request for proposal is scheduled for release in spring 2018.

Management is interested in adding a maintenance, repair, and operations facility as well, Szczesniak says.

Also under consideration is a parts distribution operation. That way, if an engine part on a plane breaks down between North America and Asia, an airplane taking off from Anchorage could transport the replacement parts. Management is also looking at adding more cargo warehousing space.

That’s not all. A \$100-million runway widening project is starting, Szczesniak says. This will widen a runway to better accommodate larger aircraft.

True Intermodal Transportation

Once freight lands in Alaska, the Alaska Railroad (ARRC) can efficiently and cost effectively move it to its final destination. ARRC provides freight and passenger rail service throughout south central and interior Alaska.

While water transportation tends to be the least expensive on a cost-per-ton basis, rail is right behind it, Wade says. It’s an economical way to move commodities, and heavy or oversized equipment. Most of ARRC’s freight includes petroleum, lumber, rebar, oil field pipe. It hauls gravel during the summer months.

Most inbound rail freight starts

Alaska Railroad specializes in quickly and efficiently moving cargo such as lumber, heavy machinery, rebar, pipe, and hazardous material.



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Alaska Marine Lines offers twice-weekly barge service from Seattle to Anchorage, Cordova, Fairbanks, Kenai, Palmer, Seward, and Wasilla.

its journey at the Port of Anchorage, where it's transferred to waiting trailers-on-flatcars, or TOFCs. When the freight reaches its destination, the trailers can be lifted off the trains and delivered to local stores and businesses. "We're a connecting line between the water and all points inland," Wade says.

From Florida to Fairbanks

Indeed, ARRC can help freight move from Florida to Fairbanks—a journey of more than 4,800 miles—while remaining within one load, Wade says.

Here's how it would work: To start, the freight would travel across the mainland United States by train. In Seattle, it would be loaded onto a rail barge for the journey up the inside passage to the ice-free port of Whittier. From there, it would move back onto the train tracks and head north to Fairbanks. Freight that needed to move farther north—say, to Prudhoe Bay—would travel by truck for the last part of the journey.

Because rail often is one leg of a trip that involves multiple modes of transportation, ARRC, like many logistics and transportation providers in Alaska, often collaborates with

other firms. "We work closely with partners such as TOTE, Matson, and Lynden," Wade says. "It's true intermodal transportation."

The railroad also works closely with Alaska Rail Marine Services, or ARMS, a Lynden company. This service transports both rail cars and 53-foot containers that are placed three levels high above the rail cars. "It's a very efficient environment, as the containers are transported by rail beyond the port," Wade says. Once the carriers dock, the containers can move by forklift.

"As with all modes of transportation, the color, challenges, and harsh conditions that go along with doing business in Alaska are part of the reality of running a railroad," Wade says. "It's both challenging and rewarding."

For example, rail operations in Alaska require monitoring avalanche conditions. "We deploy avalanche blasting and mitigation tools," Wade says. Sometimes, helicopters drop explosives and release an avalanche in a controlled manner. "The avalanches are pretty active," he adds.

Another concern is the occasional earthquake. If a significant one occurs,

rail operators must stop and check bridges before crossing them.

The railroad follows the Nenana River, and the ice breaking in the spring can back up and cause flooding conditions. It's not unusual for water to rise rapidly by more than one foot, which is enough to wash out sections of the railroad.

ARRC's maintenance-of-way team often can rebuild a section of track within days. "They're phenomenal," Wade says. And unlike maintenance workers operating in the lower 48 states, who usually can call an outside provider to help, "in Alaska, you have to be self-reliant and accommodate the interruptions internally," he adds.

Weathering the Challenges

"Alaska is a beautiful, wonderful land, but it's not without challenges," Wade says. The state's nickname, The Last Frontier, is fitting. The organizations and employees working in the state must be independent, resourceful, and dedicated.

Most are. "With all the geographic and weather challenges, it's amazing how reliable the supply chain is," Souply says. ■

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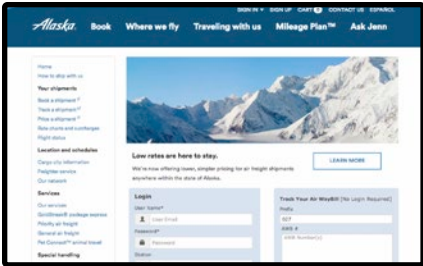
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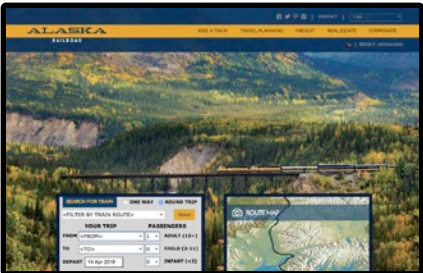
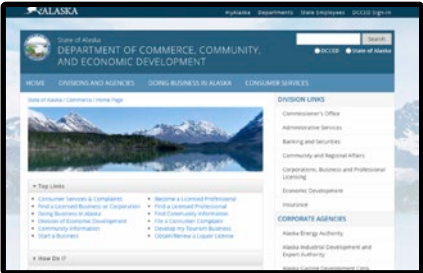


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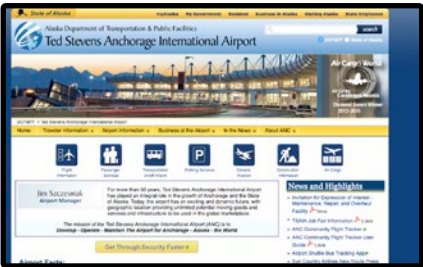


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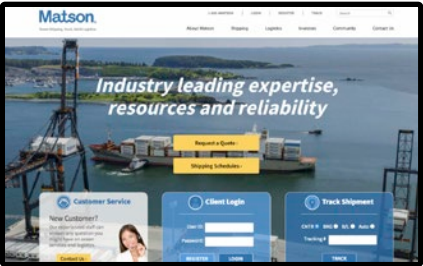
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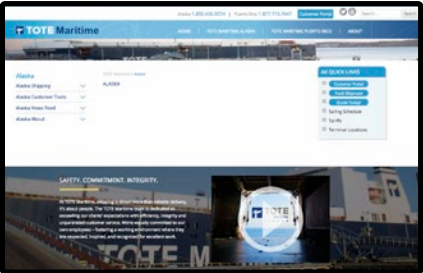


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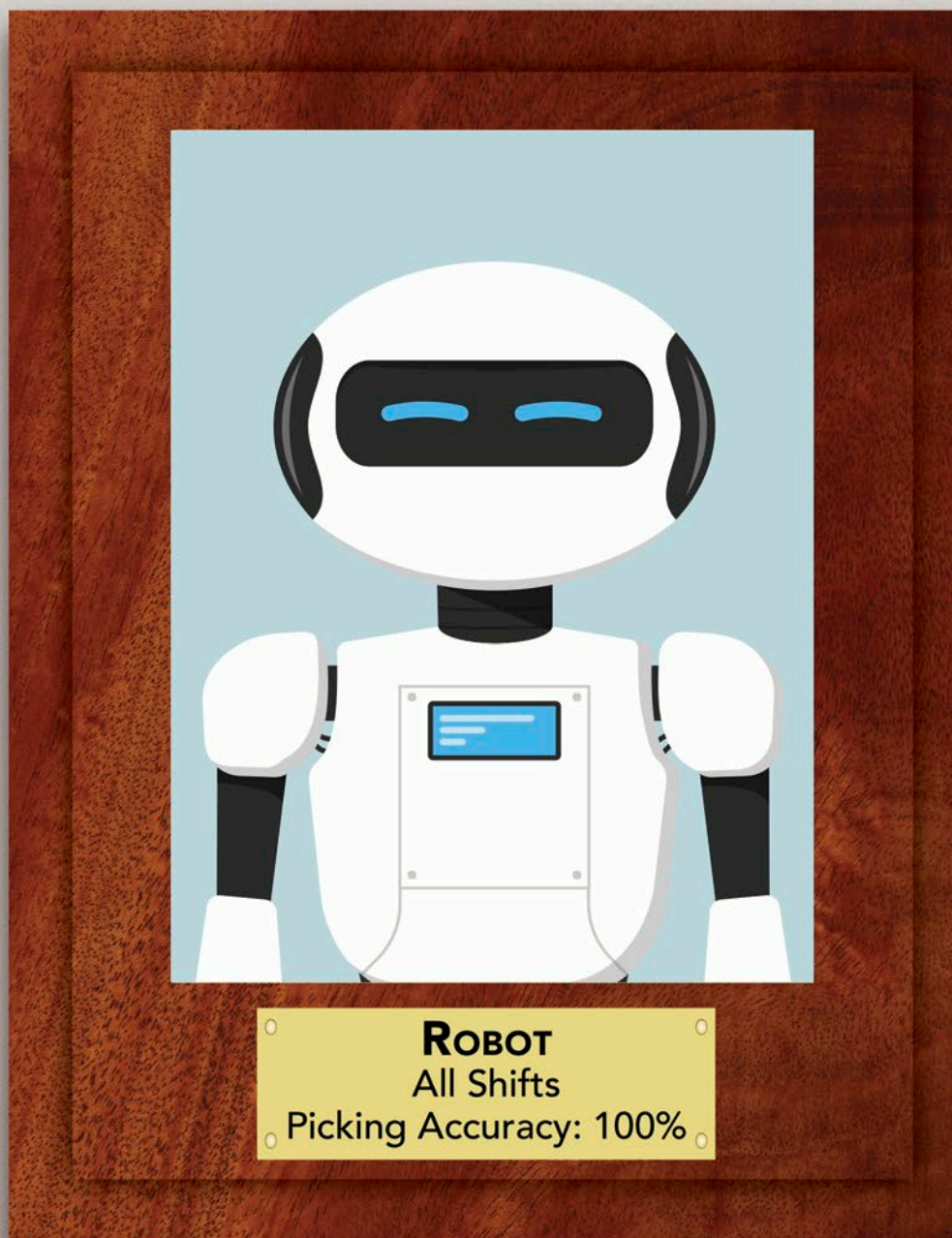
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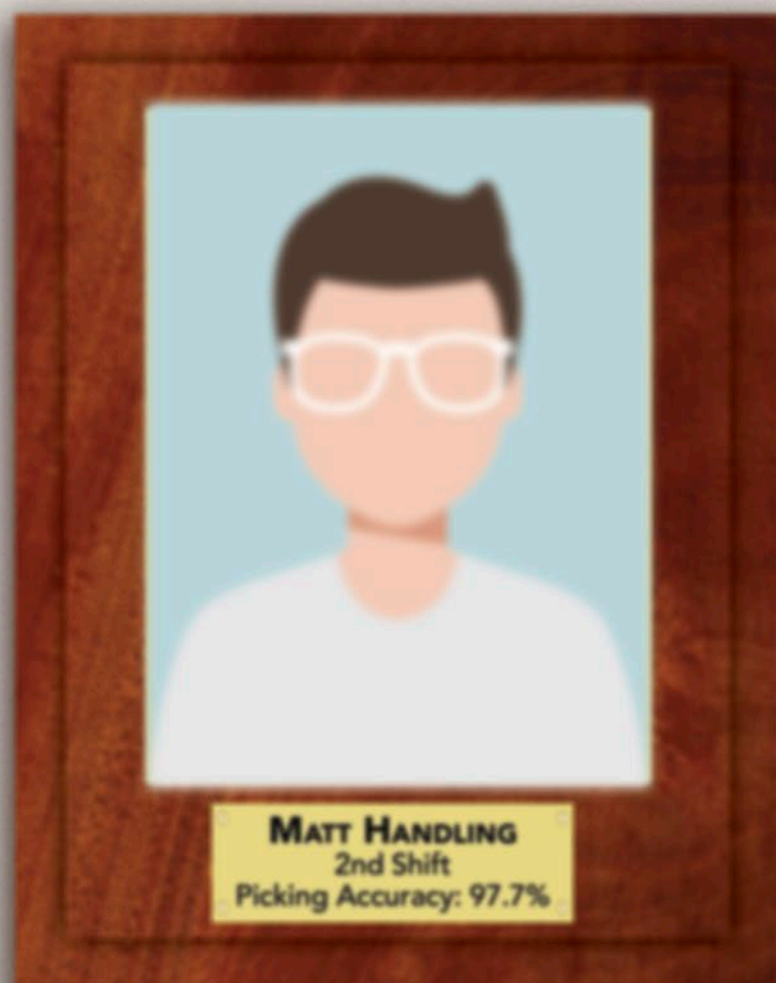


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Robots in the Supply Chain: **THE PERFECT EMPLOYEE?**



MATT HANDLING
2nd Shift
Picking Accuracy: 97.7%



SARAH SLOTWELL
3rd Shift
Picking Accuracy: 98.4%

Robotics systems help distribution facilities gain speed, increase accuracy, cut costs, and handle the grunt work so employees can focus on more productive tasks. And no resume or job interview required.

By Merrill Douglas

We're sitting in the middle of a perfect storm for robots in the supply chain.

E-commerce sales continue to climb, forcing retailers to pick up the pace in their fulfillment and distribution centers. But these days, it's hard to find workers to keep product moving in any kind of warehouse—e-commerce or otherwise. With U.S. unemployment at 4.1 percent as of January 2018, people aren't exactly lining up for low-paying, repetitive jobs that often require miles of foot travel per shift.

"Many businesses in the United States and worldwide are facing labor shortages," says Joel Reed, vice president of IAM Robotics in Sewickley, Pennsylvania. Baby boomers are retiring, and younger workers are less inclined to spend their work hours walking and picking.

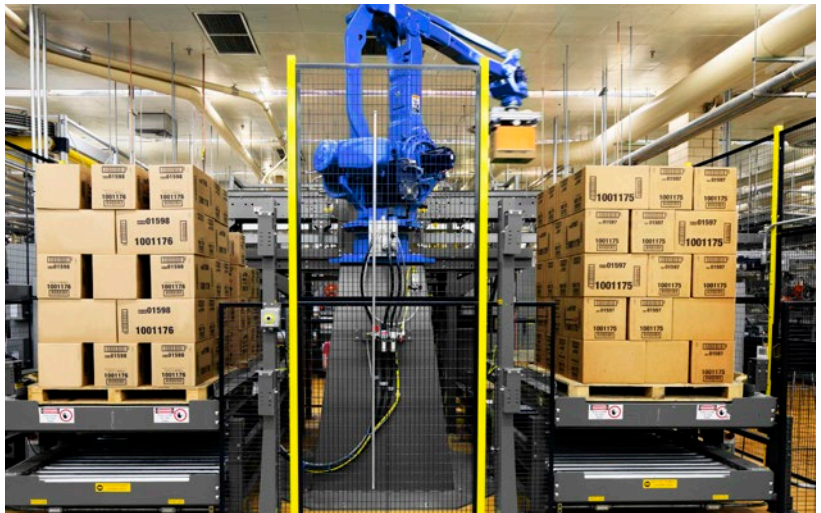
"We are having issues with finding and retaining employees for second shift picking," confirms Gary Ritzman, project manager at Rochester Drug Cooperative (RDC), a distributor that uses two IAM robots in its New York distribution center.

Even when companies can find warehouse workers, some positions see a great deal of turnover. "They're just not good jobs," admits Matt Wicks, vice president of product development at Honeywell Intelligrated in Mason, Ohio. "They're prone to injury, and a lot of them are not in the best environments."

Robots for logistics are designed to take over the supply chain's least attractive tasks. In some cases, robotic systems do this work entirely on their own, freeing humans for more complex functions. In other instances, bots collaborate with humans. Whatever the scenario, proponents say that these automated solutions provide a big productivity boost.

Companies use robots throughout the supply chain. Manufacturing is the traditional venue, but these days, you might even see robots in retail locations. Walmart, for example, has been testing bots that roam the sales floor scanning shelves in 50 of its stores.

But many new developments focus on the warehouse.



Honeywell Intelligrated offers bots for many applications, such as palletizing and depalletizing, and stacking and wrapping pallets in a single process.

There, robotic solutions fall into at least three categories: bots that deliver product from place to place; bots that pick, insert, or otherwise manipulate items; and bots that do both.

From Place to Place

In the first category, Bleum Robotics in Englewood, Colorado, offers a low-built robot that lifts a shelving unit from a densely packed storage area and transports it to a picking station. There, following instructions on a screen, a human picks items from the shelves into slots on a "smart rack." The robot then returns the shelves to storage.

Bleum's software keeps the robots from colliding as they carry shelves around the building. "Essentially, it's the same algorithm that air traffic controllers use," says Eric Rongley, the company's CEO. When the bots travel unloaded, they mostly scuttle beneath rows of shelves.

Bleum also offers a larger robot that can move product by the pallet load. "Workers take the pallets off a truck, move them to a storage area, and then have the big robots bring those pallets to a replenishment station where workers put items onto shelves," Rongley says.

In addition, Bleum might one day adapt its robots for use in factories, where they would offer a less-expensive alternative to automated guided vehicles (AGVs) that run on tracks. "AGVs cost \$80,000 to \$100,000, while the robots cost about \$25,000," Rongley says.

For the warehouse, Bleum's main selling point is the efficiency gained when autonomous machines bring goods to pickers. "The automation reduces warehouse operational expenses by anywhere from 60 to 80 percent," Rongley says.

Locus Robotics, based in Wilmington, Massachusetts, takes an inverse approach. Instead of bringing product to a human picker, Locus's model assigns a human to a picking zone filled with product. A bot brings a set of instructions, waits while the person picks the desired items, and then carries that product away.



Honeywell robots use computer vision and machine learning technologies to locate and manipulate individual items.

A Locus robot uses three technologies to navigate around the building. First, before a unit goes to work for the first time, it roves the building at night, creating an internal map of the layout. Second, the robot uses odometry, measuring the revolutions of its wheels per second. Third, it scans for a series of barcodes called “Locus points,” which the company affixes in key locations as guideposts.

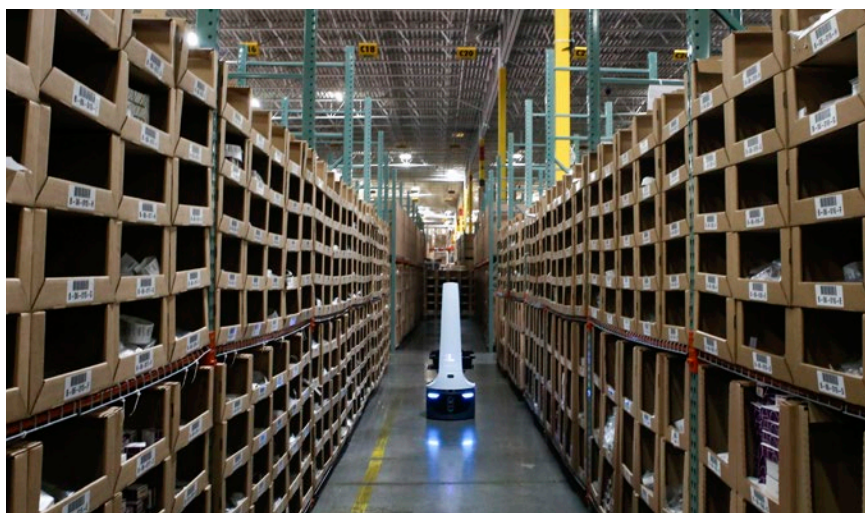
“A moving robot fuses that information together, and then it knows its location,” says company CEO Rick Faulk. “It also looks out for forklifts, humans, or other obstacles.”

Locus uses a “robot as a service” business model. “Instead of paying a human \$18 hourly, companies now hire a robot and typically pay about \$4 per hour,” Faulk says.

Optimizing People Power

Quiet Logistics, which offers e-commerce and omnichannel fulfillment, uses Locus’s bots to keep up with customer demands for fast, accurate service in a tight labor market. “We’d rather have the people working in our fulfillment business do more productive tasks, such as personalization

LocusBots from Locus Robotics travel to where the pick is, carrying orders through the warehouse, and to the packing station. They save workers time and effort, improving overall throughput and efficiency.



and customization,” says Brian Lemerise, president of Quiet Logistics in Devens, Massachusetts. “We let the robots drive around 14 miles per day.”

When Quiet opened for business in 2009, it used robots from Kiva Systems. It turned to Locus after Amazon purchased Kiva in 2012 and took those robots off the market. Quiet currently uses the bots in its two Massachusetts facilities and will add them to its St. Louis fulfillment center in late 2018.

Currently, Quiet uses four or five robots for each human stationed in its picking zones. A worker patrols a zone of about five aisles, waiting for a robot to arrive with a picking assignment. As the human approaches, the robot scans the worker’s ID badge. “It greets them in their native language with a nice user interface that includes photos, and tells the worker which unit to pick from what location,” Lemerise explains.

The worker places the item in a bin that the robot carries, using a scanner on the robot to capture the barcode. The robot then moves on to its next location, and the worker looks out for the next robot.

In its second Massachusetts facility, where Quiet never used the Kiva system, productivity is now three to five times better than in the pre-robot days, Lemerise says.

Lending a Hand

For another type of robot, the work is largely about picking up and putting down.

RightHand Robotics offers a stationary robot for picking individual items, such as those shipped in e-commerce orders. A company can use it for tasks that were previously impossible to automate—for example, to move product from bins on a conveyor system into cartons, or onto a sorting system, or to assemble separate products into kits.

The robot takes instructions from a warehouse management system (WMS). “The information we receive is similar to what you’d get from a pick-to-light system: how many items to pick, where to pick them from, and where to place them,” says Leif Jentoft, co-founder of the company, based in Somerville, Massachusetts.

Robots with grabber arms have been lifting and placing items in factories for years, but piece-level picking in a warehouse presents a tougher challenge. Instead of handling the same components repeatedly, the RightHand system might have to pick thousands of different items, in all sizes and shapes.

The RightHand robot uses 3D optics to recognize objects; it uses feedback

Distribution Center of the Future

What will happen when the latest robotics technologies mature and become widely available? DHL provides one possible snapshot of our future:

Compared with the distribution centers of today, the robotic warehouses of our future are likely to improve in almost every metric. These highly scalable facilities will be more flexible and faster to relocate; they will achieve higher productivity with increased quality.

New operations will incorporate different types of robot, each with a specific job to perform such as unloading trucks, co-packing, picking orders, checking inventory, or shipping goods. Most of these robots will be mobile and self-contained, but they will be coordinated through advanced warehouse management systems and equipped with planning software to track inventory movements and order progress with a high degree of accuracy.

Overall reliability will increase because there will be fewer “single points of failure” in each distribution center. As each robot acts as an individual unit, we will be able to quickly push it to the side if it breaks down and replace it with another unit from the robot fleet. Depending on the problem, we will be able to fix the broken robot on site, or send it to a central repair facility. The new robot will be connected to the cloud so it will automatically download the knowledge needed to take over from its decommissioned counterpart.

Warehouse workers will be given more responsibility and higher-level tasks such as managing operations, coordinating flows, fixing robots, and handling exceptions or difficult orders. They will wear exoskeletons to help them lift heavy goods with less strain, fatigue, and chance of injury. When necessary, we will bring goods into a co-packing area where collaborative robots will work safely alongside highly skilled warehouse employees to transform basic products into new items customized for individual orders.

Employees will train the robots through simple interfaces to do easy and repetitive tasks, and these humans will take on the more challenging work themselves. Both small and large warehouses will enjoy productivity gains as we add—as needed—the robots that have proved to be successful in supporting the existing workforce.

Workers will be able to flex and scale operational capacity according to changing demand simply by adding more robots to cover peaks and automatically removing them from the building (relocating them to where they are next needed) to rebalance the distribution network. And we will experience the emergence of a robot leasing, rental, and pre-owned market, allowing companies to reduce capital investments while further increasing operational flexibility.

SOURCE: Robotics in Logistics, DHL Trend Research

from sensors in its grippers, and artificial intelligence, to improve its technique over time.

RightHand’s robots help companies fill orders reliably, in spite of the tight labor market. They also improve picking accuracy. “A person on a picking line gets tired and eventually starts making mistakes,” Jentoft says. “The robots don’t.”

A company using RightHand’s technology typically would assign human associates to more complex tasks that the robots can’t perform. “These tasks include making sure the systems are operating effectively and looking across the whole warehouse to identify what is functioning, what is not functioning, and what needs to be done if there’s an issue,” Jentoft says.

Honeywell Intelligrated provides fixed robots as part of integrated material handling systems that include other automation equipment, such as conveyors. Certified by the Robotics Industry Association, Honeywell offers bots for a variety of uses, such as case packing and unpacking, each picking, stacking mixed SKUs onto a pallet, palletizing and depalletizing, and stacking and wrapping pallets in a single process.

In some cases—for instance, in some examples of each picking—human pickers may work in the same general area as Intelligrated’s robotic arm. Some items, such as products with complex shapes that tend to become intertwined, are just too difficult for robots to handle. “But robots are getting good at handling many different types of objects individually and effectively,” Wicks says.

The robots use computer vision and machine learning technologies to locate and manipulate individual items in all their variety. They rely on other systems to send them only the kinds of products they can handle appropriately, while routing other items to human pickers. “The conveyance, the sortation, the sequencing—those types of other ancillary systems become very important when you look at applying robotic each picking as an order fulfillment solution,” Wicks says.

Robotic systems improve efficiency by removing human error from a variety of tasks. A robot can also outperform a

Rochester Drug Cooperative uses a system from IAM Robotics that teams human workers with robots that both travel and pick.



human in tasks that require heavy lifting, such as loading a pallet. “Handling full layers at a time and stacking them onto another layer is uniquely suited for robots,” Wicks notes.

For some tasks, such as depalletizing, robots are faster than human workers. But even when they’re not faster, robots often get more done over the course of a shift. “When you consider the robot is available to operate 24/7, with no breaks and less down time than an operator would have, they don’t necessarily need to be faster,” Wicks says.

Pluck and Roll

At RDC’s facility in Rochester, the robotics solution from IAM teams human workers with robots that both travel and pick. The drug distributor currently has two IAM robots, each working an eight-aisle pick zone on the DC’s mezzanine, which is devoted to slower-moving products.

“Each aisle has six bays of shelving, plus an end cap,” Ritzman says. “The robot runs parallel to a conveyor system and then makes a right-hand turn to go into one of the aisles.”

In each zone, a human operator takes shipping totes from the conveyor, scanning the barcode on each to send picking instructions to the robot partner. The robot travels the aisles with a picking tote, using a suction cup on its arm to pluck items off the shelves. It then returns to the human worker, who scans each item, transfers it to the shipping tote, and places that tote on a second conveyor, bound for a shipping station.

IAM Robotics uses 3D navigation and vision technology to

help its robots navigate the aisles and spot the products they are supposed to pick. The robot receives orders through a wireless connection and then disconnects from the network, traveling autonomously.

Before the robots go to work in a facility, the IAM system

uses a unit called Flash, which it terms “a high-performance, combination product dimensioner and photo booth,” to scan an example of each SKU.

“We get all the item information from the UPC code,” Reed says. “We collect the item’s weight, and then we get three-dimensional data on height, weight, and depth. Finally, we get a high-resolution image of that product.” When it comes time to pick, the bot uses this information to recognize the items it needs.

RDC still uses human associates to pick faster-moving items and pharmaceuticals, to do case picking, and to pick unwieldy items, such as wheelchairs. But the robots have reduced the number of associates the company needs on the mezzanine.

“Currently, we project that one operator will be able to handle the two robots and free two other people to do something else, to help us finish faster,” Ritzman says. “One person can make the difference between finishing on time or late.”

Some observers envision a future when robots will take over nearly every job in a warehouse. But for now, at least, workers and logistics robots are divvying up the work, focusing on the jobs each does best to keep product flowing quickly and correctly. ■

DO THE NUMBERS ADD UP? FINDING HIDDEN SUPPLY CHAIN COSTS

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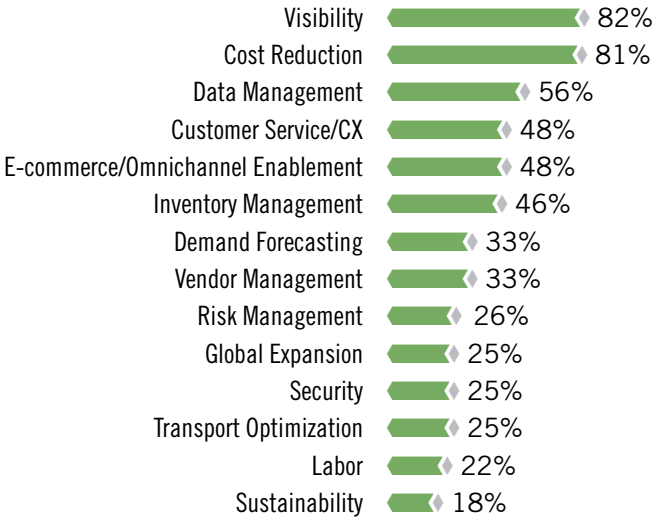
Inbound Logistics surveys the supply chain technology market to evaluate the latest trends and uncover the most innovative providers in their respective fields.



By Jason McDowell

Logistics technology research used to focus on a variety of siloed software solutions, but it has become so much more than that. A drastic shift from even five years ago, the Internet of Things (IoT) now links a wide range of hosted and on-site software solutions to each other, including transportation management systems (TMS), warehouse management systems (WMS), enterprise resource planning (ERP), product lifecycle management solutions, inventory management software, and a slew of others—some directly and others indirectly related to an organization's supply chain.

FIG. 1 Which transportation/logistics challenges are most critical to your customers?



These solutions are tied to more data from hardware sources ranging from automated factory robots, to on-board truck devices, to GPS and RFID tags on cargo and packages. While the rise of big data once confused and intimidated some supply chain managers, the growth of artificial intelligence (AI) means all this gathered data gets handled efficiently with minimal human effort.

The wide availability of cloud-based Software-as-a-Service (SaaS) solutions means even small- and mid-sized enterprises (SMEs) can now afford logistics software. Both SMEs and larger shippers have extreme visibility over their freight and the ability to identify and track key performance indicators in their operations. Meanwhile, constant monitoring of—and easy access to—the spot market means shippers can negotiate the best rates right alongside their larger counterparts.

Tracking trends in the logistics technology market can be difficult for shippers who want to stay focused on their supply chain operation. This is why *Inbound Logistics* surveys technology providers each year to help you stay current on the latest and greatest technology providers. We take the pulse of the industry so you don't have to, giving you the information you need to make savvy choices that will boost your supply chain in the year ahead.

Our annual *IL Top 100 Logistics IT Providers* list (page 76) showcases providers who lead the way in terms of innovation and best-in-class solutions. Our mission is to help you by providing a guide to top providers you can trust.

Oh Say, Can You See?

Logistics technology developers want to help customers succeed. To do that, they must produce solutions that take into account the biggest obstacles those customers face.

Supply chain visibility took the top spot this year, with 82 percent of providers reporting it as a top challenge (see Figure 1). While visibility has been a top concern throughout the history of our *Top 100 Logistics IT Providers* report, this is the first time it has taken the number-one spot since we began asking this question. A 10-percent year-over-year increase suggests shippers are taking advantage of newly available technology that helps them track the safety and security of their cargo at every touchpoint.

The reigning champion for the number-one slot since 2013—cost reduction—narrowly fell to the second position. Though down four percent from 2017, cost reduction remains a concern for shippers, with 81 percent of respondents reporting it as a critical challenge. With cost reduction

FIG. 2 How do IT providers deliver their solutions?

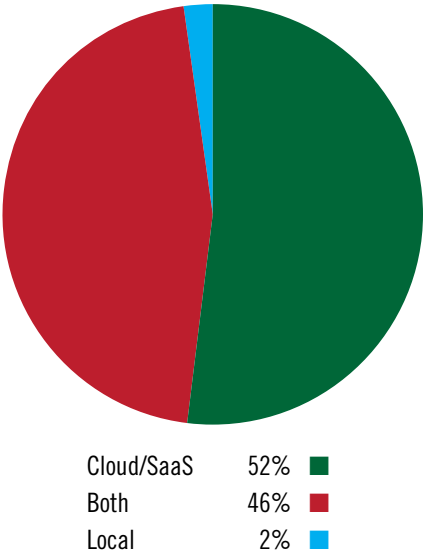
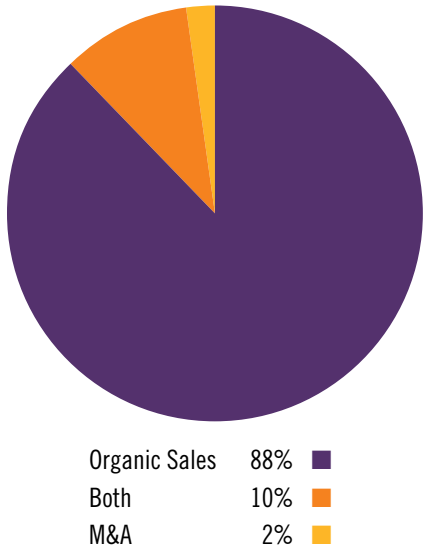


FIG. 3 Growth in the past year was due to...



and visibility in contention as the top two major pain points for shippers, it will be important for logistics technology providers to offer solutions that can increase visibility while remaining affordable.

Data management, customer service, e-commerce/omnichannel enablement, and inventory management also rate as top concerns for shippers—though not by nearly as many respondents as visibility and cost reduction—falling within the 46- to 56-percent range.

WHERE'S THE DEMAND FOR NEW LOGISTICS IT?

In its survey, *Inbound Logistics* asked logistics IT suppliers where they see growing demand coming from. Here are just a few of the many responses.

Real-time visibility. "Shippers across all industries are exploring more user-friendly ways of tracking their shipments in real time to improve exception management capabilities."

"Shippers are seeking real-time visibility technology for time-saving purposes, as technology allows logistics teams to instantly receive alerts on their shipments versus the traditional method of manually calling the dispatcher."

Big data. "Supply chain managers are increasingly looking to leverage data insights to identify cost-saving opportunities. Unloading/loading times and DC efficiencies are just some of the metrics logistics managers seek as they look to further optimize the supply chain while lowering costs."

New, modern software. "It's impossible to deliver a modern user experience on a legacy platform. Businesses are looking for new, modern software with a natural user interface created by designers (not just engineers) that reduces friction between people and provides critical business data."

Improved tracking/tracing. "We see a need for improved load tracking versus tractor or driver

tracking. Drivers and tractors can change and a tracking device needs to be in with the load. Only then can you have true load tracking. This will also become more critical as autonomous vehicles hit the market."

"The product needs to be monitored throughout production through to retail or end user. TMS solutions need to aggregate all that information into easy-to-understand visuals and reports."

Cloud solutions. "We are seeing growth in cloud distribution solutions particularly in the chemicals, automotive, furniture, and industrial distribution markets."

Mobile apps. "Whether it's spoilage, damage, or theft, companies can no longer afford not to keep a close eye on their truckload freight. Mobile apps, combined with off-the-shelf sensors, make IoT-level tracking attainable, fast, and affordable."

Blockchain. "Though still in its infancy, blockchain has been characterized as a disruptive technology that, if widely adopted, could enable a giant leap forward in supply chain collaboration and automation."

E-commerce. "Smaller orders and each/single picking is on the rise across industries; technology to handle this will be essential."

Cloud Reigns Supreme

Fifty-two percent of technology providers report offering only cloud-based solutions, while 46 percent offer a mix of local and cloud services (see *Figure 2*). A meager two percent say they only sell local solutions, suggesting the days of on-site logistics technology may soon fade away altogether as shippers and other stakeholders invest in hosted, transactional solutions.

With the expansion of IoT solutions in the supply chain, and the aforementioned demand for increased visibility, it's no surprise 88 percent of logistics technology providers report organic sales as the primary driver of growth for their organization, with an additional 10 percent listing both organic sales and mergers and acquisitions (M&A) as growth drivers (see *Figure 3*). Only two percent attribute growth solely to M&A activities.

Transportation—including 3PLs, brokers, freight forwarders, warehouses, trucking, and everything in between—remained the top industry served by logistics technology providers, according to 87 percent of respondents, down one percent from last year's data (see *Figure 4*). Manufacturing, however, reports a sharp increase, narrowly missing the top spot as 86 percent of respondents list it as a served industry. This is a

reversal of 2017's trend, when manufacturing experienced a slight decline.

E-commerce shows the biggest change year-over-year. Seventy percent of providers report serving the e-commerce sector, a big jump from 58 percent in 2017. The remaining sectors changed little, with the wholesale sector experiencing a one-percent increase year-over-year to 81 percent, and retail slightly dropping to 78 percent.

FIG. 4 What industries do your solutions serve?



FIG. 5 Logistics solutions offered:

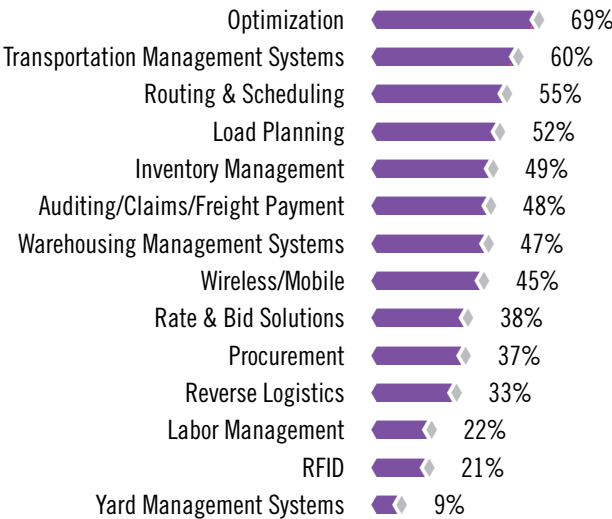
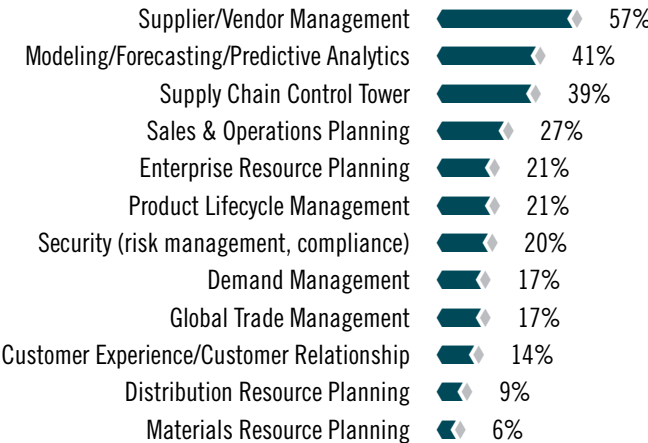


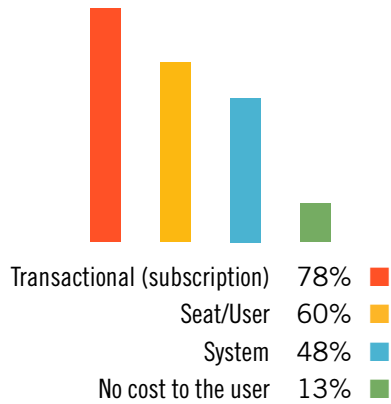
FIG. 6 Supply chain solutions offered:



Providers continue to offer a wide range of both logistics and supply chain solutions, with primary products in both areas focusing on efficiency and visibility. For example, optimization (69 percent) and

transportation management systems (60 percent) are named the top two logistics solutions, while supplier/vendor management (57 percent) and modeling/forecasting/predictive analytics (41 percent) top the

FIG. 7 How do users pay for technology solutions?



supply chain list, demonstrating that shippers and other supply chain stakeholders are putting special emphasis on streamlining their operations (see Figures 5 and 6).

One decade ago, the thought of hosting data offsite was a frightening prospect to many business leaders—supply chain leaders especially, considering the risks of supply chain disruption if data was lost or stolen. However, the viability and safety of the cloud has been proven, and cloud-based solutions have gained widespread acceptance in the business world. Shippers now enjoy the many benefits—including affordability and convenience—such a model can offer.

Providers report their customers are leasing rather than buying, with 78 percent paying for solutions through some sort of transactional/subscription model (see Figure 7). This figure has risen four percent year-over-year, while the per seat/user model also saw a rise of six percent.

2018 TOP 100 LOGISTICS IT PROVIDERS

Our Top 100 Logistics IT Providers list, as selected by IL editors, complements the Logistics IT market survey. This annual compendium celebrates logistics IT service providers that are at the top of their game. Pulling together this Top 100 list demands a great deal of due diligence. Nearly 300 companies

submitted questionnaires for consideration this year, and IL editors conducted a careful analysis via surveys, phone interviews, and online research to qualify and vet these selections. You will find full details on the broad array of services and solutions these companies provide at bit.ly/IT-DST



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WWW.CTSI-GLOBAL.COM



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www.ctsi-global.com

solutions@ctsi-global.com
+1-888-836-5135

Got 3PL challenges?

Get **free** expert solutions at inboundlogistics.com/3pl

Need logistics IT solutions? These leading providers, presented alphabetically, offer the services that match your supply chain needs. Search the Logistics IT Decision Support Tool for an even deeper dive: bit.ly/IT-DST



360data
920-707-3601
360data.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
Logistics Solutions: TMS
Additional Solutions: EDI

3Gtms
203-567-4610
3Gtms.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, TMS

3PL Central
888-375-2368
3plcentral.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Supplier/Vendor Mgmt, WMS
Logistics Solutions: Inventory Mgmt, Optimization, WMS
Additional Solutions: EDI, Order Mgmt, Small Parcel Integration

A3 Freight Payment
901-759-2969
a3freightpayment.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale
SC Solutions: Freight Invoice Processing and Payment
Logistics Solutions: Auditing/Claims/Freight Payment
Additional Solutions: EDI

Acatech Solutions
949-880-6660
acatech.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, PLM
Logistics Solutions: Inventory Mgmt, Labor Mgmt, Optimization, Reverse Logistics, RFID, WMS, Wireless/Mobile, YMS
Additional Solutions: EDI, Order Management, Process Improvement, Strategic Sourcing

Use the Logistics IT Decision Support Tool – SEARCH on any of these data points to match your requirements to the Top 100: bit.ly/IT-DST

TOP 100

LOGISTICS IT PROVIDERS

Acuitive Solutions
704-321-4992
AcuitiveSolutions.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale
SC Solutions: GTM
Logistics Solutions: Auditing/Claims/Freight Payment, TMS
Additional Solutions: EDI, Order Mgmt

Agistix
650-362-2000
agistix.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Wholesale, Services/Government, Transportation
SC Solutions: GTM, Modeling/Forecasting/Predictive Analytics, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Rate & Bid Solutions, Reverse Logistics, Routing & Scheduling, TMS, Visibility
Additional Solutions: Big Data Mgmt, EDI, Order Mgmt, Process Improvement

Amber Road
201-935-8588
amberroad.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: GTM, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Optimization, Rate & Bid Solutions, Wireless/Mobile
Additional Solutions: Order Mgmt, Strategic Sourcing

ASC Software
937-429-1428
ASCsoftware.com

Platform: Cloud/SaaS/Hosted
Pricing: System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: ERP, MRP, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Procurement, Reverse Logistics, RFID, Routing & Scheduling, WMS, Wireless/Mobile, YMS
Additional Solutions: EDI, Order Mgmt

BluJay Solutions
866-584-7280
blujaysolutions.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional
Industries Served: Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Demand Mgmt, Modeling
Logistics Solutions: Inventory Mgmt

Bringg
+972-3-505-6397
bringg.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Sales & Operations Planning
Logistics Solutions: Load Planning, Optimization, Reverse Logistics, Routing & Scheduling, TMS, Last-Mile Delivery Mgmt, Customer Experience
Additional Solutions: Order Mgmt, Process Improvement

KEY

CRM/CX: Customer Relationship Management
DRP: Distribution Resource Planning
ERP: Enterprise Resource Planning
GTM: Global Trade Management
MRP: Manufacturing Resource Planning
PLM: Product Lifecycle Management
TMS: Transportation Management System
WMS: Warehouse Management System
YMS: Yard Management System

Find more. Search here
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TOP 100

LOGISTICS IT PROVIDERS

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C3 Solutions
514-315-3139
c3solutions.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Supplier/Vendor Mgmt, Supply Chain Mgmt/Optimization
Logistics Solutions: Optimization, Routing & Scheduling, Wireless/Mobile, YMS
Additional Solutions: Process Improvement

Cadre Technologies
303-217-7030
cadretech.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Supply Chain Control Tower
Logistics Solutions: Inventory Mgmt, TMS, WMS, YMS
Additional Solutions: EDI, Order Mgmt

Camelot 3PL Software
704-554-1670
3plsoftware.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Supplier/Vendor Mgmt
Logistics Solutions: Inventory Mgmt, Routing & Scheduling, TMS, WMS
Additional Solutions: EDI, Order Mgmt

CargoSmart
408-325-7600
cargosmart.com

Platform: Cloud/SaaS/Hosted
Pricing: Free (pricing based on other variables), Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: CRM/CX, GTM, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Optimization, Procurement, Rating & Bidding, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: IoT/IIoT, Machine Learning, Big Data Mgmt, EDI

Carrier Logistics
914-332-0931
carrierlogistics.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: Transportation
SC Solutions: ERP
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Rating & Bidding, Routing & Scheduling, TMS, WMS, Wireless/Mobile
Additional Solutions: EDI, Order Mgmt, Process Improvement

Cass Information Systems
314-506-5500
cassinfo.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
Logistics Solutions: Auditing/Claims/Freight Payment, Rating & Bidding

CDM Software Solutions
281-298-8880
cdmsoft.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: Commerce, Retail, Wholesale, Services/Government, Transportation
SC Solutions: CRM/CX, DRP, ERP, GTM, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS
Additional Solutions: Blockchain, IoT/IIoT, Big Data Mgmt, Container/Chassis Mgmt, EDI, Order Mgmt, Process Improvement

Use the Logistics IT Decision Support Tool – **SEARCH** on any of these data points to match your requirements to the Top 100: bit.ly/IT-DST

TOP 100

LOGISTICS IT PROVIDERS

Cheetah Software
805-373-7111
cheetah.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: DRP, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning, Logistics Operations Optimization Platform
Logistics Solutions: Load Planning, Optimization, Reverse Logistics, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: Machine Learning, Capacity, EDI, Order Mgmt, Process Improvement, Strategic Sourcing

ClearTrack
877-377-4400
cleartrack.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail
SC Solutions: GTM, Modeling/Forecasting/Predictive Analytics, PLM, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Procurement, Rating & Bidding, Global Order Visibility
Additional Solutions: Blockchain, Machine Learning, Big Data Mgmt, Container/Chassis Mgmt, EDI, Order Mgmt

Cloud Logistics
561-800-1212
gocloudlogistics.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Load Matching & Planning, Rating & Bidding, TMS, Vendor Portal
Additional Solutions: Mobile Driver Solution

CT Logistics
216-267-2000
ctllogistics.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Freight Bill Audit & Payment, Modeling/Forecasting/Predictive Analytics, Supplier/Vendor Mgmt, Supply Chain Control Tower, Supply Chain Mgmt, TMS
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Procurement, Rating & Bidding, Routing & Scheduling, TMS, Group LTL Buying Program
Additional Solutions: Big Data Mgmt, Capacity, EDI, Order Mgmt, Process Improvement, Strategic Sourcing

CTSI-Global
888-836-5135
ctsi-global.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Supplier/Vendor Mgmt
Logistics Solutions: Auditing/Claims/Freight Payment, Optimization, Routing & Scheduling, TMS
Additional Solutions: EDI, Order Mgmt

Cypress Inland (YardView)
303-781-3430
yardview.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Free (pricing based on other variables), System
Industries Served: Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, Scheduling, Security, Supplier/Vendor Mgmt, YMS
Logistics Solutions: Labor Mgmt, Load Planning, Optimization, Reverse Logistics, RFID, Routing & Scheduling, Wireless/Mobile, YMS
Additional Solutions: IoT/IIoT, Capacity, Container/Chassis Mgmt, EDI, Order Mgmt, Process Improvement

KEY

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Data2Logistics
609-577-3756
data2logistics.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Rating & Bidding, Routing & Scheduling
Additional Solutions: Big Data Mgmt, EDI, Process Improvement, Strategic Sourcing

Datex
727-400-3641
datexcorp.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
Logistics Solutions: Inventory Mgmt, Labor Mgmt, Load Planning, Procurement, Reverse Logistics, RFID, WMS, Wireless/Mobile, YMS
Additional Solutions: EDI, Order Mgmt

Demand Management
314-991-7100
demandsolutions.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, Seat/User
Industries Served: Manufacturing, Retail, Wholesale, Services/Government
SC Solutions: Demand Mgmt, DRP, MRP, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning, Supply Chain Control Tower
Logistics Solutions: Inventory Mgmt, Optimization, Procurement
Additional Solutions: Machine Learning, Big Data Mgmt, Allocation

Deposco
877-770-1110
deposco.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Supplier/Vendor Mgmt, Integration Platform, Consulting
Logistics Solutions: Inventory Mgmt, Reverse Logistics, WMS, OMS, DOM, Integration
Additional Solutions: Order Mgmt, Point of Sale, Analytics/Reporting

Descartes
519-746-8100
descartes.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: GTM, Security, Global Trade Content
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS
Additional Solutions: Big Data Mgmt, Capacity, EDI, Order Mgmt, Strategic Sourcing

Elemica
484-253-4674
elemica.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: Manufacturing
SC Solutions: GTM, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Inventory Mgmt, Procurement, Reverse Logistics, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: Blockchain, IoT/IIoT, Machine Learning, Big Data Mgmt, EDI, Order Mgmt, Process Improvement, Strategic Sourcing, Customer Mgmt

enVista
317-208-9100
envistacorp.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: CRM/CX, Demand Mgmt, DRP, ERP, GTM, MRP, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Routing & Scheduling
Additional Solutions: EDI, Order Mgmt, Strategic Sourcing

Use the **Logistics IT Decision Support Tool – SEARCH** on any of these data points to match your requirements to the Top 100: bit.ly/IT-DST

TOP 100

LOGISTICS IT PROVIDERS

Epicor
800-999-1809
epicor.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Wholesale
SC Solutions: CRM, Demand Mgmt, DRP, ERP, Modeling, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt
Logistics Solutions: Inventory Mgmt, Labor Mgmt, Optimization, Procurement, Rate/Bid Mgmt, Routing & Scheduling, WMS, Wireless/Mobile
Additional Solutions: Category Mgmt, EDI, Mobile Order Mgmt, Strategic Sourcing

Fascor
513-910-2299
fascor.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Demand Mgmt, Supplier/Vendor Mgmt
Logistics Solutions: Inventory Mgmt, Labor Mgmt, Optimization, TMS, WMS
Additional Solutions: Process Improvement

Fortigo
866-376-8884
fortigo.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System, Seat/User
Industries Served: Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Optimization, TMS, Wireless/Mobile
Additional Solutions: EDI

Freight Management
714-632-1440
FreightMgmt.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System
Industries Served: Manufacturing, Retail, Wholesale
SC Solutions: CRM/CX, ERP, MRP, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Rating & Bidding, Reverse Logistics, TMS
Additional Solutions: Capacity, EDI, Order Mgmt

Freightgate
714-799-2833
freightgate.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: CRM/CX, Demand Mgmt, ERP, GTM, Modeling/Forecasting/Predictive Analytics, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower, Freight Rate Mgmt
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, Freight Rate Mgmt
Additional Solutions: Blockchain, Big Data Mgmt, Capacity, EDI, Order Mgmt, Process Improvement, Transportation Bid Mgmt

KEY

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ERP: Enterprise Resource Planning
GTM: Global Trade Management
MRP: Manufacturing Resource Planning
PLM: Product Lifecycle Management
TMS: Transportation Management System
WMS: Warehouse Management System
YMS: Yard Management System

Find more. Search here
bit.ly/IT-DST

GT Nexus
510-808-2229
gtnexus.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, Seat/User
Industries Served: Manufacturing, Retail, Wholesale, Transportation
SC Solutions: DRP, GTM, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Procurement, Rate/Bid Mgmt, TMS, WMS
Additional Solutions: Container/Chassis Mgmt, Order Mgmt, Strategic Solutions

TOP 100

LOGISTICS IT PROVIDERS

Use the **Logistics IT Decision Support Tool – SEARCH** on any of these data points to match your requirements to the Top 100: bit.ly/IT-DST

GTG Technology Group
832-327-2318
GTGtechnologygroup.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: Transportation
SC Solutions: Sales & Operations Planning, Security, Supplier/Vendor Mgmt
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Rating & Bidding, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: Container/Chassis Mgmt, EDI, Order Mgmt, Process Improvement

HighJump
800-328-3271
highjump.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Free (pricing based on other variables), Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: ERP, PLM, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Procurement, Reverse Logistics, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS
Additional Solutions: IoT/IIoT, Big Data Mgmt, Robotics/Automation, Order Mgmt, Process Improvement

Highway 905
908-874-4867
highway905.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Procurement, Reverse Logistics, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile
Additional Solutions: Big Data Mgmt, EDI, Order Mgmt, Process Improvement, Strategic Sourcing

Info-X Software
646-915-0333
infoxusa.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System, Seat/User
Industries Served: Transportation
SC Solutions: CRM/CX, Sales & Operations Planning, Supplier/Vendor Mgmt, Supply Chain Control Tower, Ocean, Air & Ground Transportation Mgmt System; Back-office Documentation Systems, Auditing, Accounting, Tracking Systems
Logistics Solutions: Inventory Mgmt, Load Planning, Optimization, Rating & Bidding, TMS, WMS
Additional Solutions: Machine Learning, Big Data Mgmt, Container/Chassis Mgmt, EDI, Order Mgmt, Process Improvement, Solas e-VGM, Vessel Schedules, Online Bookings in Partnership with INTRIA

Infor
866-244-5479
infor.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Demand Mgmt, DRP, ERP, GTM, MRP, Modeling/Forecasting/Predictive Analytics, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS
Additional Solutions: Blockchain, IoT/IIoT, Machine Learning, Big Data Mgmt, Capacity, EDI, Order Mgmt, Process Improvement, Strategic Sourcing

Integration Point
704-576-3678
IntegrationPoint.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: GTM, Modeling/Forecasting/Predictive Analytics, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Inventory Mgmt, Optimization
Additional Solutions: Big Data Mgmt, EDI, Strategic Sourcing, Landed Cost Mgmt

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TOP 100

LOGISTICS IT PROVIDERS

ITOrizon
404-918-9673
ITOrizon.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Free (pricing based on other variables)
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: ERP, GTM, PLM, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS, Billing
Additional Solutions: Blockchain, IoT/IIoT, Robotics/Automation, EDI, Order Mgmt, Process Improvement, Strategic Sourcing, QA Automation

JDA Software
800-479-7382
jda.com

Platform: Cloud/SaaS/Hosted
Pricing: Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Demand Mgmt, DRP, ERP, MRP, Modeling/Forecasting/Predictive Analytics, PLM, Sales & Operations Planning, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS
Additional Solutions: IoT/IIoT, Machine Learning, Big Data Mgmt, Capacity, Robotics/Automation, Order Mgmt, Strategic Sourcing

JTS (FreightOptixx)
800-742-2053
johansontrans.com

Platform: Cloud/SaaS/Hosted
Pricing: Free (pricing based on other variables)
Industries Served: Manufacturing, Retail, Wholesale, Transportation
SC Solutions: GTM, Supplier/Vendor Mgmt, Supply Chain Control Tower, Logistics Mgmt, DC/Warehouse Location
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: EDI, Order Mgmt, Process Improvement, Mobile Access

Kuebix
800-220-8610
kuebix.com

Platform: Cloud/SaaS/Hosted
Pricing: Free (pricing based on other variables), Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, Security
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, Wireless/Mobile, YMS
Additional Solutions: Big Data Mgmt

KEY

CRM/CX: Customer Relationship Management
DRP: Distribution Resource Planning
ERP: Enterprise Resource Planning
GTM: Global Trade Management
MRP: Manufacturing Resource Planning
PLM: Product Lifecycle Management
TMS: Transportation Management System
WMS: Warehouse Management System
YMS: Yard Management System

Find more. Search here
bit.ly/IT-DST

LLamasoft
734-418-3120
llamasoft.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Demand Mgmt, Modeling/Forecasting/Predictive Analytics, Supply Chain Planning & Design
Logistics Solutions: Optimization, Reverse Logistics, Routing & Scheduling
Additional Solutions: Capacity, Process Improvement

TOP 100

LOGISTICS IT PROVIDERS

Use the **Logistics IT Decision Support Tool – SEARCH** on any of these data points to match your requirements to the Top 100: bit.ly/IT-DST

LOG-NET
732-758-6800
[LOG-NET.com](https://www.log-net.com)

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: CRM/CX, Demand Mgmt, DRP, ERP, GTM, Modeling/Forecasting/Predictive Analytics, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS
Additional Solutions: Blockchain, Machine Learning, Big Data Mgmt, Capacity, Container/Chassis Mgmt, EDI, Order Mgmt, Process Improvement

Logility
800-762-5207
[logility.com](https://www.logility.com)

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Demand Mgmt, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Routing & Scheduling, TMS
Additional Solutions: IoT/IIoT, Machine Learning, Big Data Mgmt, Capacity

LogiNext
510-894-6225
[loginextsolutions.com](https://www.loginextsolutions.com)

Platform: Cloud/SaaS/Hosted
Pricing: Free (pricing based on other variables), Transactional, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: DRP, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning, Supply Chain Control Tower
Logistics Solutions: Load Planning, Optimization, Reverse Logistics, RFID, Routing & Scheduling, TMS, Route Planning
Additional Solutions: Blockchain, IoT/IIoT, Machine Learning, Big Data Mgmt, Robotics/Automation, Container/Chassis Mgmt, Order Mgmt, Process Improvement

Logistical Labs
312-662-4773
[logisticallabs.com](https://www.logisticallabs.com)

Platform: Cloud/SaaS/Hosted
Pricing: Seat/User
Industries Served: E-Commerce, Transportation
SC Solutions: CRM/CX, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Optimization, Procurement, Rating & Bidding, Routing & Scheduling, TMS, Multi-modal Pricing
Additional Solutions: IoT/IIoT, Big Data Mgmt, Capacity, Order Mgmt, Process Improvement, API Integrations

Macola Software
800-468-0834
[macola.com](https://www.macula.com)

Platform: Cloud/SaaS/Hosted, Local
Pricing: System, Seat/User
Industries Served: Manufacturing, Wholesale
SC Solutions: CRM/CX, ERP, MRP, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning, Supplier/Vendor Mgmt, Order Mgmt, Inventory Mgmt, Supply Chain Integration and Management
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Procurement, RFID, Routing & Scheduling, WMS, Wireless/Mobile, Supply Chain Integration and Mgmt, CRM, Order Mgmt, Configuration Inventory Mgmt
Additional Solutions: Capacity, EDI, Order Mgmt

Made4net
201-645-4345
[made4net.us](https://www.made4net.us)

Platform: Cloud/SaaS/Hosted, Local
Pricing: Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Warehousing, Logistics
Logistics Solutions: Labor Mgmt, Routing & Scheduling, WMS

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LOGISTICS IT PROVIDERS

Magaya
786-845-9150
magaya.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, Seat/User
Industries Served: E-Commerce, Wholesale, Transportation
SC Solutions: ERP, Sales & Operations Planning, Supplier/Vendor Mgmt
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Procurement, Rating & Bidding, WMS, Wireless/Mobile
Additional Solutions: Big Data Mgmt, Robotics/Automation, EDI, Order Mgmt, Process Improvement

MagicLogic Optimization
206-274-6248
magiclogic.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
Logistics Solutions: Load Planning

Manhattan Associates
770-955-7070
manh.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Demand Mgmt, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS
Additional Solutions: Machine Learning, Order Mgmt, Process Improvement

McLeod Software
205-406-1047
mcleodsoftware.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Seat/User
Industries Served: Transportation
SC Solutions: CRM/CX, ERP, Modeling/Forecasting/Predictive Analytics, Security, TMS, Dispatch, Planning, Sales, EDI
Logistics Solutions: Labor Mgmt, Load Planning, Optimization, Rating & Bidding, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: Blockchain, Big Data Mgmt, EDI, Order Mgmt

MercuryGate International
919-469-8057
mercurygate.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Supplier/Vendor Mgmt
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, WMS
Additional Solutions: EDI, Strategic Sourcing

ModusLink
888-238-1744
moduslink.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Sales & Operations Planning, IoT, Smart Replenishment
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Procurement, Reverse Logistics, RFID, TMS, WMS
Additional Solutions: IoT/IIoT, Big Data Mgmt, EDI, Order Mgmt, Process Improvement, Strategic Sourcing

KEY

CRM/CX: Customer Relationship Management
DRP: Distribution Resource Planning
ERP: Enterprise Resource Planning
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WMS: Warehouse Management System
YMS: Yard Management System

Find more. Search here
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LOGISTICS IT PROVIDERS

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Navigate
651-379-5030
navigate.com

Platform: Cloud/SaaS/Hosted
Pricing: Free (pricing is based on other variables), Transactional, Seat/User
Industries Served: Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Demand Mgmt, GTM, Modeling/Forecasting/Predictive Analytics, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: Big Data Mgmt, Capacity, Container/Chassis Mgmt, EDI, Order Mgmt, Process Improvement, Strategic Sourcing

Next Generation Logistics
847-963-0007
nextgeneration.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: System, Seat/User
Industries Served: Manufacturing, Retail, Wholesale
SC Solutions: Modeling/Forecasting/Predictive Analytics
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Procurement, Rating & Bidding, Routing & Scheduling, TMS
Additional Solutions: Capacity

NGC Software
800-690-0642
ngcsoftware.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: Manufacturing, Retail, Wholesale
SC Solutions: PLM, Supplier/Vendor Mgmt, Quality Control
Additional Solutions: Order Mgmt

Nulogx
416-816-3341
nulogx.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Reverse Logistics, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: EDI, Order Mgmt

nVision Global
770-474-4122
nvisionglobal.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: ERP, Modeling/Forecasting/Predictive Analytics, PLM, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Optimization, Procurement, Rating & Bidding, Routing & Scheduling, TMS
Additional Solutions: Big Data Mgmt, EDI, Order Mgmt

OmniTracs
800-348-7227
omniTracs.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: DRP, ERP, Modeling
Logistics Solutions: Load Planning, Optimization, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: Mobile Order Mgmt, Order Mgmt

KEY

CRM/CX: Customer Relationship Management
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WMS: Warehouse Management System
YMS: Yard Management System

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LOGISTICS IT PROVIDERS

Optricity
919-237-4846
optricity.com

Platform: Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Slotting Optimization, Profiling, Integration
Logistics Solutions: Optimization, Slotting, Profiling, Integration
Additional Solutions: Process Improvement, Synchronous Resource Enablement

Optym
352-215-0248
optym.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System
Industries Served: E-Commerce, Retail, Transportation
SC Solutions: DRP, ERP, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning
Logistics Solutions: Labor Mgmt, Load Planning, Optimization, Routing & Scheduling, TMS, YMS, Decision Automation, Network Planning, Asset Utilization, Driver Scheduling, Simulation, Network Optimization, Disruption Mgmt
Additional Solutions: Machine Learning, Big Data Mgmt, Capacity, EDI, Process Improvement

Oracle
650-506-7000
oracle.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: CRM, Demand Mgmt, DRP, ERP, GTM, MRP, Modeling, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Procurement, Rate Bid Mgmt, Reverse Logistics, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS
Additional Solutions: Category Mgmt, Container/Chassis Mgmt, EDI, Mobile Order Mgmt, Order Mgmt, Strategic Sourcing

Paragon Software
972-731-4308
paragontruckrouting.com

Platform: Local
Pricing: System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Service/Government, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics
Logistics Solutions: Optimization

PathGuide Technologies
425-438-2899
pathguide.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: System, Seat/User
Industries Served: E-Commerce, Retail, Wholesale
SC Solutions: ERP
Logistics Solutions: Inventory Mgmt, Optimization, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile
Additional Solutions: Process Improvement

PeopleNet
888-346-3486
peoplenetonline.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: Retail, Wholesale, Services/Government, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, Security, Supplier/Vendor Mgmt
Logistics Solutions: Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Routing & Scheduling, Wireless/Mobile
Additional Solutions: IoT/IIoT, Machine Learning, Big Data Mgmt, Capacity, Process Improvement

PINC
510-474-7500
pinc.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Supply Chain Control Tower
Logistics Solutions: Inventory Mgmt, RFID, YMS
Additional Solutions: IoT/IIoT, Machine Learning, Robotics/Automation

TOP 100

LOGISTICS IT PROVIDERS

Use the **Logistics IT Decision Support Tool – SEARCH** on any of these data points to match your requirements to the Top 100: bit.ly/IT-DST

Precision Software
630-719-4937
precisionsoftware.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: GTM, Security
Logistics Solutions: Auditing/Claims/Freight Payment, Reverse Logistics, TMS

project44
312-376-8883
p-44.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, PLM, Sales & Operations Planning, Security, Supplier/Vendor Mgmt
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Rating & Bidding, Routing & Scheduling, WMS, Wireless/Mobile
Additional Solutions: Blockchain, Big Data Mgmt, Robotics/Automation, Process Improvement, API

QuestaWeb
908-838-4328
questaweb.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: GTM, Foreign Trade Zone & Import/Export Compliance
Logistics Solutions: Auditing/Claims/Freight Payment, Foreign Trade Zone & Import/Export Compliance
Additional Solutions: Process Improvement

Quintiq
610-517-1901
quintiq.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Seat/User
Industries Served: Manufacturing, Retail, Transportation
SC Solutions: Demand Mgmt, MRP, Modeling/Forecasting/Predictive Analytics, PLM, Sales & Operations Planning, SCP&O, Logistics Planning, Route Optimization
Logistics Solutions: Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Routing & Scheduling
Additional Solutions: IoT/IIoT, Big Data Mgmt, Capacity, Order Mgmt, Process Improvement

RateLinx
262-565-6150
ratelinx.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Rating & Bidding, Routing & Scheduling, TMS, Wireless/Mobile
Additional Solutions: Big Data Mgmt, Process Improvement, Strategic Sourcing

REZ-1
781-263-0200
rez1.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, Supplier/Vendor Mgmt, Supply Chain Control Tower, First- and Last-Mile Visibility
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Optimization, TMS, Intermodal Assets Mgmt
Additional Solutions: Blockchain, Container/Chassis Mgmt, EDI

ShippersEdge TMS
888-2372465
shippersedgetms.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Wholesale, Transportation
SC Solutions: Supplier/Vendor Mgmt
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, Wireless/Mobile, Visibility
Additional Solutions: EDI, Process Improvement, Custom Program Development

Use the **Logistics IT Decision Support Tool – SEARCH** on any of these data points to match your requirements to the Top 100: bit.ly/IT-DST

TOP 100

LOGISTICS IT PROVIDERS

SMC³
678-369-8356
smc3.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: Supply Chain Control Tower
Logistics Solutions: Procurement

Softeon
703-793-0005
softeon.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Demand Mgmt, PLM, Supplier/Vendor Mgmt
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Procurement, Reverse Logistics, RFID, TMS, WMS, Wireless/Mobile, YMS, Distributed Order Mgmt, VMI, Direct Store Delivery
Additional Solutions: IoT/IIoT, Robotics/Automation, Order Mgmt

SphereWMS
818-678-2601
spherewms.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
Logistics Solutions: Inventory Mgmt, Reverse Logistics, WMS, Wireless/Mobile
Additional Solutions: EDI, Order Mgmt

SPS Commerce
866-245-8100
spscommerce.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Supplier/Vendor Mgmt
Logistics Solutions: Inventory Mgmt, EDI
Additional Solutions: EDI, Strategic Sourcing

Suntek Systems
949-789-1700
suntekscm.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Seat/User
Industries Served: Transportation
SC Solutions: CRM/CX, ERP, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Inventory Mgmt, ERP, Forwarding Mgmt
Additional Solutions: EDI

Supply Vision
847-737-9265
supply-vision.com

Platform: Cloud/SaaS/Hosted
Pricing: Seat/User
Industries Served: E-Commerce, Manufacturing, Services/Government, Transportation
SC Solutions: CRM/CX, Sales & Operations Planning, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Inventory Mgmt, Load Planning, Optimization, Reverse Logistics, Routing & Scheduling, TMS, WMS, Wireless/Mobile
Additional Solutions: EDI, Order Mgmt

Synergy (Snapfulfil)
720-372-1250
snapfulfil.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
Logistics Solutions: Inventory Mgmt, Optimization, WMS, YMS
Additional Solutions: Robotics/Automation

KEY

CRM/CX: Customer Relationship Management
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PLM: Product Lifecycle Management
TMS: Transportation Management System
WMS: Warehouse Management System
YMS: Yard Management System

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LOGISTICS IT PROVIDERS

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Systems Logic
519-740-2580
warehouseinbox.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Seat/User
Industries Served: E-Commerce, Wholesale, Transportation
Logistics Solutions: Inventory Mgmt, Load Planning, Optimization, Reverse Logistics, WMS, Wireless/Mobile
Additional Solutions: EDI, Order Mgmt, Process Improvement

TECSYS
800-922-8649
tecsys.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Demand Mgmt, ERP, Sales & Operations Planning, Supplier/Vendor Mgmt
Logistics Solutions: Inventory Mgmt, Labor Mgmt, Optimization, Procurement, RFID, TMS, WMS
Additional Solutions: EDI, Order Mgmt, Process Improvement, Financial Mgmt

TMW Systems
440-721-2020
tmwsystems.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System, Seat/User
Industries Served: Transportation
SC Solutions: ERP, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Labor Mgmt, Load Planning, Optimization, Procurement, Rating & Bidding, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile
Additional Solutions: Blockchain, IoT/IIoT, Big Data Mgmt, Capacity, Container/Chassis Mgmt, EDI, Order Mgmt, Process Improvement

TOPS Software
972-739-8677
topseng.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Sales & Operations Planning, Supplier/Vendor Mgmt
Logistics Solutions: Load Planning, Optimization

Trans-i Technologies
954-524-1501
trans-i.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: Manufacturing, Transportation
SC Solutions: CRM/CX, ERP, Modeling/Forecasting/Predictive Analytics, Sales & Operations Planning, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Rating & Bidding, RFID, Routing & Scheduling, TMS, WMS, Wireless/Mobile, YMS
Additional Solutions: Blockchain, IoT/IIoT Solutions, Machine Learning, Big Data Mgmt, Capacity, Container/Chassis Mgmt, EDI, Order Mgmt

Transporeon
267-281-1555
transporeon.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Transportation
SC Solutions: GTM, Modeling/Forecasting/Predictive Analytics, Supplier/Vendor Mgmt
Logistics Solutions: Auditing/Claims/Freight Payment, Inventory Mgmt, Load Planning, Optimization, Procurement, Rating & Bidding, Reverse Logistics, Routing & Scheduling, TMS, Wireless/Mobile, YMS
Additional Solutions: Big Data Mgmt, EDI, Order Mgmt, Strategic Sourcing

TransportGistics
631-567-4100
transportgistics.com

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional, System, Seat/User
Industries Served: E-Commerce, Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: GTM, Modeling/Forecasting/Predictive Analytics, Supplier/Vendor Mgmt, Supply Chain Control Tower
Logistics Solutions: Auditing/Claims/Freight Payment, Optimization, Procurement, Rating & Bidding, Routing & Scheduling, TMS
Additional Solutions: Big Data Mgmt, EDI, Order Mgmt, Strategic Sourcing

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LOGISTICS IT PROVIDERS

U.S. Bank
866-274-5898
usbpayment.com/freight-payment

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: Manufacturing, Retail, Wholesale, Services/Government, Transportation
SC Solutions: Modeling/Forecasting/Predictive Analytics, Freight Benchmarking and Consulting
Logistics Solutions: Auditing/Claims/Freight Payment, Optimization, Small Parcel Optimization
Additional Solutions: Process Improvement, Strategic Sourcing, U.S. Bank Freight Payment Index

UltraShipTMS
800-731-7512
ultrashiptms.com

Platform: Cloud/SaaS/Hosted
Pricing: Transactional
Industries Served: Manufacturing, Retail, Wholesale
SC Solutions: TMS
Logistics Solutions: Auditing/Claims/Freight Payment, Load Planning, Optimization, Reverse Logistics, Routing & Scheduling, TMS, Wireless/Mobile, YMS
Additional Solutions: EDI

uRoute
313-600-5308
uroute.net

Platform: Cloud/SaaS/Hosted, Local
Pricing: Transactional
Industries Served: Manufacturing, Retail, Wholesale, Services/Government
SC Solutions: Modeling/Forecasting/Predictive Analytics, Supplier/Vendor Mgmt, Supply Chain Control Tower
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THOUGHT LEADERS

Find the Data You've Been Looking For



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Q: *Why do companies struggle to get good data?*

A: It's no secret that data is the foundation for a world-class logistics strategy. It's also no secret how to find the right data, yet many companies struggle to find the data they've been looking for. Companies have a lot of data, but not the data they can use effectively.

The common issue I hear from logistics managers is they don't trust their data. This is because the data isn't clean. Without clean data, it's impossible to develop or deploy a sound strategy or accurately diagnose issues.

Q: *What obstacles prevent getting good data?*

A: Two hurdles hinder getting good data you can trust: sheer volume and variety. When dealing with logistics data, a company may have thousands of trading partners, with each one creating data per their own standard.

Then throw in the mix the fact that many of the shipments are tendered to the carrier by hand (using a handwritten bill of lading). When a vendor handwrites a bill of lading for a shipment that is destined for you, the carrier must manually enter in the handwritten bill of lading before the data can be transmitted to you.

Keeping this type of data clean and standardized requires a very sophisticated system built to understand how the data is being created (through multiple manual steps).

Many companies and logistics firms use systems that generate their shipments as the repository for this data. The issue with this situation is that these systems are built to work with one partner—the company that is using them, and not the thousands of partners that are creating the data. These systems also can't capture transactions that did not originate from their environment. Without complete data, the data cannot be trusted.

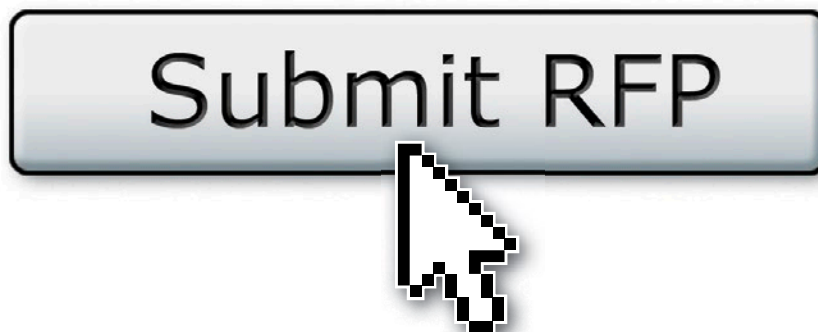
Q: *How can I get good data?*

A: To get good data you can trust, look for a wholistic logistics solution that starts with visibility tools. Is order information integrated with shipment and tracking information? Is this integrated with the freight invoice? A clean, standardized dataset is your foundation to diagnose issues accurately. Fancy analytics won't solve anything if it doesn't start with clean data.

Q: *What's the payback for investing in good data?*

A: The payback for investing in good data and the right visibility services and analytics tools can be almost immediate. We see many shippers throttle their own strategies to fit their current systems. Once you have data, it's easy to make the business case internally to make the strategic changes that are revealed in the data.

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THOUGHT LEADERS

Put the Factory To Work: Vendor Shipment Booking



Andrew Cheung

Vice President of Implementation
Amber Road
201-935-8588
www.AmberRoad.com

Q: *What are the biggest issues facing supply chain executives in 2018?*

A: When we said 2017 was one of the most disruptive years for global supply chains in recent years, thanks to natural disasters, geopolitical conflicts, and regulatory upheaval, we couldn't have foreseen the twists and turns that would take shape in 2018. The ongoing talk about tariffs and trade wars doesn't make being a supply chain executive any easier, but these things remain abstract concerns for the present. In reality, supply chain executives are still worried about tracking their shipments crisscrossing the globe to ensure they will deliver getting their goods to the customer on time.

Digitally transforming the supply chain to create end-to-end visibility helps alleviate many of these concerns. Making data-driven decisions early in the product lifecycle, rather than reacting to problems after they occur, will put your supply chain on the path towards sustained growth.

One piece of the puzzle that is often missing is the ability to manage delays in the supply chain from the very beginning. Shipping delays are costly and can have ripple effects on the entire supply chain, putting a company into a downward spiral and greatly reducing the chances of sustained growth.

Q: *How can companies work with their factories to avoid shipping delays?*

A: Facilitating clear communication between vendors and factories is a necessary step in creating an agile, fast-moving supply chain. Typically, vendors communicate shipment information to the logistics service providers (LSP), who then create the booking—a time-consuming

task that can lead to delays and errors, with negative effects.

Revolving this issue through the most cost-effective and efficient manner is solved by equipping the factory with digital tools to complete the shipment booking, rather than the LSP. This gives the vendor complete visibility into which PO line items are ready, so they can provide accurate and required information regarding the shipment, such as carton sizes and other related data.

Q: *How does vendor shipment booking technology help companies manage their supply chains?*

A: Technology that integrates the purchase order data directly with the LSP, through a centralized cloud platform, improves both speed to market and compliance. Combined with material order visibility, order collaboration, production tracking, and shipment preparation, vendor shipment booking is the next logical step in streamlining the supply chain process for speed.

Supply chain executives should understand that moving the work down to the factory level doesn't negate their control over the supply chain. Instead, this technology enhances visibility and rebalances the workload, letting each piece of the puzzle work in harmony with others in a transparent manner, with all data accessible to those who require it.

Vendor shipment booking takes sourcing teams from 'shared visibility' to 'shared collaboration', so all teams are working towards the common goals of on-time delivery.

With more uncertainty ahead for global companies, gaining visibility and control over all aspects of the supply chain has never been more important.



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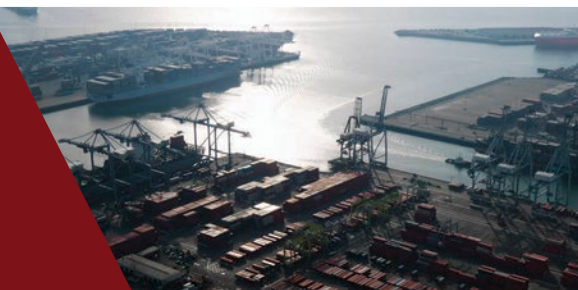
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Leave IT To Your 3PL



Still struggling to get your logistics technology up to speed? You're not alone. See why companies are increasingly outsourcing IT to their third-party logistics providers.

Seventeen percent of companies that outsource logistics use their third-party logistics (3PL) provider's information technology (IT) services, according to the 2017 *Third-Party Logistics Study*. That's up from 11 percent the previous year.

Companies should – and do – turn to 3PLs for their logistics technology for several reasons. First, there's still a lack of technological sophistication among shippers, despite what some say is dramatic growth in logistics technology over the past three to five years.

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“Many companies still use complicated spreadsheets that only one person understands,” notes Curt Sardeson, CEO of technology implementation and consulting firm Open Sky Group in North Carolina. “When shippers have bad, old, or the wrong technology, they become so focused on just getting things done that there’s no time to innovate or ask questions about whether there’s a better way.”

But that will change because Amazon has trained consumers and businesses alike to expect speedy deliveries.

“More and more companies are recognizing that a 3PL has the people, plants, and equipment to execute fulfillment more cost effectively or efficiently than the shipper can,” Sardeson says.

Data supports that statement. The U.S. 3PL market grew 7.3 percent in 2017 to \$179 billion, reports Evan Armstrong, president of Armstrong & Associates, a Wisconsin-based 3PL market research firm.

Armstrong and others cite four primary reasons why shippers are increasingly turning to 3PLs for the technology needed to manage their logistics—and offer a few best practices, too.

1. Logistics isn’t a core competency. Many companies want to focus on what they do best, and that isn’t always logistics.

“One of the first things I ask people who come to us for a solution is, ‘What’s the best use of your time?’” says Michael Manzione, CEO of Rakuten Super Logistics Inc., a Nevada-based 3PL that works with e-commerce and other companies. “For most e-commerce businesses, we think the best use of their time is for product development, marketing, and customer service, not fulfillment.”

Along with this is the fact that many companies don’t invest enough in supply chain technology, which forces them to find it on the outside.

“A lot of large shippers operate on green screen or enterprise resource planning systems, not supply chain systems,” says Armstrong. Those with their own warehouses will have warehouse



E-commerce companies outsourcing to Rakuten Super Logistics can tap into its SmartFill technology, which integrates with any website for automatic order fulfillment, including packing.

management systems, he notes, but fewer will have transportation management systems. They can get all of that—and more—from a 3PL.

In addition, logistics technology can seem overwhelmingly complex.

“Historically, the technology has been complicated to set up and manage, so many companies outsource it,” says Nicholas Daniel-Richards, co-founder of ShipHero, a cloud-based platform that manages inventory, fulfillment, and shipping for 3PLs and growing e-commerce businesses.

2. They recognize the value that comes with turning processes over to experts. To make sure they provide the best service possible to clients, 3PLs often invest significantly in technology and tools that help them fill and ship orders quickly, efficiently, and cost effectively.

“Many 3PLs have built impressive dashboard tools for monitoring metrics that include on-time service, dock-to-stock measurements, and shipping accuracy,” says Armstrong. “They augment what shippers can do in their own systems.”

“We simplify things,” adds Manzione.

For example, tech-savvy 3PLs make it easy to manage inventory stored in multiple locations from a single view or dashboard. “We let shippers see everything in the ordering process quickly and easily so they can focus on building the business, not managing orders,” Manzione says.

3PL experts also use sophisticated technology to enhance the customer experience in ways that a shipper without this capability can’t.

Daniel-Richards sees this value in integrated brick-and-mortar and e-commerce retail systems that let retailers “surprise and delight” consumers.

“The best example I’ve seen is an online customer who abandons a shopping cart with an item in it—say, a pair of boots—but then shops at the retailer’s brick-and-mortar store,” he explains. “Because of a loyalty card or the store’s app, when the customer makes a purchase, the point-of-sale system sees the abandoned cart and flags it. The clerk can then offer the customer a discount on what’s in the cart right on the spot to close that sale.”

Why add this level of technology internally when a trusted 3PL already has it in place?

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3PL Technology Books and Insures Shipments in One Click

Using sophisticated technology to insure shipments is one of the newest technological innovations for third-party logistics (3PL) providers.

One option comes from Falvey Shippers Insurance, which is 100-percent secured by Lloyd's of London and offers the highest capacity in the industry. To simplify the shipping insurance process for 3PLs, Falvey created a proprietary application programming interface (API) called shipAssured.

Among the advantages of this type of automated insurance:

- Instant quotes and purchase coverage.
- Easier decision-making for shippers that don't have an annual insurance contract.
- Better visibility and transparency on coverage and documentation.
- Simplified claims filing and tracking.

"shipAssured integrates seamlessly with various types of shipping software, but 3PLs use it mainly with their transportation management systems," explains Jay Jeannotte, Falvey Shippers' vice president.

While it can sometimes reduce costs, automating the shipment insurance process nearly always saves time. For example, it eliminates re-keying of data that's common with manual entry. In addition, automation not only delivers a quote immediately, it also allows shippers to insure their goods while booking the shipment itself.

While more commonplace with e-commerce, the service is now available to companies with full truckload and less-than-truckload shipments.

"The beauty of working with an insurer on this is that 3PLs don't have to develop their own technology," adds William Worthington, Falvey Shippers' vice president. "The API does it all for them."



3. Leveraging a 3PL's technology can often save shippers time and money. A 3PL's technology, contracts, and vendor relationships often allow them to provide shippers with better pricing on everything from packaging to transportation to insurance.

This is especially true with third-party logistics providers using shipAssured, the shipping software application programming interface (API) from Falvey Shippers Insurance. The API allows users to get a quote and insure their shipments for full value—compared to the limitations of carriers' liability—with a single click.

The software was first introduced to e-commerce customers looking to insure small parcels beyond the carriers' standard \$100 coverage. The company later applied that model to the broader

transportation market, where shippers using the standard freight carrier's coverage often lose a significant sum if freight is damaged. While shippers can purchase excess-value insurance through the carrier, purchasing all-risk insurance separately can save money while offering better coverage.

"Declaring excess value ultimately raises the carrier's level of liability, but it's still subject to the same exclusions," says Jay Jeannotte, vice president of Falvey Shippers. "An all-risk policy purchased separately is a broader form of insurance."

"As 3PLs started using technology more and more to the point where shippers are managing their entire supply chains through a 3PL's portal, it made sense to integrate the insurance purchasing process into that technology,"

adds William Worthington, vice president of Falvey Shippers.

Outsourced technology can also help shippers save on transportation costs. Daniel-Richards sees this with U.S. shippers that want—or need—to provide two-day delivery to customers on both sides of the country. The air-freight service required to ship from one coast to the other isn't the most cost-effective option for many goods. An alternative is contracting with a 3PL on the opposite coast. "It's simple economics," he says.

"There's a huge upfront cost to locate, lease, and staff the real estate involved with setting up a warehouse on the other side of the country," says Daniel-Richards. In addition, many growing companies don't know how to do it—and don't want to know how.



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Companies can leverage the inventory and fulfillment hardware and software provided by 3PLs such as Rakuten Super Logistics.

4. Outsourcing technology helps shippers better manage fluctuations in growth. Many companies experience periods when they scale up and scale down. Others see their fulfillment volume vary according to seasons or marketing campaigns. Outsourcing to a 3PL allows shippers to weather the fluctuations more smoothly than if they handled the technology and processes in house.

“We see companies go through cycles when they’re growing, as well as periods when business isn’t as good for one reason or another,” says Manzione. “We can absorb the costs and changes associated with these ups and downs much better than the shipper can.”

In scaling up, he says, shippers can move product in and out of 3PL locations without dealing with the fixed costs associated with warehouses and fulfillment centers.

We Still Need In-House Tech

Making the decision to turn supply chain logistics over to a 3PL because superior technology and expertise make it more affordable doesn’t mean that shippers don’t have to invest in relevant IT, however.

“There is a cost to integrate your systems with the 3PL’s, but the upside is that once you’ve done it, you’ve given your organization the capability to use multiple 3PLs and place them strategically around the country,” explains Sardeson.

Airbnb for Shippers and 3PLs

ShipHero, a cloud-based platform that manages inventory, fulfillment, and shipping for third-party logistics (3PL) providers and growing e-commerce businesses, is beta-testing “3PL Marketplace,” an innovative platform that uses technology to help shippers find, hire, and rate 3PLs. “Think of it as Airbnb for logistics,” says Nicholas Daniel-Richards, ShipHero co-founder.

Shippers will declare their needs—for example, a Southern California 3PL that can handle apparel and personalize packages—and 3PLs will respond with capabilities and rates.

Allowing shippers to rate their logistics providers in the platform will force 3PLs to focus on providing quality service, says Daniel-Richards. Those that provide good service will be highly rated and benefit from long-term clients and new customers attracted by high ratings. Both will, in turn, reduce the need for marketing.

Because shippers and 3PLs will use ShipHero’s technology to manage the work, it will make it easier for shippers to switch 3PLs if they’re dissatisfied.

“With the current model, a shipper might be locked into a contract with a provider that isn’t meeting its needs,” Daniel-Richards adds. “With this approach, that company can get a new 3PL into the mix very quickly because there’s no need to integrate with new systems.” On the other hand, “That won’t be necessary if providers serve them well,” he notes.

3PL Marketplace will launch later in 2018.

With e-commerce businesses, the 3PL is probably already integrated with the company’s e-commerce platform, Manzione adds. The challenge, however, is keeping 3PLs informed of platform updates and changes.

“The shipper is the platform’s customer, not the 3PL,” Manzione says. “We can’t talk to them on behalf of our clients, so our clients always need to make certain they have someone in house or on call to guide them through changes and keep us informed.”

When selecting a 3PL, Manzione recommends shippers ask for a cost-benefit analysis to determine if leveraging that provider’s technology and services makes sense.

“We see some companies coming to us too soon,” he says. “They’re smart enough to understand that fulfillment isn’t the best use of their time, but they’re not at the volume level where outsourcing is cost effective.”

Rakuten’s e-commerce shippers are typically ready to take advantage of the company’s services when they’re filling 400 to 500 orders a month, he says.

Armstrong recommends getting the provider’s best thinking about how to meet the shipper’s needs.

“Rather than say, ‘here’s what we’ve been doing and how,’ provide the 3PL with enough information and flexibility to come back with the optimal solution, which might be something different from what you’ve done traditionally,” he suggests.

Remain Flexible

Be prepared to adapt to the 3PL’s processes and systems, too.

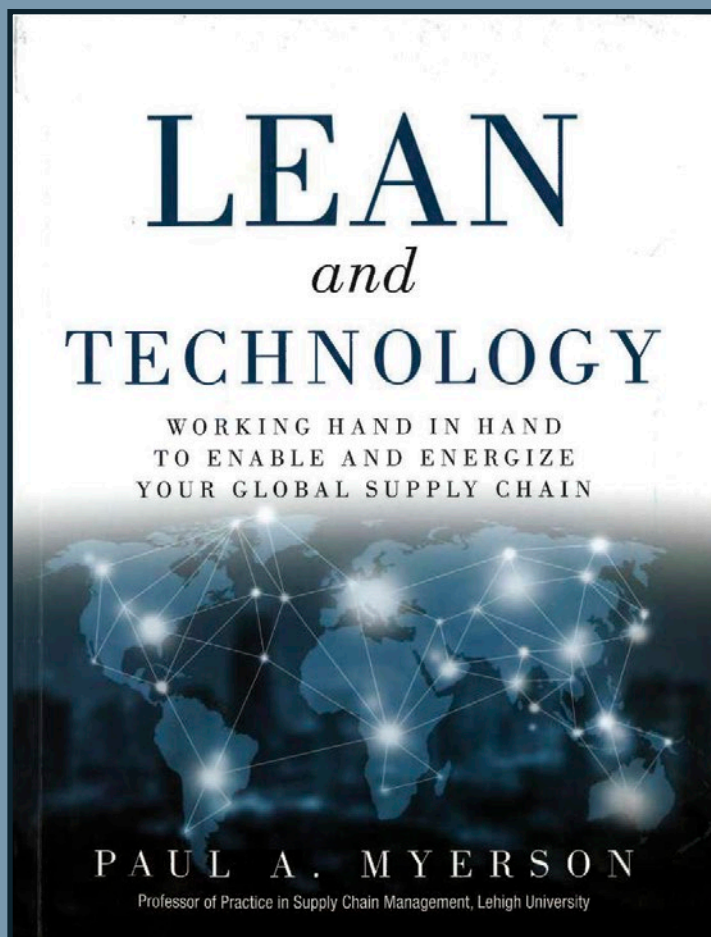
“For us to be successful, we can’t continuously modify what we do for every shipper,” says Manzione. “There can be some variables, of course, but if the shipper wants us to change how we do things to fit with what they’ve been doing, they won’t gain efficiencies by working with us.”

Let them use their own facilities, technology, and tools, too.

Adds Sardeson: “When you allow your 3PL to control the layout, physical location, and systems, you’ll benefit from economies of scale.” ■

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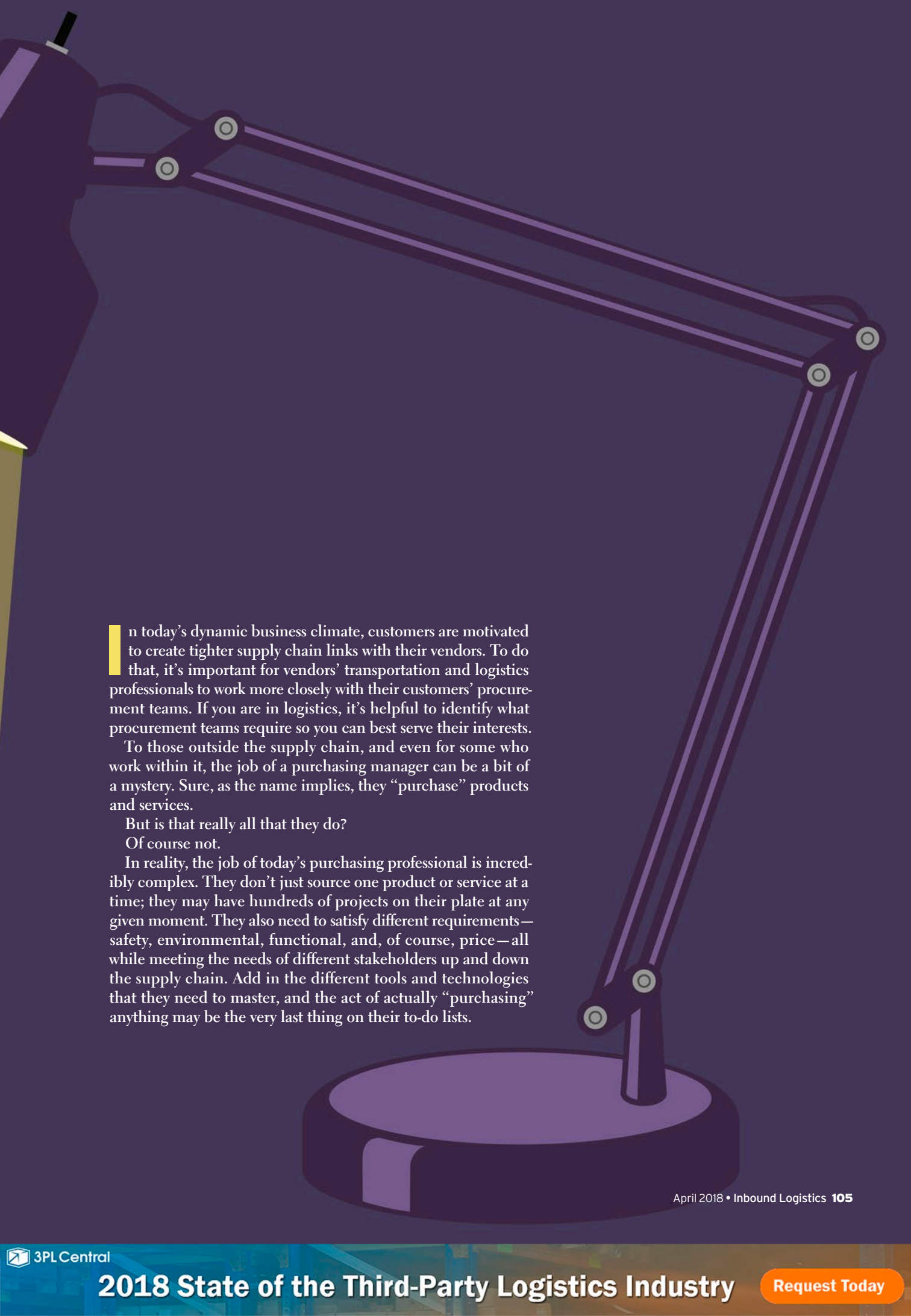
Casting a Light on Procurement

As closer supply chain ties are forged with vendors, logistics managers must increasingly collaborate with procurement. To provide insight, a new study illuminates today's procurement process, and the many challenges purchasing managers face.

By Jason Scheer



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In today's dynamic business climate, customers are motivated to create tighter supply chain links with their vendors. To do that, it's important for vendors' transportation and logistics professionals to work more closely with their customers' procurement teams. If you are in logistics, it's helpful to identify what procurement teams require so you can best serve their interests.

To those outside the supply chain, and even for some who work within it, the job of a purchasing manager can be a bit of a mystery. Sure, as the name implies, they “purchase” products and services.

But is that really all that they do?

Of course not.

In reality, the job of today's purchasing professional is incredibly complex. They don't just source one product or service at a time; they may have hundreds of projects on their plate at any given moment. They also need to satisfy different requirements—safety, environmental, functional, and, of course, price—all while meeting the needs of different stakeholders up and down the supply chain. Add in the different tools and technologies that they need to master, and the act of actually “purchasing” anything may be the very last thing on their to-do lists.

manager—approaches their job differently, the data derived from Thomas reveals a near-universal, six-phase buying process (*see chart below*).

While the chart is an accurate depiction of the buying process at a high level, through the research study, it

8. Evaluate alternative products or services against the prioritized criteria.

9. Select the product or service to acquire.

Steps in the Evaluation Phase. Before purchasing professionals can

Clearly, answering the question “What do you do?” may not be as simple as it seems.

However, a new, exhaustive research study from Thomas sheds new light on both the purchasing process and the myriad tasks, responsibilities, and challenges that define life as a purchasing manager today. It reveals purchasing best practices and top-line concerns.

If you are a purchasing professional who oversees one aspect of the process, this insight may give you a better appreciation for your colleagues and counterparts handling other tasks. And, if you are on the supplier side, it should serve as an eye-opening wake-up call to everything that happens before you receive a contract or purchase order.

Methodology

The Thomas Network is the leading platform for supplier selection and product sourcing. Every year, 12 million buyers and engineers visit the site for information on North American suppliers.

All this buying activity generates terabytes of buyer behavior data, which Thomas regularly reviews to better understand the nuances of the buying process. To augment the company’s understanding further, it recently worked with product research firm Strategyn to conduct one of the most comprehensive studies of B2B buying behavior ever performed.

The study consisted of a 200+ question survey of 315 purchasing professionals, in-depth one-on-one and group interviews with a diverse set of purchasing decision makers, and more than 200 hours of data analysis.

Though every company—and every individual purchasing



became clear there are a lot more steps along the way—15 to be exact (*see chart, right*).

Steps in the Need Phase. Though it may seem straightforward, defining a need for the product or service is actually a two-step process:

1. Establish the business need for acquiring a specific product or service.
2. Define the requirements the product or service must meet.

Steps In The Research Phase. Investigating different solutions in the marketplace can take up a lot of time and present distinct challenges for purchasing managers.

3. Determine what products or services to consider.
4. Determine if a new product or service is necessary to address the business need.
5. Determine if buying a new product or service is financially justifiable and affordable.

Steps in the Design Phase. This is where engineers and purchasing managers often collaborate, and a lot goes into moving on to the next phase.

6. Define the criteria to use to evaluate the products or services under consideration.
7. Prioritize the criteria to use to evaluate the products or services under consideration.

actually begin comparing suppliers, they need to know what criteria will drive these comparisons. Using a one-size-fits-all approach is not advised and, in most organizations, not acceptable.

10. Define the criteria to use to evaluate the suppliers that offer the needed product or service.
11. Prioritize the criteria used to evaluate suppliers offering the needed product or service.
12. Determine what suppliers to consider.

Steps in the Shortlist Phase. Whittling down the list of potential suppliers can be a time-consuming proposition. Buyers must choose carefully, or risk introducing suboptimal partners to their supply chains.

13. Evaluate alternative suppliers against the prioritized criteria.
14. Select the supplier from which to acquire the product or service.

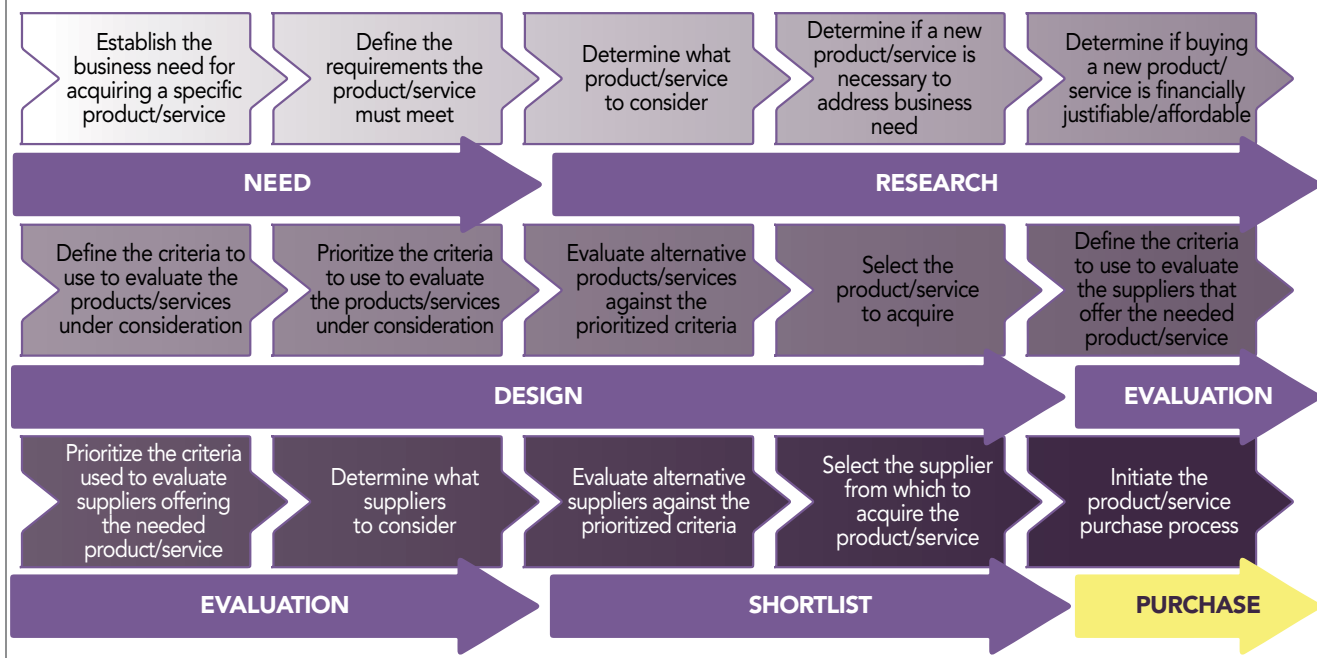
Steps in the Purchase Phase. Finally, the product or service can be acquired.

15. Initiate the product or service purchase.

Top Priorities

Looking further into the 15-step buying cycle, the research study identifies more than 225 smaller, incremental tasks that procurement professionals must accomplish in order to keep the chains moving. The study also ranks

Deeper Dive: 15 Steps in the Buying Process



these tasks in terms of importance (how critical the task is for the purchasing manager to complete) and satisfaction (how satisfied procurement professionals are with their ability to complete the task).

These are the buying-related tasks that procurement managers say are most important, on a scale of 0-10:

- Determining how frequently the products/service is required to fulfill the business need. (8.1)
- Determining the priority order of the supply performance-related criteria to be used to evaluate the suppliers, e.g., delivery performance, reliability (7.7)
- Defining the shipping-related requirements the products or service must meet. (7.7)
- Confirming that the selected products or service meet the prioritized criteria prior to making the purchase. (7.6)
- Eliminating suppliers from consideration that have a poor reputation. (7.6)
- Determining which criteria will not be met by the top-ranking product or service. (7.6)
- Determining the priority order of the products or service quality-related criteria to be used to evaluate the suppliers. (7.5)
- Identifying the product or service

quality-related criteria to be used to evaluate the suppliers. (7.5)

- Correctly defining the requirements that the products or service must meet. (7.5)
- Identifying the products or service quality-related criteria to be used to evaluate the suppliers. (7.5)
- Defining what certification-related requirements the products or service must meet, such as UL certification, digital certification, etc. (7.4)
- Determining which supplier best satisfies the prioritized business stability-related criteria. (7.4)

Biggest Pain Points

While those tasks were the most important, these are the ones that prove most frustrating and cause the most headaches for procurement professionals in the supply chain. The lower the number, the more frustrating the task.

- Determining when the product/service will be needed to fulfill the business by monitoring inventory levels or meeting deadlines. (4.9)
- Defining the quality-related requirements the product or service must meet. (5.0)
- Determining which product or service best satisfies all the prioritized criteria. (5.1)

■ Identifying the business stability-related criteria (time in business, revenue growth projections, etc.) to be used to evaluate which supplier to select. (5.1)

- Determining if a product or service that is already available in-house can meet the business need. (5.1)
- Inadvertently selecting the wrong product or service for purchase, e.g., accidentally selecting the wrong model, size, level of service, etc. (5.4)
- Verifying that the evaluation of the top-ranking suppliers is accurate. (5.4)
- Determining if the required product or service can be obtained before the business need goes away. (5.4)
- Identifying which quality-related criteria to use to evaluate the product/services under consideration. (5.4)
- Minimizing the time it takes to determine which suppliers best meet the prioritized supplier evaluation criteria. (5.5)
- Determining what well-established products or services are available for consideration. (5.5)
- Defining the shipping-related requirements the products or service must meet. (5.5) This task is the only one that was ranked both most important and most frustrating by participating procurement professionals. This highlights a great opportunity for

3PL service providers to step up and meet a critical customer need while reducing a major pain point.

Back to School

The purchasing and procurement profession is constantly evolving, and the people who work within the field must keep their skills sharp and their knowledge current at all times.

With that in mind, the research study sought to identify the areas of professional development that were most important to procurement pros. These educational priorities topped the list:

- Ways to improve overall supply chain performance.
- Strategies to boost order fulfillment rates.
- Uncovering easy ways to keep abreast of new products and services.
- Steps to becoming ISO 9000/9001 certified.
- Reducing risks in the supply chain and bolstering overall risk management.
- Improving negotiation skills.
- Simplifying the search for suppliers.
- Keeping current with new regulations in their markets of interests.
- Learning the best ways to reduce shipping costs.
- Learning how to minimize shipping errors.

More To-Dos to Come

Just a few short years ago, many of the tasks identified by the study fell outside the realm of procurement. Today, professionals in the field are taking on additional responsibilities, demanding more seats at more tables, and demonstrating their skills and value in new and unexpected ways.

Thus, while this study offers an unprecedentedly detailed glimpse into the purchasing profession and the buying cycle right now, things will only increase in breadth and complexity in the years to come.

It's therefore incumbent on purchasing and supply chain managers to learn all they can about the changes and trends that will shape their profession and their careers.

To do that, start by asking your peers, "What do you do?" ■

Tons of Tangential Tasks

The purchasing process doesn't actually end once the purchase is made. Many tasks don't directly involve purchasing at all. According to Thomas' research, here are some tangential tasks that fall under each area of concern:

Acquisition

- Completing the transaction to buy the products or service.
- Receiving the products or service from the selected supplier.
- Verifying that the products or service received meets the business need.
- Returning or canceling the products or service if it fails to meet the business need.

Supplier Administration & Performance Management

- Monitoring on-time delivery of ordered products or services from a supplier.
- Monitoring suppliers' ability to deliver, e.g., shipping capabilities, etc.
- Monitoring existing contracts with a supplier.
- Maintaining up-to-date supplier information.
- Adding a supplier to the company's approved supplier list.

Risk Management

- Monitoring suppliers for fraudulent activity.
- Monitoring suppliers for potential legal issues.
- Monitoring supplier certifications to ensure they are up-to-date and accurate.
- Monitoring suppliers for compliance to regulations.
- Monitoring strategic business changes in a supplier, e.g., mergers and acquisitions.

Supply Chain Maintenance

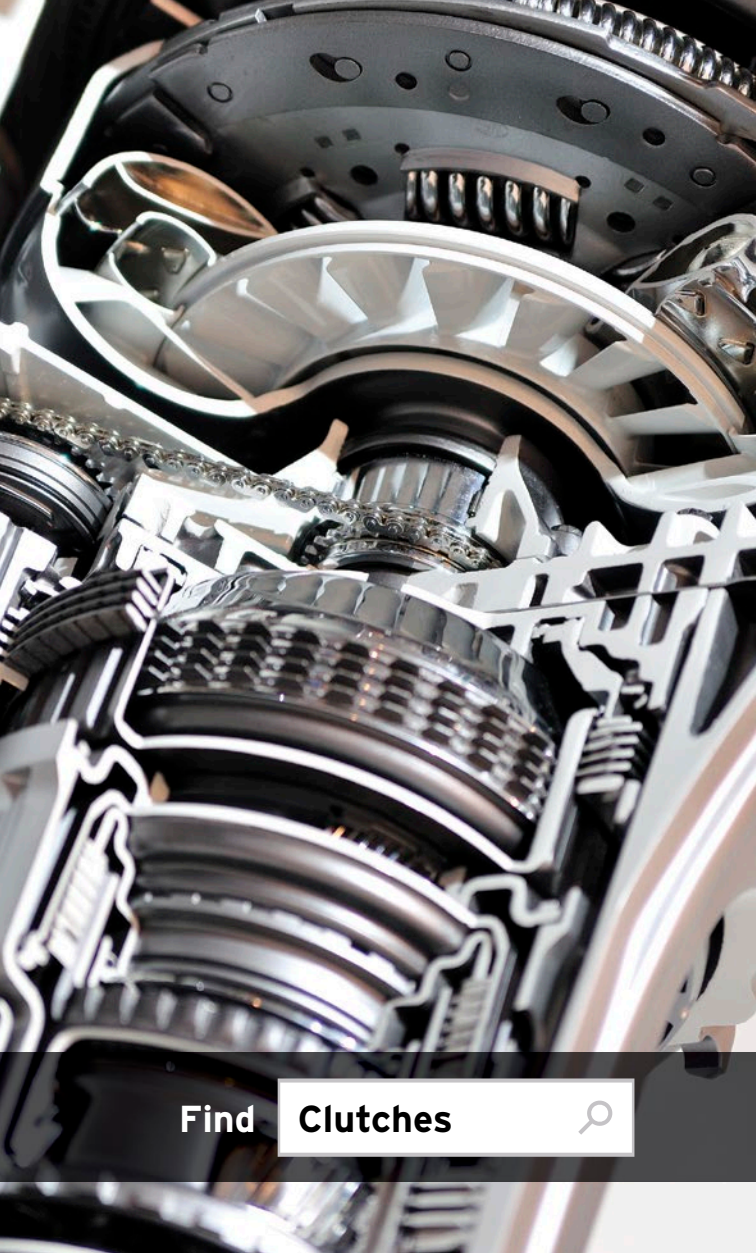
- Monitoring the price of commonly purchased products or services from a specific supplier.
- Monitoring the introduction of new offerings from your suppliers.
- Comparing an existing supplier's offerings with a new potential product or service.
- Monitoring a supplier's products or service quality.
- Determining if a new product or service from a supplier is worth adding to your products or service portfolio.

Market Awareness

- Monitoring the pricing in the market of commonly purchased products or services.
- Monitoring new regulations in a market, e.g., trade, environmental, etc.
- Monitoring demand for a supplier's products or services.
- Monitoring new suppliers within your product or service areas of interest.
- Monitoring new products or services of interest in a market.

Supplier Diversity

- Determining which supplier diversity goals need fulfilling at any point in time.
- Confirming the amount of spend that each supplier must have to meet a company supplier diversity goal.
- Finding a supplier that qualifies for a specific company supplier diversity goal.
- Verifying that a supplier meets a specific company supplier diversity goal.
- Minimizing the likelihood that bias is introduced into a supplier evaluation process when trying to meet a supplier diversity goal.



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Casebook | by Karen M. Kroll

A 3PL's cold call leads to a cool technology solution that streamlines processes and minimizes service disruptions.

Igloo Packs a Way Cooler Visibility Solution

Igloo Products Corp., which produces coolers, drinkware, backpacks, and other products, initially partnered with Atlanta-based logistics solutions provider American Global Logistics (AGL) to automate its purchase order process. That assignment evolved to include, among other projects, an electronic customer repository that provides greater visibility to Igloo's supply chain.

Through the partnership, Igloo cut costs and streamlined its processes. It also has been able to avoid service disruptions by working with AGL to stay ahead of significant changes in the supply chain environment, such as port strikes and the Hanjin bankruptcy.

Carolyn Glynn, senior manager of international freight and customs compliance for Igloo Products Corp., credits these benefits to the visibility AGL's solution affords. In addition, AGL's market knowledge enables Igloo to move cargo quickly to other carriers when a disruption is imminent.

Igloo launched in 1947 with the goal to bring clean water to

worksites. Fast forward 71 years, and the company now sells a cooler every 1.6 seconds in roughly 70 countries. It offers approximately 500 products, including water bottles and dispensers, backpacks, mugs, and even LED-lit trick-or-treat bags. Home is a 1.8-million-square-foot facility in Katy, Texas.

Finding the Right Partner

When Igloo issued an RFQ several years ago, its focus was to automate and manage the purchase order process.

"We wanted to move away from spreadsheets and manual paper processes," Glynn says. In addition,



FLURRY OF 3PL BENEFITS

- Streamlined processes
- Lower costs
- Greater visibility and control
- Minimized disruptions

management wanted one platform that would manage all cargo—both imports and exports. Just as important was a partner with deep knowledge of the carrier market that Igloo could tap into to help minimize supply chain disruptions.

Among the many 3PL candidates Igloo interviewed, AGL stood out. “They were able to come in and build a process around Igloo, instead of us having to change our processes and procedures to match their program,” Glynn says.

“AGL provides high-tech, hands-on,

end-to-end logistics solutions,” says Blake Shumate, the company’s chief operating officer. Rather than insist a particular AGL solution is best, he and his colleagues listen to customers’ concerns and build supply chain solutions that meet their needs.

Glynn had been with Igloo for about six months—prior to issuing the RFQ—when she received a cold call from AGL.

“The pitch was a little different,” she recalls. “Rather than jump into all his firm could do, the sales rep genuinely wanted to learn about Igloo,” Glynn says. “Moreover, I could hear his dedication to building an efficient, cost-effective, and streamlined supply chain for us.”

As a result of that call, AGL landed an initial assignment to move about 150 containers.

That assignment led to AGL’s participation in the RFQ. It won the business, which Shumate credits to AGL’s purpose-built platform. “To fit each client’s needs, we all-out scrap and recode our system,” he says.

In addition, AGL outlined a step-by-step process to move Igloo from a manual to more streamlined operation,

and that provided a level of comfort when the two companies began working together. “We could see this was a well-thought-out process, and they truly understood our supply chain and our needs,” Glynn says.

One key solution AGL developed was a customer repository. Igloo Products Corp. serves about 150,000 customers, and each has its own set of rules. For instance, a retailer may require Igloo to send information to specific individuals within its organization, or mandate that the signatures on certain documents be in specific places. At the time, employees searched voluminous paper files, many scattered across the organization, to find the rules governing transactions for each customer.

Through AGL’s customer repository, Igloo employees can log in, pull a customer profile, and review the rules. “It removes the search component,” Shumate says.

Info for Every Customer

Moreover, the solution shows all exports, imports, modes of transport, rules, and other relevant information for every account. This is key, as each Igloo customer service representative handles all transportation modes and both imported and exported products for specific customer accounts; that’s in contrast to some companies that split responsibilities by imports and exports, as well as by traffic mode.

In addition, the solution displays shipments moving through both AGL’s and other companies’ 3PL services, providing a single point of contact for visibility.

During the initial stages of the partnership, AGL placed a team of its experts at Igloo’s headquarters for several weeks. The team included a database administrator, systems architect, implementation and project managers, as well as help desk support specialists. All were focused on learning Igloo’s business and day-to-day operations.



Igloo is the top cooler manufacturer in the world; it sells one cooler every 1.6 seconds.



With more than 500 products sold at 110,000 retail stores around the world, Igloo needed container visibility. AGL's technology solution provides that visibility for 1,600+ containers in transit on one platform.

Individuals from Igloo's IT team made sure that interfaces could link. Other departments involved were the import and export teams, buyers, operations, and compliance.

AGL team members shadowed Igloo employees involved in daily operations, learning what they did, and how and why they did it. Using this information, AGL identified operational pain points and was able to develop a solution that addressed those needs.

Getting the Process Down Cold

A first step was tracking the components that come into the Igloo facility, become part of finished goods, and are shipped out. Shumate and his team isolated the processes needed to ensure visibility and capture relevant information. This information formed the skeleton of the supply chain solution AGL crafted for Igloo.

Next up was examining the same elements for direct imports. These

products go directly from a factory to a customer, such as a retailer. The need for visibility and document capture remains, yet achieving it requires close collaboration with third-party vendors because Igloo never sees the product. The AGL system transforms the record, which is generated by an outside factory, to an Igloo invoice for its U.S. retail customers.

Because the AGL solution collects data from all vendors and carriers working with Igloo, it can produce key performance indicators that offer an all-encompassing overview of the company's supply chain—from raw materials to finished products, across all carriers. Among other information, it shows transit times and costs.

Having a single funnel of information allows management to identify the areas where the company needs to concentrate, Shumate says.

For the next phase of this project, AGL will more closely integrate its

IGLOO BY THE NUMBERS

- Conducts business in more than 70 countries.
- Handles 5,000-plus materials and components.
- Serves approximately 150,000 customers.
- Offers about 500 products.
- Operates from three full-time DCs and one additional facility during the holiday season

solution with Igloo's ERP system to further streamline processes. "As shipments are booked, documents will be automatically generated," Shumate says. Employees won't even have to pull the customer profiles to access the information they need.

Stacking Up Benefits

Since the two companies began working together, costs within the import/export function at Igloo headquarters have declined by 15 to 20 percent. That's due, in part, to streamlined processes. Employees no longer waste time hunting for paper documents. And, by consolidating information that had been scattered across departments to provide a single point of visibility, Igloo can more effectively analyze and manage its spending.

Glynn calls AGL "the good idea fairy" because when Igloo employees come up with what they consider a great idea, they can count on AGL to provide honest feedback.

"AGL's passion got them into Igloo, but their commitment to service has kept them here," Glynn says. ■

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.



DHL Supply Chain

TITLE: *The New Landscape of Supply Chain Real Estate*

DOWNLOAD: bit.ly/DHL_SC_RealEstate

SUMMARY: DHL Supply Chain conducted a series of qualitative interviews with senior supply chain professionals to discuss the trends that are re-shaping distribution real estate strategies. The key takeaway: A major shift is underway in how businesses deploy real estate to support their operating strategies. This report discusses what's driving that shift, and how it impacts how distribution networks are managed.



QubeVu

TITLE: *Recovering Lost Space, Time & Money with Dimensioning*

DOWNLOAD: bit.ly/QubeVu_Dimensioning

SUMMARY: Warehouses, distributors, e-com fulfillment centers, and shippers are looking for every edge. They're discovering that dimensioning their inbound and outbound streams maximizes warehouse capacity, increases operational efficiency, and reduces material and shipping costs. If you receive, store, pick, pack, ship, or transport, dimensioning is an easy way to save money. This guide will get you started.



XTRA Lease

TITLE: *2018 Size & Weight Guide*

DOWNLOAD: bit.ly/XTRA_Guide

SUMMARY: This free reference guide contains state-by-state listings of size and weight regulations to provide fleets with up-to-date resource material for managing size and weight legal limitations. The guide also offers details for where to register for fuel use tax and order International Fuel Tax Agreement trip permits, register vehicles, order International Registration Plan trip permits, and more.



Descartes Systems Group

TITLE: *Business Transformed: B2B Communications*

DOWNLOAD: <http://bit.ly/DescartesWhitepaper>

SUMMARY: Although supply chains operate faster and more effectively than ever, why is it getting harder for businesses to connect? This free whitepaper by ChainLink Research details why it's critical that companies get B2B communication right. With targeted visuals and at-a-glance takeaways, the whitepaper covers: Why managing and sharing information should be a C-level decision; the four pillars of B2B communication and why cross-functional communication is a must; and today's integration challenges across content, data formats, and the cloud.



3PL Central

TITLE: *5 Proven Ways to Improve Your 3PL Warehouse Profitability*

DOWNLOAD: bit.ly/3PLCentralWP

SUMMARY: When it comes to running a warehouse, finding new ways to increase your profits can be one of your biggest challenges. That is why 3PL Central and industry experts created this action plan to improve your 3PL warehouse profitability. You will not want to miss this free e-book, which details five crucial actions your warehouse can take to upgrade its bottom line.

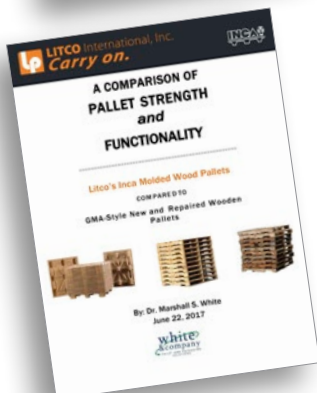


Pierbridge

TITLE: *It Takes an Enterprise to Control Parcel Spending*

DOWNLOAD: <http://bit.ly/Pierbridge>

SUMMARY: Fast and free shipping is the new normal in e-commerce, and Amazon continues to set the pace. How can you keep up? Find the answers in Pierbridge's free e-book. Download it today to learn how parcel TMS software can help your business control costs by improving parcel planning with an enterprise software approach, shipping with total control, utilizing advanced analytics to normalize and store information to gain a complete picture of transportation activity, and more.




Litco International

TITLE: *A Comparison of Pallet Strength and Functionality*

DOWNLOAD: <http://bit.ly/LitcoWhitepaper>

SUMMARY: This whitepaper discusses the functionality characteristics of two wood-based pallet types made from distinctive processes. The pallets compared for use in one-way shipping include the innovative 48-inch x 40-inch Engineered Molded Wood pallet made with high heat and pressure and the established 48-inch x 40-inch GMA-Style pallet made from wood slats and nails. Learn how pallet strength, stiffness, and other functionality characteristics impact supply chain efficiencies.



Delta Cargo introduced real-time Bluetooth tracking on container shipments. The technology replaces manual tracking for all shipping containers, called unit load devices (ULDs), which move cargo shipments, baggage, and mail globally. Real-time ULD tracking information allows Delta's cargo control center to monitor and reroute shipments when delays occur. The new tracking system also enables Delta to produce electronic unit control receipts, which are required by the International Air Transport Association when ULDs are transferred between parties.

//Services//

DHL unveiled Parcel Metro, a flexible delivery service that allows online retailers to offer a fully branded delivery experience to their customers. The new service creates a virtual network of local and regional delivery vendors, and crowdsourced drivers and vehicles to ensure flexibility and capacity over the last mile. It uses a bespoke software platform, which selects drivers who offer the appropriate service levels and capacity on specific routes. The service is currently available in Chicago, New York, and Los Angeles.

Crowley Logistics opened its second cold storage facility in Florida. The new temperature-controlled warehouse in Jacksonville expands the company's cold chain services from South Florida into Northeast Florida. The facility features humidity and temperature-controlled coolers for handling perishables transiting between the United States, Latin America, and the Caribbean. It serves as an in-transit consolidation/deconsolidation point for shippers with fully perishable loads, or for those looking to combine perishable and dry loads together.

a2b Fulfillment added a 120,000-square-foot facility in Ogden, Utah, which will serve as its base of operations for the western United States. The Utah facility is scheduled to begin operation in the second quarter of 2018 and will enable one- to two-day shipping to the entire western United States. a2b will also introduce a bicoastal fulfillment solution, enabling shippers to stage inventory in both eastern and western U.S. warehouses in order to achieve faster transit times and lower shipping costs.



◀ **Lufthansa Cargo** started the proof-of-concept phase for eDGD—the digital approach to managing the IATA Dangerous Goods Declaration—with implementations in Frankfurt, Paris, and Zürich. eDGD marks a major step toward paperless air cargo handling and enables supply chain stakeholders to manage the transportation of dangerous goods without paper documentation. It is designed to improve supply chain collaboration with more transparency and traceability.

//Transportation//

Virgin Atlantic Cargo is set to launch a second daily service between London and Johannesburg in October 2018, creating additional cargo capacity to and from South Africa. Starting Oct. 28, 2018, the additional daily frequency will be operated by one of the airline's Boeing 787-9 aircraft, which can carry up to 26.5 tons of cargo. In April, Virgin Atlantic Cargo opens a local contact center in Johannesburg to support shippers in South Africa.

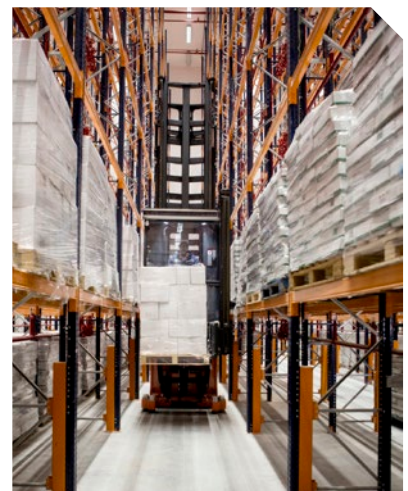
Ocean carrier **ZIM** launched the Canada Florida Express (CFX) service in April 2018 to improve transit times and expand port coverage. CFX is a weekly, fixed-day service deploying two 1,300-TEU vessels. Connecting ZIM's Latin American hub in Kingston, Jamaica, with Florida and Halifax, the new service connects the regional network to ZIM mainliners. The CFX rotation includes Kingston, Miami, and Halifax. The launch of CFX coincides with a change in the flagship ZIM Container Service Pacific, which will no longer call at Halifax.

Gold Star Line (GSL) expands services into India, the Middle East, and Africa in 2018. Its new GCX service is the first of several GSL will introduce this year as the carrier strengthens its intra-Asia offering and extends into the Middle East and Africa. The GCX service operates weekly, with six vessels of 6,500 TEUs calling at Xingang, Qingdao, Shanghai, Ningbo, Shekou, Da Chan Bay, Port Kelang, Colombo, Karachi, Jebel Ali, and Singapore.

//Technology//

Polaris Transportation launched an enhanced online booking portal to make it easier for shippers to do business with the LTL carrier. The enhanced shipping tool is designed to book up to four standard pallets (48 inches x 48 inches x 72 inches) per destination or custom pallet configurations as required. Booking is available for cross-border shipments between Canada and the United States. Shippers can attach customs documents and other instructions.

▶ Logistics services provider **Milaha** opened a 370,000+-square-foot warehousing facility dedicated to temperature-controlled cargo in Qatar, the first phase of the 4.3-million-square-foot Milaha Logistics City. The new facility marks Milaha's entry into cold chain solutions, and serves verticals such as food, pharmaceuticals, and other fast-moving consumer goods. The facility is divided into a frozen storage area, a chilled section, and a temperature-controlled storage area, ranging from -7.6 to 71.6 degrees F.





◀ **SeaLand**, the Intra-Americas regional ocean carrier of the Maersk Group, introduced the Gulf Ocean Express (GOEX) service, a direct, all-water service that connects the U.S. Gulf with Central America, Panama, and Colombia. SeaLand transshipment hubs in Cartagena and Manzanillo provide shippers with access to SeaLand's Americas service network. GOEX serves U.S. export cargo out of the Gulf including resins, chemicals, paper, mining and metals, and frozen meat, as well as U.S. imports of agricultural products, forestry, automotive/transportation, chemicals, and apparel.

E*DRAY, the container shipping industry's first collaborative port logistics technology platform for coordinated drayage operations at terminals and container yards, is now being rolled out in North America. Seattle/Tacoma is live and operating, with Los Angeles/Long Beach to follow. E*DRAY standardizes and scales the block stow, flow stack, and export street turn processes for the import and exporter community in the United States. It reduces congestion and accelerates throughput at terminals and container yards.

Transportation management system (TMS) solution provider **UltraShipTMS** now enables food shippers and other cold chain organizations to receive up-to-the-minute temperature readings from temperature-controlled shipments. Temperature readings can be transmitted via UltraShip's web portals, the UltraShipTMS Carrier Mobile App, and also via integration with supply chain visibility software provider FourKites. Real-time tracking of temperature levels for reefer/freezer trailers helps food shippers comply with Food Safety Modernization Act mandates.

Dray Alliance, a B2B platform that applies the ride-sharing model to drayage container delivery, launched a quote feature, powered by an AI prediction algorithm, which provides users with a quote at the click of a button. The Dray Alliance platform gives importers and exporters more flexibility when transporting their goods from the port to the warehouse, letting them find drayage shippers quickly and at competitive rates. Over time, the algorithms learn their delivery preferences, such as destination and time, allowing the containers to be more easily accepted and delivered.

▶ **Schneider** completed its conversion to a company-owned and managed chassis fleet to improve availability, load weights, and service for shippers. Purchasing more than 15,000 intermodal container chassis over the past four years, the provider of transportation and logistics services aims to deliver truck-like service in the intermodal segment. Establishing a company-owned chassis fleet means the asset-based intermodal provider has complete control of its equipment, along with professional company drivers.



► **Carrier Transicold**, a provider of equipment and services for refrigerated transport and cold chain visibility, and **Singamas Container Holdings**, a manufacturer of shipping containers, introduced PrimeLINE ONE, a shipping container that is assembled on site in a streamlined assembly process. The PrimeLINE ONE refrigerated container provides an alternative to the traditional approach of bolting a complete refrigeration system to the front end of an insulated shipping container. Instead, refrigeration system components are assembled into custom-configured Singamas containers in a Carrier Transicold factory, providing shippers with more options for a refrigerated container solution that meets their needs and preferences.



//Products//

QubeVu, a creator of dimensioning technology, added a stop-and-go conveyor-based unit that also integrates weight capture. When placed in-line with an automated belt system, the stop-and-go unit emulates in-motion solutions at a fraction of the cost. QubeVu partnered with **Megavera Automation**, a materials handling equipment maker, to integrate a timed belt system with its DimStation dimensioning solution.

Logistics solutions provider **2nd Level Solutions** launched Payload Porter, a packaging system that maximizes truck, sea container, and airfreight capacity, while providing greater payload protection and reducing fuel costs. The Payload Porter utilizes 100 percent of the cube available in trucks, sea containers, and air ULDs by creating a second cargo floor, while also protecting the palletized goods below. It's available in two materials: a reusable plastic system and a one-time-use recyclable cardboard system.

Lifdek, a developer of corrugated pallets and skids, launched extra-tough skids (pallets without sidewalls or a bottom deck), with a tested compression strength exceeding 14,000 pounds. Lifdek skids have an integrated folded support system rather than glued supports that tend to come off easily. The new skids are available in multiple sizes, with the 40- x 48-inch version weighing 7.7 pounds.

Epson LABELWORKS PX, maker of label printers, software, and supplies, launched the LW-PX300 Label Printer, a small, portable label maker for creating barcode labels up to 3/4 inches wide. The LW-PX300 allows users to quickly print batches of sequenced labels for faster print-and-apply in the warehouse. It has a removable rubber sleeve to ensure durability and an easy-to-read backlit screen for low-light environments.

◀ **Janam Technologies**, a provider of rugged mobile computers that scan barcodes and communicate wirelessly, launched the XT100 rugged touch computer. The XT100 addresses supply chain data capture requirements with integrated Honeywell N6603 2D barcode scanning technology, 13MP/2MP rear- and front-facing cameras, and NFC and RFID reading capabilities to ensure users can perform tasks quickly and accurately. The pocket-sized XT100 withstands repeated 4-foot drops to concrete, and is sealed to IP65 standard for protection against water, dust, and extreme temperatures.



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3PL

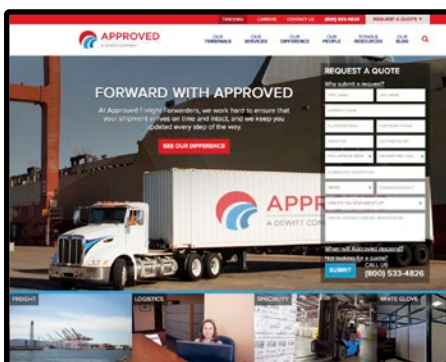
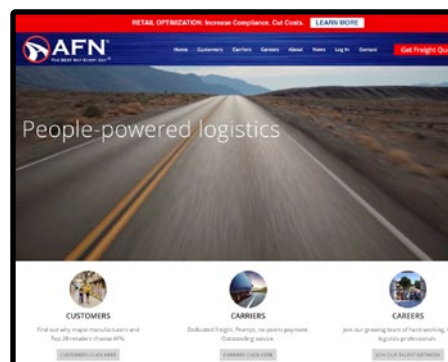


3PLFinder • www.3plfinder.com

Your search for the perfect 3PL partner just got easier. 3PLFinder.com is the most comprehensive directory of third party warehouses in the world. Our free and easy-to-use search feature allows you to find the third party warehouse that fits your needs anywhere in the world. Search by city, state, country or services you require.

AFN • www.loadafn.com

AFN is a uniquely people-powered logistics solutions company. Founded in 2003 and based in Niles, IL, we deploy a unique, holistic approach to shipping that gives clients the insight to select the most efficient and cost-effective method of moving freight. Matched with exceptional service and leading technology, our goal is to deliver breakthrough solutions that drive value to your supply chain to reduce total landed costs, create efficiency gains, and mitigate risk. Our core capabilities include managed transportation services, truckload, LTL/partial truckload and intermodal, as well as unique expertise in high-value/high-risk freight, drop trailer services, and RAD/MABD solutions.

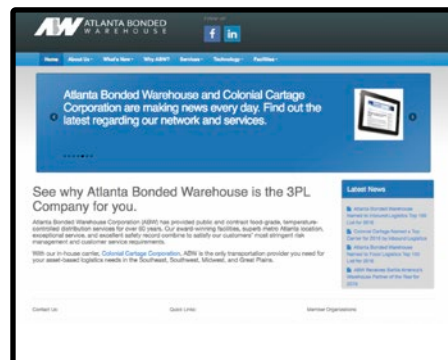


Approved Freight Forwarders • www.approvedforwarders.com

Since 1991, Approved has been dedicated to the unique shipping needs of the Hawaii and Guam trades, and provides freight forwarding throughout the mainland U.S. Approved accommodates all types of commodities and all sizes of freight. Its highly trained logistics experts use advanced technology to tailor shipping solutions that fit your specific requirements. Approved works hard to ensure that your shipment arrives on time and intact, and keeps you updated every step of the way. To learn more about Approved's freight and logistics solutions, sailing schedules, and competitive rates, visit the website.

Atlanta Bonded Warehouse • www.atlantabonded.com

Atlanta Bonded Warehouse (ABW) has been providing public and contract food-grade, temperature controlled distribution services for 70 years. ABW is a leader in providing integrated asset-based logistics solutions for the food, pharmaceutical, household durables, and CPG industries. Our goal is total customer satisfaction through continuous innovation in technology and in best practices by focusing on teamwork, integrity, and accountability, all in a safe working environment.



IN THIS SECTION:

3PL

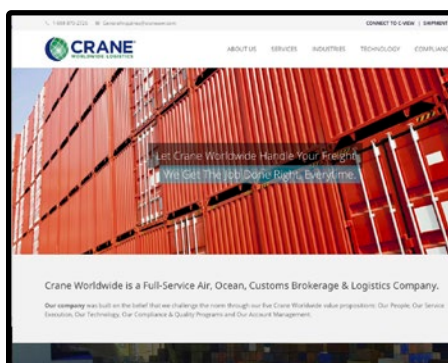


Camelot 3PL Software • www.3plsoftware.com

A market leader since 1987, Camelot 3PL Software provides Warehouse Management Systems (3PL WMS) exclusively for third-party logistics warehouses to streamline their operations, eliminate costs, and increase service levels. Offering cloud (SaaS) and on-premise solutions, Camelot's highly configurable solutions are ideal for small, medium, and enterprise-level warehouses.

CaseStack • www.casestack.com

Founded in 1999, CaseStack is the industry's leading outsourced logistics provider, offering complete supply chain solutions to companies selling products to retailers, distributors, and other manufacturers. Thousands of suppliers turn to CaseStack for innovative consolidation programs, efficient warehousing systems, and streamlined transportation management, all of which are centered on proprietary real-time inventory and order technology. Our customers reap the cost savings and achieve the performance levels of their larger competitors without the investment costs.



Crane Worldwide Logistics • www.cranewww.com

Crane Worldwide is a full-service air, ocean, trucking, customs brokerage and logistics company built on the belief that we challenge the norm through our five Crane Worldwide value propositions: Our People, Our Service Execution, Our Information Technology, Our Compliance & Quality Programs, and Our Account Management.

Dupré Logistics • www.duprelogistics.com

With specific emphasis in the chemical, consumer products, and beverage industries, Dupré's unique solutions provide expertise in dedicated fleets, transportation management/brokerage, materials handling, and reverse logistics. Dupré works to understand your business and measure how our system meets your expectations.



WEB_CITE CITY

bit.ly/IL_WCC

IN THIS SECTION:

3PL

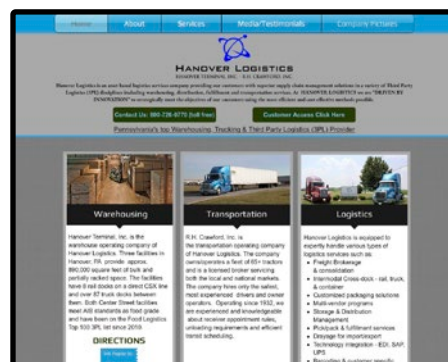


Echo Global Logistics • www.echo.com

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.

Hanover Logistics • www.hanoverlogistics.com

Hanover Logistics is an asset-based logistics services company providing customers superior supply chain management solutions in a variety of third-party logistics (3PL) disciplines, including warehousing, distribution, fulfillment, and transportation services. Hanover Logistics is equipped to expertly handle various types of logistics services, including: freight brokerage, food/grocery storage and distribution, intermodal/cross-dock services, warehousing solutions for a variety of products (AIB certified, food grade), and general transportation management including truckload, LTL, and container hauling services.

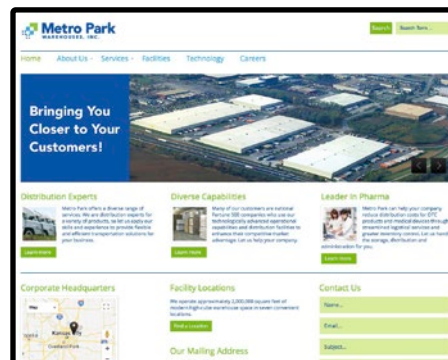


Landstar • www.landstar.com

Landstar's network of independent sales agents and transportation capacity providers offers greater flexibility and a local presence that has a global reach. The Landstar network is unmatched in the industry. With more than 1,100 independent agents, 9,000 leased owner operators, 14,000 trailers and 44,000 other available capacity providers, we have the flexibility and experience to find a solution to your transportation challenge.

Metro Park Warehouses • www.mpwus.com

Metro Park Warehouses is a full-service 3PL offering 2 million square feet in Kansas City of modern food-grade warehousing space, including air-conditioned & medical temperature-controlled space with licensed beverage & med/vet/pharma distribution, AIB Superior rating, and 6 rail facilities, all open to reciprocal switching. We also offer in-house local & regional trucking transportation and value-added services such as retail store displays, kitting, labeling and light assembly. Contact Metro Park to gain the competitive edge.



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3PL

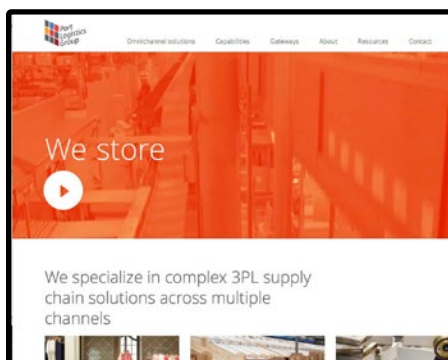
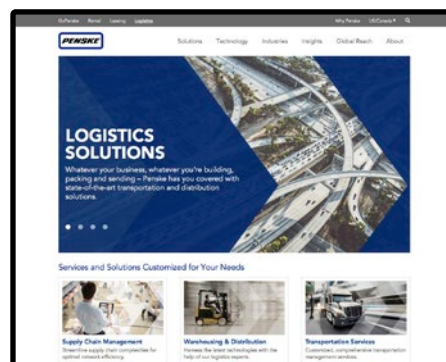


Odyssey Logistics & Technology • www.odysseylogistics.com

Odyssey Logistics & Technology Corporation (Odyssey) combines deep industry expertise with leading technology to provide multimodal logistics management services to the chemical industry and other process manufacturers. Odyssey enables clients to outsource any part of their logistics processes to achieve savings through reduced transportation and infrastructure costs, measurable customer service and process improvements, and improved data quality and management. Odyssey is a leader in intermodal with expertise in liquid food, chemicals, and metals transport.

Penske Logistics • www.penskelogistics.com

Penske Logistics is an award-winning logistics services provider with operations in North America, South America, Europe, and Asia. Our products and services range from dedicated contract carriage and distribution center management to transportation management and fully customized solutions. No matter what your needs or industry, Penske Logistics engineers supply chain solutions that deliver business results like boosting productivity, improving service, and shrinking carbon footprints. Call us today at 1-800-529-6531 to learn more.



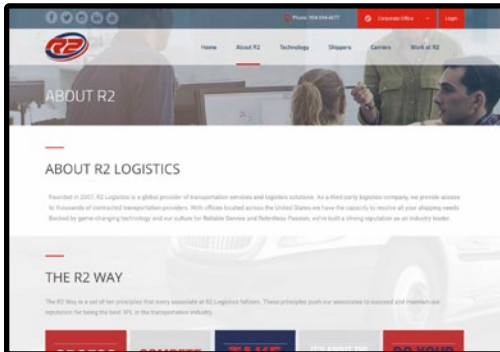
Port Logistics Group • www.portlogisticsgroup.com

Port Logistics Group is the nation's leading provider of omnichannel logistics services, including value-added warehousing and distribution, transloading and crossdocking, e-commerce fulfillment, and national transportation. With 5.5 million square feet of warehouse space strategically located in and around major North American ports, Port Logistics Group provides the critical link between international transportation and the last-mile supply chain.

Purolator International • www.purolatorinternational.com

Purolator International is the U.S.-based freight forwarding subsidiary of Purolator Inc., Canada's leading overnight courier company. Purolator International specializes in air and surface forwarding of express, parcel, and freight shipments, with enhanced supply chain solutions to offer delivery to, from, and within Canada. Purolator International offers preferred access to an extensive distribution network in Canada, which includes 11,000 dedicated employees, the leading air fleet, and ground network with the most guaranteed Canadian delivery points in Canada.



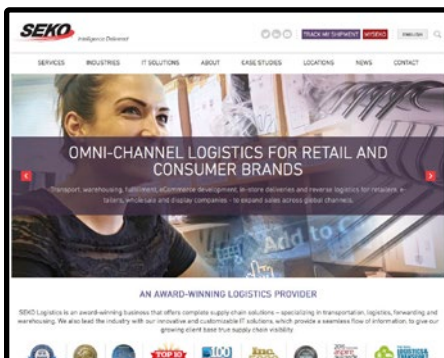
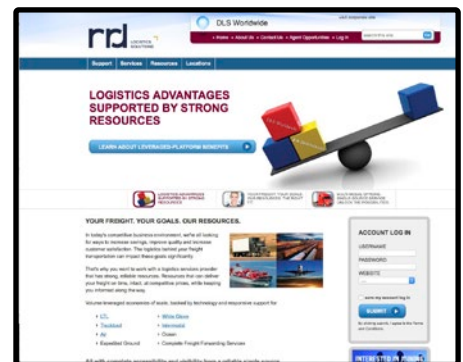


R2 Logistics • www.r2logistics.com

Founded in 2007, R2 Logistics is a national provider of transportation services and logistics solutions. As a third-party logistics (3PL) company, we provide access to thousands of contracted transportation providers. With offices located across the United States, we are able to provide your company with any possible over-the-road shipping need nationwide, including Mexico and Canada. Backed by game-changing technology and our culture for Reliable Service and Relentless Passion, we've built a strong reputation as an industry leader.

RR Donnelley's DLS Worldwide • dlsworldwide.rrd.com

Experience the benefits that only come from working with a major, global shipper that is also a top-ranked 3PL. We offer multiple transportation modes, an established multi-carrier network, volume-leveraged rates and service levels, along with technology-enabled systems and processes. Visit our website and contact us today to see why customers have relied on us for nearly 150 years.



SEKO Logistics • www.sekologistics.com

SEKO prides itself on a commitment to customer service, whether it's a 2 a.m. pickup for a critical industrial part for a plant that is 4,000 miles away, or the cost savings achieved from proactive communication with your vendors overseas. SEKO offices have the knowledge and expertise to expedite or to consolidate, depending on your need. From Hong Kong to Amsterdam, SEKO knows how to serve its clients. As a non-asset-based third-party logistics provider, SEKO has the flexibility to meet your supply chain needs using a variety of modes and carriers.

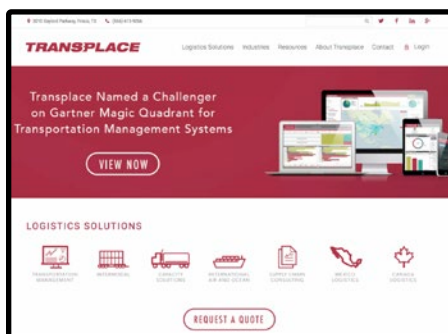
The Shippers Group • www.shipperswarehouse.com

The Shippers Group is a well-established national provider in Texas, Georgia, Illinois, Virginia and California. Facilities are food grade, consistently rated excellent and superior by AIB. Experts in Warehousing and Contract Packaging, let The Shippers Group help you match your requirements to the appropriate location, whether it be a new facility, an existing facility, or additional space that can be leased in the area. Details are available on the website.



IN THIS SECTION:

3PL - Air Cargo

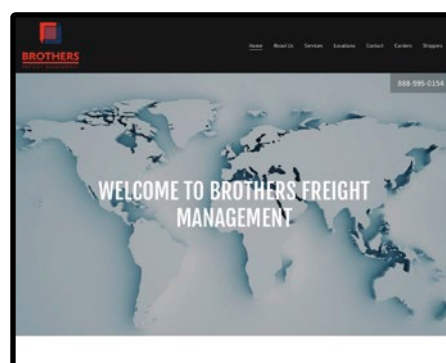
**Transplace • www.transplace.com**

Transplace is the leading provider of transportation management services and logistics technology, helping manufacturers, retailers and distributors optimize supply chain operations and increase financial performance. Offering a complete suite of transportation management, strategic capacity, and cross-border & global trade services, Transplace's customizable logistics solutions and best-in-class technology give businesses greater control of their transportation operations and enhanced visibility of shipments and overall supply chain performance.

4PL

Brothers Freight Management • www.brothersfreightmanagement.com

"Logistics Made Easy." That's the motto behind Brothers Freight Management (BFM), which strives to bring customers the most reliable service and best carriers it can provide. From warehouses and storage solutions in key shipping locations, to dry and cold storage solutions at its in-house storage buildings, to LTL and truckload services throughout the 48 continental United States, let BFM put its 20 years of experience to work for you.

**Odyssey Logistics & Technology • www.odysseylogistics.com**

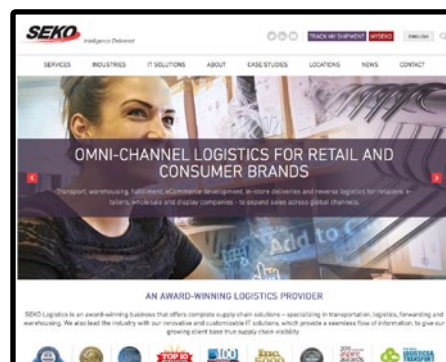
Odyssey Logistics & Technology Corporation (Odyssey) combines deep industry expertise with leading technology to provide multimodal logistics management services to the chemical industry and other process manufacturers. Odyssey enables clients to outsource any part of their logistics processes to achieve savings through reduced transportation and infrastructure costs, measurable customer service and process improvements, and improved data quality and management. Odyssey is a leader in intermodal with expertise in liquid food, chemicals, and metals transport.

AIR CARGO

SEKO Logistics • www.sekologistics.com

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BARCODE/RFID



ASG Services • www.asgservices.com

ASG Services is a warehouse identification and marking specialist. We manufacture custom warehouse labels and warehouse signs in Atlanta, Ga., while providing fully managed installation services and warehouse striping solutions throughout the United States, controlled centrally from our head office.

BROKERAGE SERVICES

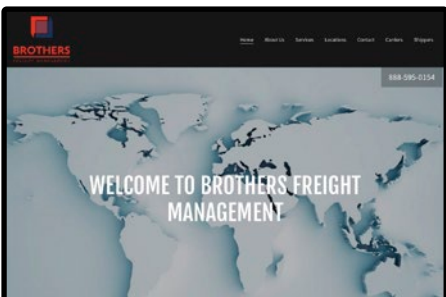
BirdDog Logistics • www.birddog.com

As leader of the pack in freight brokerage, BirdDog Logistics brings class-leading freight management services to shippers in need of reliable truckload, temperature-controlled, less-than-truckload, intermodal, flatbed, ocean, air and oversized transportation solutions. A non-asset-based company backed by solid relationships with thousands of reputable transportation providers, BirdDog is well-positioned to provide transportation capacity that enables shippers to deliver on their customer promises. BirdDog's smart and trained associates take a disciplined approach to ensuring that both shipper and carrier interests are protected, while remaining loyal to their commitments and relationships.

For more information about BirdDog, please visit www.birddog.com.



BULK: LIQUID-DRY



Brothers Freight Management • www.brothersfreightmanagement.com

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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.



IN THIS SECTION:

Bulk: Liquid-Dry - Chemical Logistics



Odyssey Logistics & Technology • www.odysseylogistics.com

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CHEMICAL LOGISTICS

Lynden • www.lynden.com

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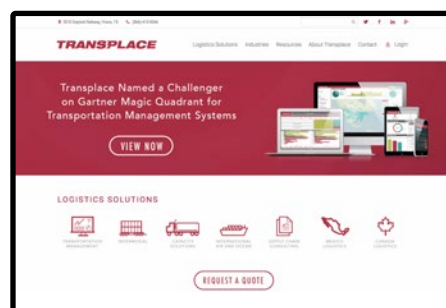


Odyssey Logistics & Technology • www.odysseylogistics.com

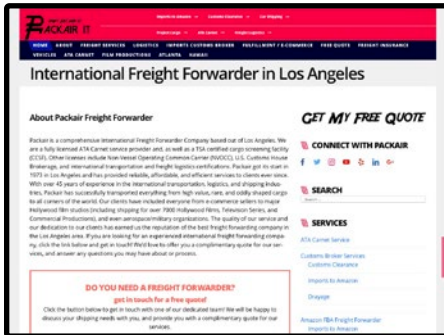
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CUSTOMS BROKERAGE



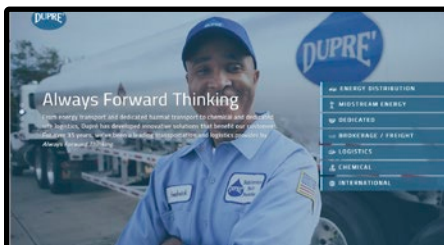
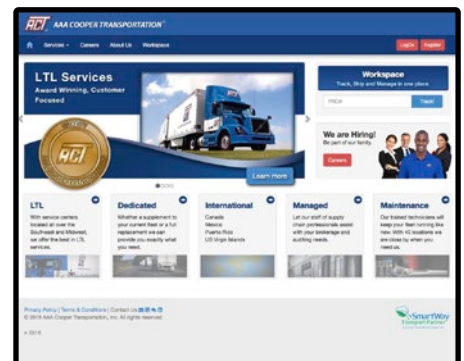
Packair Custom Brokers, Inc. • www.packair.com

Packair started its freight logistics services in 1973 as an international freight forwarder in Los Angeles. Today, with more than 44 years of experience in shipping high-value, oversize, and rare one-of-a-kind cargo, Packair is the freight logistics company of choice for many major Hollywood studios needing film production shipping services. Packair ships anywhere, by air, sea and ground, and is accustomed to dealing with freight of peculiar shapes and sizes, spot rates, urgent requests, and high-value cargo going to unusual destinations.

DEDICATED CONTRACT CARRIAGE

AAA Cooper Transportation • www.aaacooper.com

AAA Cooper Transportation has been delivering safe, efficient transportation for more than 60 years. With strategically located service centers, we are prepared to give individual attention to your shipping needs. AAA Cooper Transportation is dedicated to the long-term sustainability of the environment, and continues to implement processes that will make the world a better place to live for generations to come.



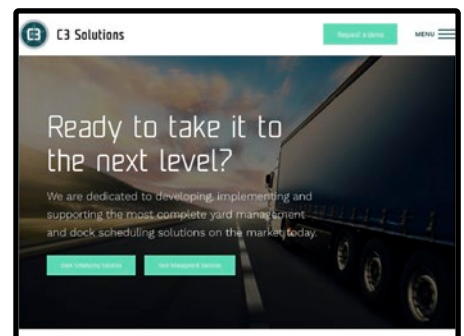
Dupré Logistics • www.duprelogistics.com

With specific emphasis in the chemical, consumer products, and beverage industries, Dupré's unique solutions provide expertise in dedicated fleets, transportation management/brokerage, materials handling, and reverse logistics. Dupré works to understand your business and measure how our system meets your expectations.

DOCK APPOINTMENT SCHEDULING

C3 Solutions • www.c3solutions.com

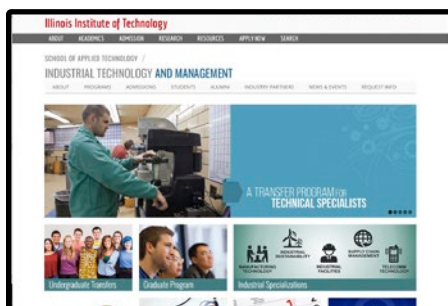
C3 Solutions is an information technology company specialized in yard management (YMS) and dock scheduling (DSS) systems. Since its founding in 2000, C3 has gained the confidence of clients around the world and across many industries including retail, grocery, distribution, manufacturing and parcel post. Headquartered in Montreal (QC), Canada and privately owned, C3 is dedicated to developing, implementing and supporting the most complete yard management and dock scheduling products on the market today. For more information on C3's products, schedule a free online demonstration.



IN THIS SECTION:

Education - Freight Forwarding

EDUCATION

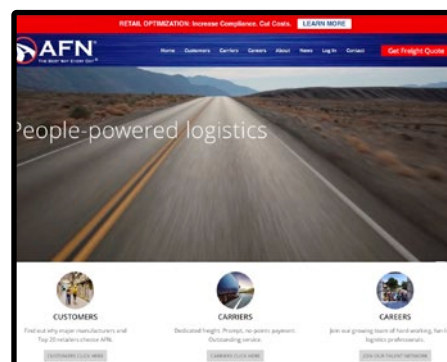

Illinois Institute of Technology/Industrial Technology & Management
www.appliedtech.iit.edu/industrial-technology-and-management

Industrial Technology and Management (INTM) at Illinois Institute of Technology (IIT) offers Bachelor and Masters degrees, with specializations in Supply Chain Management, Industrial Facilities, Industrial Sustainability, and Manufacturing Technology. The Bachelor (BINTM) is a transfer degree, requiring an Associates degree or equivalent college credits in a technical field. The Master of Industrial Operations (MITO) prepares students for management positions in industrial companies. Evening and online courses allow flexibility for working adults.

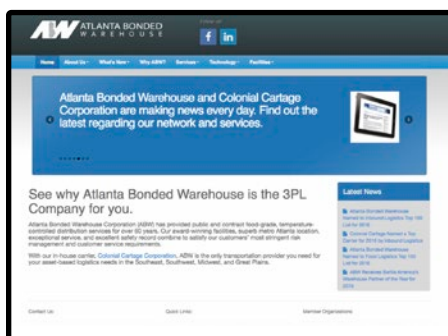
FOOD LOGISTICS

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FREIGHT FORWARDING

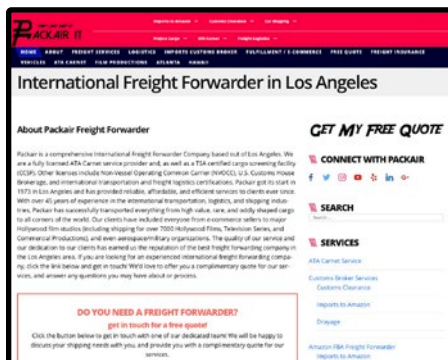

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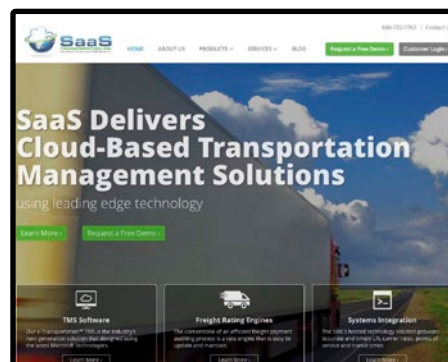
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FREIGHT PAYMENT/AUDIT SERVICES

SaaS Transportation, Inc. • www.saastransportation.com

SaaS Transportation, Inc. is a provider of cloud-based TMS solutions to third-party logistics companies, freight payment companies, shippers and carriers. Its TMS solution is unique in that it has developed APIs, which allow easy integration with numerous trading partners with minimal setup time. This integrated solution automates freight management from carrier selection to final delivery. SaaS Transportation's system enables transparency by providing visibility into shipments during transit, and alerts shippers when exceptions occur so they can proactively resolve issues.

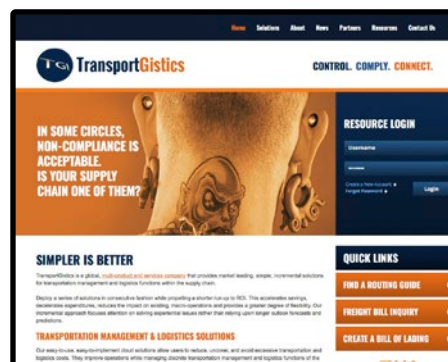


Trans Audit • www.transaudit.com

Trans Audit, the world's largest and most successful global freight and parcel post audit specialist, has performed worldwide post payment transportation audits on a contingent basis for hundreds of Fortune and Global 1000 corporations. Trans Audit's freight and parcel post audit services address all modes of global transportation and have delivered over \$1 billion of benefit to our clients' bottom line by recovering overbillings and overpayments, correcting erroneous billing, and reducing future expenses.

TransportGistics • www.transportgistics.com

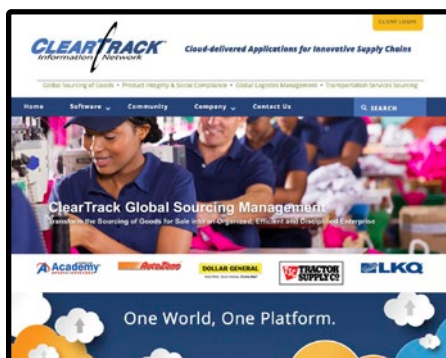
TransportGistics is a global, multi-product and services company that provides market-leading, simple, incremental solutions for transportation management and logistics functions within the supply chain. Our Web-based solutions enable our customers to source, procure, and execute transportation services; enable collaboration; reduce costs; improve processes; identify hidden costs of transportation; improve vendor compliance routing guides; improve Supplier Relationship Management; monitor vendor performance; improve shipment visibility; generate automatic, status-driven alerts; and monitor carrier performance with respect to time in transit, service failure, and billing.



IN THIS SECTION:

Global Logistics

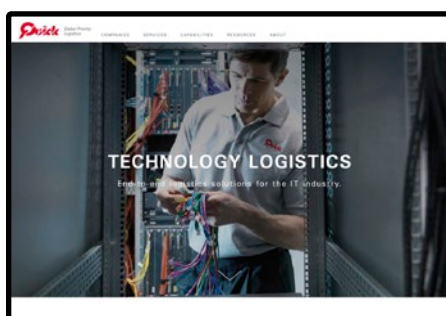
GLOBAL LOGISTICS

**ClearTrack • www.cleartrack.com**

ClearTrack operates a global cloud-based business network and collaboration platform for supply chain management software enabling the global sourcing of goods, management of supplier and product compliance, logistics collaboration and visibility and the sourcing of ocean and domestic freight. ClearTrack's configurable software solutions and services connect over 26,000 suppliers, factories, service providers and shippers to improve the flow of goods, reduce costs and minimize risk every day. Contact us to learn how ClearTrack can help you transform the management of your multi-enterprise supply chain.

IVIA • www.ivia.com

IVIA is a trusted logistics partner that solves the most pressing problems of shippers. It provides a more robust, secure and accurate shipping and tracking system that connects shippers and 3PLs for greater cost-effectiveness. The IVIA platform utilizes Global Positioning System that provides a unique new system of updates. IVIA contains a distinctive, interactive map where shippers can view the route a carrier is taking, their current location, and checks their speed and idle time.

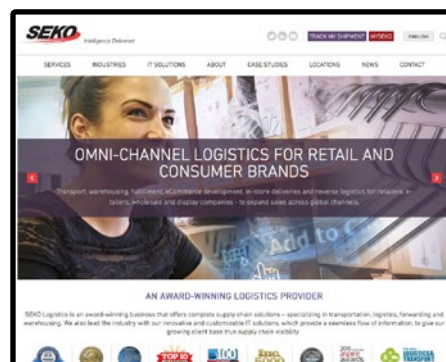
**Quick International • www.quicklogistics.aero**

Our logistics experts will develop a comprehensive plan for moving your IT Equipment, Asset Refresh/Recovery, or Data Center and Office Relocations quickly and cost-effectively from one or more sites to another—overseeing each step. Includes breakdown, packing and crating, shipping and assembly at new location. Includes end-to-end project management, global priority air and ground transportation, GPS tracking and unmatched chain of custody to ensure security. Reverse logistics include end-of-lease retrieval, swap outs, redeployments, recycling, and storage.

SEKO Logistics • www.sekologistics.com

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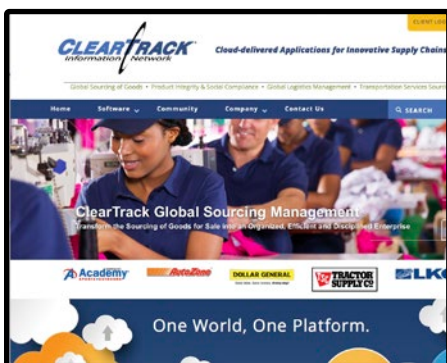
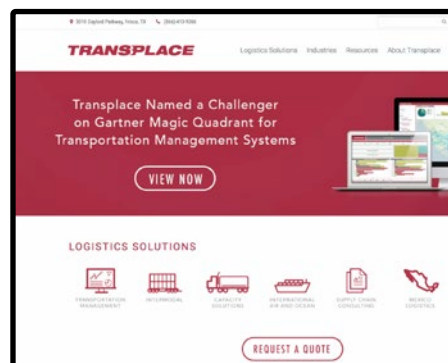
SWIVEL Software • www.swivelsoftware.com

Empowering Digital Logistics. SWIVEL Software makes it easier for importers/exporters and freight forwarders to do business together with its software solutions – PO Management, Logistics Control Tower, WMS, and Forwarder ERP system.

GLOBAL TRADE

Transplace • www.transplace.com

Transplace is the leading provider of transportation management services and logistics technology, helping manufacturers, retailers and distributors optimize supply chain operations and increase financial performance. Offering a complete suite of transportation management, strategic capacity, and cross-border & global trade services, Transplace's customizable logistics solutions and best-in-class technology give businesses greater control of their transportation operations and enhanced visibility of shipments and overall supply chain performance.

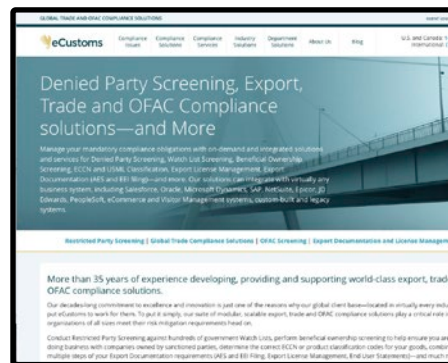


ClearTrack • www.cleartrack.com

ClearTrack operates a global cloud-based business network and collaboration platform for supply chain management software enabling the global sourcing of goods, management of supplier and product compliance, logistics collaboration and visibility, and the sourcing of ocean and domestic freight. ClearTrack's configurable software solutions and services connect over 26,000 suppliers, factories, service providers and shippers to improve the flow of goods, reduce costs and minimize risk every day. Contact us to learn how ClearTrack can help you transform the management of your multi-enterprise supply chain.

eCustoms (Visual Compliance) • www.ecustoms.com

For over 35 years, eCustoms has helped organizations fulfill their foreign trade and cross-border compliance obligations. From our comprehensive suite of Visual Compliance™ solutions for restricted party screening, audit, classification, and import and export automation, to our ACI, ACE and eManifest solutions, companies of all sizes—and in every industry, including manufacturers, retailers, wholesalers, distributors, importers and exporters, third-party logistics providers, carriers, and freight forwarders—have long relied on the breadth of eCustoms solutions to help them meet their global trade compliance needs.



IN THIS SECTION:

Global Trade - Insurance



QuestaWeb • www.questaweb.com

QuestaWeb is a premier provider of integrated, Web-based global trade management software. QuestaWeb's applications unify import, export, logistics, compliance, and financial processes under one roof. The applications include U.S. Customs, self-entry, foreign trade zone, landed costs, HTS, PO management, export licensing, drawback, reconciliation, denied party screening, product catalog, tracking, and international document repository. The centralized global database maintains up-to-date trade content and currencies. QuestaWeb can also be efficiently integrated to your ERP system if designated.

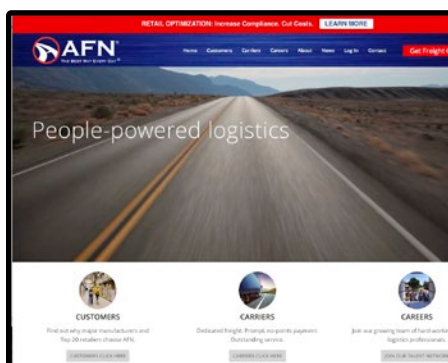
SEKO Logistics • www.sekologistics.com

SEKO prides itself on a commitment to customer service, whether it's a 2 a.m. pickup for a critical industrial part for a plant that is 4,000 miles away, or the cost savings achieved from proactive communication with your vendors overseas.

SEKO offices have the knowledge and expertise to expedite or to consolidate, depending on your need. From Hong Kong to Amsterdam, SEKO knows how to serve its clients. As a non-asset-based third-party logistics provider, SEKO has the flexibility to meet your supply chain needs using a variety of modes and carriers.



HIGH VALUE/HIGH RISK CARGO



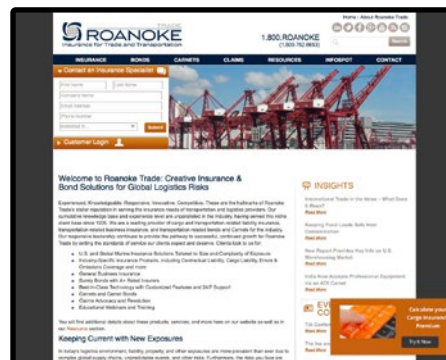
AFN • www.loadafn.com

AFN is a uniquely people-powered logistics solutions company. Founded in 2003 and based in Niles, IL, we deploy a unique, holistic approach to shipping that gives clients the insight to select the most efficient and cost-effective method of moving freight. Matched with exceptional service and leading technology, our goal is to deliver breakthrough solutions that drive value to your supply chain to reduce total landed costs, create efficiency gains, and mitigate risk. Our core capabilities include managed transportation services, truckload, LTL/partial truckload and intermodal, as well as unique expertise in high-value/high-risk freight, drop trailer services, and RAD/MABD solutions

INSURANCE

Roanoke Trade • www.roanoketrade.com

Roanoke Trade is a division of Roanoke Insurance Group Inc., a sales, service and underwriting organization specializing in insurance and bond solutions for international trade and transportation. A subsidiary of Munich Re and affiliate of Munich Re Syndicate, Ltd., Roanoke is the primary North American provider of marine insurance and customs bonds for this worldwide organization.



INTERMODAL

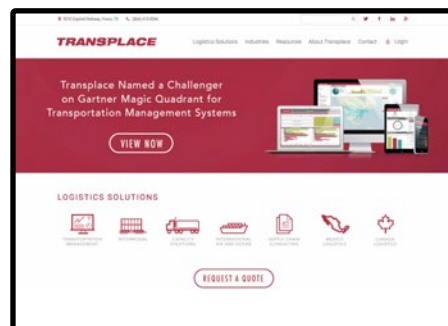


Odyssey Logistics & Technology • www.odysseylogistics.com

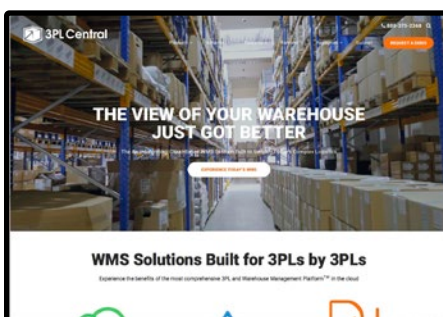
Odyssey Logistics & Technology Corporation (Odyssey) combines deep industry expertise with leading technology to provide multimodal logistics management services to the chemical industry and other process manufacturers. Odyssey enables clients to outsource any part of their logistics processes to achieve savings through reduced transportation and infrastructure costs, measurable customer service and process improvements, and improved data quality and management. Odyssey is a leader in intermodal with expertise in liquid food, chemicals, and metals transport.

Transplace • www.transplace.com

Transplace is the leading provider of transportation management services and logistics technology, helping manufacturers, retailers and distributors optimize supply chain operations and increase financial performance. Offering a complete suite of transportation management, strategic capacity, and cross-border & global trade services, Transplace's customizable logistics solutions and best-in-class technology give businesses greater control of their transportation operations and enhanced visibility of shipments and overall supply chain performance.



LOGISTICS IT

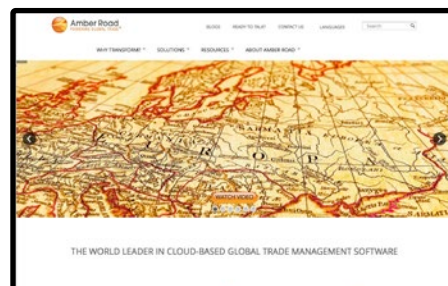


3PL Central • www.3plcentral.com

Built exclusively for third-party logistics companies, 3PL Warehouse Manager™ is an easy-to-use, on-demand warehouse management system (WMS) that helps 3PLs run more efficiently, grow their business, and satisfy customers, all for less than \$500 per month per warehouse. 3PL Warehouse Manager™ is 100-percent Web-based and requires no investment in hardware, software, or IT resources. It includes features such as: EDI, global inventory visibility, order management, real-time reporting, billing management, bar-code scanning, and more. Sign up for a no-hassle, free trial today.

Amber Road • www.amberroad.com

Amber Road's (NYSE: AMBR) mission is to improve the way companies manage their international supply chains and conduct global trade. As a leading provider of cloud-based global trade management (GTM) solutions, we automate and optimize the supply chain functions required to import and export goods: collaborating with foreign suppliers on design and quality assurance; executing import and export compliance checks; booking international carriers and tracking goods as they move around the world; and minimizing the associated duties through preferential trade agreements and foreign trade zones.



IN THIS SECTION:

Logistics IT

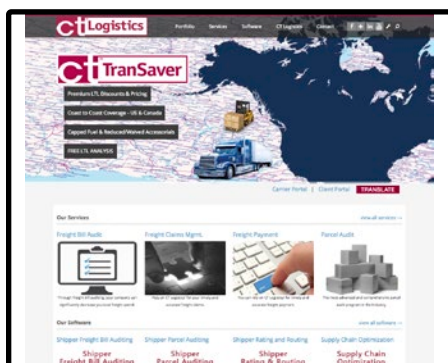


CargoSmart • www.cargosmart.com

CargoSmart provides global shipment management software solutions that enable shippers, consignees, and logistics service providers to improve planning and on-time deliveries. Connected to over 40 ocean carriers, CargoSmart leverages big data sources and a cloud-based platform to offer sailing schedules, visibility, documentation, contract management, compliance, and benchmarking solutions. Launched in 2000, CargoSmart helps transportation and logistics professionals increase delivery reliability, lower transportation costs, and streamline operations. Visit CargoSmart's website to learn more.

Cass Information Systems Inc. • www.cassinfo.com

Cass is the nation's oldest and largest provider of freight bill payment, audit, and rating services. We offer a wide array of services for processing and paying freight bills, as well as our industry-leading Internet reporting service, CassPort. In business since 1906, and providing freight payment services since 1956, Cass continues to offer stability, security, and expertise in the freight audit, payment, and information market.



CT Logistics • www.ctlogistics.com

Since 1923, organizations have leveraged CT Logistics to provide global freight audit & payment and transportation management solutions. Partner with CT to design and implement customized supply chain and rate management solutions. CT's Business Intelligence platform provides global spend visibility and data analysis using SOCII and ISO 9001:2008 certified processes. Services also include: Shipment Execution, Bid Management, Shipment Planning and Execution Software, and Professional Services for consulting and advising.

CTSI-Global • www.ctsi-global.com

For more than 50 years, CTSI-Global has been a valuable resource to companies by providing the technology and industry expertise to help them manage all aspects of their supply chain—physical, informational, and financial—through freight audit and payment, transportation management systems (TMS), information management tools, and global consulting. The end results are improved shipping efficiencies, greater control, and significant ongoing savings. CTSI-Global is your link to supply chain solutions.



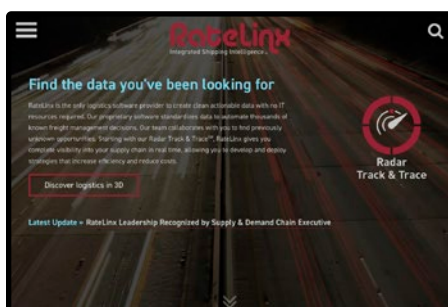


nVision Global • www.nvision.com

nVision Global is a leading international freight audit, payment, and logistics management solutions provider. With locations in North America, Europe, and Asia, our staff is fluent in more than 25 languages, and processes and pays freight invoices from more than 190 countries worldwide. Over the years, our customers have come to rely on our prompt, accurate Sarbanes-Oxley-compliant freight payment services, as well as our leading-edge information management analytical tools including global mapping, graphing, benchmarking, modeling, and network optimization analysis to help them manage their overall supply chain costs.

Rakuten Super Logistics • www.rakutensl.com

Rakuten Super Logistics (RSL) eases the headaches and high costs of e-commerce fulfillment, with its fast and accurate order shipping, cloud-based order management software, and personal and responsive customer support to ensure your e-commerce fulfillment runs smoothly. Since 2001, RSL has been at the forefront of order fulfillment, shipping millions of orders for hundreds of online retailers around the world, including Fortune 500 companies. See what RSL can do for you; visit the website today.



RateLinx • www.ratelinx.com

For 15 years, RateLinx has developed and implemented the only logistics management software that standardizes freight invoice, track and trace, shipment, and order/item data. This creates unparalleled visibility and Integrated Shipping IntelligenceSM to solve your freight management problems. RateLinx deploys the modules you need to integrate with any ERP/WMS. Leveraging big data to provide predictive analytics, the multi-carrier, multi-modal, multi-location software monitors performance by product line, sales channel or entity.

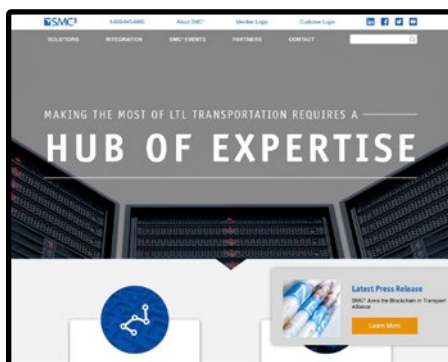
Riege Software • www.riege.com

Riege Software is a leading provider of smart software solutions for the cargo industry. Established in 1985, the privately owned company provides products and services to more than 350 customers worldwide with over 5,000 users in 24 countries, aiming to accelerate processes and enhance the work life of forwarding professionals.



IN THIS SECTION:

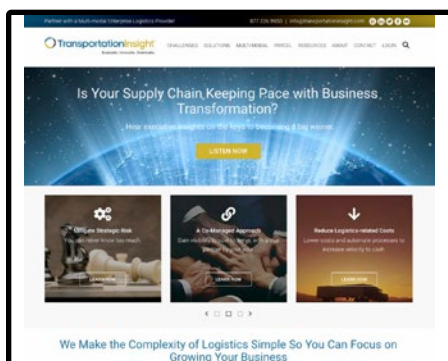
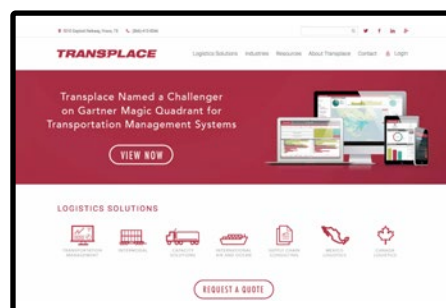
Logistics IT

**SMC³ • www.smc3.com**

Shipping management software for companies of all sizes. Works with all carriers and modes. Use it to compare freight rates, select carriers, track shipments and audit freight bills. Provides end-to-end supply chain visibility. Use as a stand-alone application or integrate with your other software. Visit our website for more information.

Transplace • www.transplace.com

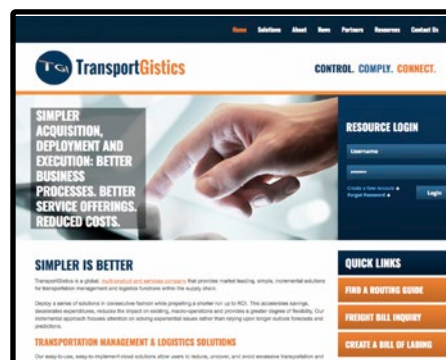
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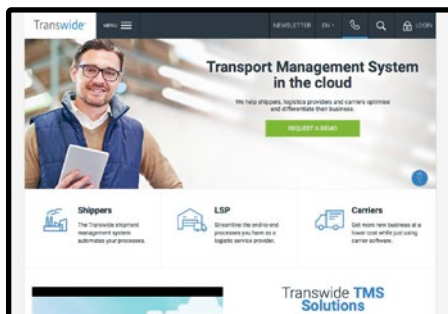
**Transportation Insight • www.transportationinsight.com**

Delivering advanced supply chain visibility, Transportation Insight's robust technology portfolio is anchored by cloud-based Insight TMS®, WMS, Insight Freight® proprietary freight bill audit and payment applications, Insight Parcel® shipping optimization (audit, engineering, advanced analytics) and mobile interactive business intelligence portal Insight Fusion®. An Enterprise Logistics Provider, Transportation Insight brings more than 1,500 clients customized, integrated and rapidly deployable solutions that leverage best-in-class supply chain analytics tools and technology alongside tier one North American truckload, LTL, parcel and e-commerce logistics solutions, international transportation, warehousing services, Extended LEAN® consulting and sourcing of indirect supply chain materials including secondary packaging. Contact us at info@transportationinsight.com or 877-226-9950.

TransportGistics • www.transportgistics.com

TransportGistics is a global, multi-product and services company that provides market-leading, simple, incremental solutions for transportation management and logistics functions within the supply chain. Our Web-based solutions enable our customers to source, procure, and execute transportation services; enable collaboration; reduce costs; improve processes; identify hidden costs of transportation; improve vendor compliance routing guides; improve Supplier Relationship Management; monitor vendor performance; improve shipment visibility; generate automatic, status-driven alerts; and monitor carrier performance with respect to time in transit, service failure, and billing.



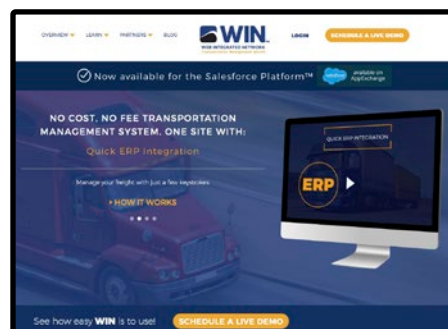


Transwade • www.transwade.com

Transwade TMS is a modular, global, on-demand (SaaS) collaboration platform that enables shippers to increase logistics performance through simplified carrier sourcing and procurement, optimized planning and execution, increased visibility, and cost management. With 225+ customers in 80+ countries across six continents, the Transwade solution suite enables shippers to organize, centralize, optimize and analyze their transportation with maximum cost efficiency.

WIN (Web Integrated Network) • www.gowithwin.com

WIN™ (Web Integrated Network) is the no-cost, no-fee transportation management system offering shippers savings opportunities, capacity options, visibility, efficiency, and carrier choice (their incumbents or WIN network's). WIN supports virtually all modes in North America, and quickly and easily integrates with shippers' existing ERP systems. WIN leverages the latest technologies for carrier communication including APIs or carrier web services. Premium services include small parcel shipping capabilities and a supplier inbound feature.



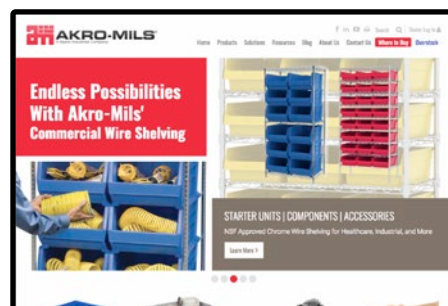
WSI (Warehouse Specialists, LLC) • www.wsinc.com

Reliability is everything. At WSI, that has been our approach to integrated logistics and supply chain solutions for over 50 years. Our promise of Condition, Count & Time ensures accurate, timely, and sound performance—every time. Recognized as one of the top 3PL providers in North America, WSI delivers custom solutions for warehousing/distribution, fulfillment, transportation, import/export, information technology, and customer support services. Depend on WSI for increased efficiency, reduced costs, and absolute reliability.

MATERIALS HANDLING

Akro-Mils • akro-mils.com

Akro-Mils is a leading manufacturer of plastic and metal storage, organization, transport and material handling products designed to improve inventory control and productivity in any setting—including industrial, medical, commercial, and consumer. As the industry leader, Akro-Mils strives to continually provide customers with innovative, quality products; unsurpassed customer service; and the fastest, most reliable shipping in the industry.



IN THIS SECTION:

Material Handling - Oil/Gas/Energy Logistics



Pro-Line • www.1proline.com

Pro-Line is a leader in modular ergonomic industrial workbenches, pack benches, and workstations. From basic four-leg stations to hand-crank or electric height-adjustable stations to top-of-the-line technical systems, we have it all. Retractable ball transfers, seating, packaging stations, and much more. Since 1979, Pro-Line has offered strength, ergonomic design and aesthetics all at an affordable price, many models in stock. Our vast array of in-stock optional accessories makes it easy for you to configure your work bench or work station to needs.

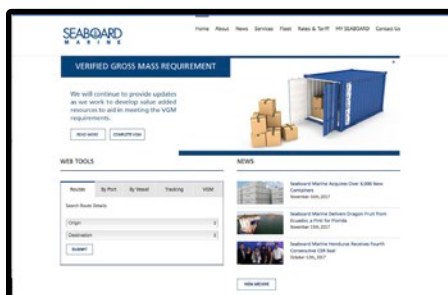
MULTI-MODAL

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.



OCEAN



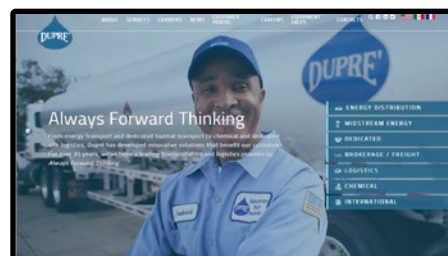
Seaboard Marine • www.seaboardmarine.com

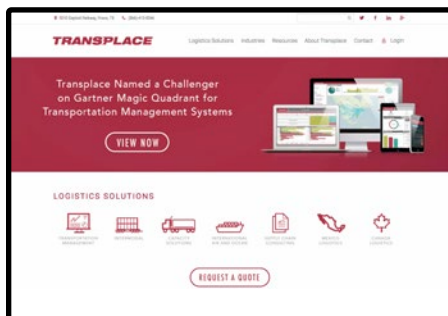
Seaboard Marine is an ocean transportation company that, for more than 29 years, has provided direct, regular service between the United States and the Caribbean Basin, and Central and South America.

OIL/GAS/ENERGY LOGISTICS

Dupré Logistics • www.duprelogistics.com

With specific emphasis in the chemical, consumer products, and beverage industries, Dupré's unique solutions provide expertise in dedicated fleets, transportation management/brokerage, materials handling, and reverse logistics. Dupré works to understand your business and measure how our system meets your expectations.





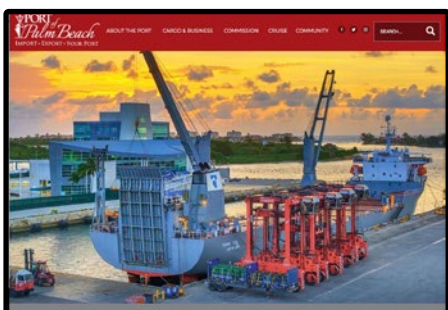
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PORTS

Jacksonville Port Authority (JAXPORT) • www.jaxport.com

JAXPORT is Florida's No. 1 container port complex, the second busiest vehicle port in the U.S., and home to one of the nation's highest weight-bearing capacity docks. Deepening of the Jacksonville Harbor to accommodate the largest ships calling the U.S. East Coast is now underway. The port offers worldwide service from dozens of ocean carriers to more than 100 ports around the world. Located in Northeast Florida, in the heart of the South Atlantic, JAXPORT is a full service, international trade seaport situated at the crossroads of the nation's rail and highway network with access to more than 60 million consumers within a one-day truck drive. JAXPORT. It's Just Smart Business.



Port of Palm Beach • www.portofpalmbeach.com

Located 80 miles north of Miami, the Port of Palm Beach is a 162-acre, full-service, diversified port, moving \$7 billion worth of commodities, 2.5 million tons of cargo, and more than 1 million passengers annually. With 3 slips, 17 berths and 7 roll-on/roll-off ramps, the Port accommodates vessels up to 700 ft LOA and 100 ft wide. The Port of Palm Beach is the 4th busiest container port in Florida and is the 2nd fastest-growing export port in the nation.

PROJECT LOGISTICS

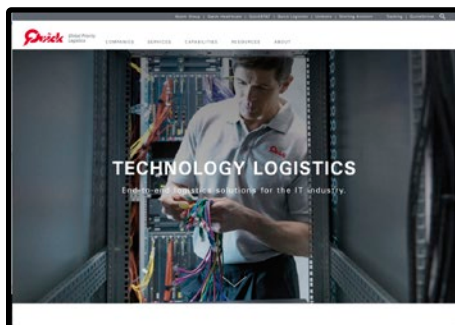
Lynden • www.lynden.com

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IN THIS SECTION:

Project Logistics - Retail Logistics

**Quick International • www.quicklogistics.aero**

Our logistics experts will develop a comprehensive plan for moving your IT Equipment, Asset Refresh/Recovery, or Data Center and Office Relocations quickly and cost-effectively from one or more sites to another—overseeing each step. Includes breakdown, packing and crating, shipping and assembly at new location. Includes end-to-end project management, global priority air and ground transportation, GPS tracking and unmatched chain of custody to ensure security. Reverse logistics include end-of-lease retrieval, swap outs, redeployments, recycling, and storage.

RAPID RESPONSE LOGISTICS

Lynden • www.lynden.com

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REAL ESTATE

**Mericle Commercial Real Estate Services • www.mericlereadytogo.com**

Mericle Commercial Real Estate Services has developed more bulk industrial space and fully prepared sites than any other private developer along Pennsylvania's I-81 Corridor. Mericle has a wide variety of space available—all with ceiling clear heights in excess of 30 feet and all located immediately adjacent to an interstate. Mericle lists many 3PLs and 13 of the nation's top e-commerce fulfillment companies among its numerous tenants and clients. All of Mericle's available industrial properties can be reviewed at www.mericlereadytogo.com.

RETAIL LOGISTICS

AFN • www.loadafn.com

AFN is a uniquely people-powered logistics solutions company. Founded in 2003 and based in Niles, IL, we deploy a unique, holistic approach to shipping that gives clients the insight to select the most efficient and cost-effective method of moving freight. Matched with exceptional service and leading technology, our goal is to deliver breakthrough solutions that drive value to your supply chain to reduce total landed costs, create efficiency gains, and mitigate risk. Our core capabilities include managed transportation services, truckload, LTL/partial truckload and intermodal, as well as unique expertise in high-value/high-risk freight, drop trailer services, and RAD/MABD solutions



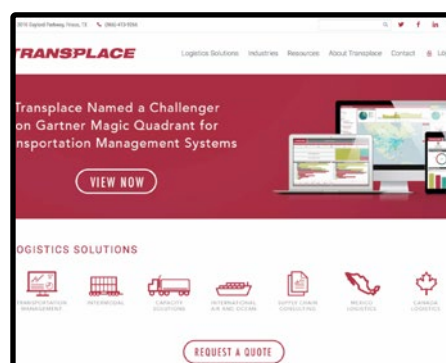


SEKO Logistics • www.sekologistics.com

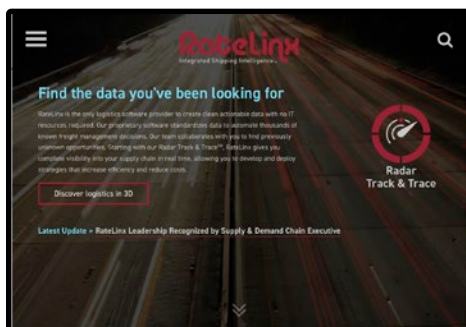
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SHIPPING SOFTWARE



RateLinX • www.ratelinx.com

For 15 years, RateLinX has developed and implemented the only logistics management software that standardizes freight invoice, track and trace, shipment, and order/item data. This creates unparalleled visibility and Integrated Shipping IntelligenceSM to solve your freight management problems. RateLinX deploys the modules you need to integrate with any ERP/WMS. Leveraging big data to provide predictive analytics, the multi-carrier, multi-modal, multi-location software monitors performance by product line, sales channel or entity.

Shippers Edge • www.shippersedgetms.com

Shipping management software for companies of all sizes. Works with all carriers and modes. Use it to compare freight rates, select carriers, track shipments and audit freight bills. Provides end-to-end supply chain visibility. Use as a stand-alone application or integrate with your other software. Visit our website for more information.



IN THIS SECTION:

Signage and Markings - Supply Chain Mgmt/Optimization

SIGNAGE AND MARKINGS

ASG Services • www.asgservices.com

ASG Services is a warehouse identification and marking specialist. We manufacture custom warehouse labels and warehouse signs in Atlanta, Ga., while providing fully managed installation services and warehouse striping solutions throughout the United States, controlled centrally from our head office.

SOURCING/NEGOTIATIONS

RateLinx • www.ratelinx.com

For 15 years, RateLinx has developed and implemented the only logistics management software that standardizes freight invoice, track and trace, shipment, and order/item data. This creates unparalleled visibility and Integrated Shipping IntelligenceSM to solve your freight management problems. RateLinx deploys the modules you need to integrate with any ERP/WMS. Leveraging big data to provide predictive analytics, the multi-carrier, multi-modal, multi-location software monitors performance by product line, sales channel or entity.



SUPPLY CHAIN EXECUTION

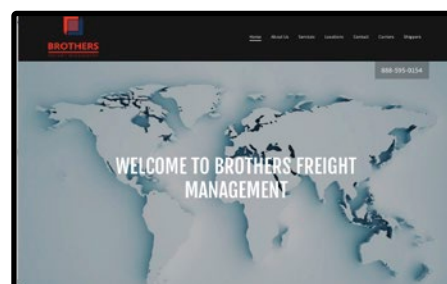
Transwide • www.transwide.com

Transwide TMS is a modular, global, on-demand (SaaS) collaboration platform that enables shippers to increase logistics performance through simplified carrier sourcing and procurement, optimized planning and execution, increased visibility, and cost management. With 225+ customers in 80+ countries across six continents, the Transwide solution suite enables shippers to organize, centralize, optimize and analyze their transportation with maximum cost efficiency.

SUPPLY CHAIN MGMT/OPTIMIZATION

Brothers Freight Management • www.brothersfreightmanagement.com

"Logistics Made Easy." That's the motto behind Brothers Freight Management (BFM), which strives to bring customers the most reliable service and best carriers it can provide. From warehouses and storage solutions in key shipping locations, to dry and cold storage solutions at its in-house storage buildings, to LTL and truckload services throughout the 48 continental states, let BFM put its 20 years of experience to work for you.





Werner Enterprises • www.werner.com

Werner Enterprises Inc. is a premier transportation and logistics company, with coverage throughout the United States, Canada, Mexico, and China. Werner maintains its global headquarters in Omaha, Neb., offering 24/7 service 365 days a year. Werner is among the five largest truckload carriers in the United States, with a portfolio of services that includes long-haul, regional and local van capacity, temperature-controlled, flatbed, dedicated, and expedited. Werner's value-added services portfolio includes import and export freight management, PO and vendor management, truck brokerage, intermodal, load/mode and network optimization, and global visibility. Internationally Werner provides freight forwarding and customs brokerage services, and is a licensed NVOCC.

SUPPLY CHAIN VISIBILITY

Cargo Intelligence • www.cargointelligence.com

Exporters, importers, freight forwarders and other supply chain parties' utilization of the Cargo Intelligence platform achieves visibility for each party of the supply chain through collaboration. Control Tower Logistics allows for automation via key integration points between all trade partners to provide collaboration and transparency throughout the supply chain shipment cycle. Cargo Intelligence's ability to perform advanced data capture throughout the supply chain naturally incorporates the characteristics of Control Tower Logistics. The blend of these characteristics benefits exports, importers and all parties along the supply chain.

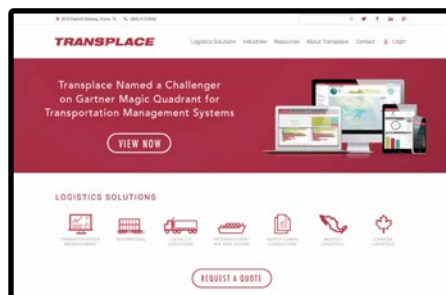


SWIVEL Software • www.swivelsoftware.com

Empowering Digital Logistics. SWIVEL Software makes it easier for importers/exporters and freight forwarders to do business together with its software solutions – PO Management, Logistics Control Tower, WMS, and Forwarder ERP system.

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IN THIS SECTION:

Supply Chain Visibility - TMS

**Transwade • www.transwade.com**

Transwade TMS is a modular, global, on-demand (SaaS) collaboration platform that enables shippers to increase logistics performance through simplified carrier sourcing and procurement, optimized planning and execution, increased visibility, and cost management. With 225+ customers in 80+ countries across six continents, the Transwade solution suite enables shippers to organize, centralize, optimize and analyze their transportation with maximum cost efficiency.

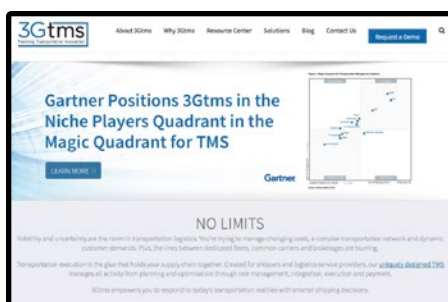
TEMPERATURE-CONTROLLED SHIPPING

Frozen Food Express • www.ffeinc.com

Frozen Food Express strives to be the leader in the temperature-controlled LTL market. We will leverage our core competencies in refrigerated transportation and storage that have been developed over 65 years to provide our customers with the highest levels of service which represent great value. Every member of the FFE team will work in a collaborative manner to exceed the expectations of our customers. We will always strive to deliver a great customer experience and perform with honesty, integrity, and a sense of urgency to deliver on what we promise. We have been very busy here at Frozen Food Express upgrading our technology and service centers in preparation for the Food Safety Modernization Act. Give us a call at 800-569-9200 to find out how we can be a great addition to your business. Don't forget to ask about our Guaranteed Service Offering. Visit our website at www.ffeinc.com.



TMS

**3Gtms • www.3gtms.com**

3Gtms is the fastest growing Tier 1 transportation management system (TMS) provider and is committed to giving mid- to large shippers and logistics service providers a competitive advantage through technology. Whether you move \$5 million or \$5 billion in freight, the 3G-TM solution seamlessly manages the full transportation lifecycle, including transportation planning and optimization, execution and settlement, empowering customers to make better shipping decisions while meeting their service goals. 3Gtms' reputation for being a trusted partner is reflected in customer satisfaction and retention rates that are unmatched in the TMS industry. For more information, visit: www.3gtms.com.

CDM Software • www.cdmsoft.com

CDM WinFrt is a robust, fully integrated, compliant and e-commerce driven trade management system specifically designed for freight forwarders, NVOCCs, exporters and importers. CDM WinFrt is a certified U.S. Customs software solution for ACE AES, AMS, ISF and soon ABI. Shipment compliance includes Canada, Japan, European Union and other countries. E-commerce includes Customer EDI, e-AWB, e-Booking, e-Shipping Instructions and e-Tracking. Our Supply Chain Visibility solution integrates to all major ERP systems.



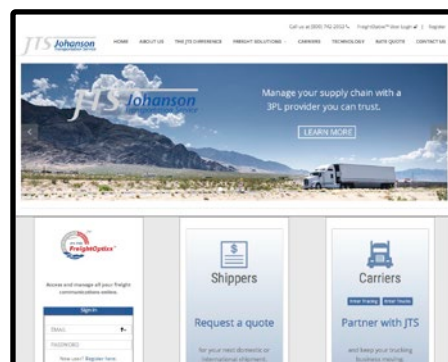


Gelnus • www.gelnus.com

Gelnus provides a solution to all your logistics challenges. Servicing such industries as retail, Hi-tech, MedTec, Aerospace, Defense, Security and Aviation, the Gelnus platform lets you design the perfect solution for your business. The more complex your supply chain is, the more savings Gelnus can generate and the more quickly your ROI will be realized.

Johanson Transportation Service • www.johansontrans.com

Johanson Transportation Service provides its customers with cutting-edge logistics technology with the cloud-based FreightOptixx™ TMS. Shippers can manage Truckload, LTL, Intermodal and International shipments, gaining greater visibility, increased service levels and time savings on logistics tasks including: instant rate quotes, tracking, order optimization, shipment consolidation, reporting, retrieving shipping documents, sending pick-up directions to carriers and viewing accounts payable status. Carriers can enter available equipment and tracing and find available loads within the TMS to increase their efficiency. www.freightoptixx.com



RateLinX • www.ratelinx.com

For 15 years, RateLinX has developed and implemented the only logistics management software that standardizes freight invoice, track and trace, shipment, and order/item data. This creates unparalleled visibility and Integrated Shipping Intelligence™ to solve your freight management problems. RateLinX deploys the modules you need to integrate with any ERP/WMS. Leveraging big data to provide predictive analytics, the multi-carrier, multi-modal, multi-location software monitors performance by product line, sales channel or entity.

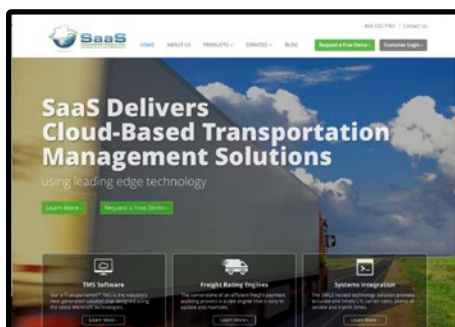
Riege Software • www.riege.com

Riege Software is a leading provider of smart software solutions for the cargo industry. Established in 1985, the privately owned company provides products and services to more than 350 customers worldwide with over 5,000 users in 24 countries, aiming to accelerate processes and enhance the work life of forwarding professionals.



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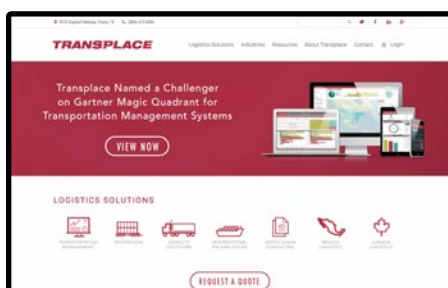
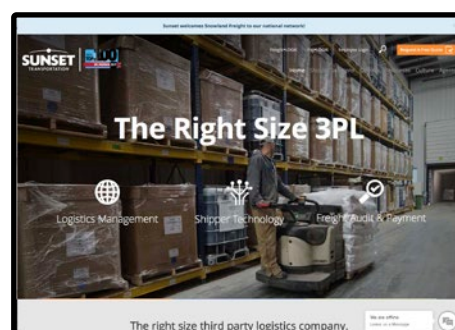
TMS

**SaaS Transportation, Inc. • www.saastransportation.com**

SaaS Transportation, Inc. is a provider of cloud-based TMS solutions to third-party logistics companies, freight payment companies, shippers and carriers. Its TMS solution is unique in that it has developed APIs, which allow easy integration with numerous trading partners with minimal setup time. This integrated solution automates freight management from carrier selection to final delivery. SaaS Transportation's system enables transparency by providing visibility into shipments during transit, and alerts shippers when exceptions occur so they can proactively resolve issues.

Sunset Transportation • www.sunsettrans.com

Through our diversity of services and technology to our transparent and customer-focused culture, Sunset Transportation is positioned as a dominant logistics management partner for mid-market and large businesses. Sunset's flexibility and entrepreneurial spirit make us The Right Size 3PL for your growing business—large enough to provide professional, multi-modal solutions while remaining agile and committed to our roots with personalized service.

**Transplace • www.transplace.com**

Transplace is the leading provider of transportation management services and logistics technology, helping manufacturers, retailers and distributors optimize supply chain operations and increase financial performance. Offering a complete suite of transportation management, strategic capacity, and cross-border & global trade services, Transplace's customizable logistics solutions and best-in-class technology give businesses greater control of their transportation operations and enhanced visibility of shipments and overall supply chain performance.

Transwide • www.transwide.com

Transwide TMS is a modular, global, on-demand (SaaS) collaboration platform that enables shippers to increase logistics performance through simplified carrier sourcing and procurement, optimized planning and execution, increased visibility, and cost management. With 225+ customers in 80+ countries across six continents, the Transwide solution suite enables shippers to organize, centralize, optimize and analyze their transportation with maximum cost efficiency.



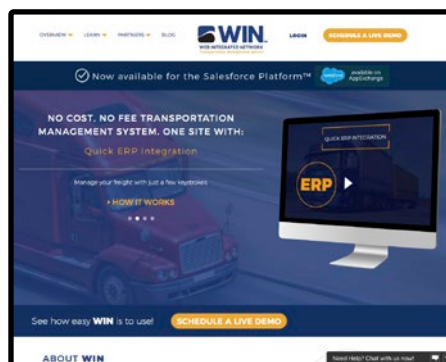


U Route • www.uroute.com

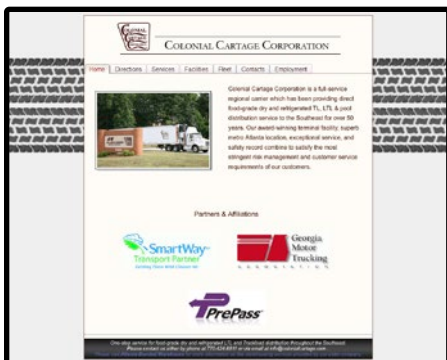
U Route was founded in 2007 to provide shippers and carriers with modern, web-based transportation technology at an affordable price. Logistics can be fast paced and super complex, but U Route's powerful TMS solution makes it easy. Easy procurement and easy implementation equal immediate cost reductions. See how U Route's TMS features can help take your team to the next level of efficiency and cost savings; visit the website today.

WIN (Web Integrated Network) • www.gowithwin.com

WIN™ (Web Integrated Network) is the no-cost, no-fee transportation management system offering shippers savings opportunities, capacity options, visibility, efficiency, and carrier choice (their incumbents or WIN network's). WIN supports virtually all modes in North America and quickly and easily integrates with shippers' existing ERP systems. WIN leverages the latest technologies for carrier communication including APIs or carrier web services. Premium services include small parcel shipping capabilities and a supplier inbound feature.



TRANSPORTATION



Colonial Cartage Corporation • www.colonialcartage.com

Colonial Cartage Corporation, the in-house carrier for Atlanta Bonded Warehouse, is a full-service asset-based carrier providing food-grade, dry and refrigerated TL, LTL, and pool distribution services for over 64 years. Colonial provides weekly scheduled temperature-controlled LTL delivery to all points in the Southeast, Midwest, Southwest, and Great Plains, as well as truckload and plant support services throughout its service area from its Atlanta terminal. Colonial's services include cross dock, consolidated order selection (bulk picking), and inbound consolidation to outbound cross-dock.

Lynden • www.lynden.com

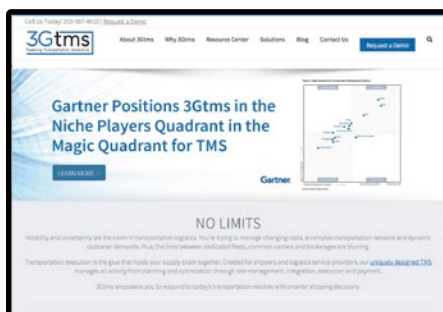
Over land, on the water, in the air—or in any combination—Lynden has been helping customers solve transportation problems for almost a century. Operating in such challenging areas as Alaska, Western Canada and Russia, as well as other areas around the globe, Lynden has built a reputation of superior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



IN THIS SECTION:

Transportation Mgmt/Freight Mgmt - Trucking-LTL

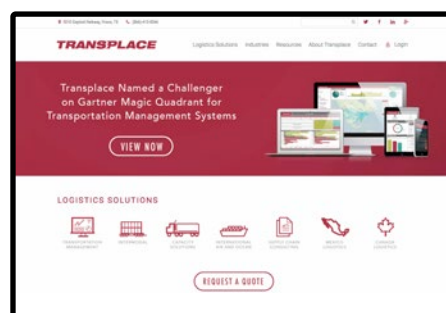
TRANSPORTATION MGMT/FREIGHT MGMT

**3Gtms • www.3gtms.com**

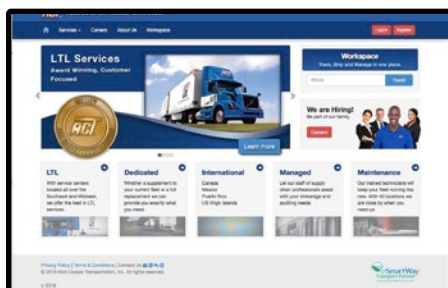
3Gtms is the fastest growing Tier 1 transportation management system (TMS) provider and is committed to giving mid-to-large shippers and logistics service providers a competitive advantage through technology. Whether you move \$5 million or \$5 billion in freight, the 3G-TM solution seamlessly manages the full transportation lifecycle, including transportation planning and optimization, execution and settlement, empowering customers to make better shipping decisions while meeting their service goals. 3Gtms' reputation for being a trusted partner is reflected in customer satisfaction and retention rates that are unmatched in the TMS industry. For more information, visit: www.3gtms.com.

Transplace • www.transplace.com

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TRUCKING

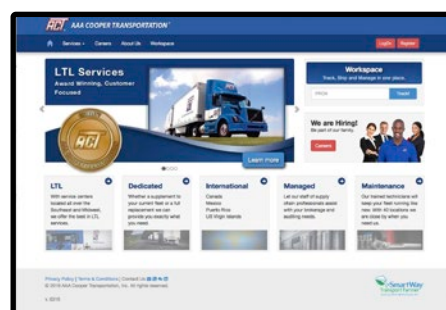
**AAA Cooper Transportation • www.aaacooper.com**

AAA Cooper Transportation has been delivering safe, efficient transportation for more than 60 years. With strategically located service centers, we are prepared to give individual attention to your shipping needs. AAA Cooper Transportation is dedicated to the long-term sustainability of the environment, and continues to implement processes that will make the world a better place to live for generations to come.

TRUCKING-LTL

AAA Cooper Transportation • www.aaacooper.com

AAA Cooper Transportation has been delivering safe, efficient transportation for more than 60 years. With strategically located service centers, we are prepared to give individual attention to your shipping needs. AAA Cooper Transportation is dedicated to the long-term sustainability of the environment, and continues to implement processes that will make the world a better place to live for generations to come.





Colonial Cartage Corporation • www.colonialcartage.com

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Old Dominion Freight Line • www.odfl.com

Old Dominion Freight Line is a less-than-truckload carrier providing complete nationwide service within the continental United States. Through its four product groups, OD-Domestic, OD-Expedited, OD-Global, and OD-Technology, the company offers an array of innovative products and services to, from, and between North America, Central America, South America, and the Far East. The company also offers a broad range of expedited and logistical services in both domestic and global markets.



VENDOR COMPLIANCE



TransportGistics • www.transportgistics.com

TransportGistics is a global, multi-product and services company that provides market-leading, simple, incremental solutions for transportation management and logistics functions within the supply chain. Our Web-based solutions enable our customers to source, procure, and execute transportation services; enable collaboration; reduce costs; improve processes; identify hidden costs of transportation; improve vendor compliance routing guides; improve Supplier Relationship Management; monitor vendor performance; improve shipment visibility; generate automatic, status-driven alerts; and monitor carrier performance with respect to time in transit, service failure, and billing.

WAREHOUSING

Atlanta Bonded Warehouse • www.atlantabonded.com

Atlanta Bonded Warehouse (ABW) has been providing public and contract food-grade, temperature controlled distribution services for 70 years. ABW is a leader in providing integrated asset-based logistics solutions for the food, pharmaceutical, household durables, and CPG industries. Our goal is total customer satisfaction through continuous innovation in technology and in best practices by focusing on teamwork, integrity, and accountability, all in a safe working environment.



IN THIS SECTION:

Warehousing

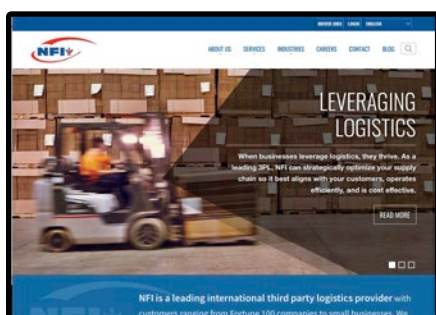


D&D Distribution Services • www.dd-dist.com

A full-service public warehousing and distribution services provider, D&D Distribution Services is centrally located in York, PA, near the mid-Atlantic region's major metropolitan areas and seaports. We serve customers around the globe, developing customized logistics and customer service solutions. We handle raw materials at the front end of the supply chain and finished goods at the back end. D&D develops flexible programs to accomplish customers' goals.

Metro Park Warehouses • www.mpwus.com

Metro Park Warehouses is a full-service 3PL offering 2 million square feet in Kansas City of modern food-grade warehousing space, including air-conditioned & medical temperature-controlled space with licensed beverage & med/vet/pharma distribution, AIB Superior rating, and 6 rail facilities, all open to reciprocal switching. We also offer in-house local & regional trucking transportation and value-added services such as retail store displays, kitting, labeling and light assembly. Contact Metro Park to gain the competitive edge.

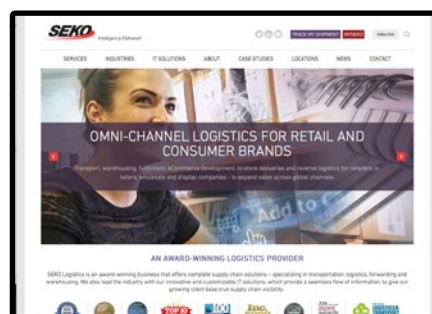


NFI • www.nfiindustries.com

NFI is a supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.

SEKO Logistics • www.sekologistics.com

SEKO prides itself on a commitment to customer service, whether it's a 2 a.m. pickup for a critical industrial part for a plant that is 4,000 miles away, or the cost savings achieved from proactive communication with your vendors overseas. SEKO offices have the knowledge and expertise to expedite or to consolidate, depending on your need. From Hong Kong to Amsterdam, SEKO knows how to serve its clients. As a non-asset-based third-party logistics provider, SEKO has the flexibility to meet your supply chain needs using a variety of modes and carriers.





The Shippers Group • www.shipperswarehouse.com

The Shippers Group is a well-established national provider in Texas, Georgia, Illinois, Virginia and California. Facilities are food grade, consistently rated excellent and superior by AIB. Experts in Warehousing and Contract Packaging, let The Shippers Group help you match your requirements to the appropriate location, whether it be a new facility, an existing facility, or additional space that can be leased in the area. Details are available on the website.

WMS

Camelot 3PL Software • www.3plsoftware.com

A market leader since 1987, Camelot 3PL Software provides Warehouse Management Systems (3PL WMS) exclusively for third-party logistics warehouses to streamline their operations, eliminate costs and increase service levels. Offering cloud (SaaS) and on-premise solutions, Camelot's highly configurable solutions are ideal for small, medium and enterprise-level warehouses.

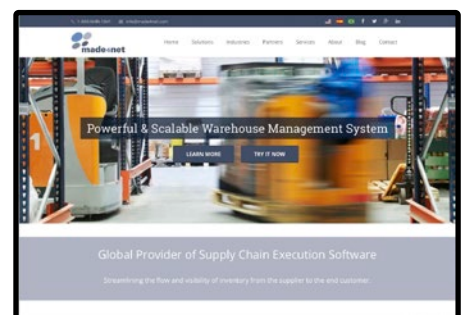


Interlink Technologies • www.thinkinterlink.com

Discover the full potential of your warehouse with Warehouse-LINK® Warehouse Management Systems (WMS). Warehouse-LINK® utilizes barcode and mobile computing technology to support real-time distribution activities – Multi-Building/Company/Locations Management; Expiration, Lot/Batch/Serial Tracking, Raw Materials and Finished Goods; Characteristic Management (FIFO, ABC, UPCs); Location Management (cubic capacity, environmental, temporary, seasonal); Work Orders, Kitting, Cross Dock, Replenishment, QC, Wave Planning and Yard Management. Warehouse-LINK® integrates with business systems and material handling systems. Think Interlink for WMS expertise!

Made4net • www.made4net.us

Made4net levels the playing field for mid-sized businesses that need real-time, robust warehouse management solutions. The company's Warehouse Management System - WarehouseExpert™ - optimizes inventory, as well as the resources and required material handling equipment. The WarehouseExpert WMS collects data on every transaction and movement in the warehouse, and uses this information to provide real-time visibility of your resources and equipment on a warehouse map, pallet locations, and performance and utilization metrics. To learn how Made4net can help you improve productivity, increase service levels, improve order fulfillment times, and reduce overall operation costs, visit www.made4net.us today.



IN THIS SECTION:

WMS - Yard Management

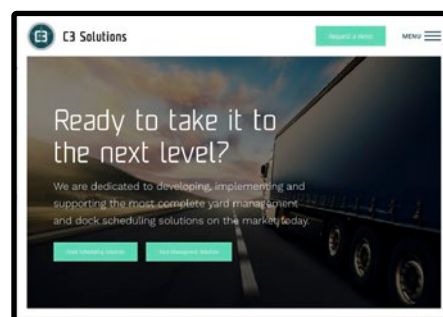
**MAVES • www.maves.com**

MAVES is home of ViewPoint Logistics™ 3PL Management Suite. Our WMS/TMS enables real-time management of your client requirements, operational activities and resources using simple, powerful tools. Our Integrate & Connect suite enables connectivity and visibility inside the 4 walls and across the Supply Chain. Let ViewPoint Logistics™ improve the agility and profitability of your 3PL operations!

YARD MANAGEMENT

C3 Solutions • www.c3solutions.com

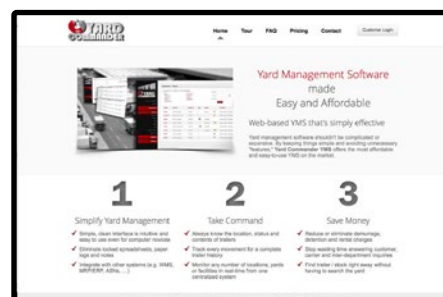
C3 Solutions is an information technology company specialized in yard management (YMS) and dock scheduling (DSS) systems. Since its founding in 2000, C3 has gained the confidence of clients around the world and across many industries including retail, grocery, distribution, manufacturing and parcel post. Headquartered in Montreal (QC), Canada and privately owned, C3 is dedicated to developing, implementing and supporting the most complete yard management and dock scheduling products on the market today. For more information on C3's products, schedule a free online demonstration.

**Exotrac • www.exotrac.com**

Dedicated to offering a high-quality product line of innovative yard management solutions, Exotrac is now offering YardTrac Lite. Based on Android, this newest advancement combines cutting-edge wireless technologies to bring real-time, current information on your PC and mobile phone. YardTrac Lite gives you freedom from clipboards and walkie-talkies, and provides automated yard activity data capture with enterprise-wide visibility.

Sentier Systems • www.yardcommander.com

Yard management software shouldn't be complicated or expensive. Yard Commander is a Web-based YMS that's simply effective. We've made the software fully functional while avoiding unnecessary "features." At the same time we've kept it intuitive and user friendly. Yard Commander offers the most affordable and easy-to-use YMS on the market.



MAY
4

Los Angeles Area
Chamber of Commerce

World Trade Week Kickoff Breakfast

worldtradeweek.com | Los Angeles, Calif.

AUDIENCE: Supply chain stakeholders

FOCUS: The evolution of trade in a digital world; importance and impact of global trade on the local and national economy; insights from GE Transportation chief digital officer and U.S. Customs and Border Protection acting commissioner

SEPT 16-18, 2018 Long Beach, Calif.

Intermodal Association of North America

Intermodal Expo 2018

intermodalexpo.com

AUDIENCE: Intermodal freight stakeholders

FOCUS: The future of intermodal terminals; dealing with tight trucking capacity; intermodal network capacity in the face of unpredictable demand; what brokerage means for intermodal; the implications of the next generation of smart equipment on intermodal

SEPT 30 - OCT 2, 2018 Chicago, Ill.

American Production and Inventory
Control Society

APICS 2018

apics.org/annual-conference

AUDIENCE: Supply chain, operations, and logistics management professionals

FOCUS: Best practices to drive supply chain innovation; key strategies to create more sustainable, strategic, and value-driven supply chains; optimization in complex manufacturing operations

SEPT 30 - OCT 3, 2018 Nashville, Tenn.

Council of Supply Chain Management
Professionals (CSCMP)

CSCMP EDGE Supply Chain Conference & Exhibition

cscmpedge.org

AUDIENCE: Supply chain management professionals

FOCUS: Real-world strategies to maximize and transform supply chains; global supply chain best practices; increasing visibility; integrated business planning

CONFERENCES

MAY 6-9, 2018 Nashville, Tenn.

Institute for Supply Management

ISM 2018 Annual Conference

ism2018.org

AUDIENCE: Supply chain managers

FOCUS: Global supply chain challenges; managing complexity to increase competitive advantage; key steps in strategic sourcing; creating value through strategic partnerships; empowering women in supply management

MAY 6-9, 2018 Charlotte, N.C.

Warehousing Education and
Research Council

WERC 2018: 41st Annual Conference for Logistics Professionals

werc.org/2018

AUDIENCE: Logistics and warehousing professionals

FOCUS: Strategies for warehouse slotting and packaging optimization; designing the distribution center of the future; effective warehouse associate recruitment and retention approaches

MAY 14-17, 2018 Phoenix, Ariz.

Gartner

Gartner Supply Chain Executive Conference

gartner.com/events/na/supply-chain

AUDIENCE: Supply chain and logistics executives

FOCUS: Embracing the transformative power of agility and responsiveness so supply chains can turn disruption into advantage; innovating, disrupting, and scaling the digital supply chain

JUN 10-12, 2018 Fort Myers, Fla.

Transportation Marketing &
Sales Association

2018 TMSA Logistics Marketing & Sales Conference

tmsatoday.org/annual-conference

AUDIENCE: Supply chain stakeholders; sales executives

FOCUS: Transportation and supply chain trends that can help sales professionals align strategy with those of the marketplace; achieving organizational alignment between departments and associates to reduce friction and accelerate an organization's growth and success

JUN 25-27, 2018 Greenbrier, W. Va.

SMC³

Connections 2018

smc3connections.com

AUDIENCE: Supply chain and logistics professionals

FOCUS: Emerging trends, current challenges, and new innovations in the supply chain; creating value in reverse logistics; mobile apps for profit and delivery; how the regulatory environment will continue to impact business through 2018

JUL 16-17, 2018 Lake Geneva, Wis.

Midwest Association of Rail Shippers

2018 Summer Meeting

mwrailshippers.com

AUDIENCE: Rail shipping executives

FOCUS: Railroad operating practices; resolving transportation and freight car supply issues; innovations in transportation and legislative matters

SEMINARS & WORKSHOPS

JUN 7-8, 2018 Cambridge, Mass.

MIT Sloan Executive Education

Supply Chain Strategy and Management

bit.ly/MITsupplychainstrategy

AUDIENCE: Logistics and supply chain professionals

FOCUS: The next big trend in supply chain strategy; how to better structure a company's supply chain strategy; guidelines for making strategic sourcing and make-buy decisions; how to integrate e-business thinking into supply chain strategy and management

"Alexa, play the Inbound Logistics Podcast on Tunein."



EPISODE 18:
Where should businesses direct their focus to keep their supply chain safe and responsive to the increasing challenges inherent in a global customer market?

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SPECIAL GUEST:
BRAD JACQUES,
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04.18

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Echo Cover 4

www.echo.com/vote 888-514-8376

Johanson Transportation Service pg. 39

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Lynden pg. 49

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www.matson.com 866-628-7663

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www.dls-ww.com 888-757-0291

Ruan pg. 25

www.ruan.com 866-782-6669

Span Alaska pg. 61

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www.yusen-logistics.com 800-414-3895

Air Cargo

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Financial Services

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www.regions.com/securities 404-888-5111

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VENDING MACHINES HIT THE SLOT

Let's dispense with snacks and drinks. These vending machines bring unexpected supply to the point of demand.

Pop of Art

Can't stand looking at that bare wall one more minute? Art-o-mat machines are converted cigarette vending machines that vend art.

More than 100 machines are located throughout the United States, including New York, New Mexico, Texas, and Florida.



Cycle of Supplies



Cyclists who need parts can make a pit stop at startup Bikestock's vending machines offering patch kits, inner tubes, lights, locks, brake pads, headphones, and other cycling-related accessories.

Forget Uber



Using a smartphone app, shoppers in Guangzhou, China can now get a car from a vending machine, a facility Ford developed in partnership with Alibaba. With dozens of Ford vehicles to choose from, users have the option of taking a car on a three-day test drive.

Solid Gold Investment

This gold-to-go machine dispenses gold bars of various weights—from 1 gram to 250 grams. German company Ex Oriente Lux manufactured and operates the machines, which update prices every 10 minutes, based on current gold spot prices.



Shoe-In

Sandal maker Havaianas set up flip-flop-dispensing machines in Australia, Indonesia, and Europe, so barefoot shoppers don't miss a step.



Get It Raw

Seafood lovers can get oysters any time of day from a 24-hour oyster vending machine on France's Île de Ré (an island off its west coast). Oyster farmers created the vending machine, which is restocked every day and sells closed oysters to prevent food poisoning.





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