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SPECIAL REPORTS

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# Info SNACKS

BITE SIZED SUPPLY CHAIN/LOGISTICS INFORMATION

## Finding Favor

**67%**

of American drivers hold a favorable view of the trucking industry, nearly the same as it was in 2015 at 68%.

**74%**

of American drivers believe the trucking industry plays a very important role in the nation's economy, up from 71% in 2015.

**70%**

are overwhelmingly positive about the trucking industry's safety record; the same as 2015.

**86%**

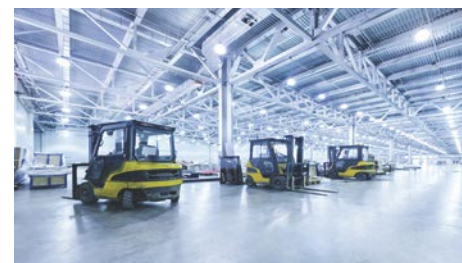
view trucking as a career versus a temporary job, the same as 2015.

– Trucking Moves America  
Forward survey

<b>3</b> BUSIEST TRUCK BORDER PORTS (46.4% OF TOTAL TRUCK FREIGHT)	Laredo, TX <b>\$15.4 B</b>	Detroit, MI <b>\$10.1 B</b>	El Paso, TX <b>\$5.3 B</b>
<b>3</b> BUSIEST RAIL BORDER PORTS (52% OF TOTAL RAIL FREIGHT)	Laredo, TX <b>\$3.7 B</b>	Port Huron, MI <b>\$2.3 B</b>	Detroit, MI <b>\$2.3 B</b>
<b>3</b> TOP TRUCK COMMODITIES (50.9% OF TOTAL TRUCK FREIGHT)	Computers + parts <b>\$12.9 B</b>	Motor vehicles + parts <b>\$10.9 B</b>	Electrical machinery <b>\$10.1 B</b>
<b>3</b> TOP RAIL COMMODITIES (60.7% OF TOTAL RAIL FREIGHT)	Motor vehicles + parts <b>\$8 B</b>	Plastics <b>\$949 M</b>	Computers + parts <b>\$872 M</b>

– Bureau of Transportation Statistics, March 2017-2018

**American Idles** The trucking industry loses 1.2 billion hours of productivity every year because of traffic congestion, which is the equivalent of 425,000 truck drivers sitting idle for an entire year. That adds \$74.5 billion in additional operating costs to the nation's supply chain – costs that ultimately reach the end consumer. – American Transportation Research Institute



## Where Are The Warehouse Jobs?

Just as entire communities revolved around the automobile, steel, and other industries in the last century, many places in America now depend almost entirely on e-commerce giants like Amazon. Here's where it's happening:

• **20%** of Campbellsville, Kentucky's working population (about 26,000) works in e-commerce. That's largely due to two Amazon fulfillment centers.

• **15%** of Ottawa, Kansas' working population (also about 26,000) works in e-commerce jobs thanks to a pair of big Walmart and American Eagle distribution centers in town.

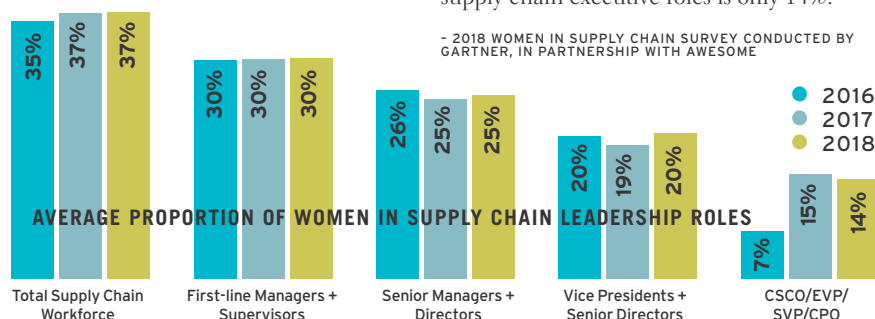
• **9.5%** of Mount Vernon, Illinois' working population works in warehousing. The city has long been home to a Walgreens distribution center.

– Axios.com, Brookings Institution, U.S. Census Bureau

## LITTLE WOMEN

Women make up nearly 40% of the supply chain workforce, but the proportion of women in supply chain executive roles is only 14%.

– 2018 WOMEN IN SUPPLY CHAIN SURVEY CONDUCTED BY GARTNER, IN PARTNERSHIP WITH AWESOME





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## CHOOSING A TMS: HOW TO MAKE THE RIGHT MOVE

What features do you need? What benefits are you looking to gain? How much should you spend? Answering these questions while managing the implementation process prudently is crucial to selecting the right transportation management system for your organization.



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**69**

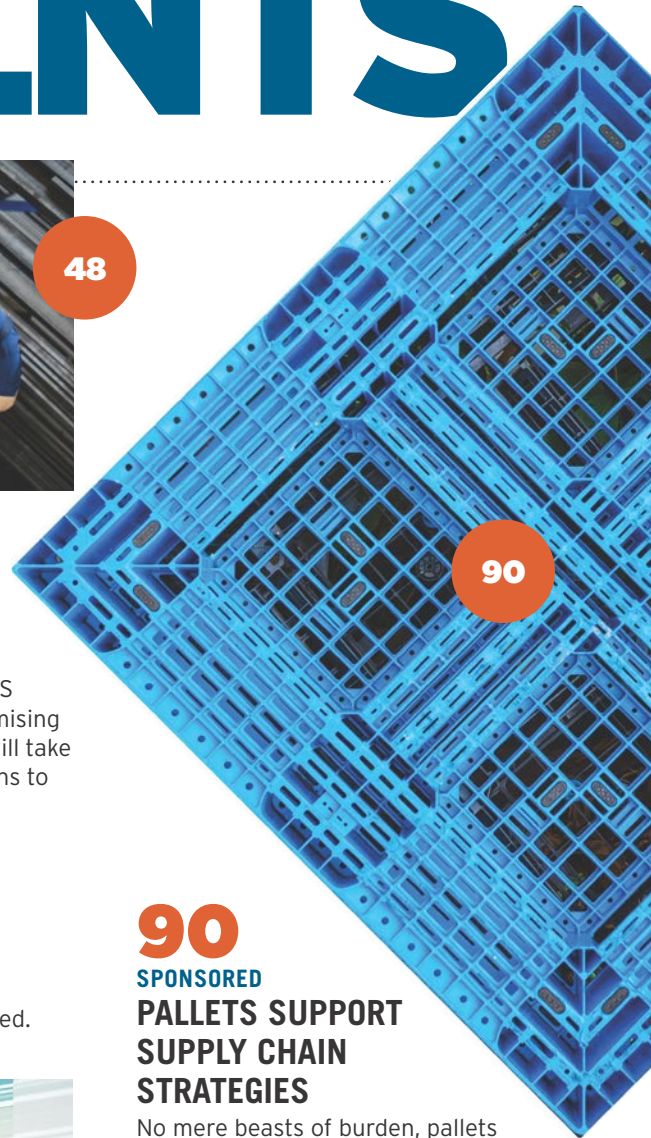
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Intermodal-friendly sites combine a strategic location with well-designed physical spaces.



*To build the warehouse of the future, shippers are leveraging automation.*

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Gaming peripherals company HyperX wins at demand planning and replenishment by deploying Logility's Voyager modules to replace manual systems and processes.



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### POOL DISTRIBUTION GETS A SECOND WIND

To compete with e-tailers, retailers use pool distribution—sharing a common network of logistics services providers to manage the flow of goods from DCs/suppliers to stores—in innovative ways.



### THE FUTURE OF TRUCKING RIDES ON EMPLOYEE EXPERIENCE

The future of trucking remains bright—but only for organizations that treat drivers well. Carriers that actively work to elevate employee experiences to

attract talent should be your partner of choice.

[bit.ly/futureoftrucking](http://bit.ly/futureoftrucking)



### THE 8TH M FOR SUPPLY CHAIN SUCCESS

From materials to method and measurement, organizations can improve supply chain operations by focusing on discrete processes and metrics. Less obvious is the eighth M:

mission. In short, do your workers see the big picture?

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# CHECKING IN

*Keith Biondo*

**Keith Biondo**  
Publisher



## Help From Your Warehouse

Your warehouse and fulfillment operations—and the people, partners, and processes that make them run—have just gotten monumentally more important, because a series of convergent events are raising national supply chain costs at every touch. Let's unpack the why.

In the industrial and manufacturing sectors, added costs on materials and products impacted by ongoing trade friction have filtered all the way through to various demand points, often increasing incrementally at each supply chain waypoint. Prices will heat up this summer as tariff increases—as high as 100% in some cases—are imposed on hundreds of inbound items from at least 28 European Union states. Experts estimate this import value may exceed \$21 billion of products—everything from helicopter parts to grape brandy.

Unlike grape brandy, many popular consumer products are experiencing cost increases not directly related to trade issues. In the household goods sector, companies are finally passing rising supply chain costs on to end consumers. With the economy as hot as it is, Procter & Gamble reports its strongest quarterly sales growth in eight years. Unilever, Kimberly-Clark, and other CPG leaders also report solid sales gains due to price increases. With raw material costs rising and increasing fuel prices impacting transportation expenses, it is clear the era of keeping costs low is at last over.

Other factors that increase costs are also in play. For example, what word appears in every business opinion piece written these days but is so far missing from this one? You guessed it... Amazon! One-day warehouse delivery! "Our goal is to evolve the two-day free shipping program into the one-day free shipping program, and we're making strides on that," proclaimed Brian Olsavsky, Amazon's CFO, on an analysts call reporting record earnings during the last quarter. "We feel like we are doing something very important for the customer."

Amazon may be doing something very important for consumers, but anyone competing with its warehouse operations (anyone with a warehouse at least indirectly competes, based on Amazon-amped fulfillment expectations) will be faced with having to increase warehouse efficiency—read: costs. Amazon is initially investing \$800 million to make one-day delivery a reality.

### HELP ME HELP YOU

What can you do to face and offset the risks of these externally driven convergent trends, increased costs, and Amazombie-like customer fulfillment expectations? You'll find an important part of the answer in your warehouse operations. Invest now in processes and people, and align with phenomenal logistics partners to offset a portion of the costs and increase your customer satisfaction measurements. That's how your warehouse can help.

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#### STAFF

**PUBLISHER** Keith G. Biondo  
publisher@inboundlogistics.com

**EDITOR** Felecia J. Stratton  
editor@inboundlogistics.com

**SENIOR EDITOR** Katrina C. Arabe  
karabe@inboundlogistics.com

**CONTENT MANAGER** Isabel Blake  
iblake@inboundlogistics.com

**CONTRIBUTING EDITORS**  
Jennifer Baljko • Merrill Douglas  
Tom Gresham • Karen M. Kroll • Gary Wollenhaupt

**CREATIVE DIRECTOR** Jeof Vita  
jvita@inboundlogistics.com

**DESIGNER** Ellen Swandiak  
ellen@inboundlogistics.com

**DIGITAL DESIGN  
MANAGER** Amy Palmisano  
apalmisano@inboundlogistics.com

**PUBLICATION MANAGER** Sonia Caslano  
sonia@inboundlogistics.com

**CIRCULATION DIRECTOR** Carolyn Smolin

**EDITOR AT LARGE** Rena Behar

#### SALES OFFICES

**PUBLISHER: Keith Biondo**  
212-629-1560 • FAX: 212-629-1565  
publisher@inboundlogistics.com

**WEST/MIDWEST/SOUTHWEST: Harold L. Leddy**  
847-446-8764 • FAX: 847-305-5890  
haroldleddy@inboundlogistics.com

**Marshall Leddy**  
612-234-7436 • FAX: 847-305-5890  
marshall@inboundlogistics.com

**SOUTHEAST: Gordon H. Harper**  
404-229-9691 • FAX: 404-355-2036  
south@inboundlogistics.com

**MIDWEST/ECONOMIC DEVELOPMENT: Joseph Biondo**  
516-578-8924  
jbiondo@inboundlogistics.com

**NORTHEAST: Rachael Sprinz**  
212-629-1560 • FAX: 212-629-1565  
rachael@inboundlogistics.com

**MEXICO & LATAM: Guillermo Almazo**  
212-629-1560  
mexico@inboundlogistics.com

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## What's one supply chain myth you'd like to debunk?



**Myth: Reducing labor costs is the best way to improve a supply chain operation.** Much bigger gains can be made in reducing total supply chain cost by improving service levels and reducing lead times.

*Amy Sartain*  
Director of Business Development  
Sunland Logistics Solutions

**Myth: A high-volume transportation spend results in lower costs.** Overall, we do see organizations with larger spends trending at lower transportation rates. But outside of rare conditions, it is not due to a pure volume game. It's due to having the right levels of technology, information, and experience.

*Derek Browning*  
Director  
LeanCor Supply Chain Group

**Myth: Supply chain management is a boring career working in a distribution center.** The truth is that outside of medicine, supply chain employees are the only people that can positively impact customers' lives daily.

*Joe Walden*  
Lecturer, Supply Chain Management  
The University of Kansas

**Myth: You need an engineering degree to succeed in supply chain management.** Skill requirements (in addition to analytical and process thinking) include communication, collaboration, negotiation, and leadership.

*Lamar Johnson*  
Senior Associate Director  
Texas McCombs Supply Chain  
Management Center

**Myth: No other organization has the challenges we have.** On average I visit 50 logistics organizations each year and hear this often. Logistics organizations experience similar challenges. Realizing this fact is empowering; so is talking with professionals who have overcome similar issues.

*Robert O'Dwyer*  
Logistics Industry Principal  
Kronos

**Myth: The supply chain is one-dimensional or static.** The supply chain is ever-changing, dynamic, and the backbone of any company that makes or moves a product, delivers a service, or fulfills an order.

*Michael Notarangeli*  
Executive Vice President, Logistics  
Maine Pointe

**Myth: Functional leaders only need to be skilled and proven.** Today's leaders must take it to the next level. It's critical to leverage big data, process improvements, and management skills to navigate our complex world of technology advancements.

*Mark McEntire*  
Senior Vice President, Operations  
Transplace

### Have a great answer to a good question?

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

What's the most neglected part of the supply chain?

We'll publish some answers. Tell us at [editorial@inboundlogistics.com](mailto:editorial@inboundlogistics.com) or tweet us [#ILMagazine](https://twitter.com/ILMagazine) [#ILgoodquestion](https://twitter.com/ILgoodquestion)



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## Quick TIP

Where feasible—based on timing requirements, drayage, and rail availability and cost—introduce intermodal moves into your supply chain to introduce savings as well as improve the balance of power with current suppliers/carriers.

—Jeff Burkett

Director, Transportation & Logistics Group  
Harris Williams

## Re. Amazon launching an online freight brokerage platform

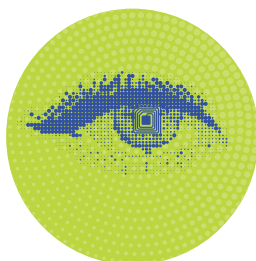
Amazon's bold move puts retailers at short-term capacity risk and in longer-term danger of giving the e-commerce giant too much control over their consumer and business data, carrier relationships, and last-mile visibility.

In the near term, brands should lock in peak capacity, build more collaborative carrier relationships, and ensure forward stocking strategies are in play.

Longer term, retailers should closely watch how the new platform evolves and decide how they want to let Amazon piggyback on the businesses they've built.

—Carson Krieg

Co-Founder/Director of Carrier Ops  
Convey, Inc.



## Re. Can You See Me Now?

[bit.ly/visibility\\_supplychain](https://bit.ly/visibility_supplychain)

To ensure supply chain visibility, keep it simple. The vast majority of trading partners (carriers, vendors, and 3PLs) are not heavily automated. Easy UIs, mobile apps, and email or text-based updates to shipments and orders greatly improve the likelihood of timely, accurate information. Ensure your data can be easily, but securely, passed from system to system.

—Andrew Kirkwood

Chief Executive Officer  
BluJay Solutions



## Re. Good Question: What advice would you give someone just starting out in supply chain?

[bit.ly/startofcareeradvice](https://bit.ly/startofcareeradvice)

**GUPTA** After more than 15 years in the industry I can say it's never

boring and the next few years promise to be exciting. If you're interested in impactful technologies like IoT, AI, and blockchain, then you've joined the right industry. We are facing an era of unprecedented change.

—Dipti Gupta

AVP Solutions, Blume Global

**MARTIN** Data analysis and systems are changing the way we work across supply chains. While these are game-changing technological advancements, one of the core tenets of all supply chains is connecting teams together, internal and external. Be able to build relationships and manage change.

—Steve W. Martin

Vice President and General Manager, Supply Chain Solutions,  
Automotive, Aerospace and Industrial  
Ryder

**CHALK** Commit to lifelong learning. Arm yourself with the latest news, trends, and insights related to the field. Engage in regular research to stay ahead of industry best practices. The more knowledge, drive, and willingness to grow you have, the further along you and your company will be.

—Lanny Chalk

Terminal Manager  
Fullen Dock and Warehouse

**HOLT** Why would the advice be different than joining any other field? Our field has joined the 21st century with respect to data, information systems, and highly educated people. Sales, operations, and administration require strong skills that have long been the domain of tech companies. Yes, we still require drivers, trucks, planes, boats, and soon, robots, but we need new blood to lead us there. Can that be you?

—Jack Holt

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# 10 TIPS

## Cutting Transportation Costs

Transportation market volatility stems from an inevitable pendulum swing between a buyer's and a seller's market. Here are some innovative ways to reduce transport costs.

### 1 DIGITIZE INBOUND AND OUTBOUND LOGISTICS PROCESSES.

*Automating manual processes reduces costs by streamlining operations, allowing for better management and improved efficiencies such as quicker order processing. Streamlining operations saves your team time, freeing them to focus on other tasks.*

### 2 UNDERSTAND ACCESSORIAL CHARGES.

Accessorial charges for additional services beyond normal pickup and delivery often come about because of poor communication or inaccurate documentation. Knowing what makes carriers happy, such as shorter wait times, can help to eliminate these charges.

### 3 BECOME A SHIPPER OF CHOICE.

Today, carriers can be selective about who they want to work with. Making it easy to do business with your company will improve your carrier relationships and help you get preferential rates.

### 4 ELIMINATE OPERATIONAL SILOS.

Connecting transportation operations with procurement, ERP, and other systems brings down barriers between departments and improves communication and collaboration. Completely digitize your shipment process by integrating with your ERP system to eliminate double data entry, which cuts admin time and speeds shipment scheduling.

### 5 USE ANALYTICS TO IMPROVE OPERATIONS CONTINUALLY.

Reviewing historical records and analyzing trends can help uncover bottlenecks that can slow processes and add costs. For example, you may discover that one carrier consistently adds accessorial charges

while another, equally compatible carrier does not.

### 6 USE A DIGITAL SUPPLY NETWORK.

Connect to your carriers, suppliers, and trading partners over a digital network, allowing your business to foster collaboration for sharing or consolidating loads. The fuller the truck, the better the transportation spend.

### 7 GAIN NETWORK VISIBILITY.

Connecting to all trading partners allows your business to gain visibility into what is happening on the network so you can respond to alerts proactively. Visibility enables optimization within the organization to reduce errors and shipment lead times.

### 8 TAP INTO NEW DATA SOURCES.

Smart devices offer the potential for acquiring a massive volume of relevant data about your supply chain. The tricky part is figuring out how to link this stream of information about transportation assets, weather, or product containers to the relevant supply chain transactions. Only then can this data elevate to information that improves your visibility solutions and the value they provide.

### 9 SHARE SALES FORECASTS.

By sharing forecasts, your carrier can be alerted when trucks are needed, helping you avoid the high cost of courier or overnight services to meet customer schedules.

### 10 GO OUT TO BID MORE OFTEN.

*To offset tight capacity and rising shipping costs, shippers should go out to bid for new transportation contracts more than annually to find the best rates and avoid potential disruptions from transportation shortages.*

SOURCE: CINDI HANE, VICE PRESIDENT, PRODUCT MANAGEMENT, ELEMICA





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# BEAUTY PRODUCTS

## ULTA SUPPLY CHAIN SITTING PRETTY

Beauty products chain Ulta Beauty has been posting some pretty profits lately, and it credits supply chain improvements for its growth. The company's 2018 fourth-quarter sales increased by 9.7%; for the full year, net sales increased 14.1% to \$6.7 billion.

CEO Mary Dillon is focused on revamping the enterprise's supply chain. She pushed to open a new distribution center in Fresno, California, which is currently serving 235 stores. And to meet customer demands for speed, the company plans to provide two-day fulfillment by converting its Romeoville, Illinois, DC to a fast fulfillment center and opening a similar location in Jacksonville, Florida, by 2020.

As part of its supply chain realignment, Ulta is also phasing out its Phoenix, Arizona, distribution center in an effort to cut back on unnecessary expenses and redirect responsibilities.



Function of Beauty lets consumers customize hair-care products, which can tangle supply chain operations.

## BLOOMING BEAUTY TRENDS

In the cosmetics and beauty products industry, every year brings fresh challenges to the surface. Current trends are tied to changing consumer demands for transparency, sustainability, and customization.

Transparency is a hot issue in the cosmetics supply chain. Consumers and regulatory agencies want more insight into how cosmetics are manufactured. In the past, process regulations served simply to avoid repeating past errors. Today, best practice guidelines are evolving to make detailed information on raw materials and batch processing available.

Consumers also want their beauty brands to show the environment a little more

love. To answer that request, cosmetics companies will focus on reducing and repurposing waste, as well as minimizing raw material damage, as buyers continue to emphasize a desire for their brands to embrace eco-friendly manufacturing and supply chain practices.

The trend toward customizable cosmetics continues to show an uptick. Up-and-coming brands such as Function of Beauty, Prose, and BITE Beauty promise consumers a tailored-for-you experience with one-of-a-kind products to satisfy their unique needs.

These companies face the supply chain challenges—ever-changing inventory, unique consumer profiles, and shipping accuracy—inherent in offering customizable products.

## F A S T F A C T S

**\$429.8  
BILLION**

Anticipated value of the global cosmetics market by 2022

**14%**

Estimated U.S. share of the global cosmetics market in 2018

APPROXIMATELY

**\$79.8  
MILLION**

Year-to-date U.S. revenue generated in the cosmetics and personal care market

**9.7%**

of total e-commerce sales will come from health and personal care products in the U.S. in 2023





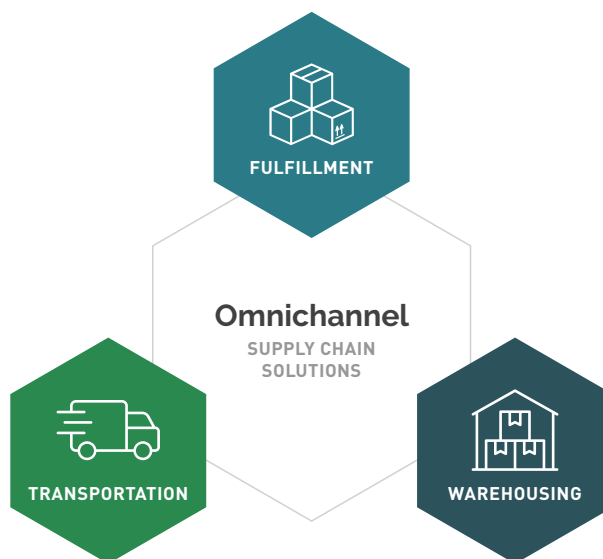
90%

of U.S. consumers can be reached via **2-DAY ground service** with multiple DCs.

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# LEADERSHIP

*Conversations with the Captains of Industry*

## In Search of the Next Great Niche



Megan Smith  
CEO  
Symbia Logistics

As CEO of the company her father founded, Megan Smith draws on strong empathy skills and employee engagement to keep Symbia Logistics on the path to growth.

*by Merrill Douglas*

Megan Smith is leading Symbia Logistics through its second big transformation in just a few years. Smith was named CEO of the family business in 2009, and in 2014 the company obtained the Women Business Enterprise (WBE) certification. “That’s when we started taking off,” she says. “We saw growth rates of up to 5,000% between 2013 and 2016.”

Another big change began in 2018, when a non-compete agreement with a former co-owner expired, allowing Symbia to diversify its services. Today, the company earns about 80% of its revenue from dedicated pallet management services it provides to one big customer: CHEP North America. Now, though, Symbia is pursuing a bigger share of the general third-party logistics (3PL) market, with an emphasis on warehousing, distribution, and e-commerce fulfillment.

We recently talked with Smith about her career trajectory and leadership strategies.

### ***IL:* How did you launch your career?**

I grew up in Symbia Logistics, which my father founded. Starting when I was 18, I worked as a customer service representative at the pallet plant during the summers. I started learning about trailers, calling in loads, setting the daily schedule, managing people. In 2006, I opened a retail store based on a business plan I wrote while studying business management at the University of Denver. Our emphasis was on eco-friendly and socially conscious products. I formally joined Symbia Logistics in 2009.

### ***IL:* Tell us about an experience early in your career that helped to shape you as a leader.**

The business I founded, Unity Boutique, was located in a historic district in Denver called Old South Pearl Street, which was starting to go through a rebirth at the time. Some of us in the district had ideas about pulling together activities on the weekends, aside from the existing farmers market, to attract younger people and families. I was so excited by those plans, I didn’t realize that some people had been on the street for 10, 20, or 30 years and weren’t happy to see young people come in and try to take over. We hadn’t expected that kind of pushback.

Overcoming that resistance helped to shape me as a leader. By showcasing the opportunities to bring in more foot traffic, and a demographic with more disposable income, we were

able to overcome people's objections. Eventually, we all came together and started to become a cultural center for Denver. It turned into something special, and it's still going on.

**IL: What challenges keep your customers awake at night?**

On the business-to-consumer side of things, customers are concerned about fast, accurate, and cost-effective service and delivery. We help with all of that; that's a basic expectation. But what really keeps them up is that they can't find a company that also provides high-touch, guaranteed services, including extras such as special packaging, package design, labels, and containers. We do all that. We're also investing in technology for customers, such as a machine to shrink wrap product in a particular way. We say, "Let's invest in this together, because we believe you will grow, and we want to grow with you."

**IL: Tell us how you have overcome a major challenge in your business.**

CHEP has more than 250 million pallets circulating in the world and pallet building is a labor-intensive job. Retaining and onboarding employees in our pallet management sector is one of the most interesting challenges I've had to tackle as CEO. We have about 1,200 pallet building associates. There are also geographic obstacles to overcome, with different styles of employees in different markets.

A lot of my success with this boils down to utilizing soft skills—connecting with people over things they're interested in. For example, instead of just capturing basic information when we onboard someone, we ask about their interests. We get them involved and reward their performance in ways that are important to them; maybe tickets to a baseball game or a weekend dinner with a spouse. We try to create a company that treats employees right, so they treat customers right.

**IL: What makes you an effective executive?**

I have strong empathy, a high tolerance for risk-taking, strong verbal and written communication skills, and a desire to be different. I'm always looking for new niches that we can pursue within an industry.

**IL: How do you keep employees engaged?**

We personify the pallet or box, showcasing how critical

## How Does She Do It?

If Megan Smith could change places for a day with any executive in the business world, she'd choose Martha Stewart. "I had the pleasure of meeting Martha Stewart in 2016, and the experience has had a lasting effect on me," Smith says.

"We were at a women in business event, where there were a few guest speakers," she adds. "Stewart was by far the most successful among them, but her humility was shocking."

Smith says she'd like to gain insights into how Stewart runs her business empire. "I would love to find out what her average day looks like," she says. "How does she manage so many people and market segments, and how does she maintain her creativity? The brands and products she has built around her passions are truly remarkable to me."

the supply chain is to our associates and their families and everyone they know. I have an initiative for next year to increase retention by providing learning opportunities that help employees feel the connection between these products and the end users. It opens up the idea that logistics is a craft, and that there are opportunities to grow in the logistics world.

**IL: What's the hardest aspect of your job?**

I hate to admit this, but it's time management. With so much growth, so many opportunities, and two young kids, things have become more challenging than they were when I was 22 years old.

**IL: Any advice you would share with your 20-year-old self?**

Don't sweat the small stuff—you're doing great things.

**IL: How do you spend your time outside work?**

I do a lot of community outreach, speaking at schools, being a mentor, giving time to the Boys Hope Girls Hope of Colorado, and giving back to the community in other ways. I love spending time with my children, and we love to travel to exotic locations. I'm currently pursuing my masters in supply chain management through Michigan State University. And I enjoy live music of any kind, even karaoke. ■

# READERPROFILE *as told to Karen Kroll*

## Ethan Frisch: The Spice is Right



**ETHAN FRISCH** is co-founder/co-owner of Burlap & Barrel, a single-origin spice company.

**RESPONSIBILITIES:** Establishing supply chains linking farmers with chefs and home cooks; sourcing unique spices; building relationships with restaurants and manufacturers.

**EXPERIENCE:** Co-host, *Why Food?* podcast; NYC Team Lead and Senior Operations Manager, Zomato; Logistics Manager, Doctors Without Borders; Policy Advisor and National Infrastructure Program Coordinator, Aga Khan Development Network; Co-founder and Executive Chef, Guerrilla Ice Cream

**EDUCATION:** B.A., Conflict Studies, Education and Social Change, City University of New York, 2008; M.Sc., Violence, Conflict and Development, SOAS University of London, 2012

After graduate school, I moved to Afghanistan and spent several years doing logistics work around infrastructure projects. Because of its history and geography, Afghanistan grows incredible agricultural products, yet has done little exporting. I came across varieties of spices, as well as fruits and nuts, unlike anything I'd tasted.

The idea for a spice company started with the wild cumin that grows in Afghanistan's Hindu Kush mountains. Struck by how good it was, I shared it with chefs and others in the food industry in the United States and received an overwhelmingly positive response. I realized that farmers around the world are growing special ingredients but aren't able to export them.

My co-founder and I started

Burlap & Barrel in 2017. We now source several dozen spices from 11 countries. We circumvent outdated networks of middlemen and work directly with farmers to bring spices to market within weeks of the harvest.

When we began, I knew nothing about supply chains, agriculture, customs, food safety, or distribution. I read everything I could and talked to people who'd worked in the industry. Some of the process involved screwing up, and then figuring out how not to screw up again.

Working through friends who'd lived in different countries, I found groups of spice farmers looking to do their own exporting. That had been hard to do, as the standard practice is to sell your crop to a local consolidator as a commodity, with no real consideration for quality.

---

### Ethan Frisch Answers the Big Questions

#### 1 How many countries have you traveled to, and what have you learned from your journeys?

About 80 countries. From a distance, a culture or country might seem homogenous, but the closer you get, the more complexity you observe. On a recent trip to Vietnam, I visited several black pepper farms. You might think that all Vietnamese black pepper is the same, but we started to understand the distinctions within each region. I try to recognize the importance of that nuance in learning about concepts, countries, culture, and cuisine.

#### 2 If you could speed the development of a supply chain-disrupting technology, which would it be and why?

Better food safety testing technology that would allow individual farmers to test their crops and improve their processes.

#### 3 What would you tell your 18-year-old self?

Don't worry so much about deciding on a career. Virtually none of the jobs I've held would have been predictable to my 18-year-old self, but they are things my younger self would have been excited about.



We buy small quantities, but we pay our farmer partners more for their best products. We're asking our partners to do more work than they would selling into the commodity supply chain, but they can make a lot more money and hold a lot more control over their businesses.

I told a cinnamon-growing cooperative in Sumatra, Indonesia, that I wanted their oldest, strongest-flavored cinnamon bark. They said, 'No. It will be too expensive.' They'd never had

somebody say they care about quality more than price. It showed how price has been prioritized for centuries.

Having excellent logistics partners is critical. One of our partners sent a truck into the mountains of Guatemala to pick up a shipment of yellow cardamom and black limes. It was the only provider that was able to do that.

We've been looking at byproducts of the spice supply chain, playing with ingredients such as cinnamon tree leaves. They've traditionally been just a

byproduct of the cinnamon harvest and left on the forest floor. It took a year, but I convinced one co-op to save the leaves for me. We just brought in our second shipment. This is a product the farmers had been throwing away; now it's a source of revenue for both of us.

Burlap & Barrel grew about three times between our first year and this year. It has been both difficult and empowering to realize you can figure out answers to questions you'd previously felt were beyond you. ■

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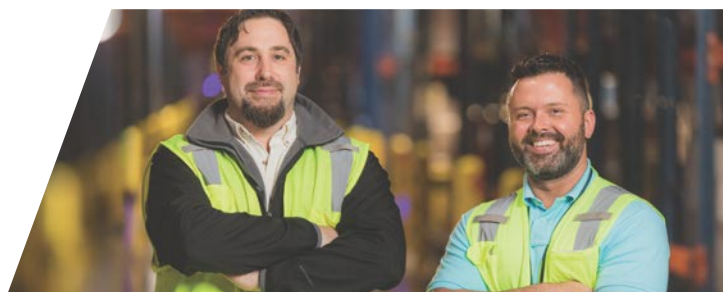
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# NOTED

## *The Supply Chain in Brief*

### > SHOVEL READY

**A M King** expanded and renovated a food distribution facility it created for **ALDI**. The project, which brings the building to 670,000 square feet, makes way for additional cold storage and warehouse space to increase ALDI's fresh product offerings.



**Transplace**, a transportation management services and logistics technology solutions provider, is building a new operations center in Rogers, Arkansas. The facility will support company growth and its customers' supply chain needs.



**and**

**Americold**, an owner and operator of temperature-controlled warehouses, acquired **Cloverleaf**, a cold storage provider.

Trucking company **Bison Transport** acquired **H.O. Wolding**, a 320-truck dry van fleet.

**Boston Dynamics**, an engineering and robotics design company, purchased **Kinema Systems**, a deep learning-based vision logistics technology company.

**ClearDestination**, a delivery management solution company, acquired **Jarca** and its transportation management system products, Jfleet.

**Burris Logistics**, an end-to-end supply chain solutions provider, purchased **Trinity Logistics**, a 3PL provider.

### > GREEN SEEDS

**Mars Wrigley Confectionery** plans to make its cocoa supply chain deforestation-free by 2025. To achieve this goal, Mars plans to ensure 100% traceability and work exclusively with supply chain partners who can meet its sustainability specifications.



**Unilever** expects its packaging to contain 50% recycled content by the end of 2019. The company is also adding a "How2Recycle" label to its packaging to provide consumers clear instructions on how to discard it. The company expects all packaging to contain these labels by 2021.

### > MILESTONES

**A. Duie Pyle**, a provider of asset- and non-asset-based transportation and supply chain solutions, celebrates 95 years of service. Founded in 1924, the company is a multigenerational, family-owned enterprise. Today, Pyle provides a range of integrated transportation and distribution services supported by 24 transportation service centers and 10 warehouses.



## NOTED



### > SEALED DEALS

**Susquehanna Glass**, an engraved, screened, and etched glass retailer, partnered with **TrueCommerce Foundry** to bring its EDI, e-commerce, and fulfillment solutions together in one system. The tools help the retailer keep up with demand by accelerating fulfillment and handling custom labeling needs.

**LSO**, a regional shipping carrier, contracted with **Bringg's** delivery orchestration platform to attain real-time visibility across its delivery network and increase driver, fleet, and warehouse efficiency.

**Agility**, a global logistics provider, signed a two-year logistics partnership agreement with **Porsche Motorsports** for the Porsche Carrera Cup Asia racing series. The 3PL will manage the transportation and handling of all cars across the Asia-Pacific region, and will provide spare parts support from Porsche Germany to race sites.

### > GOOD WORKS

**Werner Enterprises** is offering support after major floods hit the Midwest. The 3PL provided a driver to move supplies for the American Red Cross and supplied multiple trailers to different organizations to collect donations.



**ORBIS Corporation**, an international reusable packaging company, donated three gallons of milk to the Greater Chicago Food Depository for every visitor to its booth at ProFood Tech 2019. In all, the company donated 300 gallons of milk.

### > UP THE CHAIN



**Macy's** appointed **Dennis Mullahy** as chief supply chain officer. In this new role, Mullahy oversees the retailer's entire product supply chain, including global sourcing, inventory management, store and e-commerce distribution, transportation, indirect procurement, technology systems, sustainability, and supplier diversity.

### > RECOGNITION



• **USA Jet Airlines** received the Federal Aviation Administration's (FAA) **Diamond Award of Excellence**. The award recognizes companies that initiate training programs aimed at improving safety, quality, reliability, and technical knowledge that exceed standard FAA regulatory requirements.

• The South Louisiana Chapter of the National Safety Council presented **Dupré Logistics** with the **Occupational Safety Award of Merit**. The council determines the recipient based on total OSHA recordable incidence rates.

• Walmart Supply Chain recognized **Pilot Freight Services**, a worldwide provider of transportation and logistics services, as its **E-Commerce Carrier of the Year**, one of six service categories. Walmart chose the carriers based on their dedication to customer service and communications that improve service levels within the retailer's supply chain.





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TRANSPORTATION

MATERIAL HANDLING

[IN FOCUS]

# TAKEAWAYS

*Shaping the Future of the Global Supply Chain*

## WHAT TO LOOK FOR WHEN TAKING STOCK OF AN INVENTORY MANAGEMENT SYSTEM

As e-commerce grows, online retailers can benefit greatly from modern automation tools. Choosing the right online inventory management system, for example, can impact both sales and the entire enterprise, and allow e-commerce retailers to retain their competitive advantage. According to Multiorders, here are five factors to consider when selecting an inventory management system.

### 1. Centralized user interface.

With a centralized interface, users are able to use one dashboard to fulfill orders and carry out store management from a single location.

**2. Full automation.** With fully automated software, users do not need human employees to manually choose a carrier and update tracking numbers.

**3. Automated stock checking.** Multichannel inventory

control means that the user is able to control the stock levels of several sales channels from one centralized location.

### 4. Marketplace merging.

Marketplace merging means a platform is able to merge several products from different marketplaces—including Amazon—into one order, speeding up delivery time.

### 5. Cost effectiveness.

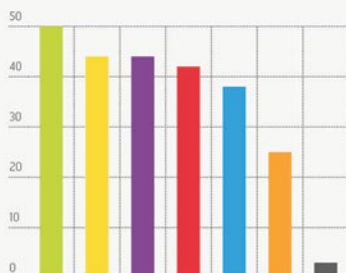
Different inventory management systems offer varied

pricing, so it's important to choose one that offers the best price-quality ratio.

### Bonus: Shipping management.

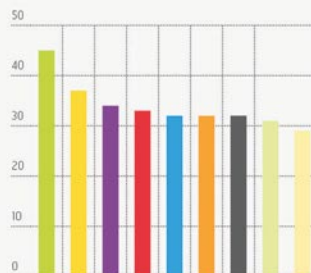
Some inventory management solutions also offer shipping management integration. Although there are separate software solutions focusing on e-retail shipping process automation, it makes things easier if your inventory management software can do both.

What are the biggest security challenges associated with the use of IIoT-based solutions within your organization (%)



- Risk of external cyber-attack
- Poor network security
- Potential mishandling/misuse of data by employees
- Insecure storage of data collected
- Internal data regulation and compliance requirements
- Supplier/partner data regulation compliance requirements
- We have/will not face any security challenges

What changes are you making in your organization to address IIoT security challenges? (%)



- Training employees on IIoT
- Upgrading existing security technologies
- Investing in new security technologies
- Hiring skilled staff
- Partnering with a third party
- Creating an internal IIoT security policy
- Securing physical assets such as sensor nodes
- Communicating to customers on the use of IIoT
- Creating an external IIoT security policy for suppliers and partners

SOURCE: INDUSTRIAL IOT ON LAND AND AT SEA, INMARSAT

## Is Your IIoT Deployment Secure?

Transportation and logistics companies recognize they must strengthen their approaches to cybersecurity but are not yet taking the practical steps to safeguard their industrial Internet of Things (IIoT) deployments, according to a study done on behalf of Inmarsat.

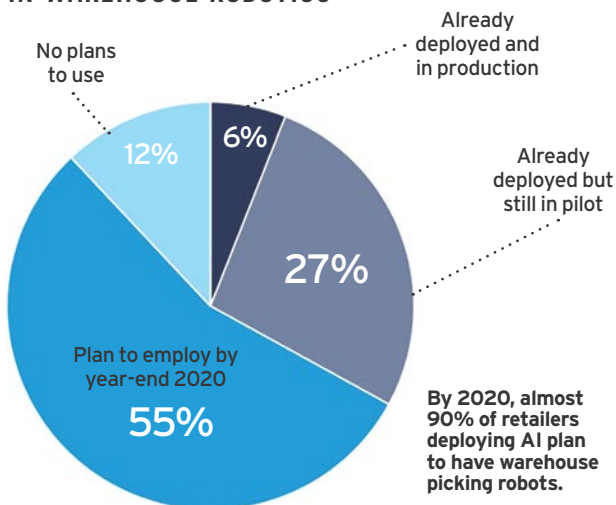
According to the study, which surveyed 125 businesses across the transport industry, 64% of respondents say their processes to combat cybersecurity threats could be stronger, and two thirds (66%) say more could be done to protect against data mishandling.

Despite recognizing the enhanced security threats of Industrial IIoT, just 38% have invested in new security technologies and only 39% have partnered with security specialists for assistance, indicating that not enough is being done to secure operations. One driver for this response is a lack of relevant skills, with 59% of respondents reporting they lacked staff with cybersecurity skills to deliver their Industrial IIoT deployments.



## TAKEAWAYS

### RETAILERS ARE LOOKING TO INVEST IN WAREHOUSE ROBOTICS



SOURCE: GARTNER INC. UNIFIED RETAIL SURVEY

## Blowing in the Wind

If a transportation route, supplier, customer, or other essential supply chain partner is located in an area at high risk for hurricanes,

then your business could risk a major disruption.

Colorado State University's Department of Atmospheric Science predicts the 2019 Atlantic hurricane season will bring 13 named storms—including five hurricanes and two Category 3, 4 or 5 hurricanes.

You can take some crucial steps now to help prevent supply chain disruption when the first storm of the season hits.

- Have a comprehensive contingency plan in place, including back-up suppliers and alternative transportation routes. Make sure suppliers have back-up plans as well.
- Establish an emergency communication plan for employees and suppliers in case operations are affected.
- Prepare to monitor social media and have a transparent response ready to address customer concerns, troubleshoot issues, and communicate status updates.

One of the three main areas where your supply chain is most vulnerable is an upstream disruption—losing key suppliers, raw materials, or inventory necessary for production. According to Travelers, 31% of companies have a primary supplier located in an area prone to severe weather or natural disasters.

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## TAKEAWAYS

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# 8 Great Ways to Waste Money in a B2C Warehouse

Outdated warehouse processes and procedures reduce productivity and raise costs, but some simple changes can help you save money and improve efficiency, according to Realtime Despatch.

### **1. YOU DON'T USE WAREHOUSE LOCATIONS.**

If you rely on staff knowing where everything is, or having to arrange SKUs in alphabetical order to find them, you're tying yourself to an inflexible approach.

If you give SKUs a dedicated "home" location in the warehouse, each one needs enough space for the maximum quantity that will ever be present. As it's unlikely that all your products will be at this maximum quantity at one time, there will be lots of empty space in your racking. This low stock density is not only an expensive use of space, it also requires staff to walk greater distances than necessary, slowing down key warehouse operations.

Every B2C warehouse should have a location numbering scheme that's intuitive and completely independent of the SKUs the locations might contain. This is a fundamental requirement for introducing a warehouse management system (WMS).

### **2. YOU STILL USE PAPER.**

The benefits of introducing product barcodes and handhelds far outweigh the cost in most cases. B2C operations generally find most SKUs are already barcoded when they arrive, but even if you need to add barcodes as part of your receipting process it's still worth doing.

In many cases it's not necessary to barcode individual items. Barcoding the outer carton can be a useful approach for those products that don't already have a manufacturer barcode on each item.

Once your operation is using warehouse locations, product barcodes, and handheld scanners, it will be possible to know exactly what stock you have at any given time and to know exactly where it's being held. More significantly, you can eliminate mispicks and other errors, even when new workers join your team.

### **3. YOU REKEY DATA OR BOUNCE BETWEEN MULTIPLE SYSTEMS.**

Manually rekeying or cutting and pasting information is often done to produce courier labels or CN22 documentation, but it shouldn't be necessary in day-to-day warehouse operations. Similarly, it should be possible to complete all key warehouse operations from within a single WMS environment.

Processes that require users to log on to multiple platforms to generate courier labels, update the status of orders when they've been dispatched, or to adjust stock will not scale as your business grows and will allow the possibility of costly manual errors.

### **4. YOU PICK ONE ORDER AT A TIME.**

The most obvious way to process orders is to start with the oldest one, pick it, take it to a packing bench, pack it, and repeat. Although this is a simple way to process orders, it also requires the picker to walk farther than necessary and repeatedly visit the same locations to pick single items.

Unless your orders are incredibly uniform, a system that requires you to process all your orders the same way is highly inefficient. Consider your typical Monday morning orders and how you'd subdivide the pool to process them most efficiently. If your current WMS doesn't allow you to do this, then it's costing you money in wasted time and missed delivery deadlines.

### **5. YOU SPEND TOO MUCH TIME SORTING PICKED ITEMS BEFORE THEY'RE PACKED.**

Grouping orders will increase the efficiency of your picking process. But if it's not done carefully it can just move the bottleneck from pickers to packers, as they'll have to sort through a mixed tote to find the items they need.

You can reduce this by limiting the number of items picked or by picking into subdivided carts. This way, when a cart is presented to the packer the stock is already sorted by the orders it's being picked for. The aim should be to spread the workload

equally between the pick and pack operations so that orders flow through both processes at roughly the same rate.

### **6. YOU DON'T PICK YOUR BEST-SELLING PRODUCTS OR PRODUCT COMBINATIONS EFFICIENTLY.**

In some environments a handful of products are responsible for a significant proportion of orders. If these products or product combinations are not identified and processed separately, you might miss an opportunity for significant savings.

The 80/20 rule might apply to a few of your most popular products. Best sellers may be determined by product promotions, or they may change day-to-day as a result of factors that you can't plan for. You need an order processing platform that allows you to identify the orders for your best-selling products and handle them together.

### **7. YOU HAVE A LARGE PICKING FACE, BUT YOUR STOCK IS TOO CONCENTRATED.**

If you have a picking face that's spread over more than a few aisles and contains a large range of SKUs, it makes sense to spread the stock around. Amazon does it.

Make sure your WMS allows you to control the "slotting" logic that determines where SKUs are put in the picking face. At its most basic, it should ensure that each of your most popular products are spread around so they're held in every aisle. This will dramatically increase the proportion of picks that can be completed within a single aisle.

### **8. YOU DON'T KNOW WHERE THE TIME IS GOING AND WHAT IT'S COSTING YOU.**

In a paper-based warehouse, it can be hard to get an accurate picture of how much time workers spend on each of your main processes. You need to know a realistic man hour cost for your operation and how many weekly man hours are spent in each of the main warehouse processes.

When you do, it becomes possible to ensure the costs associated with improving your warehouse efficiency are justified.

## TAKEAWAYS



### Germany, Austria Retailers Go for BOPIS

Germany and Austria retailers display a balanced market of omnichannel practices, reports OrderDynamics' *Omni-2000 Research: Germany|Austria*. Collectively, at 43%, the region falls third behind France (50.5%) and the U.K. (64%) in the number of retailers offering buy online pickup in store (BOPIS) services.

Germany and Austria lead in active inventory visibility when compared to all other countries studied in the *Omni-2000* research. While less than 37% of retailers in all countries except France provide inventory visibility to customers, 59% of German and Austrian retailers offer

basic stock visibility. The number of omnichannel retailers in Germany and Austria offering buy online return in store (BORIS) also stands out as significantly higher (77.9%) when compared to other countries.

Customer-friendly returns policies are also common practice among these retailers. While the global average for retailers is 76.9%, 94.9% of retailers studied across Germany and Austria provide online returns policies deemed customer-friendly.

In line with a dominance in returns, the region also leads in free returns shipping. Eighty-four percent of regional retailers surveyed offer free returns shipping. The global average in this area is only 30.4%.

Looking to the future, German and Austrian retailers are tasked with developing social selling capabilities to meet emerging consumer needs. While 85% of all retailers in these countries have an Instagram presence, for example, less than 7% currently optimize the social media tool as a selling channel.

**Across 200 retail chains with a minimum of 10 store locations, key findings for the German and Austrian retail market include:**

**• 11.6%**  
of omnichannel retailers commit to having orders within 24 hours

**• 84%**  
of all retailers provide free return deliveries

**• 10.5%**  
of omnichannel retailers have an optimized mobile commerce site

**• 9.3%**  
of omnichannel retailers accept Instagram purchases

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## TAKEAWAYS

# Your Next Walmart Run: Don't Forget the AI

**A** Walmart Neighborhood Market in Levittown, New York, featuring artificial intelligence-enabled cameras, interactive displays, and a massive data center is the retailer's new Intelligent Retail Lab (IRL).

While the application of artificial intelligence (AI) in e-commerce is now table stakes, few companies have physically explored its potential. Until now.

Positioned within one of the company's busiest locations, the IRL is set up to gather information about what's happening inside the store through an array of sensors, cameras, and processors. All this hardware is connected by enough cabling to scale Mt. Everest five times and enough processing power to download three years' worth of music each second.

The first thing this equipment will help the IRL team focus on is product inventory and availability. In short, the team will use real-time information to explore efficiencies that will allow associates to know more precisely when to restock products, so items are available on shelves when they're needed.

Here's one example: When you go shopping, you want the products you buy to be in stock when you get to the store. In IRL, a combination of cameras and real-time analytics will automatically trigger out-of-stock notifications to internal apps that alert associates when to re-stock. This means the store has to automatically:

- Detect the product on the shelf.
- Recognize the specific product (decipher the differences between one pound of ground beef and two pounds of ground beef, for example).
- Compare the quantities on the shelf to upcoming sales demand.

The result is that associates won't have to continually comb the store to replace products running low on the shelves. They'll know what to bring out of the back room before customers show up. With the technology in IRL, customers can trust that

the products they need will be available during the times they shop.

Because there are many such scenarios to test, IRL will be in data-gathering mode in its early days. The focus will be on learning from the technology, not hastily implementing changes to operations.

So, before jumping to more futuristic concepts, the IRL team is starting with real, practical solutions such as the meat inventory example, as well as making sure shopping carts are available and registers are open.

Walking into the IRL for the first time is both familiar and unique. There are the expected staples: associates, cash registers, and shelves with thousands of products. There are also features that stick out right away, such as a glass-encased data center bathed in blue glow.

The idea of a live shopping environment infused with AI is exciting, but it also raises questions about all the visible technology. This was a key consideration for the team while designing IRL, and the store includes multiple information stations that customers can visit to understand exactly how AI makes the store tick.

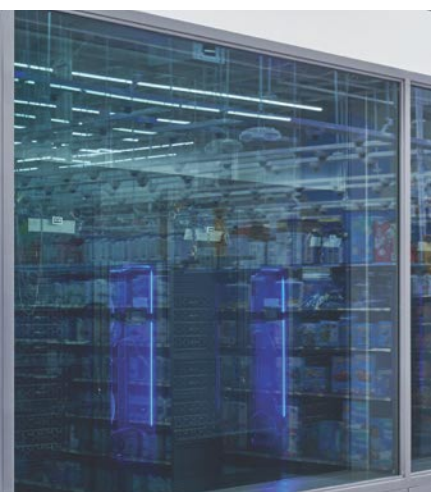
As customers shop, they can interact with many educational displays. Small educational kiosks are interspersed throughout the store. A Welcome

Center allows customers to dive deeper into technical specifications and common questions.

But, the real fun is just outside the data center where the servers are housed. Flanking the plexiglass windows are two large displays—one of which encourages participants to move around and learn how technology reacts to body positioning.

Among the customers who'll be absorbing knowledge are IRL associates, who will be undertaking these retail experiments every day. With technology performing mundane tasks like evaluating if shopping carts need to be corralled, associates will be able to spend more time on tasks humans can do best, such as helping customers or adding creative touches to merchandise displays.

— Matt Smith, Walmart



## TAKEAWAYS



### SAP REQUESTS AN UBER

With a goal to modernize freight transportation through intelligent process automation and better access to a network of connected and reliable drivers, SAP SE and Uber Freight have teamed up.

The integration of Uber Freight into the SAP Logistics Business Network will let customers access transportation rates from Uber's digitally activated carrier network and gain real-time quotes and guaranteed freight capacity, simplifying load management and execution.

Through their partnership, SAP and Uber Freight will work to connect both sides of the freight marketplace, increasing visibility and transparency for all players. These efforts will support easier and faster decision-making based on real-time pricing for shippers and carriers, empowering organizations to maximize daily work time and make more informed decisions about their operations.

A networked approach can also help minimize unloaded mileage, reducing costs and carbon footprint. Uber Freight provides a highly available, dense carrier network that shippers can access directly through SAP Logistics Business Network.

Shippers can gain access to capacity by unlocking a larger network of drivers, while carriers and drivers gain the ability to see and choose loads that fit their business and schedule. This improves utilization, reduces time to plan, and minimizes costs at all levels of shipping operations.

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# Transport

## The Latest TMS Capabilities for Brokerage and Managed Services



**Dave Sapienza**  
Co-founder and  
Vice President of Sales  
3Gtms

Contact:  
Chuck Fuerst  
cfuerst@3gtms.com  
www.3gtms.com  
612-353-7833

**A**t today's pace, you can't get bogged down by slow, repetitive tasks. Talk to any broker about what keeps them up at night, and they'll mention communication problems, tedious information gathering that requires a bunch of screens and clicks, and endless phone calls and emails just to get coverage for a load.

These headaches aren't limited to brokers either; we see 3PLs adding brokerage capabilities and managed transportation services (MTS) to provide greater value to customers and build stronger partnerships. And yet many of the challenges around tedious, time-consuming tasks are the same.

Brokerage operations and MTS don't have to be the complicated and redundant effort they are today. Transportation management systems (TMS) have responded to these cries for modernization by enhancing their brokerage capabilities while managing the full order-to-cash process in real time and within a single system.

With more automation, better visibility, and faster decision-making, users can spend more time serving the customer instead of a task list.

Take a new look at today's Tier 1 TMSs that can help you get work done faster, cut the need for calls and emails, reduce the number of screens and clicks, and increase your profitability.

**Fewer screens and clicks.** Brokers typically have to click through so many screens and windows to do straightforward tasks that it's surprising they're not all claiming carpal tunnel syndrome. With today's TMS technology, you can use one screen to compile all critical information like load cost history and available carrier capacity.

**Automatic price feeds.** Get an automatic feed of consortium price indices, including DAT, so you can

stop digging through websites and different sources of price information. With everything in one feed, you can quickly compare and determine the best price.

**Configurable workflows.** Technology that offers speed and automation isn't helpful if you have to alter your workflow processes to fit the software. That's why today's TMSs are more configurable to the way you do business, allowing you to change the workflow to match your needs now or at some point in the future.

### Better data sharing.

Calls, emails, faxes... and more calls, emails, and faxes. Your customers don't just buy your service, they buy simplicity. A TMS can cut down the back-and-forth communication by enabling data sharing between you and your carriers. For example, a carrier can load their available capacity into the TMS and it will automatically show up in multiple areas, including load cost history. With better visibility into your carrier's

assets, you can respond more quickly and maximize your capacity.

**Better integration.** TMSs now offer tighter, faster integrations with customers, data partners, and ERP systems for better visibility into the flow of data across your operations. All of this supports more automation, faster ways to get work done, and better informed decisions every step of the way.

### More Than Transactions

Service and ease are just as important—or sometimes more important—than cost. Your TMS can't be "good enough" to get the job done; it has to make the lives of your team and your customers and partners easier. Take another look at the ways a TMS could accelerate your brokerage capabilities.

*Transportation  
management systems have  
enhanced their brokerage  
capabilities while  
managing the full order-to-  
cash process in real time  
and within a single system.*





## Four Tips for TMS Buyers

David Basic  
Director of TMS Sales  
WSI  
InquiryIL@wsinc.com  
www.wsinc.com  
920-831-3700

**T**ransportation management software was once considered a solution for gigantic retailers or large CPG brands, but that's no longer the case. Shippers and intermediaries of all sizes can benefit greatly from the increased functionality and simplified processes offered by a transportation management system (TMS).

### What to Look for in a TMS

Here are four factors to consider when shopping for a TMS:

**1. Cost.** Prices between TMS solutions run a wide range and account for a variety of factors. Some may want a flat fee while others will have recurring or cost-per-transaction models. Go into your search knowing what services you need and what you can afford.

Keep in mind that you shouldn't have to go broke on the upfront investment. The days of on-site legacy supply chain solutions are behind us. It's no longer worth investing in large, upfront hardware investments and software customizations for a TMS when Cloud-based Software-as-a-Service subscriptions can offer the same options at a fraction of the price.

**2. Functionality.** The question of functionality is a loaded one. You can't just account for what you need right now, but also what you expect to need over the next few years. The biggest advantage of modern Cloud-hosted solutions is that they can grow with you.

If you have other B2B software, then you must be sure that your new TMS will integrate properly with those solutions. The best software will also be wholly customizable, because every operation has its own quirks and idiosyncrasies that need to be accounted

for. As far as the basics go, however, you'll also want to make sure that you can track carrier performance, access the best real-time rates, have real-time visibility of your shipments, and access carriers within all the transportation modes that you use.

**3. Implementation.** You're not shopping for a TMS because you want to streamline transportation operations next year. If you're looking for a new TMS, you're likely already having problems and want a solution as soon as possible.

Make sure that you choose a provider that can offer full implementation in weeks or months. There's no sense in risking operational downtime on something that's supposed to be streamlining your operation. A quality TMS provider will have the expertise to integrate their solution as quickly as possible.

**4. Customer service.** The best products in the world aren't worth anything at all if they aren't supported by a great team. Your software provider shouldn't just be that vendor you buy solutions from now and then—they should be a partner. When

you invest in a solution from a true partner, that partner will invest in you in return by always being there to answer questions, address problems, or tweak the solution as needed.

Ask around about the software vendors you're considering. Look for case studies and online reviews. Make sure you won't be forgotten among larger competitors or swindled into buying upgrades or services you don't need.

Shippers are currently faced with tight capacity across modes. Without a state-of-the-art TMS to provide up-to-the-minute information on carrier availability and rates, shippers and logistics providers alike may find themselves struggling to manage transportation budgets and functions.

*Shippers and intermediaries of all sizes can benefit greatly from the increased functionality and simplified processes offered by a transportation management system.*



## Networking, Transportation Education at the Core of SMC<sup>3</sup> Logistics Technology Conference



Beth Malik  
Director of Marketing  
SMC<sup>3</sup>

[www.smc3connections.com](http://www.smc3connections.com)

*Connections 2019 offers thought-provoking supply chain content that benefits every transportation and logistics professional.*

Continuing education is a key component in supply chain success. The needs of supply chain customers are ever-changing; by attending educational conferences, industry stakeholders can learn from their peers about the latest advancements in logistics technology solutions, staying ahead of trends and preparing themselves for challenges ahead.

At the yearly Connections SMC<sup>3</sup> logistics education conference, this knowledge exchange occurs both in the myriad daily panels and in scheduled networking sessions.

Connections 2019 will be held June 24–26 at the exquisite Broadmoor resort in Colorado Springs.

### Is Connections 2019 a Good Fit for All Participants in the Supply Chain?

For our conferences, we've hit upon the optimal mix of panel discussions, keynote speeches and networking events—a blend of thought-provoking supply chain content that truly benefits every transportation and logistics professional. Connections 2019 is no exception.

During Connections 2019, industry leaders will share their insight and perspective on supply chain issues during the day, while logistics stakeholders can network on the golf course and late into the evening at one of the myriad networking events. During the more than 20 hours of focused networking events, attendees can connect with more than 300 decision-makers representing the largest carriers, shippers, 3PLs, and technology providers. Connections participants have sent in feedback over the years telling us that Connections provides the ideal environment for substantive dialogue and valuable networking.

For an even greater educational immersion into the world of less-than-truckload, we're offering the SMC<sup>3</sup> LTL Certification course LTL 203: Carrier Pricing and Costing on the final day of Connections 2019. The class will give both seasoned and entry-level transportation professionals new ways to look at the

transportation pricing dynamic between shippers and carriers.

### What Important Industry Topics Will You Cover at Connections this Year?

Our job at SMC<sup>3</sup> starts with talking to customers, learning about trends in the marketplace from their perspective in order to create innovative solutions that solve industry challenges. These customer interactions also drive the content we present at our conferences. We also receive input from an education advisory committee populated with noted transportation journalists, analysts, and business leaders.

This year, we'll be exploring topics ranging from the next-generation 3PL, the evolving transportation regulation market, and managing LTL in the age of e-commerce to examining how U.S. supply chain trends have shaped the global and domestic economies. These topics will be presented by speakers like Ibrahim Bayaan, chief economist at FreightWaves; Cathy Roberson, founder and head analyst at Logistics Trends and Insights LLC; Ray Martinez, FMCSA Administrator; and Rob Estes, president and CEO of Estes Express Lines.

We will also welcome back to the SMC<sup>3</sup> stage former U.S. Secretary of Transportation James Burnley and Tom Madine, CEO of Worldwide Express. Other featured speakers include Bob Biesterfeld, CEO of C.H. Robinson; Darren Hawkins, President & CEO of YRC Worldwide; and MercuryGate International's President and CEO Joe Juliano.

Additional speakers are being added every day. For the latest information about Connections 2019, visit [www.smc3connections.com](http://www.smc3connections.com).

# Solving the Three Toughest Challenges in E-Commerce Fulfillment



Jim Gehr  
President, Retail  
DHL Supply Chain  
logistics.dhl.com

**T**here's good news and bad news on the e-commerce front. The good news is that e-commerce is providing continued growth across a wide range of businesses, from retailers to manufacturers to distributors.

## Three Supply Chain Challenges Limiting E-commerce Growth

The bad news is that significant supply chain challenges will prevent some organizations from capitalizing on this opportunity. These include:

### Managing Capacity

The steady upward trajectory of e-commerce is putting a strain on existing resources and forcing companies to consider significant new investments in the face of an uncertain future. At the same time, demand on a week-to-week basis can be volatile, stretching scarce human resources to the breaking point and reducing customer service. E-commerce fulfillment must be able to both flex with short-term fluctuations and scale with sustained growth. Few supply chains can meet those dual requirements.

### Meeting Customer Expectations

Today's e-commerce customers have higher expectations than those of even a few years ago and those expectations will only increase in the future. Two-day delivery will almost certainly be compressed to next-day or same-day delivery. Organizations struggling to meet today's requirements risk being left behind by competitors who are able to consistently meet these changing expectations.

*E-commerce continues to create opportunity for a range of businesses, but supply chain challenges can limit growth and compromise customer relationships.*

## Minimizing Complexity

Inventory management, order processing, and shipping all get more complex when e-commerce is introduced. In addition, integrating e-commerce fulfillment into traditional distribution operations to provide multi-channel distribution further adds to the complexity in support of omni-channel retail sales. Dealing with complexity can distract businesses from focusing on serving customers and achieving long-term objectives.

## Three Challenges, One Solution

Many organizations lack the combined experience, expertise, and resources to efficiently manage the speed, volatility, and complexity of e-commerce fulfillment. One organization that can is DHL Supply Chain.

With e-commerce experience stretching back to 2005, combined with an organizational commitment to operational excellence, DHL Supply Chain can provide flexible capacity through dedicated or shared-use networks designed to reduce costs and support fast delivery. Our optimization processes and smart use of emerging technologies simplify e-commerce management, reduce order cycle times, and shorten the time

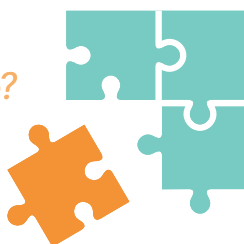
order clicks can be fulfilled for targeted delivery expectations. Finally, we're making the investments today in both the facilities and emerging technologies to meet the customer expectations of tomorrow.

The challenge of enabling e-commerce fulfillment capacity efficiently can seem overwhelming, but it is very achievable with a focused solution. For more information on DHL e-commerce fulfillment services, visit [bit.ly/DHLsupplychain](http://bit.ly/DHLsupplychain)



Supply Chain Challenge?

SOLVED!



# No Challenge Too Great

Milestone's mobile warehousing & storage solution enables a manufacturer to create an efficient distribution process with timely deliveries.

## THE CHALLENGE

While meeting with a national beverage manufacturer, Milestone discovered the manufacturer had issues with its hub-and-spoke approach to distributing products into more rural areas. This process involves one of the manufacturer's road drivers taking a trailer-load of product from their main distribution facility to their distribution facility in an outlying area, which is a simplified cross dock without storage. The road driver then meets the local shuttle driver at this outlying facility to transfer the load between the road and shuttle driver's trailers. The shuttle driver then leaves this facility to deliver to grocery stores and other locations.

This process resulted in the manufacturer's drivers losing valuable time waiting for the other to arrive and for the transfer of loads between trailers, especially with Hours of Service (HoS) regulations and implementation of ELDs. This created significant and costly delivery inefficiencies and delays not only with the hub-and-spoke process but throughout the manufacturer's entire distribution

operation. The challenge for the manufacturer was to find a cost-effective method to improve its existing hub-and-spoke process to ensure an efficient distribution operation.

## THE SOLUTION

As one of the nation's largest trailer providers, Milestone can offer some of the most flexible, innovative, and cost-effective solutions in the industry. For the challenge faced by this manufacturer, Milestone suggested its Mobile Warehousing & Storage (MW&S) solution. MW&S is the lease/rental of a dry van trailer kept onsite as a storage trailer or able to shuttle short distances, and Milestone is the only national trailer provider with dedicated MW&S trailers.

Milestone provided the manufacturer with a 53-foot dry van trailer kept onsite at the outlying distribution facility to incorporate into its hub-and-spoke process as a pilot. When the road driver arrived at this distribution facility, he offloaded the product from his trailer into the storage trailer via the crossdock into a



secured trailer. When the local shuttle driver arrived at the facility, he would load his truck with the product stored on site.

MW&S enabled the manufacturer to create an efficient distribution process with timely deliveries as drivers did not have to wait for each other and transfer loads between trailers. This MW&S storage trailer was also at least 50% less expensive than traditional warehouse space with no term commitment. Based on this successful pilot, the MW&S solution was replicated at the manufacturer's facilities throughout the country using Milestone's national footprint.



To learn more about Milestone's solutions, call 636-238-8732, email [Sarah.johnson@milecorp.com](mailto:Sarah.johnson@milecorp.com), or visit [www.milecorp.com](http://www.milecorp.com).



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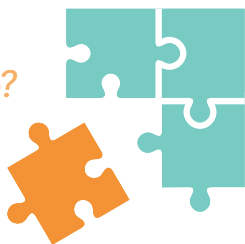
With our Mobile Warehousing & Storage product line, Milestone can provide flexible, on-demand solutions to customers in virtually any industry, for any commercial application. As the only national lessor with dedicated mobile storage, we're leading the industry in availability and quality — backed by our commitment to personal service and customer care.

Questions about Mobile Warehousing & Storage?  
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Supply Chain Challenge?

SOLVED!



# Saving More Than \$38 Million In Less Than 24 Months

By utilizing nVision Global's Impact TMS, a shipper saved more than \$38 million by avoiding expedited freight costs and improving transportation planning.

## THE CHALLENGE

Our customer was unable to prevent associates in their global location from moving shipments via expedited freight. In most cases, these shipments should have been placed on rail or ocean modes of transport, but they were placed on air. These costs were only visible once freight bills were audited and nVision Global captured the invoice data and presented them the results.

## THE SOLUTION

The shipper partnered with nVision Global and began utilizing their Global Impact TMS platform. This solution required users to utilize only contracted providers.

In addition, the Impact TMS provided the shipper the capability for multimodal rating of any shipment and presented both negotiated and spot quote rates in the same view. This ensured the shipper's associates selected only approved transportation providers and the optimal mode of transport.

As a result of utilizing nVision Global's Impact TMS, our customer has saved more than \$38 million to date by avoiding expedited freight costs. By using the Impact TMS solution, they have improved transportation planning and optimization capabilities. They have also seen increased accuracy

upon execution and improved workflow management and exception handling.

In addition, there have been further savings due to tactical and strategic carrier sourcing and load consolidation. Our customer also utilizes other nVision Global services including Freight Audit & Payment, Business Intelligence, and Claims Management to further their cost savings, gain access to vital data, and ultimately achieve visibility to their entire global supply chain.



## nVision Global®

To learn more about nVision Global Solutions, call 770-474-4122, email [sales@nvisionglobal.com](mailto:sales@nvisionglobal.com), or visit [www.nvisionglobal.com](http://www.nvisionglobal.com)

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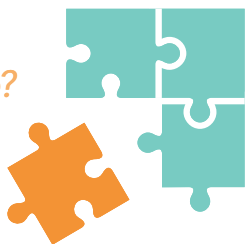
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Supply Chain Challenge?

SOLVED!



# Meeting Your Retailers' Expectations

A leading CPG company uses CaseStack's consolidation expertise to eliminate cost and improve service to big-box retailers.

## THE CHALLENGE

Following their sale to a private equity company, a leading CPG company was left to manage a misaligned warehouse network, which was accumulating chronic LTL challenges. With important relationships with top big-box retailers, their 54% on-time performance record was causing strain in the face of ever-increasing retailer performance expectations.

54% was just the on-time performance of shipments that made it to the retailers—with the high-touch, volatile nature of LTL, this CPG manufacturer's shipments were experiencing insurmountable damages and chargebacks, keeping valuable product off the shelf. A need for a change in supply chain strategy became apparent as rampant retailer non-compliance issues and quickly growing chargebacks were eating away at margins.

## THE SOLUTION

Approaching CaseStack, a Hub Group Company and leading warehouse and consolidation provider, the customer requested a plan that put them back in control of their LTL network, which was delivering anything but results. CaseStack conducted the analysis of their network and determined that a streamlined consolidation approach with a single warehouse would provide the best results.

The piloted consolidation solution with a top big-box retailer known for high-performance standards yielded immediate results, leading the manufacturer to quickly expand the solution to their three other largest customers.

This change transformed a 54% on-time performance figure into a 95%+ performance rating, bringing their product to market faster and more reliably. The savings were monumental too, driving chargebacks down 70% and dramatically reducing claims.

Through CaseStack's solutions,

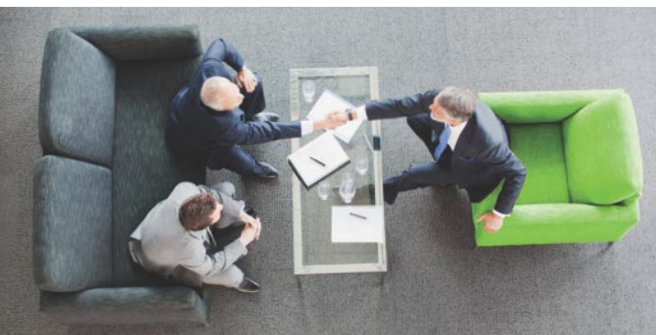


the customer regained the confidence of the top retailers across North America and experienced a 99.6% fill rate across all four consolidation programs executed by CaseStack—putting them back in control of a streamlined supply chain.



To learn more about CaseStack's solutions,  
call 866-828-7120,  
email [consolidation@casestack.com](mailto:consolidation@casestack.com),  
or visit [www.casestack.com](http://www.casestack.com)





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[INSIGHT]

# ECOMMERCE

by *Kevin Beasley*

Chief Information Officer, VAI  
sales@vai.net | 800-824-7776

## Time to Stop Hating the ‘A’ Word

To small and mid-sized businesses (SMBs), the “A” word usually coincides with fear and frustration. While small business owners love to hate Amazon, the time has come to embrace the changing purchasing and distribution landscape.

Here’s how SMBs can benefit from e-commerce services such as Amazon and why they should work with them, not against them.

**Emerging Amazon resellers.** The e-commerce boom has led to Amazon resellers who buy goods in bulk to sell at low prices. Some claim these resellers are a threat to small businesses, but that’s not always the case.

These resellers typically sell generic, low-quality products to make up for slim profit margins. Small businesses with a unique product or service have a more compelling presence online than generic resellers. While resellers could undercut some profits, SMBs should identify what makes their products unique, and focus on selling that online.

**Growing business with Amazon.** Most SMBs hit a saturation point where they struggle to grow. They then have two options: expand the product offering or line, or expand geographies.

E-commerce giants have huge imprints that enable SMBs to reach customers across geographies. SMBs with an online presence should view

Amazon as another e-commerce route—one that continually sees success. For better or for worse, businesses that join forces with Amazon benefit from its success across geographies.

**Using old inventory.** Inventory management is essential to maximize ROI. Excess inventory due to purchasing error or shifting customer demand can be cumbersome and expensive.

“Dead inventory” represents dead money—or money that could be used to expand, pay debt, or invest in another product line. To alleviate excess inventory, businesses can sell it on Amazon. This helps to get rid of dead stock and reach new customers.

### ORDERING AND INVENTORY TIPS

To successfully sell on Amazon, some businesses may need to restructure their purchasing and digital teams, or invest in an enterprise tool to assist the flow of business. To keep up with today’s expectations of instantaneous shipping, businesses need to constantly monitor for orders made through Amazon.

Rather than manually check order statuses, businesses can use enterprise platforms such as ERP to integrate their e-commerce order and purchasing systems with the more traditional routes. This ensures that purchase orders and inventory stay constantly up to date and businesses don’t suffer from not shipping an order on time or not having enough inventory.

Customers who submit orders for products that turn out not to be in stock are likely to leave negative feedback. Businesses that get into this situation need to quickly inform the customer and, if appropriate, offer to compensate them for their trouble.

Businesses should also be as accessible as possible to customers. Nothing is more frustrating to a customer than not knowing the status of their order. Respond quickly to customer contacts and notify them when an order is delayed. Most importantly, businesses need to stay on top of orders from the moment of purchase to the customer’s doorstep. Businesses that invest in automated ERP systems benefit from instant, efficient, and accurate updates and feedback throughout the purchasing cycle.

In an e-commerce-driven age, SMBs should stop thinking about competing with Amazon and start strategizing how to join forces to grow their business and increase profits. ■

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[ INSIGHT ]

# LEANSUPPLYCHAIN

by Paul A. Myerson

*Instructor, Management and Decision Sciences, Monmouth University  
and author of books on Lean and the Supply Chain for McGraw-Hill,  
Pearson, and Productivity Press*  
pmyerson@monmouth.edu | 732-571-7523

## Managing Change in Turbulent Times

We are now in a “white water rapids” phase in terms of the global economy, requiring flexibility from the processes, technology, and people in the supply chain to navigate these rough waters.

Making the transition to a truly flexible and lean supply chain, especially during these turbulent times, involves changing the three elements necessary for successful business transformation: processes, technology, and people.

The transition involves using a structured approach to make sure that changes—which can range from a simple process tweak to major policy or strategy revisions—are implemented successfully if the organization is to achieve its potential.

### REVISING PROCESSES

Companies can utilize many tools to manage process change in a supply chain. These tools include:

■ **Benchmarking** to clearly identify performance gaps, and thus focus supply chain management efforts on the areas most in need of improvement.

■ **Six Sigma** to improve quality throughout the supply chain.

■ **Lean strategies** to streamline processes or eliminate waste within the supply chain.

### TRANSFORMING TECHNOLOGY

Many companies are using digital technology to transform key business areas, but technology can't be applied haphazardly. When applied properly, however, it can enable good processes.

Technological advancements have made it extremely easy to gather and analyze vast amounts of data. Focusing on key pieces of data used in decision-making saves time and money.

Many leading companies have gone further and have begun to create a true digital organization that automates repeatable tasks to increase efficiency and drive down costs.

### MANAGING PEOPLE AND CHANGE

Few people like change within their organization, but if management leads the change initiative properly, the process can be successfully implemented with minimal resistance.

To effectively manage change in your organization, you must first educate leaders and gain their commitment and support for the effort. Leaders must communicate why the change is needed and what benefits they expect.

Leaders need to know when change is needed, work on getting the change accepted organizationally, implement change in the best way possible, and relate the need for change directly to the business value proposition.

For example, leadership needs to be able to clearly describe how improved demand planning helps sustain and increase revenues through improved customer satisfaction and reduced production, distribution, and inventory costs.

At this point, it is also important to identify risks and have a mitigation plan in place if issues arise. For example, consider piloting change in one geography or business unit before rolling it out across the entire organization.

Furthermore, clearly defining roles and responsibilities within the organization will help earn employee buy-in and minimize confusion.

Finally, organizations must implement and continuously measure metrics—and design rewards—that reinforce and eventually maintain the desired future state.

In the end, creating a lean, flexible supply chain requires changes in your organization. It's up to you whether to cling to the past with the inherent risks or embrace change and look to the future. ■



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[ INSIGHT ]

## SMARTMOVES

*by Dr. Greg Barnett*

Senior Vice President of Science, The Predictive Index  
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# Three Steps to Easing Labor Pains

As baby boomers in manufacturing and logistics look toward retirement, there aren't new workers to take their place. Millennial and Gen-Z workers just aren't interested in the work—and, as a result, valuable jobs are being left unfilled.

But manufacturing and logistics employers can take some steps to attract the incoming workforce.

### **1. Diagnose the employee experience.**

Identify what drives employees and decreases turnover. With this diagnosis, find ways to make job offerings more attractive while complementing your company culture.

For instance, trucking is often seen as a lonely, solitary activity, with drivers largely confined to their vehicles. A trucking company could focus on experiences to ease the solitude—for example, paying for gym memberships across the country or paying for family members to meet drivers at the end of longer treks.

Similarly, manufacturing is often seen as an industry with few developmental opportunities and little upward mobility. Training and ongoing educational opportunities that offer a specific path to advancement may help to enhance the employee experience. In the “diagnose” phase, fully understanding all aspects of the employee experience and company

culture informs how to maximize the potential of the workforce.

### **2. Redesign the business purpose.**

Determine what the business is trying to accomplish and use that to influence culture. This starts with identifying your company's higher-level purpose and aligning the employee experience accordingly.

For instance, companies that deliver food are “feeding America” and medical equipment manufacturers “create devices that save lives.” The design phase is about asking the management team tough questions: What is the strategy? Who are the people? What is their purpose?

Once you answer these questions, it's time to identify whether your organization has the right culture to get there. A company that is improving the experience for truck drivers and communicating its mission to feed America will likely adopt a more collaborative, people-first culture where all employees clearly understand their role in reaching a greater purpose.

### **3. Hire the right talent.**

Assess current employees from every level and make adjustments to meet the talent and culture strategy. Start by optimizing talent, which enables you to align people strategy with business strategy, producing the best results. Reevaluating current employees and placing them in positions that utilize the full spectrum of their strengths allows you to identify and fill holes in the organization.

Creating career paths with numerous opportunities for employees to train on the job and discover their passions will not only add to the company culture but also decrease turnover. A manufacturer can offer continuing education opportunities and focus hiring based on preexisting skills, rather than looking for an employee with all the skills upfront.

Implementing these steps requires significant investment and time throughout the organization. By addressing the employee experience and changing the culture to place employees at the forefront of business decisions, organizations will drive people to put their hearts into their work. The perception of the company, and the industry as a whole, will adjust naturally, making it more attractive to talent both young and old and shrinking the staffing shortage over time. ■



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**by Merrill Douglas**

Opportunities  
abound for  
accidents in  
a warehouse.  
More than  
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work in more than  
7,000 warehouses  
in the United States  
and the fatal injury  
rate for those workers is  
higher than the national  
average across all other  
industries, according to the  
U.S. Occupational Safety and  
Health Administration (OSHA).

Non-fatal accidents may have serious consequences, too. Broken bones, sprained backs, poisoning, and other injuries can cause pain, put people out of work, and generate hospital bills. Warehouse workers often run risks when they use forklifts unsafely, stack products improperly, fail to use personal protective equipment, ignore correct lockout or tagout procedures, take inadequate fire safety precautions, or do work that involves repetitive motion, notes OSHA.

“Most accidents and injuries in a warehouse are caused by inadequate training processes, haste, and human error,” says Kurt Cuncannan, chief operating officer at Bay Logistics, a warehousing, transportation, and logistics services company based in Byron Center, Michigan.

#### **WHAT’S TOUGH ABOUT SAFETY**

As companies work to maintain safety in the warehouse, one of the biggest issues to solve may be how to get everyone to follow established practices. “In a large and decentralized organization, having the same adoption rate of best practices and safety procedures throughout the company is a challenge,” says Zach Pollock, chief operating officer at Pilot Freight Services in Lima, Pennsylvania.

There’s a difference between making pronouncements from the corporate office and gaining buy-in from individual workers. For example, workers don’t always use equipment such as forklifts or pallet jacks when they should. “Individual operators may decide to pick up an item by hand, which might result in a back strain,” Pollock says.

Inexperienced workers tend to be the ones most prone to accidents. But even veterans may let down their guard.



## GENERAL SAFETY

■ Rope off open loading dock doors and other areas where employees could fall 4 feet or more.

■ Clear floors of clutter: electrical cords, hoses, spills, and other hazards that could cause employees to trip.

■ Determine time requirements for an employee to perform a task.

■ Provide employees performing physical work with periodic rest breaks to avoid fatigue.

■ Ensure newly hired employees receive general ergonomics training and task-specific training.

■ Ensure the warehouse is well-ventilated.

■ Instruct employees on how to avoid heat stress in hot and cold environments.

## MATERIALS HANDLING

■ Provide appropriately marked and sufficiently safe clearances for aisles and at loading docks or passageways where mechanical handling equipment is used.

■ Properly stack loose/unboxed materials that might fall from a pile by blocking, interlocking, or limiting the height of the pile to prevent falling hazards.

Hal Justice, vice president, sales and operations at Atlanta Bonded Warehouse (ABW) in Kennesaw, Georgia, relates the story of a warehouse associate with more than 20 years of experience who was up on a cherry picker, doing a cycle count, when he leaned too far and fell 20 feet to a concrete floor. “He knew better,” says Justice, whose company operates 14 public and dedicated warehouses. “But he didn’t fasten his safety harness.”

Another challenge is how to keep track of associates’ skill sets and certifications. When a warehouse is short-staffed, what if the manager wants to move a packer, for example, to a more physically difficult activity? “How do you know whether you’ve taken them through the correct way to lift and deal with industrial ergonomics?”

asks Matthew Elson, CEO at SHE Software, a health and safety software company based in East Kilbride, U.K., and with U.S. offices in Chicago.

Temporary workers pose special safety challenges. “Contractors face a brand new environment with every new assignment,” says Rebecca Williams, lead regional safety manager at staffing agency Aerotek, based in Hanover, Maryland. “They ought to have relevant

experience for the position in which they’re being placed. But they still must be oriented to those spaces and trained to work there, aligned with the company’s policies and procedures, all the while being supervised on the job.” Aerotek works closely with clients to make sure each contract worker gets the appropriate safety training.

Warehouse operators must pay special attention to safety during periods of heavy demand. “We have to ensure that during peak season ramp-ups there’s a proper amount of supervision, regardless of the pace they’re working,” Williams says.

If an accident does occur, or someone identifies a hazard that can cause an accident, a company might have trouble capturing the information and using it to take corrective

## COMPANIES HAVE TO ENSURE THAT THEY PROVIDE THE PROPER WORKER SUPERVISION, EVEN DURING PEAK SEASON RAMP-UPS.

action. That’s especially true if the company relies on paper forms for safety reporting, since filling in those forms can be inconvenient. “If the forms do get filled in, do they get to the right place? If so, they have to be transcribed,” says Elson.

The best logistics organizations implement extensive policies, procedures, and technologies to ensure that their workers stay safe. Here are some best practices.

## OPTIMIZE THE ENVIRONMENT

A safe warehouse has a good workflow pattern that minimizes the chance of collisions between humans and machines. “The environment needs to be set up with dedicated pedestrian walkways,” says Williams.

Bay Logistics has added blue safety lights to its forklifts. “The blue light alerts pedestrians, other employees, and supervisors of oncoming forklifts, especially coming from blind corners or from inside semi-trailers,” Cuncannan says.

In one ABW facility, at a narrow doorway where it’s hard to see oncoming traffic, the safety committee



recommended, and the manager added, a warning system. “We installed motion detectors with alert lights that go off when someone approaches the door,” Justice says.

Easy-to-understand

signage can also help.

“We post signs in multiple languages, says Brendan Heegan, founder and CEO of Boxzooka, which also offers training and certification testing in Spanish as well as English.



## TRAIN EARLY AND OFTEN

At Pilot Freight Services, safety starts with appropriate training for new hires. The company also maintains a formal, well-documented training process for people who operate equipment such as forklift trucks. “And we have a standard issue of personal protective equipment such as safety vests, lifting belts, wheel chocks for trucks, gloves, and ear and eye protection when needed,” Pollock says.

New hires at Bay Logistics get safety training and then work under guidance. “New employees are assigned a mentor, and they spend one week job shadowing,” Cuncannan says.

Supervisors also hold monthly meetings to discuss safety. “We rely heavily on recommendations from our team members,” he adds.

At ABW, safety is part of the discussion at a daily pre-shift meeting. Associates also get monthly safety training on

### BOXZOOKA HOLDS A MEETING EVERY MORNING TO REVIEW RULES AND SAFETY GUIDELINES AND EXPLAIN THE DAY’S TASKS.

specific topics, through videos, handouts, or discussions led by the team leader, and then sign a document to attest that they’ve received the instruction.

Temporary workers play a big role in facilities operated by Boxzooka, a

third-party logistics firm in Secaucus, New Jersey, that provides e-commerce fulfillment services. On any given day in Boxzooka’s Secaucus warehouse, 15 permanent warehouse associates plus 25 to 45 temps share the work.

At least a few of those temps each day are working for Boxzooka for the first time, says Heegan. Boxzooka holds a meeting every morning to review rules and safety guidelines and explain the day’s tasks.

Permanent staffers attend those meetings along with temps.

“We constantly train new people, but core staff has to sit through it over and over again,” Heegan says. “Constant reinforcement is part of the reason for our great safety record.”





■ Store bags, containers, and bundles in tiers that are stacked, blocked, interlocked, and limited in height so that they are stable and secure to prevent sliding or collapse.

■ Keep storage areas free from accumulation of materials that could lead to tripping, fire, explosion, or pest infestation.

■ Remove excessive vegetation from building entrances, work spaces, and traffic areas to prevent possible trip or fall hazards due to visual obstructions.

■ Provide derail and/or bumper blocks on spur railroad tracks where a rolling car could contact other cars being worked on and at entrances to buildings, work spaces, and traffic areas.

■ Provide covers and/or guardrails to protect personnel from the hazards of stair openings in floors, meter or equipment pits, and similar hazards.

■ Train personnel on proper lifting techniques.

■ Properly use elevators and hoists for lifting materials/containers with adequate safe clearances, no obstructions, appropriate signals, and directional warning signs.

SOURCE: Occupational Safety and Health Administration (OSHA)  
www.osha.gov

## PROMOTE A SAFETY-MINDED CULTURE

Managers and front-line workers alike need to focus on safety throughout the warehouse every day. One key is to create administrative structures devoted to safety, as ABW has done.

"Each building has a safety committee composed of the building manager and director of safety, who is our human resources manager," Justice says. Each site gets an annual

walk-through to look for potential problems, as well as a monthly inspection.

"If an accident occurs, the company conducts a full investigation to discover the cause and determine how to avoid similar incidents in the future," he adds.

It's also important to make safety part of the corporate culture. In part, that means recognizing that any one individual can affect safety,

for better or worse. For example, if two associates are unloading a truck, and one of them seems to be suffering strain, the partner will suggest that they lift items as a team.

A focus on safety culture also influences how companies schedule and supervise warehouse associates. "Understaffing causes several problems in a distribution center," says Cuncannan. "Hurried, frantic employees make more mistakes and cause more damage and injuries."

Supervisors must be especially vigilant at the start of a shift, before any breaks, and 15 minutes before a shift ends. "Statistically, these are the times most frequently plagued by mistakes and injuries," he adds.



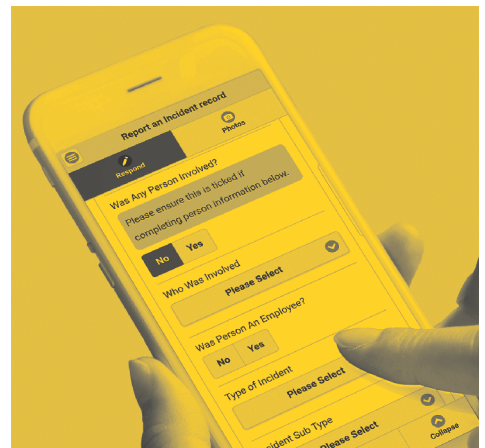
## USE TECHNOLOGY

Software can go a long way toward improving safety in the warehouse. For example, SHE's software makes it easier to track safety incidents, record hazards when someone spots one, and trigger corrective action. "You can create an alert to the maintenance person or supervisor, and set a due date for the action," Elson says. "If they haven't completed the action by the due date, the system sends reminders and alerts the manager."

### TECHNOLOGY ENABLES WAREHOUSES TO TRACK INCIDENTS, RECORD HAZARDS, AND TAKE CORRECTIVE ACTION.

When a company implements the software on mobile devices, employees can report on incidents and hazards on the spot. "Even if you don't give people devices, you can set up kiosks around the warehouse floor so employees can quickly get to them and do their reporting," Elson says.

Boxzooka uses video cameras to monitor activity, including safety violations, throughout the warehouse. "The monitors are in multiple offices, and multiple people have visibility to them," Heegan says. When people spot unsafe behavior, they offer the worker correction right away.





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## FORKLIFT SAFETY

■ Ensure powered industrial trucks (forklifts) meet the design and construction requirements established in American National Standard for Powered Industrial Trucks, Part II ANSI B56.1-1969.

■ Appropriately mark forklifts that are used in hazardous locations.

■ Provide conveyors, overhead hoists, or equivalent materials handling equipment for handling batteries.

■ Make sure forklift operators are competent to operate a vehicle safely as demonstrated by successful completion of training and evaluation conducted and certified by persons with the knowledge, training, and experience to train operators and evaluate their performance.

■ Confirm the training program content includes all truck-related topics, workplace-related topics, and the requirements of 29 CFR 1910.178 for safe truck operation.

■ Evaluate each operator's performance at least once every three years.

■ Ensure sufficient headroom for the forklift and operator under overhead installations, lights, pipes, sprinkler systems, etc.

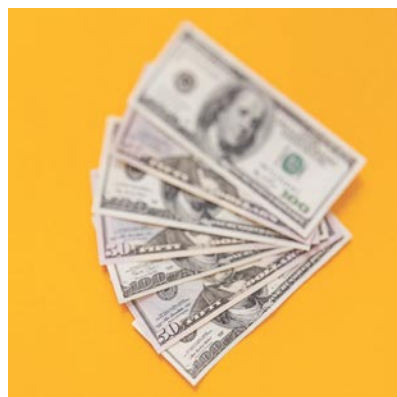
SOURCE: OSHA  
[www.osha.gov](http://www.osha.gov)

## OFFER INCENTIVES

Although OSHA frowns on safety bonuses (they might discourage employees from reporting accidents), AWB collaborates with its Workman's Compensation insurer to provide incentives in a permissible form. "Every month that a building does not have an accident, every employee—team leads and below—has the ability to participate in a lottery, for a cash drawing," Justice says. The more people who work in the building, the more drawings it holds on lottery day. The more months the building goes without an accident, the bigger the jackpot.

When implementing these and other safety practices in a warehouse, it's important to integrate the strategies and use them consistently.

"If you keep it simple and focus on things like training, having the right equipment, and having the right signage to keep training in people's minds, these things have material impact," Pollock says. But it's also important to listen to employees, he says. "If we're hearing what their challenges are in the warehouse, often we can adapt and make a safer environment as we go."



## ROBOTICS PLAY IT SAFE

Robotics and other advanced technologies offer significant safety advantages. For one, automated systems take over much of the lifting and carrying that can cause sprains, falls, or other hazards.

Miami-based Ryder System has tested and deployed several advanced technologies in "smart" showcase warehouses in the Miami, Dallas, and Chicago markets. Along with productivity improvements, these systems offer potential safety gains.

For example, Ryder uses automated systems from Fetch Robotics to carry product from place to place—say, moving items from a pick station to a packing station. Cutting travel time reduces the

risk of travel-related accidents. "But you have to be conscious of how those robots will interact with pedestrians and materials handling vehicle traffic, such as forklifts, in the warehouse," says Alec Hicks, group director of solutions design at Ryder.

To reduce risk, Ryder segregates pedestrian walkways from lanes used by vehicles and automated systems. "Also, most of the robotics technologies we invest in recognize obstacles and stop to get out of the way," Hicks says.

Drones that Ryder has been testing for cycle counting also eliminate whatever risk a human might have encountered in that job, small as that risk may be. Ryder must also make sure the drones don't collide with human associates in the building. "The aisles where the drone is operating are identified and closed down, so we don't have associates doing putaway or pick tasks there," Hicks says. "It's typically only the drone and the operator in the aisle."

Sensors installed on forklifts ensure that only qualified drivers take the wheel. "The associate must log in to the equipment," Hicks says. "The system knows if that associate is licensed to drive that vehicle type."

Safety systems that govern speed in those vehicles also include sensors. And sensor-based systems can report forklift accidents automatically.



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# AUTOMATION INNOVATION

**INNOVATIONS IN MATERIALS HANDLING  
SOLUTIONS HELP CUT COSTS AND BOOST ACCURACY  
IN THE SUPPLY CHAIN.**

**BY KAREN KROLL**

**W**hen Magid, a manufacturer and distributor of personal protective equipment, consolidated several warehouses in Chicago to a single facility outside the city, management “took advantage of the clean sheet of paper to look for ways to use automation to drive productivity, improve order cycle time, and be more efficient,” says Dave Forberg, vice president of operations.





Management also wanted to gain greater control over the 25,000-plus items the company carries in inventory. Previously, many items were scattered among the warehouses.

Forberg and his colleagues turned



**Automated materials handling solutions, such as those offered by Dematic, optimize materials handling and information flows to keep supply chains running smoothly.**



to a goods-to-person order fulfillment solution that incorporates a Multishuttle from Dematic, a provider of technology solutions for warehouses and distribution centers. The Dematic Multishuttle stores, buffers, and sequences products between bulk stock and other functions such as picking and order assembly.

Compared to other options, the Multishuttle solution offered a more effective way to store and manage loose products into totes within a contained area. “We have a system of 26 multishuttle robots,” Forberg notes.

Inbound inventory moves from the receiving area to decanting workstations. Each stock-keeping unit (SKU) is checked in, unloaded, and placed into a tote. Each tote moves to the Multishuttle storage subsystem, which delivers to the goods-to-person workstations when required for order picking. When a tote arrives at the workstation, a monitor displays both an image of the SKU and the number to be picked. Once the required SKUs have been picked, the conveyor system moves the customer order cartons to the shipping area.

A warehouse management system (WMS) works in conjunction with the Dematic warehouse execution system (WES) to manage piece-picking operations, replenishment, and stock control. It also controls the real-time flow of orders through the goods-to-person workstations, enhancing efficiency. “It’s all fully automated,” Forberg says.

#### **THROUGHPUT UP, CYCLE TIME DOWN**

Since implementing the system, throughput has increased by about 75%, while order cycle time has been cut. “The productivity gains have been enormous,” Forberg says, adding that many orders can be on the dock 45 minutes after they’re received.

Like Magid, many shippers are looking for ways to increase the capabilities of their materials handling solutions, typically through automation. “The drivers for automation are more powerful than ever,” says Ken Ruehrdanz, manager, distribution systems market, with Dematic.

Automation can mitigate the ongoing labor crunch many companies face, while also helping them more efficiently and accurately handle ever-increasing volumes of SKUs. Moreover, the cost of many materials handling solutions are coming down, putting them within reach of a larger range of shippers.

Another shift that’s influencing materials handling technology is the prioritization of flexibility over productivity, says Fergal Glynn, vice president of marketing with 6 River Systems, a robot provider. Traditional automation solutions, such as conveyor systems, tend to be highly productive, but inflexible. The rise in e-commerce and the corresponding increase in heterogeneous orders has increased the need for flexibility.

#### **THE COST OF MANY MATERIALS HANDLING SOLUTIONS ARE COMING DOWN, PUTTING THEM WITHIN REACH OF A LARGER RANGE OF SHIPPERS.**

Many materials handling solutions can be placed roughly into three categories, says Gary Allen, vice president of supply chain excellence with Ryder Systems. The first consists of the technologies proven and available now, such as conveyors and sortation systems.

Next are the up-and-comers such as drones, which likely will have greater value as their battery life improves.

The final piece is integration and visibility. The data that trackers and sensors generate needs to be integrated with the warehouse management or control system to provide the most value by, for instance, providing alerts when a shipment is delayed.

Many innovations within materials handling solutions incorporate both older and newer technologies. Lift trucks are one example. Thirty years ago, a lift truck operator would have to manually port oil to the cylinder while lifting the control handle hooked to the hydraulic control valve and a switch that turned on the lift pump to





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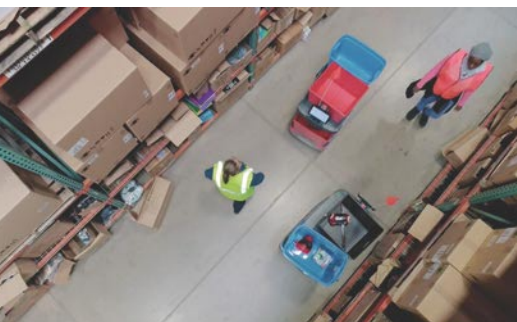


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**6 River Systems provides solutions that manage a the entire order fulfillment process, including batching, picking, and sorting.**

lift the mast, says Jim Gaskell, director of global technology business development with Crown Equipment Corporation, a manufacturer of materials handling equipment.

Now, this process is computerized. As a result, today's lift and lower systems are more than 60% faster, while also lifting more weight and using less energy. In another change, the typical lift height has increased from about 270 inches to between 400 and 500 inches. That has enabled taller warehouses, a key feature where land is tight or expensive.

As lift heights grew, so did lift speed, increasing from about 100 feet to 160 feet per minute. What's more, today's

trucks can sense when the forks are empty, and will lower them more quickly than when they're full, improving throughput. "Thirty years ago, that kind of stuff was fantasy," Gaskell says.

Rollers that move items on racking or shelving for packaging also are changing. For instance, along with the standard roller system that uses gravity to move items on racking, a new solution incorporates individual rollers that can accommodate different box types, says Brian Chen, product manager with Unex Manufacturing, an order picking solutions provider.

### **ROBOTS NEED TO BE PROGRAMMED TO WORK WITH A WMS SO THEY COMPLEMENT, RATHER THAN INTERFERE WITH, OTHER EQUIPMENT.**

This allows shippers to accommodate a mix of box sizes without spending time straightening boxes.

Furniture maker La-Z-Boy continually monitors innovations in the materials handling space. One that's of interest is the use of artificial intelligence to facilitate the movement of goods. For instance, software can schedule materials

to arrive where they're needed, just as they're needed, minimizing bottlenecks and inefficiencies. "It's a great example of how technology is integrated to manufacturing," says Darrell Edwards, the company's senior vice president and chief supply chain officer.

Another example is automated equipment, such as automated guided vehicles (AGVs), due to their ability to enhance employee safety—a priority at La-Z-Boy. The potential cost savings also are key. Edwards notes that moving parts or product throughout buildings is a non-value-added activity. Shifting this work to machines will provide "the opportunity to re-purpose talent in areas where more customer value can be created," he says.

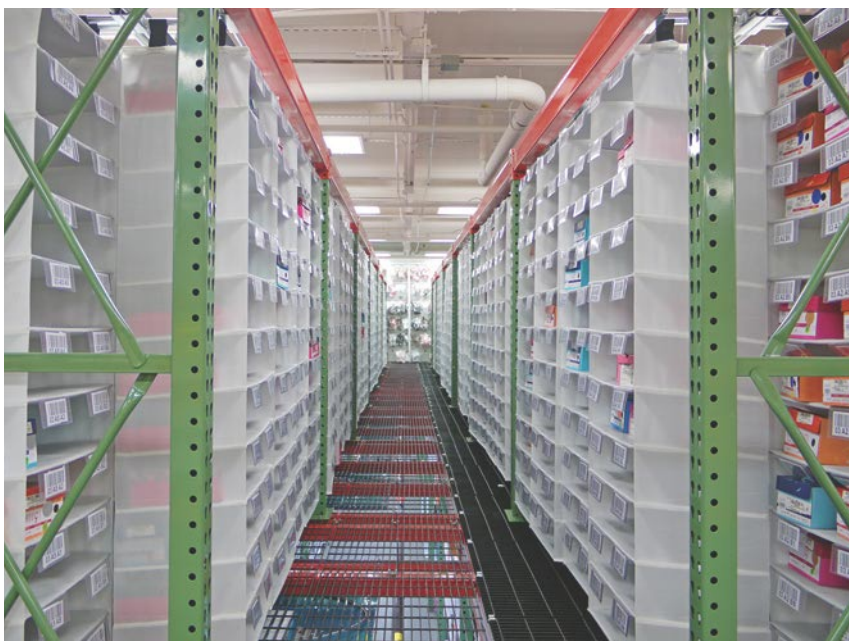
While the concept of an autonomous forklift—essentially an AGV—has been around since the 1950s, recent improvements in the adaptability, navigation, and flexibility of the technology, as well as lower costs, are boosting adoption, says George Prest, CEO of MHI, a materials handling, logistics, and supply chain organization.

### **FUELING FORKLIFTS**

The energy that powers forklifts also has advanced from lead acid batteries, which are the same kind used in cars, to alternative fuel cells, and now to lithium ion batteries. The advantages? Lithium ion batteries charge more quickly, require less maintenance, and hold a charge longer. The drawback to lithium ion batteries had been cost, but that is coming down, Gaskell says.

Goods-to-person solutions, in which robots, typically directed by an order management system, bring containers filled with SKUs to employees who pick the items needed to fill orders, are gaining ground. They can reduce the distances employees must travel through a warehouse, boosting productivity. "Instead of picking 150 pieces per hour, employees can do 500 to 600 pieces per hour because they're not wandering the warehouse," Ruehrdanz says.

Going one step further are goods-to-robots solutions. As their name implies, these robots fill orders by



**SpeedCell, a high-density storage solution from UNEX, maximizes warehouse space, speeds order picking, and increases accuracy by optimizing unused rack space.**

picking items from donor totes, a process that's "very repeatable and ideal for robots," Ruehrdanz says. The solutions have moved past development and into commercialization.

Moreover, robots can complement existing materials handling systems. This is key, because even though many companies need more flexible materials handling solutions to accommodate a growing volume of e-commerce orders, few can justify simply ripping up solutions in which they've invested large sums of money.

#### APPLY AI

Robots also can apply artificial intelligence to learn a warehouse environment so they can navigate it autonomously and adapt to changes in the layout, says Lior Elazary, chief executive officer with Invia Robotics.

To be sure, the success of these solutions often varies with the type and variety of items to be picked. For instance, health and beauty products tend to be both lightweight and boxed, making them easier for many robots to manipulate than clothing packaged in slippery plastic bags.

Most robots still lack fine manipulation skills, at least at a cost that makes sense for most applications. That may change as labor costs rise and the costs of the

solutions drops. Depending on the items they're handling, robots might use grippers, suction, or pneumatic devices to move goods.

complement, rather than interfere with, other equipment, Chen says. He notes that many robot developers provide software engineers that work

with companies to link the robots with the warehouse management system.

Companies introducing goods-to-robots solutions are best served by starting with products, like health and beauty items, that are "going to be rock solid," Ruehrdanz says. After showing the solution's effectiveness, they can move to more complex products and packages.

Another key to success is "modular, standardized sub-systems," Ruehrdanz says. By reducing customization, companies gain more predictable performance, shorter implementation schedules, and easier system reconfiguration when business changes, he notes.

Finally, even as technology advances, people remain essential. "For a project to be effective, it still comes down to people," Edwards says. The key stakeholders need to understand the problem you're trying to solve and should have a seat at table where their voices can be heard.

"It's ironic but true," Edwards notes.

"Regardless of how automated the systems, success or failure lies with the people side of the business." ■

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Robots also need to be programmed to work with a company's warehouse management system so they



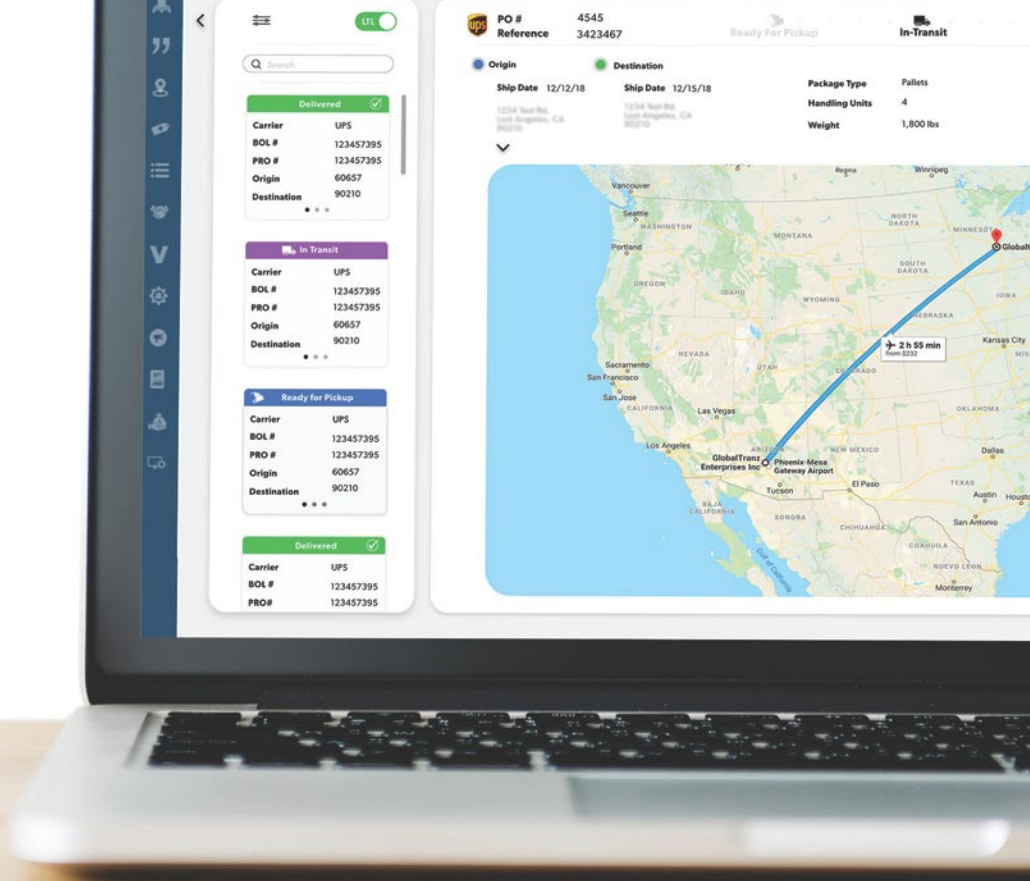
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# CHOOSING A TMS: HOW TO MAKE THE RIGHT MOVE

WHAT FEATURES DO YOU NEED?

WHAT BENEFITS ARE YOU LOOKING TO GAIN?

HOW MUCH SHOULD YOU SPEND?

ANSWERING THESE QUESTIONS WHILE  
MANAGING THE IMPLEMENTATION PROCESS  
PRUDENTLY IS CRUCIAL TO SELECTING THE  
RIGHT TRANSPORTATION MANAGEMENT  
SYSTEM FOR YOUR ORGANIZATION.

BY TOM GRESHAM

Transportation management systems (TMS) offer major potential benefits to shippers in the supply chain, but only when companies use due diligence to select a solution that is an optimum fit for their profile and needs.

The right TMS offers both savings and process improvement.

"Everyone will see value in a TMS," says Mark Nix, senior vice president of transportation and founder of Cloud Logistics, an Atlanta-based provider of transportation management solutions. "Many will say that having visibility to inventory in motion enables them to reduce safety stock while improving customer satisfaction, which is priceless.

"Selecting the best carriers for every contracted move can save 2% to 5% of freight spend," he adds. "Automating the match-pay process can save an additional 2% while streamlining accounts payable and giving the chief financial officer real-time freight accruals."

Sending spot quotes via email to 50 carriers can take a great deal of time; a TMS can automate that exercise, saving several percentage points. A reporting module within the TMS can instantly identify opportunities for cost improvement. "You can improve anything you can measure," Nix says.

Before you can realize these types of gains, you must choose the TMS that is the best fit for your operation. The options are wide-ranging.

#### HOW TO PRIORITIZE

Companies should consider the necessary key features when weighing new TMS options. Depending on an organization's priorities, these features could include:

- Inbound and outbound shipment visibility with alerts
- Carrier selection and rating
- Planning and route optimization
- Match-pay and carrier settlement
- Instant messaging for each shipment
- Cloud-based portals for all trading partners, carriers, brokers, and third-party logistics partners
- Reports/dashboards
- Mobile apps for drivers

Organizations should seek systems that are easy to use and deploy, and that will deliver a quick return on investment.

When weighing new TMS options, getting hung up on features sometimes can distract from key considerations. Organizations should avoid emphasizing features and instead focus on "the business problem, the key opportunity area," recommends Geoffrey Milsom, senior director of transportation strategy and consulting services for enVista, a global consulting and software solutions firm based in Indianapolis.

For instance, a company that manages thousands of monthly shipments shouldn't disqualify a TMS solution because it can't integrate a handful of those movements. Companies shouldn't be intent on "a perfect-world situation," Nix says.

"A great TMS solution built to handle

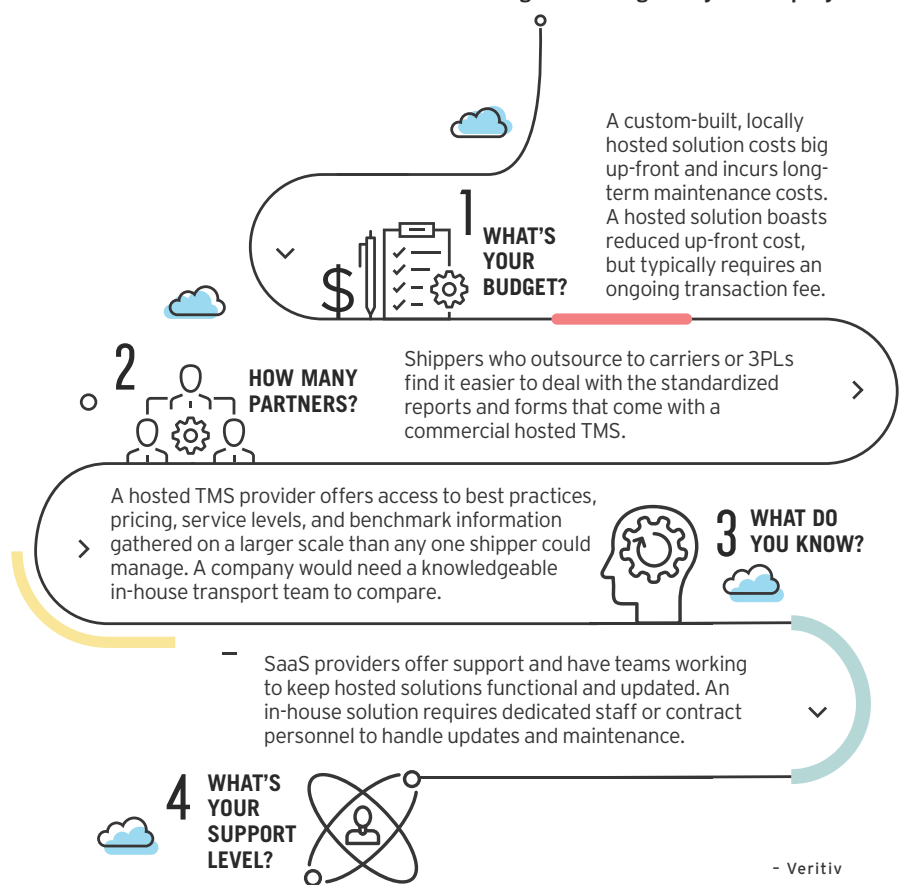
the largest global shipper's requirements is expensive to deploy and too hard to configure for everyone else," Nix says. "Companies searching for a TMS should prioritize their extensive wish list of desired features and weigh it against the actual return." It's common for a company to purchase a complex system and not use it to its full capabilities.

Any system that is implemented should have a business case to support it. When Milsom considers TMS features for a client, for instance, he points to optimization as a feature with a clear business case, whether a shipper is working with a fleet of vehicles or moving less-than-truckload shipments or whether they are managing scenario analysis or live orders.

"There's a lot of money to be saved by using an optimization engine properly," Milsom says.

## DO YOU NEED A HOSTED OR IN-HOUSE TMS?

Here are four factors to consider when deciding which is right for your company:



- Veritiv

Prestage Foods, a North Carolina-based producer of pork and poultry products, recently implemented the Cloud Logistics by E2open TMS. The company was opening a new facility and needed a TMS to deploy quickly.

“The system had to be easy to use so our carriers and our poultry logistics team could adopt it without much training,” says Crystal Hill, director of supply chain and logistics at Prestage Foods.

It was critical for the TMS to scale as Prestage’s needs grew.

“When we open a new facility, we start with a few truckloads per day,” says Hill. “But that will grow to more than 50 truckloads daily within the first year and double to 100 daily trucks when we add a second shift.

“Whether it’s managing a few truckloads a day from one shipping location or hundreds across multiple locations, the TMS supports our business today and into the future at an effective price,” she says.

#### MANAGING THE PROCESS

It is important to not rush when selecting a TMS. Companies should establish a realistic timeline and be disciplined during the decision-making process.

“The objective is to choose a system that lasts for the next five to 10 years and that provides a return on investment in less than 18 months,” Milsom says. “The right TMS also should save between 3% and 7% of transportation costs. Those benefits are important, so you should take the time to do it right.”

A new TMS can make a large impact on the organizational side of a business. “Activities change, processes change, the way you support the tool changes,” Milsom says. For that reason, companies should take a bottom-up approach to implementing a TMS. Instead of identifying a date and pushing toward it, organizations should begin with the details and work to determine a prudent timetable.

Firms should build a team that includes the TMS’s “super users.”

## 10 FACTORS TO CONSIDER BEFORE CHOOSING A TMS

**1. Understand current and future needs.** Don’t pay for more features than you need to run your business. Find a TMS that offers a building block or modular approach, enabling you to scale and add functionalities when it makes sense.

**2. Get the best of both worlds: carrier and broker.** You may work with a truckload carrier, a brokerage, or both. These may be separate or blended, and the TMS should be flexible to adapt. For example, a carrier is paid to haul a load. A broker earns income from commissions on each load. Each line’s tight margins mean a TMS should maximize efficiencies of both.

**3. Know the integrations available.** From EDI to trailer tracking and beyond, look for a TMS that integrates with complementary tools and services that meet your unique business needs.

**4. Secure regulatory compliance.** Avoid costly errors in areas such as maintenance, driver logs, and driver records with integrated tools to manage DOT compliance.

**5. Consider the electronic logging device (ELD) mandate.** The Federal Motor Carrier Safety Administration requires the trucking industry to implement ELDs for accurate hours-of-service tracking. Confirm your TMS offers the integration, visibility, and reporting capabilities that make this possible.

**6. Pick a third-party accounting package.** Look for a TMS that offers gold-level integration with your existing system, such as QuickBooks or Sage. This combination seamlessly automates billings.

**7. Seek a proven system.** Ask vendors for case studies or references from companies similar to your own. TMS vendors should have real-world examples of how they meet specific needs, such as running a certain type of trailer or hauling a commodity that requires special parameters.

**8. Remember your customers.** Choose a TMS that helps with timely and accurate customer communication. Look for options with a secure, online portal where customers can view load status in real time.

**9. Spend less time worrying about infrastructure.** Businesses are built on reputation just as much as on their services. The right TMS earns trust by proactively addressing customer-facing issues such as late loads and dock time schedules.

**10. Be business intelligent.** A good TMS provides business intelligence data such as deadhead percentage, revenue per loaded mile, and on-time percentage to analyze how to improve processes.

– Joe Couto, COO, HighJump



The team determines priorities, defines problems and the business case, and considers organizational changes needed to support the TMS. Companies should develop scenarios to see how prospective TMS solutions handle them, putting the onus on vendors to not just show off their features but also to demonstrate their

systems' capabilities to support an organization's process.

"A successful implementation is about taking the right amount of time, involving the right people, and focusing on the right level of detail," Milsom says.

Organizations sometimes are lulled into selecting a vendor because of an ongoing relationship. But existing

relationships don't necessarily make for a smoother integration.

The buying power that leads to better pricing also is overblown. "We've learned and we preach that price doesn't matter," Milsom says. "One TMS vendor being 10% higher or lower in cost than another vendor doesn't matter as much as the system being the best fit." ■

## THE 3PL ALTERNATIVE

**Shippers can gain access to transportation management system functions through their third-party logistics (3PL) providers. Here are just a few of the many 3PLs offering TMS either as a standalone option or as part of their outsourced transportation service.**

### APL LOGISTICS

*apllogistics.com*

**PRODUCT:** ShipMax Alliance

**PLATFORM:** Hosted on the vendor's website

**DESCRIPTION:** Streamlines collaborative shipping and increases transport efficiency. Pairs freight with compatible partners, shipping to common customers and destinations, for improved load utilization and delivery optimization.

### COYOTE LOGISTICS

*coyote.com*

**PRODUCT:** Collaborative Transportation Management

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Provides solutions to fulfill shippers' specific business needs, including network engineering, data consulting, order

management and consolidation, mode and route optimization, bid management and analysis, training, reporting dashboards, and project management.

### DHL SUPPLY CHAIN

*logistics.dhl.com*

**PRODUCT:** Transportation Management System

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Provides order consolidation, optimization, and real-time tracking through direct carrier and fleet integration. Reduces transportation costs, improves performance, and increases customer satisfaction.

### ECHO GLOBAL LOGISTICS

*echo.com*

**PRODUCT:** EchoTMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Leverages AI, machine learning, and load matching algorithms to create a flexible and effective system for shippers, carriers, and managed transportation clients.

### J.B. HUNT TRANSPORT

*jbhunt.com*

**PRODUCT:** J.B. Hunt 360

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Allows shippers and carriers to engage in a marketplace for freight matching, gain visibility into their supply chain, and access features that streamline day-to-day operations.

### PLS LOGISTICS SYSTEMS

*plslogistics.com*

**PRODUCT:** PLS Pro TMS

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Features truckload and LTL shipment management, including back-office and document management, with tendering to simplify the truckload carrier selection process.

### SEKO LOGISTICS

*sekologistics.com*

**PRODUCT:** Gelnius

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Offers a carrier rate shop function, reduces transportation costs, integrates carriers, reduces manual errors, optimizes lanes and mode selection, rationalizes administration overhead, and reduces track-and-trace resources.

### SUNSET TRANSPORTATION

*sunsettrans.com*

**PRODUCT:** FreightLOGIK

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Provides the ability to quote, ship, and track LTL shipments 24/7 online. Improves service times and boosts savings and supply chain efficiencies.

### TMC, A DIVISION OF C.H. ROBINSON

*mytmc.com*

**PRODUCT:** Managed TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Provides global visibility, mode and route optimization, shipment tender, freight payment, language/currency capabilities, and business intelligence. Serves all modes and regions.



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*Some leading vendors in the TMS market.*

## 360Data

[360data.com](https://360data.com)

**PRODUCT:** 360data TMS

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Integrates with ERP systems or operates as a standalone. Full functionality without large capital investment.

## 3Gtms

[3gtms.com](https://3gtms.com)

**PRODUCT:** 3G-TM

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Manages the full order-to-cash transportation cycle for 3PLs, brokers, freight forwarders, and shippers.

## 4flow

[4flow.com](https://4flow.com)

**PRODUCT:** 4flow Vista

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Integrates supply chain optimization and transportation management – from strategic design to tactical planning and daily execution, including claims. Offers individual shipment and route optimization.

## Acuitive Solutions

[acuitivesolutions.com](https://acuitivesolutions.com)

**PRODUCT:** Global TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Targets the international ocean, dray, airfreight, and inbound small package execution needs of large- and mid-sized shippers and retailers.

## Agistix

[agistix.com](https://agistix.com)

**PRODUCT:** Agistix

**PLATFORM:** Cloud based

**DESCRIPTION:** Monitors, manages, and measures inbound, outbound, and third-party shipments across all carriers and modes.

## ALC Logistics

[alclogistics.com](https://alclogistics.com)

**PRODUCT:** AlchemyTMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Helps address transportation demands by simplifying multi-pick/multi-drop, change orders, spot bids, and appointment scheduling.

## Amber Road

[amberroad.com](https://amberroad.com)

**PRODUCT:** Global Trade Management Platform

**PLATFORM:** Cloud based

**DESCRIPTION:** Evaluates different options on international moves, calculates accurate total landed costs, performs freight audits, identifies discrepancies, and provides performance management analytics and reports.

## Alpega

[alpegagroup.com](https://alpegagroup.com)

**PRODUCT:** Alpega TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Enables shippers, 3PLs, and carriers to manage end-to-end logistics processes. Sources, plans, optimizes, executes, settles, and analyzes all transportation workflows to reduce freight spend.

## AndSoft

[andsoft.com](https://andsoft.com)

**PRODUCT:** e-TMS

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Includes the whole process of transporting goods in which all departments of the company are involved, from order entry to the transfer to accounting, including planning-dispatching, execution tracking, invoicing, and reporting KPI phases.

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## AR Traffic Consultants

[artraffic.com](http://artraffic.com)

**PRODUCT:** CalcRate

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Allows users to see shipment costs before shipping, consolidate shipments, and perform advanced analytics to visualize and control their freight spend.

## AscendTMS

[theFreeTMS.com](http://theFreeTMS.com)

**PRODUCT:** AscendTMS

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Manages logistics and distribution operations with the same technology to ensure control over daily freight movements.

## Blinco Systems

[3rdwave.com](http://3rdwave.com)

**PRODUCT:** 3rdwave gTMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Features an integrated solution for global transportation management and control. Includes freight contract management, shipment planning and booking, execution, and freight auditing.

## Blume Global

[blumeglobal.com](http://blumeglobal.com)

**PRODUCT:** Blume Visibility

**PLATFORM:** Cloud based

**DESCRIPTION:** Combines TMS features with a global trade management system and real-time tracking to provide end-to-end logistics data.

## BluJay Solutions

[blujaysolutions.com](http://blujaysolutions.com)

**PRODUCT:** Transportation Management Software

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Provides process automation and collaboration in a single workflow for freight moves across all modes.

## Carrier Logistics

[carrierlogistics.com](http://carrierlogistics.com)

**PRODUCT:** FACTS: TMS

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Helps manage dispatching, freight bill entry, mobile communications, call logging, general ledger, and Internet tracing.

## CargoSmart Limited

[cargosmart.ai](http://cargosmart.ai)

**PRODUCT:** CargoSmart Transportation Management

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Provides global shipment management solutions for collaboration, visibility, and predictive insights that leverage artificial intelligence and IoT to optimize supply chain planning and operations.

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## CDM Software Solutions

[cdmsct.com](http://cdmsct.com)

**PRODUCT:** CDM Web Freight

**PLATFORM:** Cloud based

**DESCRIPTION:** Includes air, ocean, export, import, document management, global shipment compliance, global shipment tracking, and air/ocean carrier EDI integration.

## Cerasis

[cerasis.com](http://cerasis.com)

**PRODUCT:** Cerasis Rater

**PLATFORM:** Cloud based

**DESCRIPTION:** Includes a web-based TMS for over-the-road transportation with modules for reverse logistics, e-commerce, and vendor portals.

## Cheetah Software Systems

[cheetah.com](http://cheetah.com)

**PRODUCT:** Cheetah LOOP

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Allows users to build and dispatch optimized route plans. Plans around all variables and constraints, providing users with the ability to assess impact and analyze route alternatives.

## ClearDestination

[cleardestination.com](http://cleardestination.com)

**PRODUCT:** Delivery Management Solution

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Features end-to-end delivery management solutions for manufacturers, retailers, and carriers.

## ClearTrack

[cleartrack.com](http://cleartrack.com)

**PRODUCT:** Clarity Shipment & Order Visibility

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Allows manufacturers, brands, and retailers to track goods, orders, and shipments from origin to destination anywhere in the world with geo-maps, dashboards, and business analytics.

## Clearview Audit

[clearviewaudit.com](http://clearviewaudit.com)

**PRODUCT:** TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Provides real-time control over freight carriers in one portal, accessible online from all client-designated users.

## Cloud Logistics

[gocloudlogistics.com](http://gocloudlogistics.com)

**PRODUCT:** Cloud Logistics TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Reduces freight costs and offers a user experience that optimizes carrier selection.

## Command Alkon

[commandalkon.com](http://commandalkon.com)

**PRODUCT:** TrackIt

**PLATFORM:** Licensed to user (installed locally)

**DESCRIPTION:** Offers GPS truck tracking and telematics, fleet and workforce management, analysis and optimization, real-time mapping, and truck tracking specifically for the heavy building materials industry.



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## CT Logistics

[ctlogistics.com](https://ctlogistics.com)

**PRODUCT:** FreitRater

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Provides global freight quotes from multiple carriers in all modes, least-cost analysis, automated shipment execution, real-time status information reporting, and searching and data mining.

## CTSI-Global

[ctsi-global.com](https://ctsi-global.com)

**PRODUCT:** TMS

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Empowers U.S. and global shippers and 3PLs to plan and execute transportation and fully integrate with CTSI-Global's freight audit and payment, business intelligence, and managed services.

## Descartes Systems Group

[descartes.com](https://descartes.com)

**PRODUCT:** Descartes Transportation Management

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Modular solution with standard and advanced functionality for transportation operations of any size. Leverages the Descartes Global Logistics Network to connect carriers and trading partners.

## Ehrhardt Partner Group (EPG)

[epg.com](https://epg.com)

**PRODUCT:** LFS.tms

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Coordinates warehousing and transportation. Integrates with EPG's Warehouse Management System LFS, managing and controlling logistics processes from a single system.

## Elemica

[elemica.com](https://elemica.com)

**PRODUCT:** Elemica MOVE

**PLATFORM:** Cloud based

**DESCRIPTION:** Helps companies connect and collaborate with logistics service providers for execution, visibility, site logistics, and freight cost management.

## Emerge TMS

[emergetms.com](https://emergetms.com)

**PRODUCT:** Private Freight Marketplace

**PLATFORM:** Hosted on the vendor's website

**DESCRIPTION:** Allows users to access the lowest rates on live capacity by expanding partner networks and connecting to thousands of verified carriers and brokers.

## Eyefreight

[eyefreight.com](https://eyefreight.com)

**PRODUCT:** Eyefreight SaaS TMS

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Provides a single platform for central coordination and detailed data visibility over complex transportation operations to reduce costs, increase service levels, and ensure sustainability.

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## Fortigo

[fortigo.com](https://fortigo.com)

**PRODUCT:** TMS & Freight Audit Software

**PLATFORM:** Cloud based

**DESCRIPTION:** Provides an on-demand TMS, freight audit, vendor portal solution. Products are based on a carrier-neutral platform.

## Freightgate

[freightgate.com](https://freightgate.com)

**PRODUCT:** Freightgate TMS

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Features ocean and air TMS, global visibility, truck dispatch, ISF filings, solas VGM, and customizable processes.

## Freightview

[freightview.com](https://freightview.com)

**PRODUCT:** Freightview

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Helps small and mid-sized businesses streamline quoting, booking, tracking, and reporting for LTL shipments. Supports multiple users and API access.

## GlobalTranz

[globaltranz.com](https://globaltranz.com)

**PRODUCT:** GTZconnect™ TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Features an enterprise TMS for shippers, 3PLs, and carriers. Provides multi-mode rating, routing, optimization, and visibility with asset/carrier management, predictive analytics, integration, and freight pay and audit.

## GTG Technology Group

[gtgtechnologygroup.com](https://gtgtechnologygroup.com)

**PRODUCT:** Intermodal Management System and Extension

**PLATFORM:** Cloud based

**DESCRIPTION:** Features an enterprise TMS for shippers, 3PLs, and carriers. Provides multi-mode rating, routing, optimization, and visibility with asset/carrier management, predictive analytics, integration, and freight pay and audit.

## Haven

[haveninc.com](https://haveninc.com)

**PRODUCT:** Haven TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Provides singular shipping capabilities with one platform that includes booking, tracking, data analysis, and payment to allow global shipping teams to work more efficiently and reduce costs.

## HighJump

[highjump.com](https://highjump.com)

**PRODUCT:** HighJump TMS

**PLATFORM:** Licensed to user (installed local), cloud based

**DESCRIPTION:** Offers a single platform for transportation and logistics management for truckload carriers, freight brokers, and outsourced logistics providers.

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## Highway 905

[highway905.com](http://highway905.com)

**PRODUCT:** Highway 905 Transportation Management System

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Provides an end-to-end suite for carrier selection, load optimization, freight pay audits, and more, along with on-demand business-specific customization.

## Infor

[infor.com](http://infor.com)

**PRODUCT:** Network Transportation Management

**PLATFORM:** Cloud based

**DESCRIPTION:** Control tower orchestration provides multi-modal transportation visibility and synchronized, multi-party, multi-leg planning, in addition to freight procurement and optimized, automated execution.

## Intellect Technologies

[intellecttech.com](http://intellecttech.com)

**PRODUCT:** Intellect eFreight

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Manages shipping and logistics operations securely and profitably. Covers ocean, air, and ground modes, and can be implemented regionally or globally.

## IntelliTrans

[intellitrans.com](http://intellitrans.com)

**PRODUCT:** IntelliTrans TMS

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Provides complete operational, visibility, and analytical capability, and integrates with TransCore's fixed and handheld readers.

## JDA Software Group

[jda.com](http://jda.com)

**PRODUCT:** Transportation Management

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Helps infuse value and visibility into transportation and logistics networks by facilitating an end-to-end intercontinental planning process to manage transportation lanes for intercontinental moves.

## Kuebix

[kuebix.com](http://kuebix.com)

**PRODUCT:** Kuebix TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Enables companies to capitalize on supply chain opportunities through visibility, control, and the use of predictive analytics.

## Logility

[logility.com](http://logility.com)

**PRODUCT:** Logility Voyager Solutions

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Automates multi-modal shipment planning, execution, and freight accounting. Supports automated, unattended operation by monitoring activities with real-time alerts. Analyzes productivity using KPIs to deliver reports.

## Logistix Solutions

[logistixsolutions.com](http://logistixsolutions.com)

**PRODUCT:** Logix

**PLATFORM:** Licensed to user (installed locally)

**DESCRIPTION:** Incorporates robust transportation planning and distribution network optimization for freight management routing and scheduling, LTL shipment consolidation, load optimization, mode selection, backhaul optimization, and driver/vehicle scheduling.



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## Logistyx Technologies

*logistyx.com*

**PRODUCT:** Logistyx TME

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Combines advanced business intelligence and a global network of 8,500+ carrier services to enable on-time delivery and increase revenue per shipment.

## Made4net

*made4net.com*

**PRODUCT:** SCExpert platform

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Includes a suite of integrated warehousing and transportation modules that can be individually deployed, modified, or combined as needed based on business requirements.

## Manhattan Associates

*manh.com*

**PRODUCT:** TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Improves carrier collaboration and connectivity, delivering network-wide visibility to enable strategic and operational planning, execution, and real-time route adjustments to improve efficiencies.

## MercuryGate

*mercurygate.com*

**PRODUCT:** TMS

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Manages all stages of the transportation lifecycle – planning, selling, execution, and settlement.

## Navigate

*navigate.com*

**PRODUCT:** Navigate

**PLATFORM:** Cloud based

**DESCRIPTION:** Includes a software platform for supply chain, logistics, customs, transportation, and vendor management. Provides API and full customer integration and customization.

## Next Generation Logistics

*nextgeneration.com*

**PRODUCT:** DynamicsTMS

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Enables effective and efficient transportation decisions through a complete enterprise transportation management planning and execution suite.

## Nulogx

*nulogx.com*

**PRODUCT:** Transportation Management Solution Online (TMS-O)

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Helps users determine how to ship more efficiently, eliminate manual work, and receive information on transportation activity.

## nVision Global

*nvisionglobal.com*

**PRODUCT:** Impact TMS

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Offers visibility and management of global shipments and multi-modal solutions in a single, configurable package.

# [GUIDE] TRANSPORTATION MANAGEMENT SYSTEMS

Some leading vendors in the TMS market.

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## One Network Enterprises

[onenetwork.com](http://onenetwork.com)

**PRODUCT:** TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Optimizes, automates, and tracks the entire logistics lifecycle, from order to delivery, on a global network of 17,000 multi-modal carriers.

## Oracle

[oracle.com](http://oracle.com)

**PRODUCT:** Transportation Management Cloud

**PLATFORM:** Cloud based

**DESCRIPTION:** Manages all transportation activity throughout global supply chains. Supports shippers and 3PLs and is ideal for basic transportation needs and/or highly complex logistics requirements.

## Optimize Worldwide Transportation Solutions

[bit.ly/optimizeworldwide](http://bit.ly/optimizeworldwide)

**PRODUCT:** OPTIMIZE

**PLATFORM:** Cloud based

**DESCRIPTION:** Provides an end-to-end solution for domestic and international logistics. Analyzes the supply chain for savings, boosts efficiency, and cuts waste to optimize each shipment.

## Paragon Software Systems

[paragontruckrouting.com](http://paragontruckrouting.com)

**PRODUCT:** Routing and Scheduling Software

**PLATFORM:** Licensed to user (installed locally)

**DESCRIPTION:** Improves the efficiency of route planning by maximizing the use of all drivers and vehicles, reducing fuel costs, and improving the accuracy of ETAs.

## PLS Logistics Systems

[plslogistics.com](http://plslogistics.com)

**PRODUCT:** PLS Pro TMS

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Features truckload and LTL shipment management, including back-office and document management, with tendering to simplify TL carrier selection process.

## Pierbridge

[pierbridge.com](http://pierbridge.com)

**PRODUCT:** Transtream Parcel TMS

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Provides transportation visibility, omnichannel shipping, technology integration, and analytics to lower costs, increase delivery choices, and improve processes.

## Port TMS

[porttms.com](http://porttms.com)

**PRODUCT:** Port TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Improves automation of carrier management and document transaction, streamlines workflow with visibility, and eliminates mistakes with digital double check.

# [GUIDE] TRANSPORTATION MANAGEMENT SYSTEMS

*Some leading vendors in the TMS market.*

## Princeton TMX

[princetontmx.com](http://princetontmx.com)

**PRODUCT:** Transportation Management Software

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Provides tools to improve efficiency, freight spend, load planning execution, and settlement, as well as optimize carrier selection.

## Proship

[proshipinc.com](http://proshipinc.com)

**PRODUCT:** Transtream Parcel TMS

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Handles shipping automation, advanced rating, tracking, and business rule processing to reduce costs per shipment at increased scale of performance.

## QAD Precision

[precisionsoftware.com](http://precisionsoftware.com)

**PRODUCT:** International Shipment Execution and Global Trade Management

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Streamlines shipment execution, automates business processes, and handles freight payments. Allows users to rate, route, produce labels, and manage service levels for any shipment mode.

## Ramco Logistics Software

[ramco.com](http://ramco.com)

**PRODUCT:** Logistics ERP

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Works across a multi-modal transport network and manages all key processes covering shipment order management, planning, execution, documentation, and billing.

## RateLinx

[ratelinx.com](http://ratelinx.com)

**PRODUCT:** ShipLinx TMS

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Delivers global logistics management on a single platform for multiple shipments a day across all modes.

## Revenova

[revenova.com](http://revenova.com)

**PRODUCT:** RevenovaTMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Provides a multi-modal customer, carrier, and account management system all in one application.

## SaaS Transportation

[saastransportation.com](http://saastransportation.com)

**PRODUCT:** e-Transportation TMS Software

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Features a TMS developed around API and EDI, allowing connectivity to hundreds of carriers easily.



# [GUIDE] TRANSPORTATION MANAGEMENT SYSTEMS

Some leading vendors in the TMS market.

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## SAP

[sap.com](https://sap.com)

**PRODUCT:** SAP Transportation Management

**PLATFORM:** Hosted on the vendor's website, cloud based

**DESCRIPTION:** Combines capabilities for sales, supply, and inventory optimization to fulfill demand with real-time supply chain.

## Tecsys

[tecsys.com](https://tecsys.com)

**PRODUCT:** TMS

**PLATFORM:** Licensed to user (installed locally), cloud based

**DESCRIPTION:** Features transportation planning and execution software suitable to common carrier shipments or proprietary courier fleet.

## ShippersEdge TMS

[shippersedgetms.com](https://shippersedgetms.com)

**PRODUCT:** Transportation Management System

**PLATFORM:** Cloud based

**DESCRIPTION:** Provides an affordable and capable solution for small to mid-sized businesses.

## Teknowlogi

[teknowlogi.com](https://teknowlogi.com)

**PRODUCT:** LES

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Maximizes profits, increases productivity, eliminates bottlenecks, and creates a homogeneous logistics environment.

## Transporeon

[transporeon.com](https://transporeon.com)

**PRODUCT:** Transporeon

**PLATFORM:** Cloud based

**DESCRIPTION:** Offers a global collaborative platform for supply chain communication. Allows shipments to be automatically based on predefined guidelines or based on spot market assignment.

## Transportation Insight

[transportationinsight.com](https://transportationinsight.com)

**PRODUCT:** Enterprise Logistics Platform

**PLATFORM:** Cloud based

**DESCRIPTION:** Blends a proprietary and commercial platform to offer order, mode, route, and carrier optimization, shipment rating, execution and tracking, and process automation.

## TransportGistics

[transportgistics.com](https://transportgistics.com)

**PRODUCT:** TGI:TMS

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Provides simple, incremental solutions to improve, monitor, and enforce compliance among partners and across supply chains. Reduces, uncovers, and avoids excessive costs.

# [GUIDE] TRANSPORTATION MANAGEMENT SYSTEMS

*Some leading vendors in the TMS market.*

## TransTelligence

[transtelligence.com](http://transtelligence.com)

**PRODUCT:** ViaTMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Provides customized systems, system integration, and strategic consulting for 3PLs.

## Transwide

[transwide.com](http://transwide.com)

**PRODUCT:** TMS and Dock Scheduling

**PLATFORM:** Cloud based

**DESCRIPTION:** Cuts down on transportation management costs while streamlining and improving communication. Supports multiple languages.

## Trimble Transportation

[enterprise.trimble.com](http://enterprise.trimble.com)

**PRODUCT:** TMS Solutions

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Features end-to-end transportation solutions for 3PLs, fleets, and diversified operations. Includes full order-to-cash workflow, asset and/or carrier management, multi-mode rating and planning, web portal, EDI, and customer visibility.

## UltraShip TMS

[ultrashiptms.com](http://ultrashiptms.com)

**PRODUCT:** UltraShip TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Features a single-source solution for transportation and private fleet management, optimization, scheduling, and settlement for high-volume shippers, in food production, packaging, manufacturing, retail, and other industries.

## UROUTE

[uroute.net](http://uroute.net)

**PRODUCT:** UROUTE

**PLATFORM:** Cloud based

**DESCRIPTION:** Features procurement, visibility, bill audit, dynamic reports, multi-facility scalability, and carrier-driver management functions.

## WIN, Web Integrated Network

[gowithwin.com](http://gowithwin.com)

**PRODUCT:** Supply Chain Control Tower

**PLATFORM:** Licensed to user (installed locally), hosted on the vendor's website, cloud based

**DESCRIPTION:** Offers TMS functionality and access to the WIN marketplace of carriers.

## Zero Down Solutions

[zdscs.com](http://zdscs.com)

**PRODUCT:** TMS

**PLATFORM:** Cloud based

**DESCRIPTION:** Features parcel and freight transportation management systems that allow users to obtain quotes from carriers and initiate and track shipments with one login.

## THOUGHT LEADERS

# Strategies for Success Following Business Growth



**Mahmoud J. Alabbasi**

General Manager  
Hollingsworth LLC  
info@hollingsworthllc.com  
www.hollingsworthllc.com  
313-768-1400

Growth is exciting and generally means increased revenue, but it also presents some new and sometimes unique challenges to overcome, regardless of your industry. It can be difficult to expand operations in order to sustain the additional business.

You might also need to make changes to some processes in order to accommodate new or additional demands. And you might need to consider different technologies to facilitate improved operational optimization.

**Q:** *How can we serve customers better during a growth phase?*

**A:** Your customers are one of your most valuable resources, and one of the worst things you can do while your business is going through a growth spurt is deliver a bad experience. Focus on timely delivery, as well as prompt responses to questions or customer service issues and reasonable and fast resolution to any problems. Analyze any customer feedback or reviews, and if you don't normally get that kind of engagement from your customers, consider implementing some polls or surveys.

**Q:** *What are the trending strategies for reducing operational costs after growth?*

**A:** Technology has made it more possible than ever before to access in-depth information about our customers and their purchasing activity, as well as obtaining far greater insight into actual business operations. Big data can be used to cut operational costs through the integration of

digital tools and physical resources. This enables you to better serve your customers, automate applicable parts of the supply chain for improved speed and quality, improve performance beyond the capabilities of human workers, and manage costs—particularly in areas like marketing and logistics management.

**Q:** *How can the supply chain be optimized in order to boost success in the growth period?*

**A:** Flexibility is the first step, whether it's considering new ways to fulfill contracts and meet customer demands, or seeking new applications for your product (or service). Think carefully about new applications or opportunities, but don't be afraid of change. You can further optimize your supply chain by introducing automation and technology to speed up order fulfillment and ensure greater accuracy. By developing strategic sales planning and other methods, you can make your supply chain perform even better, while also reducing costs.

Your company may also benefit from outsourcing your supply chain management to a partner such as Hollingsworth, so that you can focus on your operations while we tackle the logistics using our expertise.

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Hollingsworth is a lead logistics provider to the manufacturing and distribution communities. The third-party logistics provider finely tailors its logistics systems, technology, and processes to meet the specific needs of a range of complex industries.



# Identifying the Role of Technology in Managed Transportation Services

**Q:** *What's the current state of technology within managed transportation services?*

**A:** Growing expectations from consumers and the “Amazon effect” continue to put pressure on today's supply chains to provide minute-by-minute location updates as goods are delivered directly to the doorstep of a customer within days or even hours. To successfully navigate this increasingly challenging supply chain landscape, shippers must have an optimal mix of managed services, strategic consulting, and technology, such as real-time visibility solutions, machine learning, and artificial intelligence.

**Q:** *What technologies are having the biggest impact on the industry?*

**A:** The technology landscape has evolved from what it was 10 or even five years ago. Today's forward-thinking companies are leveraging visibility technology to deliver real business value. This includes a universal managed transportation platform that can locate a shipment in real time—but also, more importantly, make data actionable once the information is received.

Advancements in machine learning and AI are enabling companies to successfully receive data, track locations, and then deploy an algorithm to extract value from the provided analytics. These capabilities are helping to improve customer service as shippers can be more proactive and alert their customers (and the end consumer) if a delivery will be late.

However, there are still a number of barriers for successfully implementing

these innovative technologies across the entire industry. Logistics technologies, such as transportation management systems (TMS), are still not fully adopted within the industry and some organizations still use pen and paper instead of automating processes. In addition, there is a diverse population of carriers, which creates varied, inaccurate, or missing data—making truly automating and optimizing certain processes difficult.

**Q:** *In the future, how will technology impact managed transportation services?*

**A:** Technology will continue to evolve and disrupt the transportation industry and will impact companies in different ways. Companies that couldn't get their business case to work will leave the marketplace, while those who've honed in on their technology's fundamentals rise to take their place at the top.

Strategic partnerships will likely also play a role in helping technology deliver greater value. For example, techniques such as load-matching boards and capacity-matching algorithms have struggled due to poor density. Within the next year or two, companies with density will partner with other organizations that need the support in order to thrive.

It's important to remember that even as new tools will continue to emerge, day-to-day operations teams still need to book trucks and ship freight, and customers will still need to make purchases. At the end of the day, there should continue to be a strong focus on excelling at current industry fundamentals, rather than being distracted by what may come down the road.



**Steve Barber**

Vice President, IT Customer Solutions  
Transplace  
[www.transplace.com](http://www.transplace.com)  
866-413-9266

## THOUGHT LEADERS

# Addressing the Most Pressing Needs Of the Warehouse



**John Carroll**

Vice President, Sales and Marketing  
Loading Dock Products  
Serco Entrematic  
serco@entrematic.com  
sercoentrematic.com  
800-933-4834

Food and beverage, industrial, and cold storage facilities are entering a new era as technological gains lead to new capabilities and new challenges. With improved equipment, those facilities are poised to feature a data-driven operation that is safer and more efficient—both reducing mistakes and more effectively managing resources. Improved technology and equipment also raise the possibility of reducing training time, avoiding confusion and miscommunication, and improving prompt equipment repair and maintenance.

**Q:** *What are the most pressing needs that warehouse equipment specifiers are addressing right now?*

**A:** Specifiers and facility managers are buying powered loading dock equipment, vehicle restraints, and unified controls at a higher rate than ever, along with enhanced dock sealing systems. Throughput per dock and safety and energy efficiency demands are driving those specifications.

Energy efficiency has been important in cold storage for many years but is now more important than ever in all facilities that offer some level of climate control or employee comfort. Fall protection at the dock has become a hot topic and the number of protective gates being purchased for the dock is skyrocketing.

**Q:** *How critical is it in today's demanding supply chain climate to incorporate new technological tools into one's warehouse operations?*

**A:** New technology tools are available that are too good to ignore when there is so much pressure to produce more output from the same warehouse footprint. The ability to collect data from warehouse equipment to drive efficiency gains is going to change our industry.

**Q:** *What is the optimum way for sectors such as food and beverage, cold storage, and industrial to centrally operate the various facets of a warehouse or distribution center?*

**A:** Those sectors are very interested in data and metrics to drive up time and efficiency. Loading dock control systems that feature intuitive, sequenced operation help improve efficiency and safety and reduce training needs.

Serco Digital Master Control Panels use a touchscreen Human Machine Interface (HMI) that will accomplish all of that. It gives you the ability to collect data to record time at dock to drive throughput gains and reduce trailer demurrage charges. It also provides the ability to determine equipment use cycles to improve efficiency and thus throughput.

We find that often a facility with 20 loading docks uses seven or eight of them very frequently and the rest only a fraction of the time, yet has bottlenecks. The HMI also gives you the ability to set and track equipment cycles to determine maintenance intervals and planning. Therefore, this new technology can drive real, tangible gains for facilities.

# Warehouse Focus as The Key to Optimizing Your Supply Chain

Supply chain optimization is impacted by early recognition of upcoming industry challenges and strong solutions to those challenges, including innovating in the warehouse, implementing an optimal TMS/WMS, and determining the best warehouse site.

**Q:** *How important is integrating your warehousing and transportation technologies?*

**A:** Ruan uses JDA for both our WMS and network design needs. RTMS2.0, Ruan's customized transportation management system technology, combines JDA with Oracle Transportation Management, our logistics software, and TMW, our dedicated fleet operations software, to provide our customers with a customized platform to best fit their needs. The integration of these three systems gives our customers visibility to their product during all stages of handling. JDA is at the forefront of this integration and will be vital to implementing the technological advancements the warehousing industry will be experiencing in the coming years.

More important than the software itself is the team of experts we have on staff to operate these applications. This team allows us to configure the JDA technology however our customers require, whether that includes cross docking, kitting, subassembly, and much more. Having our own in-house team to operate this WMS means we are not reliant on a third-party organization; instead, we can provide our customers with flexibility and real-time data, as well as cost savings.

**Q:** *How does a company determine the best warehouse location?*

**A:** Similar to the rather tight capacity the trucking industry is facing, available warehousing space is also becoming increasingly slim. In some markets across the U.S., there is little to no available warehousing space, so working with experts on site selection is key. My experience, along with that of my Ruan colleagues in different segments of the country, coupled with our powerful technology, helps us find the best existing facility or build site to optimize our customers' operations.

The country is also experiencing low unemployment rates, adding another challenge to running a successful facility. Ruan has the benefit of operating more than 300 locations across the country, so we are well-versed in what the local workforce seeks in an employer. We have found that attracting professional warehouse workers requires a competitive wage, modern technology, and a strong emphasis on worker safety.

**Q:** *What do you see as the biggest challenge facing the warehousing industry in the next five years?*

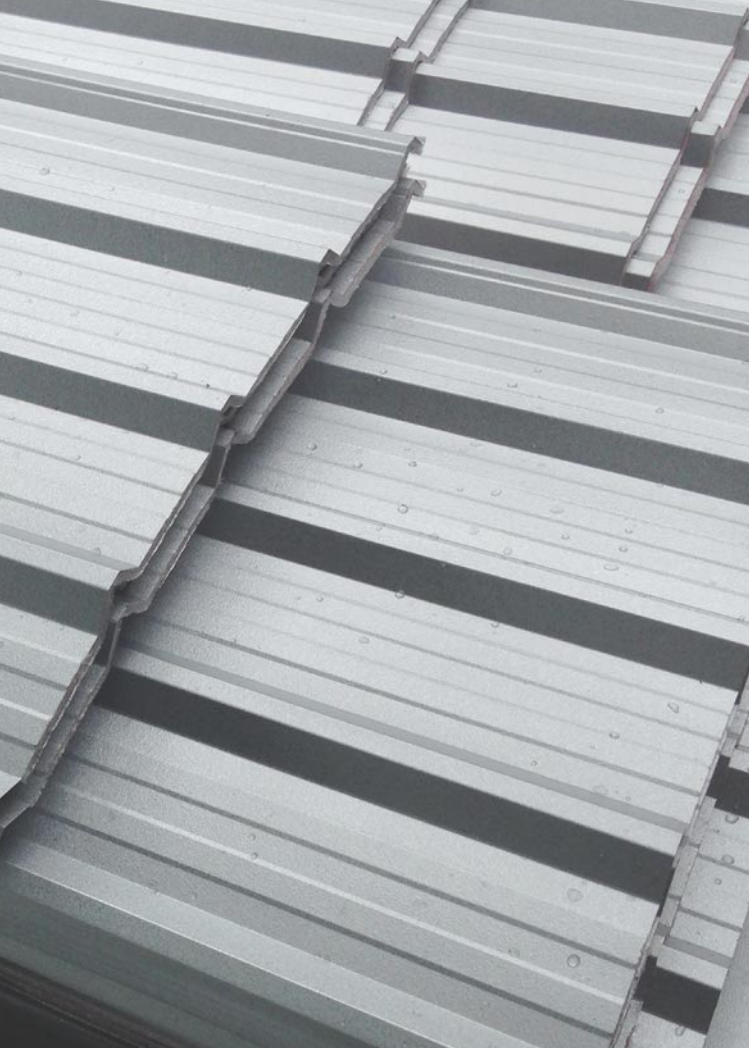
**A:** Staying abreast of the latest available technology will be important in the next few years. This includes investing financially in the best software and machines, obtaining and training team members to operate the technology, and having the ability to maintain the technology. Available facility space and labor will also be a significant challenge.



**Ryan Brown**

Vice President  
Integrated Solutions, Sales  
Ruan  
solutions@ruan.com  
www.ruan.com  
866-782-6669 ext. 1





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# YMS 2019 GUIDE

A yard management system (YMS) can provide significant benefits to your operation by managing shipments from the yard gate to the dock. A YMS provides real-time visibility into trailer locations and contents to drive efficiencies, improve decision-making, and reduce detention fees.

An efficient YMS includes:

- **Yard management.** Directs trailers to a specific location in the yard and tracks their movements to enable efficient retrieval and accountability.
- **Appointment scheduling.** Efficiently tracks and organizes inbound and outbound appointments to streamline capacity and reduce congestion.
- **Dock door management.** Directs assets to the right docks for unloading and loading.
- **Guard check-in and check-out.** Allows security guards to thoroughly check each trailer in or out of the yard.

This guide highlights some leading YMS providers to help you compile a short list of solutions that might best meet your needs.



# YARD MANAGEMENT SYSTEMS

*Some leading vendors in the YMS market*

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## 4SIGHT LOGISTICS SOLUTION

*4sightsolution.com*

### > 4SIGHT Yard Management

**Description:** Provides carrier management, gate management, dock door scheduling, yard truck management, yard visibility, and management reports.

**Platform:** Licensed to user (installed locally), hosted on the vendor's website, cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## C3 SOLUTIONS

*c3solutions.com*

### > C3 Yard

**Description:** A configurable execution and planning software that optimizes dock door turnaround times and yard moves.

**Platform:** Cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## COMPREHENSIVE LOGISTICS

*complog.com*

### > CLI YMI

**Description:** Combines materials management and inventory control as an extension of warehouse operations with ASN/EDI/ERP visibility.

**Platform:** Licensed to user (installed locally)

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## CYPRESS INLAND (YARDVIEW)

*yardview.com*

### > YardView

**Description:** Manages assets through an operation's entire lifecycle, including gates, docks, movements, drivers, scheduling, location, and historical information.

**Platform:** Licensed to user (installed locally), cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## DESCARTES SYSTEMS GROUP

*descartes.com*

### > Descartes Yard Management

**Description:** Tracks trailer and content movement across locations; accesses trailer history and driver and yard activity.

**Platform:** Licensed to user (installed locally), hosted on the vendor's website, cloud-based

**Features:** Real-time visibility to yard assets, dock scheduling, integration with external systems, dock management, mobile applications, exception alerts, trailer workshop management



# YARD MANAGEMENT SYSTEMS

*Some leading vendors in the YMS market*

## ELEMICA

[elemica.com](http://elemica.com)

### > Elemica Time Slot Management

**Description:** Reduces wait times and congestion at sites, smooths resource workload, and creates more consistent shipment lead times.

**Platform:** Cloud-based

**Features:** Real-time visibility to yard assets, dock scheduling, integration with external systems, dock management, exception alerts, operational reports

## HIGHJUMP

[highjump.com](http://highjump.com)

### > HighJump Yard Management

**Description:** Ensures end-to-end yard visibility and work direction for drivers, carriers, equipment, inventory, and hostlers.

**Platform:** Licensed to user (installed locally), cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports

## INFORM

[inform-software.com](http://inform-software.com)

### > SyncroTESS

**Description:** Allows users to interact with either a virtual yard map or a classic table data format to visualize yard data and processes.

**Platform:** Cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## EXOTRAC

[exotrac.com](http://exotrac.com)

### > YardTrac

**Description:** Schedules appointments and manages activities throughout the gate, yard, and dock doors.

**Platform:** Cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## INCONSO AG

[inconso.com/en](http://inconso.com/en)

### > inconsoYMS

**Description:** Covers complete yard functions from gate entry, ramp management, and parking lot management to tracking and tracing assets and goods.

**Platform:** Licensed to user (installed locally), cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports

## KUEBIX

[kuebix.com](http://kuebix.com)

### > Kuebix YMS

**Description:** Maintains carrier drop trailer agreements, carrier communication, and hostler work assignments and ensures optimal processes.

**Platform:** Cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, operational reports

# YARD MANAGEMENT SYSTEMS

Some leading vendors in the YMS market

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## MADE4NET

[made4net.us](http://made4net.us)

### > YardExpert

**Description:** Offers appointment scheduling, door assignments, gate check in/out, track and trailer movement in the yard, and yard driver task assignment.

**Platform:** Licensed to user (installed locally), hosted on the vendor's website, cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports

## PINC

[pinc.com](http://pinc.com)

### > PINC Yard Management System

**Description:** Provides real-time, data-driven, automated, integrated, and connected yard management capabilities.

**Platform:** Licensed to user (installed locally), hosted on the vendor's website, cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## SAP

[sap.com](http://sap.com)

### > SAP Yard Logistics

**Description:** Improves visibility, accelerates gate-in and gate-out processes, and uses assets and areas more efficiently.

**Platform:** Licensed to user (installed locally)

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## MANHATTAN ASSOCIATES

[manh.com](http://manh.com)

### > Yard Management

**Description:** Enables planning, execution, tracking, and auditing based on shipment type, load configuration, labor requirements, and dock/warehouse capacity.

**Platform:** Licensed to user (installed locally), hosted on the vendor's website, cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports

## ORACLE

[oracle.com](http://oracle.com)

### > Oracle Yard Management

**Description:** Manages and tracks the flow of trailers and their contents into, within, and out of yards.

**Platform:** Cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

# YARD MANAGEMENT SYSTEMS

*Some leading vendors in the YMS market*

## SENTIER SYSTEMS

[yardcommander.com](http://yardcommander.com)

### > Yard Commander

**Description:** Features a fully functional and easy-to-use platform with remote viewing capabilities.

**Platform:** Cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, exception alerts, operational reports

## TRACKX

[trackx.com](http://trackx.com)

### > GAME for Yard Management

**Description:** Provides automated management of transportation equipment and labor in distribution yards with real-time visibility and accurate task execution.

**Platform:** Licensed to user (installed locally), cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## ULTRASHIPTMS

[ultrashiptms.com](http://ultrashiptms.com)

### > UltraYMS

**Description:** Eliminates large capital outlay for hardware. Uses nearly any handheld wireless device over any existing WiFi or 3G connections.

**Platform:** Cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## YARD MANAGEMENT SOLUTIONS

[yardmanagementsolutions.com](http://yardmanagementsolutions.com)

### > Yard Management Solutions

**Description:** Streamlines visibility and provides realistic yard views, simplistic functionality, and analytics.

**Platform:** Licensed to user (installed locally), hosted on the vendor's website, cloud-based

**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports, trailer workshop management

## ZEBRA TECHNOLOGIES

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### > MotionWorks Yard

**Description:** Provides the location and movement of assets and resources in order to manage a safe and productive yard.

**Platform:** Cloud-based

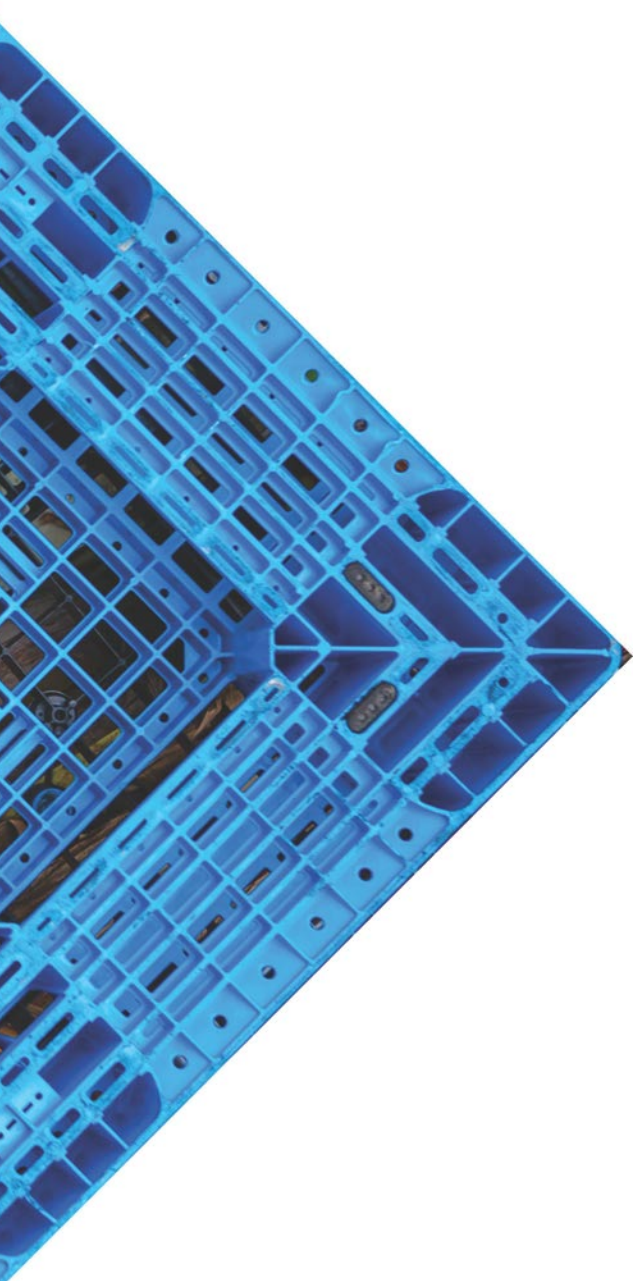
**Features:** Real-time visibility to yard assets, yard driver task optimization, dock scheduling, gatehouse management, integration with external systems, available as a standalone system, dock management, mobile applications, exception alerts, operational reports



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# PALLETS SUPPORT SUPPLY CHAIN STRATEGIES

## **NO MERE BEASTS OF BURDEN, PALLETS ARE A VITAL LOGISTICS LINK. OPTIMIZE YOUR SUPPLY CHAIN BY CHOOSING THE BEST PALLET FOR THE JOB.**



**W**ood pallets in all their forms have been the backbone of logistics operations for decades. But plastic pallets and other upstarts have gained ground to meet shipper demands for different applications.

Ultimately, there's a place in the logistics ecosystem for all types of pallets. Regardless of pallet type, however, shippers seek essential characteristics to move their goods safely and efficiently.

Durability tops the list. Pallets suffer a range of indignities, from being speared by forklifts to getting exposed to inclement weather. Yet shippers expect pallets to be ready to use at any time.

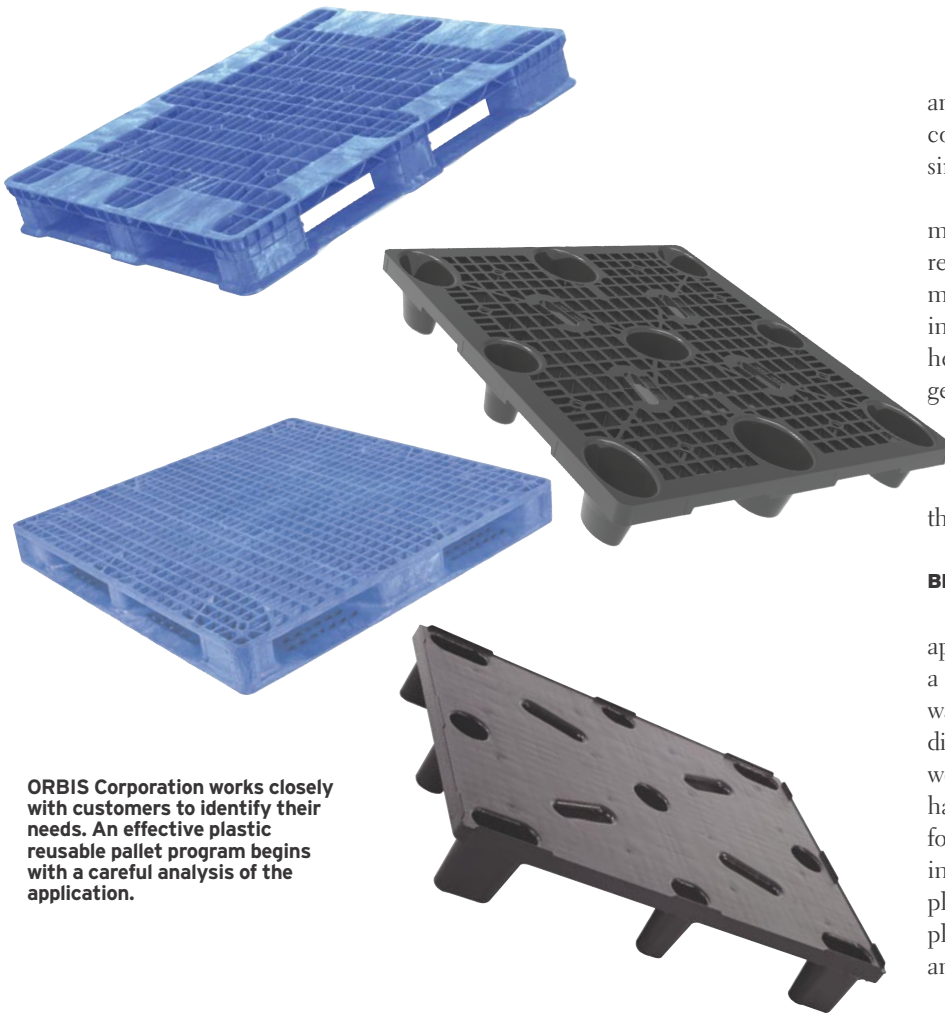
Strength is critical as well. The pallet must support the weight of the products that will be placed on it in stressful situations: on racks and lift truck forks.

Stiffness is a component of strength. The pallet must be suited to how it will be used. If you're storing heavy product on racks, the pallet can't sag under the weight. Otherwise, you could use a pallet with less stiffness that might also be less expensive.

The wood pallet is ubiquitous, with more than 2 billion in circulation carrying more than \$400 billion worth of American exports. Solid wood pallets are used by 93% of the 274 respondents to a recent industry study.

Wood pallets are seen as a sustainable and reusable





**ORBIS Corporation works closely with customers to identify their needs. An effective plastic reusable pallet program begins with a careful analysis of the application.**

component of logistics operations because they're repairable and recyclable. The U.S. Department of Agriculture views wood pallets as a core part of the bio-based economy. Research from Virginia Tech reports that 95% of wood pallets are recycled rather than dumped in a landfill.

Wood pallets are inexpensive, easy to manufacture, recyclable, and compatible with most existing materials handling equipment.

#### **WOOD ALTERNATIVES EXPAND**

While wood pallets will continue to dominate, expect to see other materials gain wider adoption due to changing market and regulatory conditions, according to the *Global Market Study on Pallets* from Persistence Market Research.

As the requirements for food safety compliance and reusability grow, plastic and other types of engineered pallets

will meet the demand for sustainable materials handling options. Non-wood pallets are expected to make further incursions into industries such as food and beverage, pharmaceuticals, groceries, and automotive.

About 45% of respondents to the Persistence Market Research survey also use plastic pallets, which are durable, resistant to insect infestation and weather conditions, and free of fasteners. However, they tend to be more expensive than wood pallets and aren't repairable at the same level. They can be custom designed for specific products or transportation requirements, as well as molded in custom colors. Shippers commonly use plastic pallets in pools or closed-loop operations to maintain control of the valuable asset.

Composite pallets are gaining ground, used by 18% of survey respondents. Designed to compete with the cost of a wood pallet and the cleanliness

and reusability of a plastic pallet, the composite pallet can handle loads similar to a wood pallet as well.

The last of the top four segments, metal pallets, are used by 10% of survey respondents. Due to their higher cost, metal pallets are most commonly used in closed-loop supply chains to move heavy products. They are durable and generally will not lose their shape under heavy loads or in extreme weather conditions. However, they are susceptible to corrosion if exposed to the elements.

#### **BEST SUITED**

In addition to cost, suitability for the application is a key element in choosing a pallet. With the growing adoption of warehouse automation, consistent pallet dimensions and shapes are critical. A wood pallet that's missing a stringer or had a corner knocked loose from the last forklift movement could cause a jam in an automated system. That's when plastic and composite pallets come into play with greater dimensional stability and resistance to damage.

Pallets are transforming into more than beasts of burden, becoming nodes on the Internet of Things. Connected pallets can help capture data, turning a pallet into a mini-warehouse providing information on location, temperature, rough handling, and other real-time updates.

Shippers will be able to see how long their loads are idle, when they may get misdirected, and whether there are any external conditions that could be harming products.

Reducing the time a pallet sits idle can speed delivery times and optimize the supply chain. Companies can monitor humidity and temperature from the other side of the world, maintaining the cold chain for pharmaceutical and food products.

#### **PALLETS GET SMARTER**

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\*In FasTrack testing completed at Virginia Tech, using the 40 x 48 RackoCell® pallet.



**The consistent size, shape, and weight of iGPS pallets are ideal for companies that have invested in industrial automation. Consistency leads to fewer obstructions and less downtime caused by equipment jams.**



provide multiple advantages over traditional wood pallets. iGPS takes a “comprehensive view of supply chain products and services to help our customers get their lowest total cost of business,” says Jeffrey Liebesman, chief executive officer.

Because they’re about 30% lighter than wood, iGPS pallets require less fuel for transport, leading to less pollution and fewer greenhouse gas emissions. To further reduce the environmental impact, iGPS molds any pallet that breaks into a new one.

Lighter pallets also reduce the risk of workplace injuries, even as they meet Grocery Manufacturers’ Association (GMA) and National Institute for Occupational Safety and Health (NIOSH) standards. Plastic pallets lack protruding nails or splinters that can injure workers or damage shipments. iGPS pallets don’t absorb liquids that can lead to contamination, are impervious to insects, and don’t require toxic fumigation or similar treatments.

The RFID tags embedded within iGPS pallets provide track-and-trace capabilities, so shippers and 3PLs can monitor shipment movement and gain real-time information on environmental changes, as well as notice of suspicious activity. By using information from the RFID tags and other data, iGPS can

help customers identify areas of potential savings or efficiency improvements. iGPS also manages pallet delivery and upkeep, including recycling, disposal, and regulatory compliance.

iGPS customers come from a range of industries. Those with products that are perishable or easily damaged typically benefit greatly from the company’s pallets and services. This includes food and beverage and pharmaceutical products.

In addition, companies that are investing in robotics or industrial automation will find the consistent size, shape, and weight of iGPS pallets lead to fewer obstructions and less downtime from equipment jams. “The more consistency in a system, the better it can be automated,” Liebesman says.

#### **AUTOMATION IN THE EQUATION**

When working with a customer that’s introducing intelligent industrial automation, iGPS first studies the company’s current processes and challenges, ideally through on-site visits and reviews of CAD drawings of the equipment on which the pallets will be used. A next step is developing the measures against which the pallets will be tested, and then testing them. iGPS also works with clients to quantify the forecasted benefits from the plastic pallets.

iGPS partnered with PURE Bioscience, Inc., a disinfectant manufacturer, to engineer an innovative pallet sanitization system. When a customer requests it, pallets are coated in an odorless, non-irritating, EPA-registered food contact surface sanitizer. This is done through a mist spray inside a trailer or container to quickly eliminate microorganisms.

The process reduces bacterial counts by more than 96%, exceeding industry standards and enabling customers to comply with the Food Safety Modernization Act requirement that transport equipment be sanitized to prevent food contamination.

“We are looking at every tool available to save on our customers’ bottom line, whether it’s the iGPS pallet itself or how it is utilized and transported,” Liebesman says.

Choosing the best pallet for the job requires an end-to-end view of the pallet’s journey. A shipment that moves from a manufacturer to a distribution center then to a retail location will often use the same pallet. But different steps in the supply chain could make use of different types of pallets that could ultimately improve efficiency.

The pallet loaded at the manufacturer’s site would be one chosen for load capacity and racking strength, which

are important at the distribution center. Then the load from the distribution center to the retail store could be lighter and smaller. Should the same pallet make the entire journey?

#### LOGISTICS STRATEGY DRIVES CHOICE

Perhaps the manufacturer must use wood pallets for loads going to the distribution center for weight and strength. But the loads to the retail center move on plastic pallets for lighter weight and smaller dimensions. Right now, the distribution center restacks the loads for the correct pallet. A thorough analysis could reveal that it's less expensive to convert the entire chain to plastic pallets, saving the labor costs of the restacking.

When selecting pallets, the key to success is picking the right tool for the job. Oconomowoc, Wisconsin-based ORBIS Corporation, which provides reusable plastic pallets, totes, dunnage, and bulk systems, undertakes a thorough evaluation of the environment and processes where its recyclable plastic pallets will be employed. Usually, ORBIS pallets are used in a closed or semi-closed loop application where the empty pallets are returned for reuse.

"We try to understand the application by conducting voice of the customer analysis, understanding what systems the pallet has to interface with and what the expected longevity of the assets will be," says Bob Klimko, director of business development for ORBIS. "We're in the reuse business, and so it only works if the pallets are reusable multiple times for multiple years."

Selecting the right pallet, or creating a custom version, is based on sanitation, equipment interface, weight load, and automation requirements within the supply chain. Reusable pallets in a loop arrangement must also use a reverse logistics supply chain to move the empties back to where they can be reloaded again.

"Everybody cares about what happens to their pallets when there's something on them," Klimko says. "But we have to care about empty assets and how they can be

prepared for reuse each time. If they're not, then our business model doesn't work."

Demand for pallets is shifting in response to trends and safety regulations. Hygienic applications are growing, based on the product being moved but also the conditions inside the facility where the pallets are used. Retailers are looking for smaller pallets to move goods in small-footprint stores.

"We have to work with the equipment, such as a pallet jack or a fork truck that's moving the pallet the last 50 feet," Klimko says.

For automated warehouse systems, plastic pallets can be adapted to fit existing configurations. "We have to work with the automation because nobody throws out their systems," Klimko says. "There might be various steps that we have to take to make it work."

Not all supply chains are suitable for reusable packaging moving in a loop system. The supply chain must have

adequate density and velocity to make it cost-effective to move the empty pallets for reloading.

It's vital to work with all the stakeholders in the supply chain, not just one group or element, to develop the best solutions. Pallets selected for retail merchandising may not fit with the distribution center's automated systems.

"If you're working with a product that's supposed to be optimized throughout the supply chain then stakeholder alignment is critical up front. You have to make sure that you're not trying to optimize one area of the supply chain and sub-optimize another."

The upfront analysis is worth the effort because once a pallet loop system is put in place, it can be challenging to change.

"It's better to go slow and methodically than to be hasty," Klimko says. "It's down and dirty work that we do to make sure our customers get the product protection and economic benefit they need." ■

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## Intermodal-friendly sites combine a strategic location with well-designed physical spaces.

Intermodal volumes grew by 5.6% in the United States in 2018, the most robust increase in the field in the past five years, according to the Intermodal Association of North America. In the face of tight truck capacity, the appeal of intermodal continues to grow for many shippers.

An organization can't just jump into intermodal, however. It needs access to a facility that can support an intermodal operation and its unique needs. As a result, real estate developers are physically enhancing facilities to accommodate shippers with intermodal aspirations, notes Ken Stratton, vice president of operations for intermodal marketing company Interdom LLC, a subsidiary of Odyssey Logistics & Technology Corporation.

"Expansion projects are starting to include additions that can better serve the intermodal market," Stratton says. The country's infrastructure is capable of handling the current intermodal volume but continued investment is needed.

"We see constant changes and upgrades throughout the country in different areas that serve the intermodal market, such as ocean terminal expansion or inland logistics centers," Stratton says. "Improvements in the intermodal infrastructure will benefit both shippers and logistics providers—it's a win-win."

A combination of factors can make a site appealing to intermodal-minded shippers.

### FIRST, PLACE

Location is the chief consideration for any quality intermodal site, says Rick LaGore, CEO of Indianapolis-based Intek Freight and Logistics, a rail and over-the-road solutions provider. For instance, Intek has customers that want to get involved in intermodal shipping but their current sites fall outside a 100-mile radius of an intermodal terminal (also known as a ramp), making this transportation option cost-prohibitive. Locating near high-volume lanes allows shippers to take advantage of the efficiencies that long-haul rail provides. In short, proximity is key.

"Companies need to be within 100 miles—and it's better to be within 50 miles—of an intermodal ramp," LaGore says. "Location is important for shippers to be able to get the best transportation rates and to make sure they have plenty of capacity to manage their inbound and outbound freight."

Stratton agrees that location is an essential component when considering an intermodal facility's value. "For example, Odyssey operates a 121,000-square-foot intermodal center in Joliet, Illinois," he says. "The facility is strategically located at the CenterPoint Intermodal Center—Joliet/Logistics Park Chicago—and provides easy access to BNSF intermodal railyards through the park's private, heavyweight road system."

"Additionally, the new facility makes it easier to move freight in and out—it's no longer affected by the congested highway system in metro Chicago that has posed challenges for the industry," Stratton adds.

The route from a highway to the intermodal facility is sometimes overlooked. A capacious, beautiful intermodal facility can be undermined if trucks have slow or difficult access to the highway.

"Pay attention to that congestion when you're selecting an intermodal facility," LaGore suggests. "Pick a site close to the highway exit. Note traffic patterns and make sure the infrastructure is adequate for your needs."

Brian McKiernan, senior vice president of development for CenterPoint, an innovator in the investment, development, and management of intermodal centers, says privately developed and managed facilities still ultimately depend on public infrastructure.

“Those roads and highways are important parts of the facilities,” McKiernan says. “So it becomes important to keep up with highway intersections, bridges, and county, city, and state roads—and the permit processes associated with that. You have to consider and design around those factors for a site to remain successful.”

### BY DESIGN

Some facilities offer physical features that can help attract shippers with intermodal needs, says Stratton. Successful intermodal facilities feature an ample number of docks, drive-through bays, and trailer positions. Recent expansions Interdom is exploring include the on-dock at the GCT Bayonne Terminal in Bayonne, New Jersey, and the new on-dock terminal expansion at the Virginia International Terminals in Norfolk.

“Expanding terminals to offer new on-dock rail facilities or expanding current facilities with on-dock rail capabilities would be a major improvement,” Stratton says. “This would allow shippers to take a drayage move out of the supply chain for import or export moves.”

It’s critical for companies developing intermodal facilities to consider many factors both inside and beyond the four walls.

“Inside the facility, it’s important to pay attention to the flow of trucks coming into the facility,” LaGore says. “Make sure there is plenty of space for trucks to do their backup and entry out of a dock.

“Also, you need to make sure there’s plenty of space to handle drop trailers and drop containers,” he adds. “Being carrier-friendly is key, and a big factor in that is allowing drivers to turn off docks quickly.”

Managing growth and changing practices in intermodal shipping can be a constant challenge, notes McKiernan. For instance, when the BNSF Logistics Park Chicago opened in 2002, trains typically were less than 10,000 feet long. Today, they’re reaching 12,000-plus feet.

Nonetheless, more shippers should be taking advantage of intermodal shipping. “Small to mid-sized shippers tend to not play very much in the intermodal market,” notes LaGore. “There are still many companies that could benefit by using intermodal.” A key determinant will be sites designed to serve them.

## CENTERPOINT

### Innovative Developer of Intermodal Centers

CenterPoint, one of the nation’s top business park, logistics park, and industrial park developers and managers, has long demonstrated a healthy appetite for developing ambitious intermodal facilities. The company’s handiwork includes intermodal centers in Joliet/Elwood, Illinois; Savannah, Georgia; and Manteca, California.

A crucial thread connecting the facilities is their location near major transportation nodes.

The Manteca Intermodal Center, for instance, is located one hour from the Port of Oakland and has direct

access to the Union Pacific Lathrop Intermodal Terminal. The CenterPoint Intermodal Center in Joliet/Elwood is the largest inland port in North America. Located 40 miles southwest of Chicago, the 6,500-acre site surrounds both the Union Pacific Joliet Intermodal Terminal and BNSF Logistics Park Chicago. It also is located adjacent to the I-55/I-80 interchange.

The strategy behind deciding where to locate CenterPoint’s intermodal centers often starts with shippers.

“It’s important to work with clients to understand what trade lanes and services they’re using because they’re the ones who ultimately drive where the containers are going and what locations make sense,” McKiernan says. “We also work closely with the Class I railroads to make sure we understand where they want a facility and how it would fit into their networks.”

Similarly, CenterPoint works closely with shippers and others to determine physical features and design elements that will work best for them, says McKiernan.

CenterPoint’s intermodal centers are designed to embody a campus environment, offering a full logistics and transportation package, including warehousing and distribution services, cross-docking, grain transloading, and container storage facilities.



**Currently North America’s largest inland port, the CenterPoint Intermodal Center in Joliet and Elwood, Illinois, processes 3 million TEUs each year.**





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“Each company is going to have a slightly different design standpoint based on the trade lane of what they’re doing at the facility,” McKiernan says. “We’ve seen companies go to grounded scenarios lately, which allows for more densification of operations, while a wheeled operation seems to be a good fit for companies that move lower volumes or have more real estate.”

CenterPoint maintains a steadfast willingness to pursue creative solutions, McKiernan says. The Joliet/Elwood site, for instance, opened its first phase on a former Army Superfund site, which CenterPoint privately remediated.

When the company reached the second phase of the development, it assembled land for Union Pacific. It also privatized and took responsibility for the roads, ultimately allowing tenants to run heavy weights on the roads without permit fees.

CenterPoint strives to develop sites that allow for flexibility as practices change in the intermodal field, says McKiernan. Advances arrive quickly—for example, the increasing use of automation at West Coast ports—and CenterPoint is determined to ensure that its clients are equipped to adjust and adapt within their existing facilities.

“We’re seeing companies find

efficiencies in a lot of different ways now,” McKiernan says. “We’re making sure that we’re designing facilities that can accommodate those evolving efficiency trends over time.”

## **DUKE REALTY**

### **Build-to-Suit Intermodal Sites**

Duke Realty leverages intermodal facilities in Savannah, Dallas, and Chicago. But the industrial real estate developer, which has started the development of more than \$1.5 billion of new industrial product during the past two years, is most active in its intermodal efforts at Rickenbacker Global Logistics Park, a master-planned business park that is part of the North American International Freight Center in Columbus, Ohio.

The majority of Duke Realty’s facilities at Rickenbacker have been “build-to-suit”—designed and built to meet the needs of specific clients.

“In these instances, we work closely with the tenants to ensure the building incorporates features that are important to them and help them operate as efficiently as possible,” explains Art Makris, vice president of leasing and development for Duke Realty in Columbus and Nashville. “We work

diligently to be sure we deliver. Duke Realty has had an in-house construction team for nearly 50 years so we have a strong track record of delivering first-class industrial buildings with the features our customers want and need.”

Two large Duke Realty build-to-suit sites at Rickenbacker are for American Showa, which makes automotive parts, and BASF, the German chemicals company. Each site has a secured truck court, multiple points of ingress and egress, on-site trailer storage, and expansion capabilities.

A number of physical components of Duke Realty’s intermodal facilities are important to Rickenbacker tenants. They want buildings that clear 32 feet or higher; often incorporate mezzanines for greater product storage and efficiency; have column widths conducive to today’s forklifts, robots, and other product-moving equipment; are designed and built to accommodate the tenant’s product-handling equipment; have a plethora of dock doors; and have ample parking for cars and trailers.

### **LOADED TO CAPACITY**

A crucial advantage at Rickenbacker is a loaded-to-capacity zone that can accommodate vehicles with up to 120,000 pounds of gross weight on the roads. “Duke Realty, in turn, has incorporated upgraded features in and around our buildings to accommodate these larger, heavier loads,” Makris says.

“For example, thicker concrete is used in truck courts and the loading areas and heavier-duty levelers are installed on dock doors because of increased vehicle weights,” he says. “In addition, greater security is necessary to protect the large volume and value of items coming into the intermodal park and to meet U.S. Customs requirements. Companies in the intermodal park widely request secured truck courts with guard shacks.”

The location of Duke Realty’s buildings in the loaded-to-capacity zone allows tenants who have product arriving via rail to maximize the volume of “heavy” product loaded into containers, providing efficiencies in the



**The Rickenbacker Global Logistics Park in Columbus, Ohio, is a master-planned 1,777-acre campus capable of handling 30 million square feet of development.**



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number of containers that are imported. Without the zone, containers would need to be lighter weight to meet legal highway limits.

"That would entail arduous coordination with the outbound country, ocean liner, and port," Makris says. "Rickenbacker's foreign-trade-zone status also helps some tenants reduce tariffs."

In addition, Duke Realty's tenants benefit from the intermodal terminal and international air cargo airport within Rickenbacker.

## TEXAMERICAS CENTER

### Poised to Enter the Intermodal Market

TexAmericas Center, one of the largest rural industrial centers in the Americas, is located in an area that seems ideally suited for an intermodal facility. Situated in Northeast Texas, approximately 15

miles west of Texarkana, the park already offers ready access to Interstates 30 and 49 and sits in the immediate vicinity of the planned Interstate 69 corridor. In addition, the park owns 36 miles of rail, and Union Pacific, BNSF, Kansas City Southern, Texas Northeastern Railroad (a Genesee & Wyoming railroad), and Amtrak all run through the area.

TexAmericas Center so far lacks the facilities to support intermodal shipping, but the park's officials hope that will change soon.

"We've got tremendous logistics assets, but the intermodal market just isn't being served yet," says Eric Voyles, executive vice president and chief economic development officer for the park. "We see that as a big opportunity for our area. So, we're working to develop a multi-commodity transload facility for the Texarkana area on our property."

"Feasibility studies show there are more than 40,000 lifts annually that go

unfulfilled in this market and are being forced to be handled by trucks," Voyles notes. "It would be a major economic boost for local companies that are transporting now by truck to have their commodities handled by rail."

The TexAmericas Center incorporates more than 12,000 acres of land and more than 3 million square feet of office and industrial space. The organization is a Texas special-purpose district formed to redevelop its property, a former military installation. TexAmericas Center has extensive capacity for growth, says Voyles.

"We offer all the services that a private development company can offer—build, manage, lease, sell—but we also function like a government entity," he explains.

"We offer incentives. We approve our own zoning and building permits. We are about as one-stop as you can get from the standpoint of trying to fast-track a project."

"As we continue to work at certifying our property and qualifying it for

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development—we have about 2,000 acres that are development-ready right now—we can do projects quickly for companies that need speed to market,” Voyles adds.

In its pursuit of a transloading facility, the TexAmericas Center is working with the local metropolitan planning organization to better quantify the commodities that need the service and to analyze the rail system to determine what improvements are necessary. The park is also working with consultants to help select the ideal location for the facility.

Demand for intermodal capabilities in Texarkana is evident. A transload facility would drive down costs of operating in the park and “make us an even more attractive logistics location,” he says.

“Just about every other month someone asks us if we can manage transload on our property,” Voyles says. “And we have to tell them that we don’t have the equipment. We get



**TexAmericas Center owns 36 miles of rail and is working to develop a transload facility. The park has more than 12,000 acres of land, including 2,000 acres ready for development.**

requests for steel, grain, plastic pellets, rock, timber, paper, agriculture, and building products. There is clearly a lot of interest.”

While pursuing a long-term transload

solution, Voyles says, the park is considering acquiring equipment to provide a temporary solution and enable clients to access a transload presence in the near future. ■

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# IT TOOLKIT

## HyperX Game Plan: Win at Demand Planning and Replenishment

### THE CUSTOMER

HyperX, the high-performance product division of Kingston Technology, is the world's largest independent memory manufacturer. It encompasses multiple product lines including gaming peripherals, memory modules, solid-state drives, USB flash drives, headsets, and mouse pads.

### THE PROVIDER

Logility is a supply chain management and advanced retail planning company delivering integrated solutions to help companies increase service, reduce costs, and replace inventory with information.

*by Jennifer Baljko*

Kingston Technology Company Inc.'s expertise comes from making and selling memory products. The supply chain model that shaped its success didn't hold up, however, when its high-performance product division, HyperX, got into the gaming peripherals business.

As HyperX grew, it became clear early on that the Fountain Valley, California, company needed a new approach. HyperX required different distribution facilities, shipping methods, supply chain visibility insights, retail customer relationships, and demand, inventory, and replenishment planning tools in order for it to scale in the gaming world, a hot, hip, and fast-moving segment of the consumer electronics industry.

"From materials sourcing all the way through to fulfillment, Kingston and HyperX have different supply chain management models," says Wei-Shine Chien, director of supply chain for HyperX.

### GEARING UP FOR GAMING

Kingston's memory module products, which depend significantly on memory chip availability and pricing fluctuations, have short lead times and come in small-format packages that take up less shelf space. They are typically shipped by air, move through well-established distribution channels, and can serve multiple global regions without any product changes.

HyperX's high-performance gaming headsets, keyboards, and mice are on the opposite side of the supply chain

spectrum. They are produced by outsourced manufacturing partners; are bulkier shipments that move on pallets by ocean cargo; need different kinds of shelf-storing space within distribution centers; and, in the case of keyboards, must be configured to meet each geographical region's specifications.

Demand planning, inventory management, and replenishment cycles must be tightly managed to meet retailers' and e-tailers' expectations for high service levels. But, cycle time from material sourcing to customer delivery can be nine or 10 months, making it difficult to keep supply and demand in the right balance.

HyperX's rapid growth also brought additional challenges.

The group launched its first gaming headset in 2014. Initially, it carried two SKUs, and then added two more. It grew from a manufacturing base of about 2,000 headset units monthly, the capacity limit of its outsourced manufacturing partner at the time, and by 2018, had shipped more than 5 million gaming headsets.

HyperX added keyboards and mice to its product mix, and is now expanding into other categories, including products for gaming consoles. Its portfolio has

## CASEBOOK STUDY

# Changing the Game

### CHALLENGE

Kingston Technology's HyperX family of gaming peripherals experienced rapid growth in the past five years, sparking a need for better visibility and efficient ways to manage demand, inventory, and replenishment planning.

### SOLUTION

The company deployed Logility's Voyager demand planning, inventory planning, and replenishment planning modules to replace manual systems.

### RESULTS

- Increased supply chain visibility and planning capabilities helped double inventory turnover on HyperX's highest-running SKU. The company saved \$2 million to \$3 million in working capital and improved inventory control while maintaining high service levels.
- Synchronizing the planning process boosted efficiency and aligned inventory with customer service goals.
- Setting and tracking inventory targets streamlined the replenishment cycle.
- Alerts when a major retail customer needed replenishment of an end-of-life product allowed HyperX to fulfill that order, avoid a stock-out fine, and maintain the customer relationship.

### NEXT STEPS

The HyperX team will keep an eye on how Logility integrates newly acquired technology from Halo Business Intelligence, and how the combined data visualization, advanced analytics, demand sensing, machine-learning algorithms, and artificial intelligence features may improve supply chain performance.



**Logility's Voyager rollout helped HyperX synchronize its demand planning process, boost efficiency, align inventory to customer service goals, and streamline its replenishment cycle.**

ticked up to 300 SKUs and growing; globally, HyperX products reach about 100 countries and have found their way into about 20,000 storefronts. Outbound shipments averaged about 17,500 per month in 2018, with a peak of 23,000 coinciding with Black Friday sales.

If this wasn't enough, end users' fickle nature also impacts HyperX's demand planning, inventory management, and replenishment strategies and compels the company to consider the supply chain ripple effect of unplanned events that may trigger greater demand.

### FORTNITE BATTLE ROYALE

For instance, events such as the live-streaming, record-breaking March 2018 Fortnite battle royale that drew more than 600,000 live views could push HyperX's supply chain capabilities to their limit and leave the company scrambling to fulfill a sudden increase in unexpected demand.

All this complexity led executives to the inevitable supply chain decisions that had to be made to support HyperX's gaming devices' continued growth.

"Kingston was not built for this kind of product complexity," Chien says. "But, we had enough experience to start putting the models in place so that when

the volume came we would at least have space to expand and store inventory.

"Planning-wise, we knew we couldn't use Kingston-owned facilities because they were designed for small form-factor goods," Chien adds. "We also knew we didn't want to build our own distribution facilities. Instead, we wanted to invest in product development, branding, and the engineering resources that would help us penetrate the gaming market."

In 2016, HyperX started working with several third-party logistics (3PL) providers globally to ensure that it had the space, capacity, and labor needed to execute its business plan. The company now runs all of its inbound and outbound logistics out of three distribution centers in the United States, three in EMEA (Europe, the Middle East, and Africa), and three in the Asia-Pacific region. Approximately 70 percent of HyperX shipments typically come from four of HyperX's nine global distribution centers, with the U.S. and EMEA facilities taking the lead.

Around the same time it was sorting out the physical movement of its products worldwide, HyperX also began searching for technology solutions to optimize its supply chain planning practices. The spreadsheets and legacy systems carried over from its

parent company no longer supported HyperX's growth.

HyperX went through the typical surveying and interviewing process to find the right technology partner. By the end of 2016, HyperX contracted Atlanta-based Logility Inc., a provider of collaborative supply chain optimization and advanced retail planning solutions. In January 2017, it started the five-month implementation of Logility's Voyager demand planning, inventory planning, and replenishment planning modules.

"Our process was very manual; we did a lot in spreadsheets that required emailing information back and forth," recalls Kevin Teng, a HyperX business analyst. "There was a significant amount of data entry and copying into and from our ERP system. Our ERP system is old, so extracting information was not as simple as we would have liked it to be.

"Logility is data agnostic," he adds. "It can grab data from different sources, and make that information easy for us to access. The Logility screen is simple to navigate and we were able to eliminate some of the manual work."

#### MEETING MARKET NEEDS

HyperX also benefitted from Voyager's segmentation capabilities.

"One simple but robust capability is segmentation and the ability to analyze plans for different market needs," says Karin Bursa, Logility's executive vice president. Keyboards, for example, have different requirements; a European keyboard is different than an Asian one.

"With segmentation capabilities, HyperX can look at a product form or a product family and then look at derivatives of those product families," she adds. "They can see what the seasonality and market promotions look like, and what the brand awareness for each of those products is in each marketplace. They now have one aggregated plan that gives them greater precision in their demand, inventory, and replenishment planning."

The Voyager roll-out has helped HyperX in several ways.

Besides being able to synchronize



**Rapid growth at Kingston's high-performance product division HyperX compelled a closer look at its demand, inventory, and replenishment planning processes.**

the planning process to boost efficiency, align inventory with customer service goals, and streamline the replenishment cycle, Chien recalls three other instances where the Voyager tools had a significant impact.

In the case of the Fortnite live-streaming match-up, which resulted in 100 million game downloads in a few months, the unplanned event caused a quick and big spike in headset demand, not only for HyperX but for all headset makers that have audio communication features in the devices, a game requirement.

"Since we were still growing, we had safety stock and buffers going into 2018, but this event ate up all that and wrecked our plan," Chien says. "Unless you have some type of tool that monitors market variables that are not directly related to your product, you won't see the demand increase until it's too late.

"But, because we could see that our headsets were actually moving, we were able to let our suppliers know what was happening and what we needed. They were more willing to listen to us because we had the hard data."

Improved supply chain visibility also played a role in doubling inventory turnover by the end of 2017 for HyperX's highest running SKU, the Cloud II headset, one of the company's best sellers in terms of revenue. While

Chien says some of that movement stemmed from HyperX's growth, the ability to plan inventory differently across different distribution centers accounted for a significant amount of the turnover gains.

The company was able to shift from a blanket inventory and planning policy to more control over knowing when and how inventory was moving and replenishing stock more effectively. Chien estimates that this helped the company save \$2 to \$3 million in working capital, which it invested in new products.

#### WHAT A SURPRISE

Logility tools helped rectify a supply chain surprise as well. The HyperX team received a Logility alert about retail customer Best Buy needing a headset product that was on the tail end of its life cycle. The alert revealed that Best Buy was seeing a run up in sales, but there were not many units left in inventory. Had that alert not popped up, HyperX may have missed the replenishment target and been fined for a stock-out.

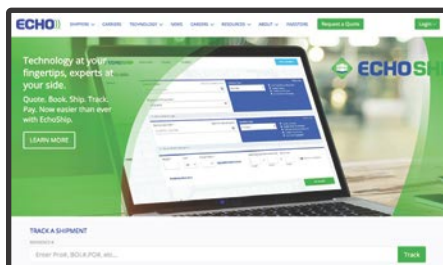
Logility continues to embrace the latest methodologies, analytic capabilities, and leading-edge technologies to give HyperX better trend data, more specific insights about product consumption, and the ability to refine demand, inventory, and replenishment planning strategies. ■



## IN THIS SECTION:

### 3PL - Air Cargo

#### 3PL

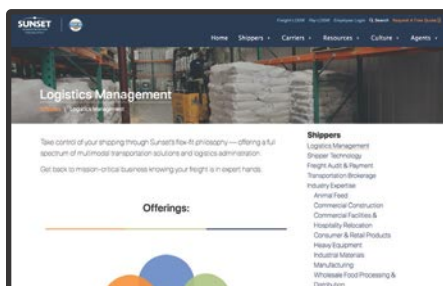


#### ECHO GLOBAL LOGISTICS [www.echo.com](http://www.echo.com)

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 50,000 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.

#### MALLORY ALEXANDER INTERNATIONAL LOGISTICS [www.mallorygroup.com](http://www.mallorygroup.com)

Mallory Alexander International Logistics is a leading third-party logistics (3PL) provider. As a specialist in global logistics and supply chain services, Mallory Alexander acts as a single source for all logistics and supply chain needs. Specifically, Mallory Alexander provides public and contract warehousing, freight forwarding (international, domestic, air, and ocean), customs brokerage, import/export services, intermodal trucking and transportation, logistics services, and consulting.



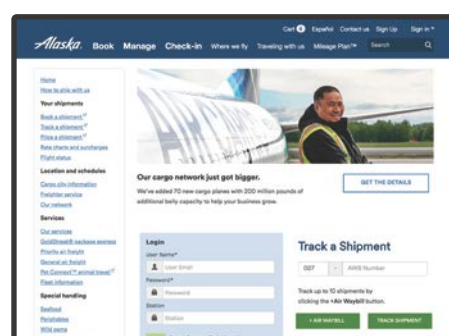
#### SUNSET TRANSPORTATION [www.sunsettrans.com](http://www.sunsettrans.com)

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 makes 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.

#### AIR CARGO

#### ALASKA AIR CARGO [www.alaskacargo.com](http://www.alaskacargo.com)

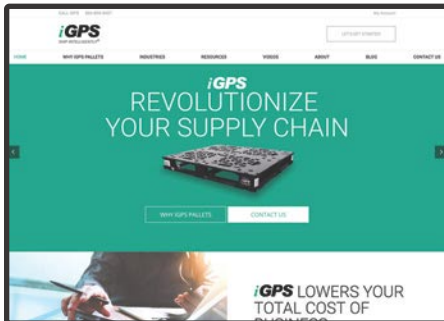
Alaska Air Cargo provides reliable air cargo services to meet your shipping needs. Whether it be small packages, full ULD shipments, or chartered freighter service, Alaska Air Cargo offers a variety of options, including GoldStreak® Package Express, a next-available-flight service for items up to 100 pounds; Priority Air Freight for time-sensitive shipments that are larger than GoldStreak and need to be at a destination by a specific time; and Animal Express, a priority express service that ensures animals a safe and comfortable journey.



## IN THIS SECTION:

## Pallets - Site Selection

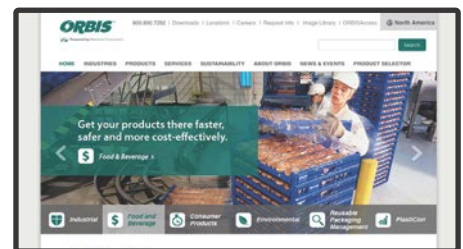
## PALLET

**iGPS** [www.igps.net](http://www.igps.net)

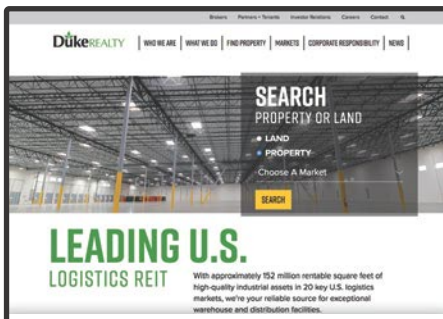
iGPS Logistics is North America's only pooler of 48x40 plastic pallets. iGPS pallets generate measurable savings in transport, reduced product damage, and other operational efficiencies. The world's only multi-use pallet to receive NSF Food Equipment Certification, iGPS' platform is a major advance in supply chain hygiene — a platform that can easily be cleaned. Contact us at 1-800-884-0225 or visit [www.igps.net](http://www.igps.net)

**ORBIS CORPORATION** [www.orbiscorporation.com](http://www.orbiscorporation.com)

As leading companies continue to drive sustainability in their business, they scrutinize every point of their supply chain, including the packaging used to move their product. ORBIS provides reusable plastic containers, pallets, dunnage, and bulk systems that improve the flow of product all along the supply chain to reduce costs, enhance profitability, and add sustainability.



## REAL ESTATE

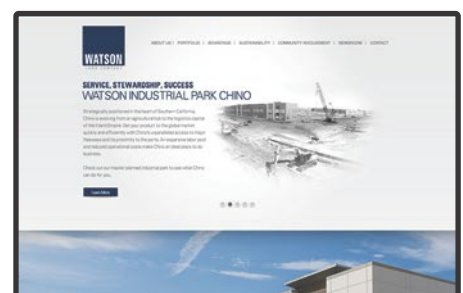
**DUKE REALTY** [www.dukerealty.com](http://www.dukerealty.com)

Duke Realty Corporation owns and operates approximately 156 million rentable square feet of industrial properties in 20 major U.S. logistics markets. Duke Realty is publicly traded on the NYSE under the symbol DRE and is listed on the S&P 500 Index. The company maintains a Baa1 rating from Moody's Investor Service and a BBB+ rating from Standard & Poor's Financial Services.

## SITE SELECTION

**WATSON LAND COMPANY** [www.watsonlandcompany.com](http://www.watsonlandcompany.com)

Watson Land Company is a developer, owner, and manager of industrial properties throughout southern California. With a legacy spanning more than two centuries, Watson's dedication to customers is based on delivering functional, high-quality buildings within masterplanned centers, coupled with unmatched customer service. Watson Land Company's long-standing tradition of integrity, innovation, and fiscal responsibility has made it one of the region's most respected names in commercial real estate, and one of the largest industrial developers in the nation.



## IN THIS SECTION: TMS

### TMS



#### 3Gtms [www.3gtms.com](http://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](http://www.3gtms.com).

#### AR TRAFFIC CONSULTANTS [www.artraffic.com](http://www.artraffic.com)

AR Traffic has been providing shippers with advanced transportation management software and third-party logistics services since 1964. All its products and services are designed to improve your efficiency, accuracy, record-keeping, control and auditability as well as to lower your freight costs. For a free study to show how you can cut costs, improve customer service, and streamline your business, visit the website today.

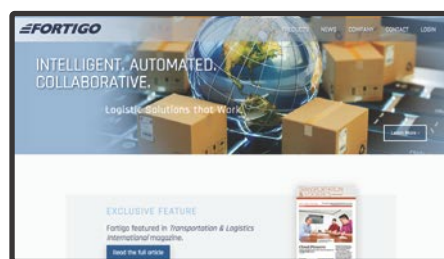


#### CT LOGISTICS [www.ctlogistics.com](http://www.ctlogistics.com)

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.

#### FORTIGO [www.fortigo.com](http://www.fortigo.com)

Fortigo's team of experts specializes in logistics optimization and enterprise Web-based software. For companies seeking to reduce costs, improve customer satisfaction, and increase profitability, Fortigo automates, optimizes, and audits logistics decisions. Fortigo plugs into established supply chain applications and provides rapid return on investment by optimizing and deploying closed-loop logistics processes, minimizing ship-to-order times and streamlining collaboration with logistics providers.

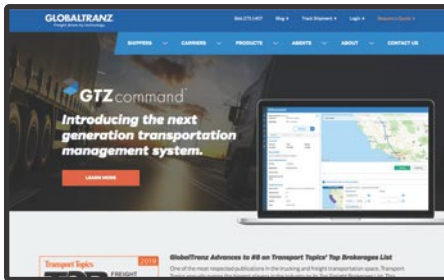




## IN THIS SECTION:

## TMS

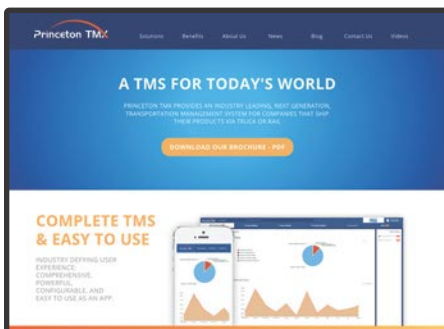
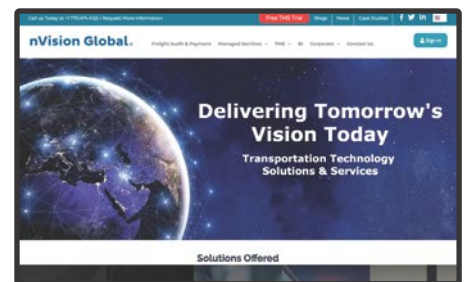
## TMS

**GLOBALTRANZ** [www.globaltranz.com](http://www.globaltranz.com)

GlobalTranz is a technology-driven logistics company specializing in multimodal shipping, project logistics, and managed transportation solutions. Our mission is to help shippers and carriers succeed by providing full-service transportation and logistics solutions. Our innovative, proprietary technology and industry expertise work hand-in-hand to solve your unique supply chain needs. If you're looking for a logistics partner that delivers results through unparalleled relationships and technology, visit [globaltranz.com](http://globaltranz.com) today.

**nVISION GLOBAL TECHNOLOGY SOLUTIONS** [www.nvisionglobal.com](http://www.nvisionglobal.com)

nVision Global is an industry leader in providing configurable logistics services and solutions for customers around the world, enabling them to optimize their supply chain and gain access to critical data. We offer a full suite of logistics services and solutions that allow for end to end shipment and supply chain management and visibility. Our solutions include a global, multi-modal TMS application, international freight audit and payment, loss & damage/overcharge/service failure claims management, as well as industry leading logistics analysis solutions.

**PRINCETON TMX** [www.princetonmx.com](http://www.princetonmx.com)

Princeton TMX offers a transportation management solution utilizing the most modern software available. It empowers shippers to focus their resources on exceptions, while providing management with the tools to better analyze and minimize transportation expenses. Princeton TMX products are offered as a Software as a Service (SaaS) solution. These solutions are integrated with customers' systems to create a seamless experience for users. Princeton TMX's software modules are configurable to meet customers' specific business requirements.

**RATELINX** [www.ratelinx.com](http://www.ratelinx.com)

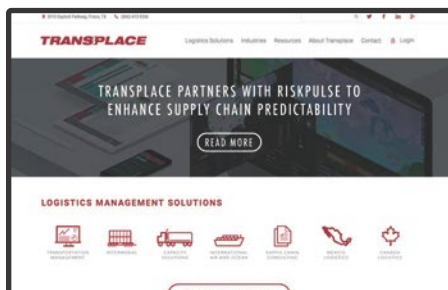
For 15 years, RateLinx has developed and implemented the only logistics management software that standardizes freight invoice, track and trace, shipment, and order/item data. This creates unparalleled visibility and Integrated Shipping IntelligenceSM to solve your freight management problems. RateLinx 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.



## IN THIS SECTION:

## TMS - Transportation Management/Freight Management

### TMS

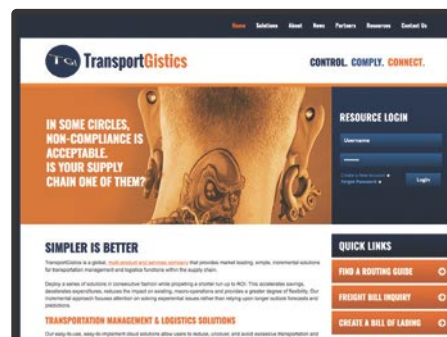


#### TRANSPPLACE [www.transplace.com](http://www.transplace.com)

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.

#### TRANSPORTGISTICS [www.transportgistics.com](http://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.



#### ZERO DOWN SUPPLY CHAIN SOLUTIONS [zdscs.com](http://zdscs.com)

Zero Down Supply Chain Solutions reduces shipping costs by 15-25% and helps companies achieve best-in-class carrier contracts covering all modes. We are powered by the cutting-edge technology of our cloud-based proprietary software FreightOptics, an innovative data hub that provides one login access to view all modes. We enable our clients to transform their supply chains for the digital age while our non-intrusive approach creates budgets that pave the path to savings.

## TRANSPORTATION MANAGEMENT/FREIGHT MANAGEMENT

#### ODYSSEY LOGISTICS & TECHNOLOGY CORPORATION [www.odysseylogistics.com](http://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.



## IN THIS SECTION:

## Trucking - Warehousing

## TRUCKING

EPA SMARTWAY [www.epa.gov/smartway](http://www.epa.gov/smartway)

In 2004, EPA launched SmartWay<sup>SM</sup> — an innovative brand that represents environmentally cleaner, more fuel-efficient transportation options. In its simplest form, the SmartWay brand identifies products and services that reduce transportation-related emissions. The impact of the brand, however, is much greater as the SmartWay brand signifies a partnership among government, business, and consumers to protect the environment, reduce fuel consumption, and improve air quality. All EPA SmartWay transportation programs result in significant, measurable air quality and/or greenhouse gas improvements while maintaining or improving current levels of other emissions and/or pollutants. Find out what you can do to save fuel, money, and the environment with SmartWay.

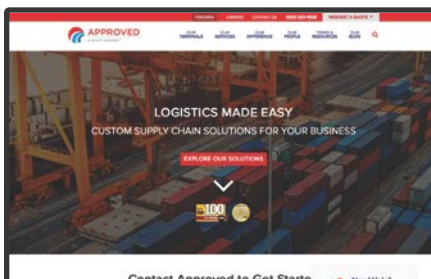
## TRUCKING-LTL

PITT OHIO [www.pittohio.com](http://www.pittohio.com)

PITT OHIO is a service organization dedicated to consistently providing high-value transportation and supply chain solutions to our customers. The core values we established in 1979 for our LTL service remain the same today, as PITT OHIO goes beyond the road and exceeds expectations with our supply chain, ground, and truckload services as well. As an organization, we remain committed to innovating in every area of our company, striving to take it to the next level while helping you to optimize your supply chain.



## WAREHOUSING

APPROVED FREIGHT FORWARDERS [www.approvedforwarders.com](http://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.

KELLEY ENTREMATIC [kelleyentrematic.com](http://kelleyentrematic.com)

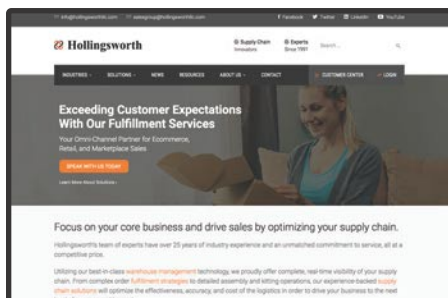
The Kelley brand was established in 1953 with the invention of the world's first counterbalanced dock leveler. Today the Kelley product line includes dock levelers, vehicle restraints, integrated control systems, dock seals and shelters, HVLS warehouse fans, ergonomic scissor lift tables and a full array of products and services specifically designed to support your sustainability initiatives.





## IN THIS SECTION: Warehousing

### WAREHOUSING



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Let Hollingsworth help you focus on your core business and drive sales by optimizing your supply chain. Hollingsworth's team of experts have over 27 years of industry experience and an unmatched commitment to service, all at a competitive price. Utilizing best-in-class warehouse management technology, Hollingsworth offers complete, real-time visibility of your supply chain. From complex order fulfillment strategies to detailed assembly and kitting operations, Hollingsworth's experience backed supply chain solutions will optimize the effectiveness, accuracy, and cost of the logistics in order to drive your business to the next level of success and beyond.

#### HUB GROUP [www.hubgroup.com](http://www.hubgroup.com)

Hub's extensive service network—built over many years—enables it to provide innovative transportation solutions that are versatile, flexible, and designed to deliver maximum efficiency. With this advantage, Hub Group is able to collaborate with customers daily to help them meet their transportation challenges. With intermodal, highway, and logistics transportation offerings, the Hub Network is your single source—coast to coast, border to border. Visit the website to learn what Hub can do for you.



#### KENCO LOGISTICS [www.kencogroup.com](http://www.kencogroup.com)

Adding value to your bottom line? That's the mission of Kenco. For more than 50 years, Kenco has guided some of the most demanding supply chains in the world. Kenco's convergence approach can help you streamline your supply chain and bring a greater return on assets and investments. Kenco invites you to visit this website so that you might get to know its services. Then, contact Kenco so that you might truly understand its unique strategic advantages.

#### LYNDEN [www.lynden.com](http://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:

## Warehousing

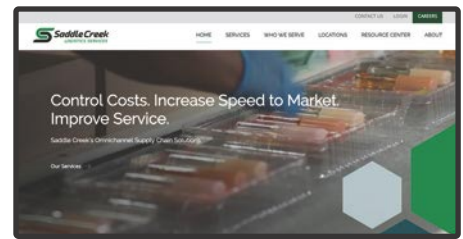
## WAREHOUSING

**RUAN** [www.ruan.com](http://www.ruan.com)

With Ruan, you can take advantage of door-to-door shipping solutions without the hassles and overhead associated with owning and operating your own fleet of trucks. We have more than 5,200 employees operating, servicing and coordinating some 3,400 power units and 5,600 trailers out of more than 100 locations throughout the continental United States. But you get more than just drivers and equipment — we become an extension of your team, advocating for your bottom line. Find out why the right partner can drive costs out of your supply chain — call 866-RUAN-NOW or visit our website — [ruan.com](http://ruan.com).

**SADDLE CREEK LOGISTICS SERVICES** [www.sclogistics.com](http://www.sclogistics.com)

Saddle Creek is an omnichannel supply chain solutions company providing a variety of integrated services, including warehousing, omnichannel fulfillment, transportation and packaging. We leverage these capabilities, advanced technology and our nationwide network to customize scalable solutions that help retailers, manufacturers and ecommerce companies support their business goals. For more information, visit [www.sclogistics.com](http://www.sclogistics.com).

**WSI (WAREHOUSE SPECIALISTS, LLC)** [www.wsinc.com](http://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.

**DF YOUNG** [www.dfyoung.com](http://www.dfyoung.com)

DF Young has more than 100 years of experience providing international businesses with a full range of transportation and logistics solutions.

DF Young's customized, person-to-person services are proven to meet today's challenging logistics requirements. DF Young paves the way for international shipments clear across continents, using the most sophisticated air, sea, and land transportation services available. Each move is backed by state-of-the-art technology and Internet access that spans the globe.



# Supply Chain Insights

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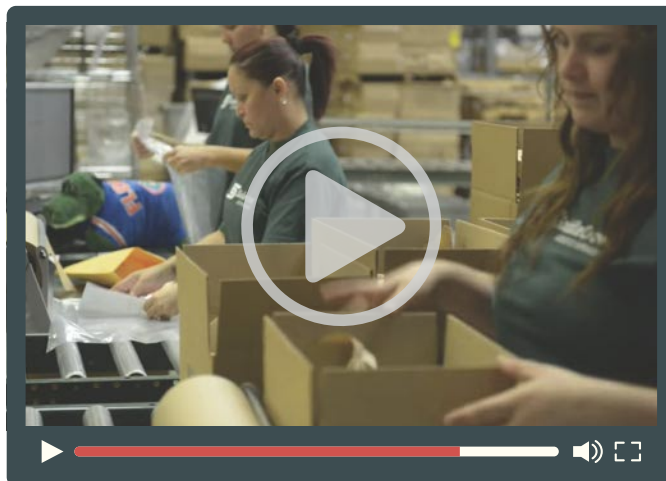
## video

### EFFECTIVE ORDER FULFILLMENT HELPS SUBSCRIPTION BOX LEADER DELIVER

Saddle Creek

[bit.ly/ipsysaddlecreek](http://bit.ly/ipsysaddlecreek)

Every month, Ipsy beauty subscription box users nationwide eagerly await their Glam Bags of custom-selected premium product samples. Getting the bags packaged and delivered to millions of subscribers has become a complex process, conducted within a tight delivery window. This video details how 3PL Saddle Creek designed a custom operation to accommodate the increased complexity of Ipsy's rapidly growing business and handle orders for all its sales channels.



## whitepapers



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[bit.ly/endlessaisle](http://bit.ly/endlessaisle)

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Pierbridge

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Amber Road

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### The E-commerce Effect

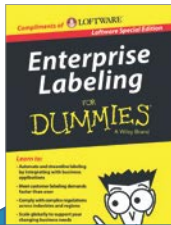
C3 Solutions

Supply chain professionals are grappling with the challenges e-commerce has presented. Companies need to find strategic solutions to restructure their business models to accommodate these changes—but where should they begin? This whitepaper looks at how e-commerce has disrupted the supply chain and examines different markets and processes to offer suggestions for adaptation and prosperity.



# Supply Chain Insights

## whitepapers



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### Enterprise Labeling for Dummies

Loftware

This free e-book spells out the essentials for enterprise labeling success and highlights labeling trends that are keeping companies on their toes. You'll learn about the evolution of barcode labeling, the value of connecting labeling with existing business processes, and the efficiencies that enterprise labeling will have on a company's supply chain.



**DOWNLOAD**

[bit.ly/shipperofchoice](http://bit.ly/shipperofchoice)

### How to Become a Shipper of Choice

Convoy

As a supply chain professional, you're likely no stranger to acronyms, shorthand, and buzzwords. But what about "shipper of choice?" Is it really a title that sets you apart from the competition? More and more, the answer is a resounding yes. This guide highlights how to become the go-to shipper of choice by making your freight more desirable and optimizing your processes.



**DOWNLOAD**

[bit.ly/TMSbusinesscase](http://bit.ly/TMSbusinesscase)

### Building a Business Case for a TMS

3Gtms

A transportation management system (TMS) can transform your organization and make everyone's work easier and faster. Unfortunately, the decision to invest in a TMS doesn't rest only with you. How do you convince leadership and colleagues that the investment is worth it? What is the best approach to connect the business case to key stakeholders? This whitepaper can help you minimize risk and build support for your TMS project.

## podcast



Suzanne Richer

### C-TPAT and Customs: Are You Reaping the Benefits?

*GUEST: Suzanne Richer, Director, Trade Advisory Practice, Amber Road*

Correctly leveraging the benefits of C-TPAT certification can give businesses a leg up by easing their passage through key customs checkpoints. This, in turn, can lead to significantly shorter lead times. So why wouldn't a business take advantage of all that C-TPAT offers? As Amber Road's Suzanne Richer explains in this informative podcast, "it's sometimes a case of you don't know what you don't know."



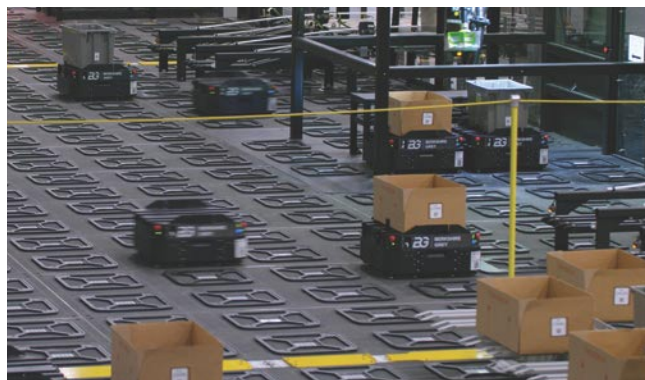
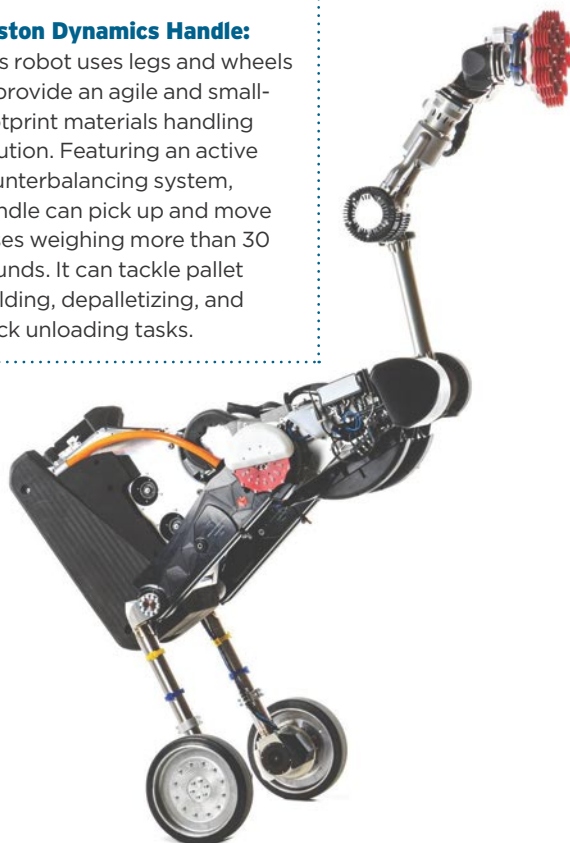
[IN FOCUS]

# SPOTLIGHT

*Mobile Robots*

## **Boston Dynamics Handle:**

This robot uses legs and wheels to provide an agile and small-footprint materials handling solution. Featuring an active counterbalancing system, Handle can pick up and move cases weighing more than 30 pounds. It can tackle pallet building, depalletizing, and truck unloading tasks.

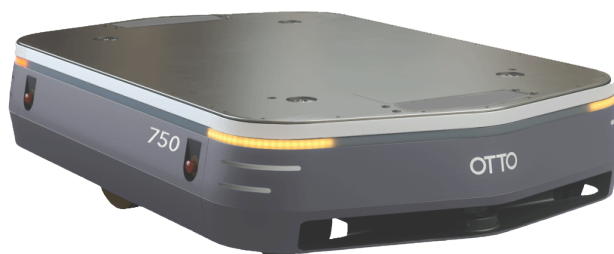
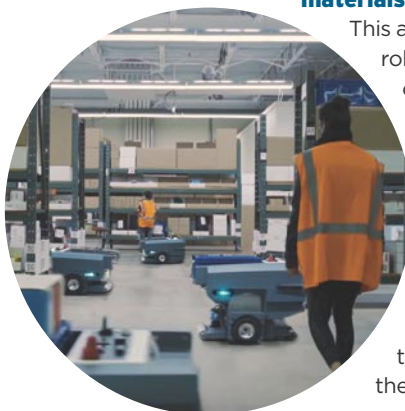


## **Berkshire Grey mobile robotic fulfillment**

**system:** Able to pick, pack, sort, and sequence both e-commerce and store replenishment orders, this solution deploys a team of container-toting mobile robots. The system sequences complete orders and discharges them for delivery based on customer strategies such as aisle-friendly groups for individual stores, shipping cutoff windows, and destination zones.

## **NextShift Robotics TM-100 robot materials handling solution:**

This autonomous mobile robotic solution, comprised of TM-100 robots that can recognize and collaborate with humans, works in warehouses with mezzanines and requires minimal training to use. Its app has a simple interface that guides the picker to the aisle and zone for an accurate pick and placement into the tote.



**OTTO Motors 750:** This self-driving vehicle from OTTO Motors, a division of Clearpath Robotics, is a materials handling workhorse with a payload of 750 kilograms, or more than 1,600 pounds. Designed to move pallet-scale loads, which would otherwise be manually moved by a pump truck or tugger, the vehicle uses the self-driving operating system OTTO OS to adapt to changes in the warehouse.

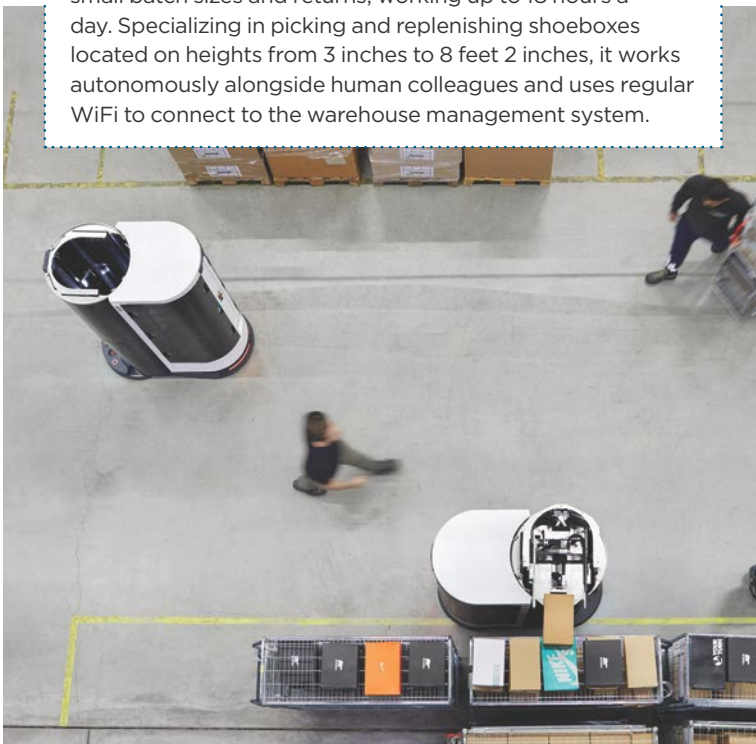
**Locus Robotics LocusBot:** With a lightweight design, the autonomous LocusBot works safely alongside people and in mezzanine configurations, featuring a user-friendly interface that eliminates training time. Operating collaboratively with humans, LocusBots form a warehouse fulfillment solution that can triple piece-handling productivity in the warehouse.



**6 River Systems Chuck:** Finding its way around a warehouse with sensors and with no need for wires, cables, or stickers, Chuck integrates with a warehouse management system for use in put-away, picking, counting, replenishment, and sorting tasks. Aware of its surroundings, the mobile robot can move swiftly around boxes and racks, slowing down when equipment or people are in the area.



**Magazino TORU:** This mobile picking robot stores, retrieves, and transports individual items in shelf racks. TORU handles small batch sizes and returns, working up to 18 hours a day. Specializing in picking and replenishing shoeboxes located on heights from 3 inches to 8 feet 2 inches, it works autonomously alongside human colleagues and uses regular WiFi to connect to the warehouse management system.



**Honeywell robotic unloader:** Able to unload a wide range of packages, this autonomous unloader drives into a trailer or container and uses machine vision to identify various package shapes and sizes as well as the optimal approach to unloading them. A robotic arm with a series of small suction cups conforms to the package shape to gently extract it from the stack. A conveyor below the arm can serve as a sweeper for packages to move them out of the trailer.



[ IN FOCUS ]

# INBRIEF

## *New Services and Solutions*

### > PRODUCTS

• Shippers can fully utilize the space inside a trailer with the **Ancra Cargo AutoDeck** system, which adjusts the height of each beam to create a customized decking solution. The automated system reduces losses resulting from cargo

damage because pallets don't have to be stacked on top of each other, and increases load averages by 10 to 30%.

• The **Tive Solo** is a single-use supply chain tracker that eliminates return logistics hassles for manufacturers and shippers who deploy

Tive to maintain end-to-end visibility into their in-transit goods. The Tive Solo measures temperature every 15 minutes, reports that data together with the shipment location every hour, and offers a 30-day battery life.

• **Seegrid's** GT10 Series 6 Plus self-driving vehicle uses rear-facing sensors to detect obstacles while autonomously hitching to carts. The vehicle offers fully automated material movement from pick-up to drop-off, removing the need for human assistance.

• **Steel King Industries'** Steel Guard Heavy Duty Guard Rail protects people, products, and facilities from collisions. Available in either single or double heights, Steel Guard can be employed in worker areas and aisles, and near HVAC and electrical panels, equipment, and conveyors.

• Shippers can monitor temperature-sensitive products through the last mile with **SpotSee's** Cold Chain Complete solution,

a dual indicator that alerts users when their shipment is exposed to unacceptably high or low temperatures. Packaged as a single-use device, the solution is suited for medical, food, and chemical shippers.

### > TRANSPORTATION

• Sao Paulo, Brazil, joins **Virgin Atlantic Cargo's** network in 2020. Flying daily between London Heathrow and Sao Paulo Guarulhos International Airport, the Boeing 787 service will offer shippers tons of daily capacity and represents Virgin Atlantic's first foray into South America.

• Shippers in the Hong Kong and Europe trade lane can now access 280 direct flights with the expanded business agreement between **Lufthansa Cargo** and **Cathay Pacific's** cargo division. The service directly connects Hong Kong to Frankfurt, Amsterdam, Barcelona, Brussels, Dublin, London, Madrid, Manchester, Milan, Munich, Paris, Rome, and Zurich. Shippers can

> The **Raymond Courier 3030** stacker automated lift truck with guided vision technology is designed to handle and transport goods between connected manufacturing and warehouse facilities. The 2,500-pound-capacity automated stacker can reach heights up to 72 inches and features reverse motion and auto-engagement functions to optimize workflow.



access capacity provided by the airlines' dedicated cargo fleet, belly space of passenger aircraft, and the road feeder services of both partners.

• **AirBridgeCargo**

**Airlines** (ABC) expanded freighter operations at Rickenbacker International Airport, Ohio, to twice-weekly. The additional service complements ABC's existing Thursday flights from Columbus.

• Ocean shippers can tap a new U.S. West Coast-Vietnam service from the Port of Oakland.

• **Pacific International**

**Lines** (PIL) launched the direct Vietnam links using vessels that can carry up to 11,900 20-foot containers. PIL's new



> Indianapolis-area shippers can expect enhanced service and increased capacity from **Dayton Freight Lines**, a provider of regional LTL transportation services, which nearly doubled the size of its Indianapolis, Indiana, service center, adding 136 doors and 12 truck bays.

service is called AC5 and operates in partnership with Cosco and Wan Hai.

• **Atran Airlines**, the Russian air express carrier within Volga-Dnepr Group, launched a route

linking Xi'an, China, with Moscow. The first flight was operated by one of Atran's Boeing 737-400SF freighters with further plans for Boeing 737-800BCF deployment to provide more than 25 tons of capacity per flight.

to buy more than 10,000 new trailers. With the purchase of new dry vans, reefers, flatbeds, and chassis, XTRA Lease's fleet will grow to approximately 85,000 trailers featuring fuel-saving side skirts and air disc brakes.

> **DT Research** DT380CR and DT380Q rugged tablets, which weigh less than 2 pounds, are lightweight for all-day use and feature hot-swappable batteries that eliminate work interruptions in warehouse environments. The tablets simplify information capture and transfer with a built-in 2D barcode scanner and 5-megapixel back camera or 3D built-in Intel RealSense Depth Camera.



> **SERVICES**

• To help shippers boost speed to market, supply chain solutions provider **Averitt Express** opened a distribution and fulfillment center near Austin, Texas. The new location includes 21,000 square feet of dock space and 39 doors. In addition to offering LTL and TL services, the facility features 50,000 square feet of warehousing space.

• **XTRA Lease**, which provides over-the-road trailers for rent or lease, is investing \$300 million

• Companies looking to optimize their supply chains can tap into the expanded resources offered by the partnership between the **Association for Supply Chain Management** (ASCM) and the **Supply Chain Management Association** (SCMA). The collaboration between ASCM, the largest nonprofit supply chain association, and SCMA, an advocate of Canada's end-to-end supply chain profession, enhances their thought leadership and joint training programs.

## INBRIEF

- **GoShip.com**, an online LTL shipping exchange, expanded its shipping services to and from Canada. GoShip.com customers are able to use their own customs broker or the self-service customs broker provided by GoShip.com, which prepares documents and a customs invoice.

- **3PL MD Logistics** opened its fourth warehouse on its Plainfield, Indiana, campus to meet demand for compliant storage in the life sciences and retail goods sectors and to fulfill increased needs from current customers. The facility consists of 180,000 square feet of temperature-controlled storage.

- E-commerce technology provider **MetaPack** launched MetaPack Returns, a solution for managing retailers' cross-border and domestic returns. Offering pre-printed returns labels and a branded returns portal, MetaPack Returns lets retailers refund customers faster and gives them access to warehousing for fast asset recovery and consolidation to ensure stock is back on sale in days.

- To help automotive suppliers reduce logistics costs and packaging waste, **CHEP Automotive & Industrial Solutions**

> RightPick2 from **RightHand Robotics** is an integrated software and hardware piece-picking platform that picks and places individual items as part of the warehouse workflow. The solution includes RightHand's GripperV5 fifth-generation intelligent gripper with an approximately 4.4-pound payload, Universal Robots e-Series collaborative robot arms, and Intel RealSense Depth Camera D415 for precise measurements.



opened a new container management service center in Querétaro, Mexico. The new facility's location in central Mexico, close to many automotive and industrial suppliers, strengthens CHEP's ability to support container movements in and out of the region.

### > TECHNOLOGY

- Companies can plan, budget, and control their supply chain's digital transformation with **HighJump's** new supply chain simulation software. HighJump CLASS provides a virtual world for warehouse layout design and modeling to optimize the flow of goods, allowing businesses to evaluate future capacity

requirements and technology systems.

- Enabling distributors to improve customer service, retain existing business, and grow market share, WMS provider **PathGuide Technologies** released Advanced Vendor Managed Inventory (VMI). The standalone Advanced VMI runs independently outside of the warehouse for a distributor's customers, providing full inventory control and order management, including visibility to shelf life requirements and traceability of inventory lot numbers, expiration dates, and serial numbers.

- Global trade management (GTM) solutions provider **Amber Road** launched two solutions to help

companies rapidly configure supply chains: enhanced support for customs filing in Europe and a multi-country customs warehousing platform. The Amber Road GTM solution integrates trade content from more than 170 countries with order-to-cash processes while the new warehousing solution provides cost savings and supply chain efficiencies when moving bonded and non-bonded inventory in and out of Europe.

- **Realtime Despatch's** latest OrderFlow 4.0 WMS release supports product lots, new case and carton functionality, and the GS1 barcoding standard. The WMS associates a group of items with a lot number, an expiry date, and other related information. The



information captured at goods-in follows the products through every stock move and process in the warehouse.

- Shippers can increase supply chain predictability with the partnership between logistics technology provider **Transplace** and **Riskpulse**, which offers cloud-based applications that quantify risk across networks. The partnership enables Transplace to further integrate machine learning and predictive analytics into its logistics management solutions.

- **Echo Global Logistics**, a technology-enabled provider of transportation management services, launched EchoDrive, a web portal and app that displays Echo's available loads for the company's carrier network to bid on. EchoDrive users get real-time access to search, view, and bid on available freight. This complements Echo's self-service shipping platform EchoShip, enabling shippers and carriers to interact on a common platform.

> **Seaboard Marine** launched a direct, all-water service connecting northern Central America to the Port of Savannah. The service includes two Seaboard Marine vessels and provides both refrigerated and dry container service to and from the Port of Savannah.



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**Connections 2019**

[smc3connections.com](http://smc3connections.com)

Hosted by SMC<sup>3</sup>, this conference covers the latest technological disrupters and provides attendees with actionable, relevant tips for confronting emerging supply chain challenges.

## CONFERENCES

**JULY 15-16, 2019**  
**LAKE GENEVA, WI**

**MARS Summer Meeting**  
[mwrailshippers.com](http://mwrailshippers.com)

Presented by the Midwest Association of Rail Shippers (MARS), the summer meeting covers topics such as railroad operating practices, transportation and freight car supply issues, transportation innovations, and legislative matters.

**AUG 5-7, 2019**  
**FT. LAUDERDALE, FL**

**Retail Delivery Connect**  
[bit.ly/retail19](http://bit.ly/retail19)

From innovative industry leaders to high-level experiential content, Worldwide Business Research's conference will provide attendees with the answers to their biggest challenges. Professionals will connect with industry leaders through facilitated networking and mentorship programs.

**AUG 18-20, 2019**  
**LAS VEGAS, NV**

**SCOPE Supply Chain Summit**  
[bit.ly/scopesummit](http://bit.ly/scopesummit)

Hosted by Quartz Events, this summit focuses on increasing visibility in the supply chain, creating optimal workplace conditions, sourcing strategically, understanding rising technologies, and developing transportation management strategies that reduce costs.

**SEP 12-13, 2019**  
**COLUMBUS, OH**  
**IWLA Safety & Risk Conference**  
[bit.ly/iwlasrc](http://bit.ly/iwlasrc)

The International Warehouse Logistics Association's conference teaches warehouse, safety, and operations managers how to keep employees and materials secure. This interactive event highlights strategies to help professionals determine the strengths and weaknesses of their company protocols and allows them to discuss safety and risk issues with colleagues and industry experts.

**SEP 15-18, 2019**  
**ANAHEIM, CA**  
**CSCMP EDGE 2019: Supply Chain Conference & Exhibition**  
[cscmpconference.org](http://cscmpconference.org)

The Council of Supply Chain Management Professionals' 2019 conference focuses on topics such as women in the supply chain, what young professionals need to know about the business, cutting-edge industry solutions, strategies to maximize and transform supply chains, and integrated business planning.

**SEP 15-18, 2019**  
**LONG BEACH, CA**  
**Intermodal Expo 2019**  
[intermodalexpo.com](http://intermodalexpo.com)

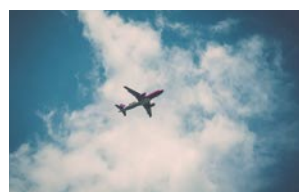
Presented by the Intermodal Association of North America, this expo brings together intermodal buyers and providers to share insight on issues and trends shaping the industry.

**SEP 16-18, 2019**  
**LAS VEGAS, NV**  
**ASCM 2019**  
[bit.ly/ASCM2019](http://bit.ly/ASCM2019)

The Association for Supply Chain Management's conference focuses on keeping up with ongoing changes in the industry. Key topics include sales and operations planning, inventory management, robotics, and virtual reality in the supply chain.

**OCT 8-10, 2019**  
**HOUSTON, TX**  
**Breakbulk Americas**  
[bit.ly/breakbulk2019](http://bit.ly/breakbulk2019)

ITE Group presents an event for project cargo and breakbulk professionals. You'll find a full conference agenda featuring networking, business transaction, and lead generation opportunities.



**OCT 29-31, 2019**  
**MIAMI, FL**

**Air Cargo Americas**  
[aircargomericas.com](http://aircargomericas.com)

World Trade Center Miami brings together top executives from the aviation, maritime, and logistics sectors to discuss topics such as security, regional consolidation, manufacturer and shipper needs, trade facilitation, and cost control.

## SEMINARS & WORKSHOPS

**JULY 16-17, 2019**  
**CAMBRIDGE, MA**  
**Supply Chain Strategy and Management**  
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MIT Sloan Executive Education's summer course presents industry professionals with innovative strategies and best practices for supply chain performance. Participants gain a deeper understanding of supply chain integration, technology sourcing, strategic partnering, and IT and decision-support systems.



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Length of the entire U.S. rail network

**\$45.5 billion**

Value that the rail industry adds to the U.S. economy

**1.1 million**

Number of jobs supported by the operations and capital investment of major U.S. freight railroads

**1.6 trillion ton-miles**

Approximate volume of goods transported throughout the United States using the freight rail system

One freight train, on average, can move one ton more than 470 miles on one gallon of fuel.

SOURCE:  
ASSOCIATION  
OF AMERICAN  
RAILROADS

**50%**

Of the U.S. rail network is used for freight

**19.5 years**

Average age of North American freight train cars

**26,546**

Number of U.S. Class I railroad locomotives as of 2017

**17 million**

Number of intermodal loads moved by rail in the U.S. annually

**\$121,620**

Average wages and benefits per freight railroad employee

Moving goods by rail instead of truck reduces greenhouse gas emissions by an average of 75%.

SOURCE:  
ASSOCIATION  
OF AMERICAN  
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Source: Thomas [bit.ly/USrailway\\_snapshot](https://bit.ly/USrailway_snapshot); Intermodal Association of North America





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